

# Product Catalogue 2025/2026

HVAC • Refrigeration • Electrical • Measurement





# The Eurotec Commitment

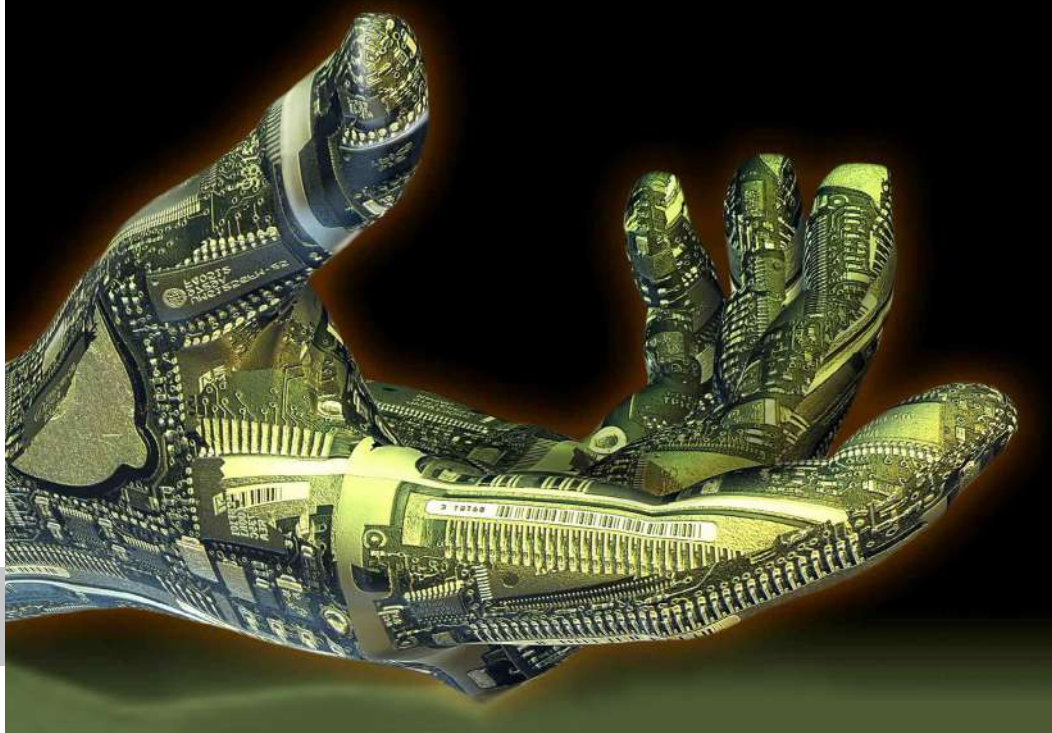
## People, Technology & Solutions

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### Our Mission

Through the Knowledge and Ability of our People and the Technology of our Products we deliver the best possible Solutions to our Customers.

Eurotec Limited  
Committed to excellence and service in technology



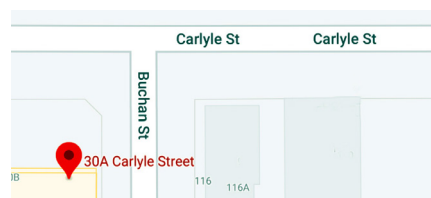
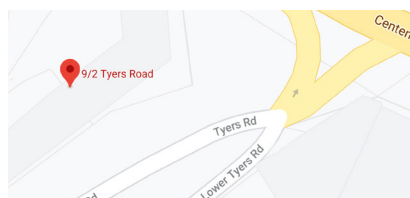
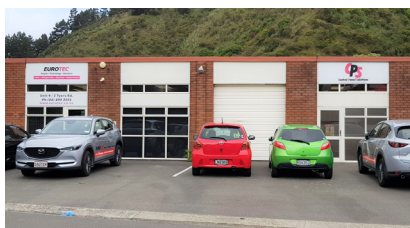
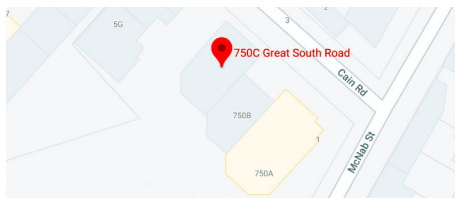
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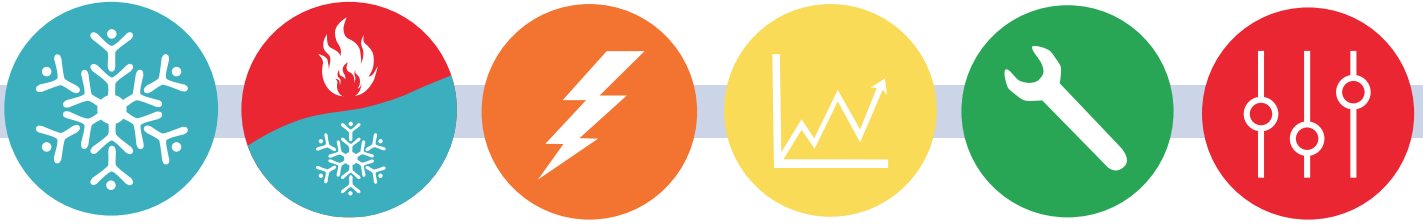
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## Eurotec Business Units



Each page of this catalogue has one or more of the above symbols. This is a guide to identify which Business Unit the products belong. Where more than one Business Unit is involved, the lead Unit is shown as the largest symbol.



### Electrical

The Electrical Business Unit supplies quality electrical control equipment. Our products include temperature, level and pressure controls as well as a range of motor control equipment.

As part of our electrical range we offer products designed to save time and money. The Wattstopper occupancy sensors and Trust wireless remote controls are products for commercial and residential use for energy saving, home automation, and remote control of various loads.

We supply a wide range of products through Electrical Wholesalers, from Cotherm hot water cylinder thermostats, Mac3 float and floatless level controls, Orbis time clocks and Benedikt & Jager motor-control gear to Benning Duspols, Multimeters and Clamp-meters. Flow switches and custom made level controls form part of our extensive range of products to diverse industries, including boat building, dairy, refrigeration and HVAC. Our quality range of industrial level controls from Kubler as well as pressure and temperature controls from Trafag are frequently specified on projects that demand high performance and high reliability products. EX rated controls are available as standard products from our suppliers for demanding applications.



### Refrigeration

The Refrigeration Business Unit markets and supports the CAREL range of Refrigeration & Air conditioning control products and systems, these being sold through our Refrigeration OEM and Contractor Partners throughout the country, and supported by experienced sales engineers in each of our branches.

More recently we have expanded our refrigeration product range to include an extensive range of quality Refrigerant Gas Leak Detection Sensors from MSA and Honeywell Manning incorporating Infra Red technology, providing the highest level of reliability and repeatability available to the industry today as well as HITACHI horizontal scroll compressors for OEM applications in the Refrigeration and Air-conditioning Industries, and 3 brands of Ice Machines for the Food Retail, Hospitality and Industrial sectors; FUNK GmbH, MAJA and ZIEGRA.



### HVAC & Mechanical Services

Our HVAC Business Unit markets and supports an extensive range of commercial control and peripheral products for the Heating Ventilating and Air Conditioning Industry. With brand names like BELIMO, CAREL and SAUTER from Europe, and INNOTECH controls from Australia, Eurotec represent some of the best quality and leading edge industrial technology from global market leaders in HVAC Control & Humidification products. This allows us the unique opportunity to provide a range of solutions and systems to meet the most diverse needs.

The HVAC Business Unit also markets both fixed and portable gas and air quality sensors and controls, from handheld instruments for personal safety in confined and/or hazardous spaces to permanently installed sensors for car-park ventilation or hazardous/explosive gases monitoring.

In addition, the HVAC BU offer Process Cooling solutions for Data Centres from AIREDALE, the leading UK manufacturer of industrial air conditioning and chiller solutions.

With over 100 years combined experience in the industry our staff can help you with engineered solutions and the selection of products to suit your requirements. Working closely with consulting engineers and contractors we offer services ranging from Valve, Actuator and Controls selection to Design & Build advice, ensuring the completed system operates as it has been designed.

# Eurotec Business Units



## Instrumentation & Measurement

The Instrumentation and Measurement Business Unit markets and supports a wide range of instrumentation products for many industries. Our two main agencies for these products come from Germany and are global players in their respective markets. BENNING manufacture a comprehensive range of Electrical test & measurement instrumentation and TESTO is a world leader in portable instrumentation for the measurement of physical values. BENNING is distributed through our nationwide network of Electrical Wholesalers whilst TESTO instrumentation is sold both direct to the markets and through our appointed Distributors.

Eurotec also has Personal Gas Safety Monitoring products in our instrumentation and measurement portfolio. MSA are leaders in the Gas Measurement technology area for personnel working in enclosed spaces or with hazardous & toxic chemicals. We also stock a range of digital thermometers, multimeters, manometers, and other testing instrumentation.

Fixed Gas Detection Systems for Hazardous and Toxic Gases are also available through our I&M Business Unit. Global brands MSA, Honeywell, Manning and Gaston are all sold and supported through the I&M BU.

Our After-Sales Dept offers both on-site and return to base Calibration Services & Repairs for all of the brands we offer as well as competitor products.



## After-Sales

The After-Sales Department provides Calibration and Servicing of all instruments for the Food, Environmental, HVAC and Refrigeration, Manufacturing & Process Industries. We have a service workshop and laboratory set up in our Auckland office for calibrations and repairs. We aim to provide a 24hr turn-around for basic single point temperature calibrations, in particular for those customers in the Food Industry where temperature monitoring is critical to their HACCP Food Safety programs. We use a PC based service package enabling our After-Sales Dept to track and report on the status of any calibration of repair job back to our Sales Team or the Customer. This system also provides an automated calibration reminder notice to the customer, ensuring that they meet the requirements of their

own quality systems.

To meet customer requirements for instrument calibrations in the field we have a vehicle configured to visit on site and perform calibrations for fixed sensors or fragile/bulky instruments; or for those that cannot be removed due to safety reasons e.g. car park CO sensors. (These require regular calibration for building warrant of fitness and to comply to the Australia New Zealand standards AS1668.2, which states all such sensors must be calibrated every six months). This would be necessary for all car parks that are enclosed or under ground.

Our After-Sales B.U also offers customised site-specific calibration and preventative maintenance contracts for those clients requiring pre-planned and budgeted servicing costs, thereby reducing downtime and improved efficiency and accuracy of their quality systems

We also have a Humidity Calibrator, Velocity, Humidity, Temperature (contact & IR) and Pressure reference instruments with Traceability/Certification to carry out calibration checks on most instruments; and test gasses to carry out on-site calibrations for all Buildings, Hospitals & Pharmaceutical manufacturers.



## Control Panel Solutions - A Division of Eurotec

Eurotec has been building and supplying Eurotec Control Panel Solutions to the Refrigeration industry since 2008. Since then we have become a leading manufacturer and supplier of Refrigerated Milk Vat control panels to the dairy sector controlling the refrigeration system(s), pumps and CIP functions as well as Condensing Unit control panels for OEM's, custom control panels for Refrigeration Racks, Chillers and a variety of commercial refrigeration applications.

In 2012 the Control Panel Solutions division (CPS) was established to reflect the growing control panels business and we now supply Control Panel Solutions to the Refrigeration, HVAC and Electrical markets. Applications typically include Fan Coil Unit Control Panels, Car Park Gas Detection and Ventilation Control Panels, Level & Pump Control Panels, Temperature & Humidity Control Panels.

CPS integrates and value-adds to the extensive range of Refrigeration, HVAC & Electrical control and monitoring solutions sold by Eurotec to NZ industry for over 30 years, with a focus on providing quality control panels at competitive prices yet providing clients with custom solutions to meet their application requirements.






CPS is supported by the wealth of industry and application knowledge that has been synonymous with Eurotec for over a quarter of a century.

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Benning	Electrical test equipment, Multi Meters, Clamp Meters, Insulation & "PAT" Testers	Elect	33
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## Temperature Controllers & Thermometers

Carel	CDC		T&G	CPS
				
P37	P68	P68	P133	P60

## Room/Wall Thermostats






Seitron	Alre	Innotech	Orbis	Sauter
				
P131	P16	P97	P115	P126

## Industrial Capillary Type






Trafag	Alre		Cothem	T&G
				
P171	P15	P15	P72	P133

## Industrial Contact (Pipe)

## Probe (Stem) Thermostats

Trafag	T&G	Cothem	Trafag	T&G
				
P171	P133	P72	P171	P133

## Sensors, Switches & Transducers

Carel	Trafag	Sauter	Italtecnica	Belimo
				
P50	P173	P125	P101	P18

## Float & Floatless Level Controls

Mac3 Float	Mac3 Floatless	Riko
		
P108	P109	P124


























Temperature

Pressure  
Controls

























Level  
Control



# Product Index

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# Product Index

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	Orbis		Orris kWH		
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	Belimo		Sauter		
	 P17	 P19	 P126	 P129	 P128
Relays	Industrial Relay Systems		Electric Vehicle Chargers		
	Relpol Plug-in relays and Spade Connections		Orbis Viaris Smart EV Chargers		
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	MMCB's	Contactors	Cam/Mains	Push Buttons	Misc Switches
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## HVAC & Refrigeration

### Carel

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### Belimo

Actuators	Ball Valves	Butterfly Valves	Retrofit	PICV
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## Instruments

### Probe Testers, Multimeters

Voltage Testers	Multimeters	Clamp Meters	Insulation	Photovoltaic Installation Tester
 P33	 P149	 P149	 P34	 P34

## Lighting Controls

### PIR, Ultrasonic & Photo Electric Sensors

Indoor Wall	Indoor Ceiling	Outdoor Wall/Ceiling	Outdoor Lux
 P115	 P115	 P115	 P116

## Occupancy Sensors

### Automated Lighting Controls

Wall Sensors	Daylight Controls	Ultrasonic	Dual Technology	Power Supply
 P178	 P178	 P177	 P177	 P178

## Green Energy Management

### Temperature Control & HVAC

Carel	Belimo	Innotech
 P48	 P21	 P99



## After Sales


- ▣ Scheduled calibration services for compliance & safety
- ▣ Instrument & sensor repairs for food safety, personal safety, industry instruments, HVAC & refrigeration
- ▣ Authorized servicing - Benning, Delta, Dickson, Testo
- ▣ 24 hour calibration turnaround



## Scheduled Instrument Calibration

Eurotec offers a computer monitored, annual calibration service for clients registering their instruments serial number in the 'call back' program. Just like a 'WOF' reminder, clients are advised when their instruments are due for their periodic calibration and maintenance checks.

## Food Industry - Scheduled Calibration Services

	Description	Method & Range	Recommended Frequency
	Calibration for food industry specific instruments - automatic annual notification; temperature (probe & I/R) and pH testers	A range of test and calibration methods suited to the various instrument types	Annual - or in accordance with audit & HACCP procedures


## Thermometers & Multifunction - Scheduled Calibration Services

	Calibration of industrial & general purpose thermometers	-20 to +150°C Contact / Surface / Air / Penetration / Bath & Dry Block Fixed & selective points	Annual
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## Humidity

	Electronic hygrometers, humidity data loggers.	Full scale range using high precision humidity Calibrator; 10-95% rH	Annual
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## Velocity

	Hot wire/ hot ball & vane anemometers.	0 to 5m/s in a wind tunnel	Annual
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## Chemical, combustion & environmental

	Calibration - excludes replacement of depleted gas cells (available on request). pH, Conductivity, Gas Combustion Analyzers, Environmental Monitoring, Safety Devices, Car Parks.	Customised	Annual
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## Sound/Speed (Tacho) Meters

	Instrument calibration	-	Annual
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## Onsite Services - Upper North Island Area Only

"Eurotec provides onsite testing and calibration services for clients with installed instruments and sensors on industrial sites and public buildings (eg: car park gas sensors for building "WOFs"). Please enquire for a full description of our technical departments onsite services."



Eurotec maintains an in-house service & repair facility for our own Benning, Delta, Dickson and Testo instrument brands. Other brands of instruments can also be repaired and calibrated by the technicians at Eurotec.



## Comfort & Environmental Controls, Flow Switches

- ❑ Thermostats - capillary, immersion & wall mounted room types
- ❑ Flow switches
- ❑ Humidity controls
- ❑ Radiant heat sensors
- ❑ Lux sensors - photo sensitive switches for lighting control




### Thermostats

	Part No.	Description	Capillary	Setting Range	Differential		
	JET-110X	Capillary Thermostat IP65	1.8m	-35 to +30°C	2 - 20°C		
	JET-120X			0 to +60°C			
	JET-130X			+40 to +100°C			
	JET-140X			+70 to +130°C			
	JET-150			+100 to +280°C			
	JET-133X	Capillary Thermostat Manual Reset IP65	1.8m	+40 to +100°C	Manual Reset		
	JET-143 XF			+70 to +130°C			
	JET-153			+100 to +280°C			
	TH-140	Pocket for all models with an “x”					
	Part No.	Description	Detail	Setting Range	Differential		
	RTKSA-114.110	Plant Room Thermostat IP65	Dual Setting	0 to +50°C & 0 to +50°C	1.3°C		
	RTKSA-100.010	Plant Room Thermostat IP54	External Adjustment	-10 to +40°C	1.3°C		
	RTKSA-101.010		Internal Adjustment				
	RTKSA-101.110			0 to +50°C	1.3°C		
	RTKSA-001.301	Universal Thermostat, IP40	Internal Adjustment	20 to +150°C	3.3°C		
	RTKSA-001.100	Immersion/Duct, refer to THK/SWK-2-200*		0 to 50°C	1.3°C		
	RTKSA-001.200			0 to +120°C	3°C		
	THK-2-200*	Immersion Sleeve. 200mm. 7.5 x 10mm diameter. Nickel-plated brass.					
	SWK-2-200*	Protection Coil with flange plate. 200mm. 10.5 x 17mm diameter. Steel nickel-plated.					
	JZ-29	Mounting Set RTKSA for THK/NTHK/SWK individual controllers.					
	JZ-31	Mounting Set RTKSA for pipe mounting contact controller (worm screw clamp).					
	JTF-1W	Frost Protection Thermostat IP65	6mtr Cap Sensor	-10 to +12°C	-		
	JTU-50	Duct Thermostat IP40 (LR80 = IP43)	Auto	-25 to +65°C	1.5°C		
	RTBSB-001.010	Room Thermostat	Std Model +On/Off	1 C/O	+5 to +30°C	0.5°C	
	RTBSB-001.026						
	RTBSB-001.062						
	RTBSB-001.910	Tamper proof Room Thermostat					

## Humidity Controls

	Part No.	Description	Detail	Output	
	RFHSB-060.010	Humidistat	30-100% Humidity	-35 To +30°C	

## Radiant Sensors


	STF-4	Radiation Temperature Sensor IP30	-20°C To + 70°C Use 2xNTC 10K Sensors	-	
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## Lux Sensors

	AHS 0-10-50K	Ambient Light Level Sensor Outdoor IP54	0 - 50,000 Lux	0-10V	
	AHS 0-10-5K		0 - 5,000 Lux		

## Flow Switches

	Part No.	Description	Connection	Max Operating Pressure	
	JSF-1E	Flow Switch IP65 c/w SS316 Paddle	1 BSP	8 bar	
	JSF-1RE (Low Flow)		25-200mm Pipe	5 bar	
	JSF-2E (SS316)	Flow Switch IP65 c/w SS316 Paddle & Adaptor		13 bar	
	JSF-3E	Flow Switch IP65 c/w SS316 Paddle	1/2 Tee Connection	5 bar	
	JSF-4E		3/4 Tee Connection		

	Part No.	Description	Switch On		Switch Off		
			Min	Max	Min	Max	
	JSL-1E	Air Flow Switch IP65 c/w Sail	1m/s	9.2m/s	1m/s	8.0m/s	
	JZ-08	Spare 'Sail' For JSL-1E Air Flow Switch					
	JZ-09	Spare 'Paddle' For JSF-1E Flow Switch					

## Actuators For Damper Control

- Motorised HVAC shut-off dampers & control dampers
- On-off, 3 point & modulating functions
- 'Form-fit' and universal clamps
- IP54 protection, contact us for the Robustline IP66/67 range
- Supply cable 0.75mm<sup>2</sup> 2core circular flex (1mtr)








5 year  
warranty








Tested  
Quality





	Part No.	Description	Function	Operating Voltage	
	CM24-R	Damper Actuator 2Nm IP54 Clockwise operation only	On-Off/ 3 Point	24VAC/DC	
	CM24-SR-R		Modulating 2-10V		
	CM230-R		On-Off/ 3 Point	230VAC	
	LM24A	Damper Actuator 5Nm IP54	On-Off/ 3 Point	24VAC/DC	
	LM230A			230VAC	
	LM24A-SR		Modulating 2-10V	24VAC/DC	
	LM230ASR			230VAC	
	NM24A	Damper Actuator 10Nm IP54	On-Off/ 3 Point	24VAC/DC	
	NM230A			230VAC	
	NM24A-SR		Modulating 2-10V	24VAC/DC	
	SM24A	Damper Actuator 20Nm IP54	On-Off/ 3 Point	24VAC/DC	
	SM230A			230VAC	
	SM24A-SR		Modulating 2-10V	24VAC/DC	
	SM230ASR			230VAC	
	GM24A	Damper Actuator 40Nm IP54	On-Off	24VAC/DC	
	GM230A			230VAC	
	GM24A-SR		Modulating 2-10V	24VAC/DC	


## Mechanical Fail Safe (Spring Return) Damper Actuators

	TF24	Damper Actuator	On-Off	24VAC/DC Universal	
	TF230	Spring Ret 2Nm		230VAC	
	LF24	Damper Actuator		24VAC/DC	
	LF230	Spring Ret 4Nm		230VAC	
	NFA	Damper Actuator	On-Off	24-230VAC	
	NF24A-SR	Spring Return 10Nm	Modulating 2-10V	24VAC/DC	
	SFA	Damper Actuator	On-Off	24-230VAC	
	SF24A-SR	Spring Return 20Nm	Modulating 2-10V	24VAC/DC	
	EF230A-S2	Damper Actuator	On-Off	230VAC	
	EF24A-S2	Spring Return		24VAC/DC	
	EF24A-SR	30Nm	Modulating 2-10V		

## Auxiliary Switch Modules


	Part No.	Description	Operating Voltage	Detail	
	S1A	Auxiliary Switch For Standard Actuators	N/A	1 x SPDT	
	S2A			2 x SPDT	
	S2A-F	Auxiliary Switch For Spring Return Actuators		2 x SPDT	

## Linear Actuators


	SH24A100	Damper Actuator Linear 100mm On-Off 3 Point 450N	24VAC/DC		
	SH24A-SR100	Modulating Damper Actuator Linear 100mm 450N 2-10V			

Contact us for details of the comprehensive range of Belimo 'Robustline' IP66 and IP67, fire and smoke damper actuators. Engineered solutions are available for the replacement of most brands of obsolete damper actuators and customised applications.


## Differential Pressure Switches & Accessories

	Part No.	Description	IP Rating	Set Range	
	01APS-101	Differential Pressure Switch	IP54	200 to 1000pa	
	01APS-10R			20 to 300pa	
	A-22AP-A05	Pressure Switch Connection Kit & Pitot Tubes (2)			
	A-22AP-A09	Pressure Switch Single Pressure Point Nipple Only			

## Differential Pressure Transmitters



	22ADP-184	Differential Pressure Transmitter (Air)	Adjustable 4-20mA & 0-10V	IP65/ NEMA 4X	0-2500Pa	
	22ADP-184L		Adjustable with display			
	22ADP-18Q		Adjustable 4-20mA & 0-10V		0-250Pa	

## Temperature/Humidity Sensors

	Part No.	Description	IP Rating	
	22DTC-11	Duct CO2/Temp sensor, 0-2000ppm/0-50C, 2x0-10V output	IP65/ NEMA 4X	
	22DTH-11M	Duct Temp/Humidity Sensor 140mm x 19.5mm probe, 2x0-10V +/-2&RH		
	22UTH-11	Outdoor Temp/RH Sensor, 2 x 10v		
	22UTH-13	Outside Temp/Humidity Sensor +/-2%RH, 2 x 4-20mA		



### Ball Valves Open-Closed

	Part No.	Description	Pipe Diameter	Flow Rate	
	R2015-S1	Valve 2 Port Open-Closed Screwed	DN15	Kvs8.6	
	R2020-S1		DN20	Kvs13	
	R2025-S2		DN25	Kvs18	
	R2032-S2		DN32	Kvs31	
	R2040-S2		DN40	Kvs40	
	R2050-S3		DN50	Kvs49	
	R3015-S1	Valve 3 Port Open-Closed Screwed	DN15	Kvs8.6	
	R3020-S2		DN20	Kvs32	
	R3025-S2		DN25	Kvs26	
	R3040-S3		DN40	Kvs32	
	R3050-S4		DN50	Kvs49	






### Ball Valves Characterised

	R2015-P63-S1	Valve 2 Port Control Screwed	DN15	Kvs0.6	
	R2015-1P6-S1		DN15	Kvs1.6	
	R2015-2P5-S1		DN15	Kvs2.5	
	R2015-4-S1		DN15	Kvs4.0	
	R2020-6P3-S1		DN20	Kvs6.3	
	R2025-10-S2		DN25	Kvs10	
	R2032-16-S3		DN32	Kvs16	
	R3015-BL1	Valve 3 'L' Port Open-Closed Screwed	DN15	Kvs4.5	
	R3020-BL2		DN25	Kvs9.0	
	R3025-BL2		DN25	Kvs9.0	
	R3040-BL3		DN40	Kvs14	
	R3050-BL3		DN50	Kvs17	
	R3015-P63-S1	Valve 3 Port Control Screwed	DN15	Kvs0.63	
	R3015-1-S1		DN15	Kvs1.0	
	R3015-1P6-S1		DN15	Kvs1.6	
	R3020-4-S1		DN20	Kvs4.0	
	R3020-6P3-S1		DN20	Kvs6.3	
	R3025-6P3-S2		DN25	Kvs6.3	
	R3032-10-S2		DN32	Kvs10	
	R3040-16-S3		DN40	Kvs16	
	R3050-25-S4		DN50	Kvs25	


**Note:**

**Additional Kvs models available on request**


## Actuators For Ball Valves

	Part No.	Description	Valve Size	Operating Voltage	
	TR24	Valve 3 Point	DN15 & DN20	24VAC/DC	
	TR230-3			230VAC/DC	
	TR24-SR	Modulating Actuator 0-10V		24VAC/DC	
	LR24A	Valve Actuator On/Off Or 3 Point	DN25	24VAC/DC	
	LR230A			230VAC/DC	
	LR24A-SR	Modulating Actuator 0-10V		24VAC/DC	
	NR24A	Valve Actuator On/Off Or 3 Point	DN32 & DN40	24VAC/DC	
	NR230A			230VAC/DC	
	NR24A-SR	Modulating Actuator 0-10V		24VAC/DC	
	SR24A	Valve Actuator On/Off Or 3 Point	DN50 & DN80	24VAC/DC	
	SR230A			230VAC/DC	
	SR24A-SR	Modulating Actuator 0-10V		24VAC/DC	
	GR24A...	Valve Actuator On/Off Or 3 Point FO5 & FO7 Versions	DN100 & DN150	24VAC/DC	
	GR230A...			230VAC/DC	
	GR24A-SR...	Modulating Actuator 0-10V FO5 & FO7 Versions		24VAC/DC	
Note:		Where “...” is present multiple versions are available			

## Retrofit Valve Actuator Solutions

	NV24A-MP-RE	Universal Globe Actuator	-	24VAC/DC	
	EV24A-SZ-TPC	Globe Valve Actuator	-	-	

## Large Control & Open-Close Valves

	Part No.	Description	Pipe Size	Flow Rate	
	R679AO	Valve 2 Port Control Flanged	DN80	Kvs100	
	R6099AO		DN100	Kvs140	
	R665AO	Valve 2 Port Open-Closed Flanged	DN65	Kvs120	
	R680AO		DN80	Kvs180	

## Butterfly Valves, Wafer, Nylon Coated Disc

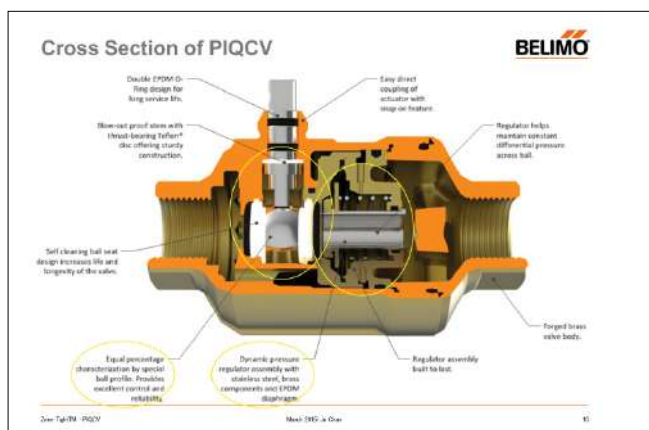
	D640N	Butterfly Valve Wafer 304 s/s disc	DN40	-	
	D650N		DN50		
	D665N		DN65		
	D680N		DN80		
	D6100N		DN100		
	D6125N		DN125		
	D6150N		DN150		

**Note:** Larger sizes, lugged versions and stainless steel disc models are available on request. Modulating, 3 point, 24VAC & 230VAC actuators available.

## Pressure Independent Control Valves

(With Modulating 24VAC/DC Operating Voltage & 2-10VDC Modulating Control)

	Part No.	Description	Pipe Size	Flow Rate I/S	
	C215QPT-B	PIQCV 2-port Pressure Independent Control Valves (screwed with PT ports)	DN15	0.005 - 0.058	
	C215QPT-D			0.012 - 0.120	
	C220QPT-F		DN20	0.028 - 0.27	
	C220QPT-G			0.058 - 0.583	
	CQ24A	Valve Actuator	-	-	
	CQ24A-SR		-	-	
	EP015R+MP	EPIV 2-port Electronic Pressure Independent Control Valves (screwed, including actuator)	DN15	0.105 - 0.35	
	EP020R+MP		DN20	0.195 - 0.65	
	EP025R+MP		DN25	0.345 - 1.15	
	EP032R+MP		DN32	0.64 - 1.80	
	EP040R+MP		DN40	0.75 - 2.50	
	EP050R+MP		DN50	1.44 - 4.80	
	EP050R+MP-N			1.89 - 6.30	
	EP065F+MP	EPIV 2-port Electronic Pressure Independent Control Valves (flanged, including actuator)	DN65	2.40 - 8.00	
	EP080F+MP		DN80	3.40 - 11.33	
	EP100F+MP		DN100	6.00 - 20.00	
	EP125F+MP		DN125	9.37 - 31.25	
	EP150F+MP		DN150	13.5 - 45.00	



The **Pressure Independent Control Valve** consists of a differential pressure regulator in series with a control valve.

The key to the PICV is the regulator assembly. This regulator controls the amount of flow that passes through the valve by the use of a diaphragm that moves according to the change in pressure above and below it.

All pressure changes are absorbed by the pressure regulator allowing the differential pressure to be held constant over the control valve section thereby giving the same flow.



5 year warranty



On site around the globe



Complete product range



Tested Quality



Short Delivery Time






Comprehensive Support

## Industrial Switchgear

- ❑ Manual motor circuit breakers to 100amps
- ❑ Contactors, high temperature, heavy duty
- ❑ Modular contactors for distribution board mounting
- ❑ Loadbreak & rotary cam switches
- ❑ Push buttons 22mm Ø IP66



## M4 Manual Motor Circuit Breakers



	Part No.	Description	Release		Motor AC-3 kW	
			Thermal	Instant		
	M4-32R-0.16	Manual Motor Circuit Breaker Rotary Switch Type - 32Amp Frame	0.1 - 0.16A	2.1A	-	
	M4-32R-0.25		0.16 - 0.25A	3.3A	0.06	
	M4-32R-0.40		0.25 - 0.4A	5.2A	0.09	
	M4-32R-0.63		0.4 - 0.63A	8.2A	0.18	
	M4-32R-1		0.63 - 1.0A	13.0A	0.25	
	M4-32R-1.6		1.0 - 1.6A	20.8A	0.50	
	M4-32R-2.5		1.6 - 2.5A	32.5A	0.75	
	M4-32R-4		2.5 - 4.0A	52.0A	1.50	
	M4-32R-6		4.0 - 6.0A	78.0A	2.20	
	M4-32R-8		5.0 - 8.0A	104A	3.50	
	M4-32R-10		6.0 - 10A	130A	4.60	
	M4-32R-13		9.0 - 13A	169A	5.50	
	M4-32R-17		11 - 17A	221A	7.50	
	M4-32R-22		14 - 22A	286A	7.50	
	M4-32R-26		18 - 26A	338A	11.0	
	M4-32R-32		22 - 32A	416A	15.0	
	M4-63R-26	Manual Motor Circuit Breaker Rotary Switch Type - 63Amp Frame	18-26A	338A	11.0	
	M4-63R-32		22-32A	416A	15.0	
	M4-63R-40		28-40A	520A	18.5	
	M4-63R-50		34-50A	650A	22.0	
	M4-63R-63		45-63A	819A	30.0	
	M4-100R-63	Manual Motor Circuit Breaker Rotary Switch Type - 100Amp Frame	45-63A	819A	30.0	
	M4-100R-75		55-75A	975A	37.0	
	M4-100R-90		70-90A	1170A	45.0	
	M4-100R-100		80-100A	1300A	-	




## Phase Bar System

	Part No.	Description	Format	Detail	
	M4 32 S3	Phase Bar For 3 MMCB's			
	M4 32 S4	Phase Bar For 4 MMCB's	3 Pole	25mm <sup>2</sup>	
	M4 32 S5	Phase Bar For 5 MMCB's			

## MMCB Accessories

	M4 HQ11		1NO+1NC	Centre	
	M4 HQ20		2NO		
	M4 HS11	Auxiliary Contact Block	1NO+1NC		
	M4-HS20		2NO	Left Hand Side	
	M4 MA11	Trip Indicating Auxiliary Contact	1NO+1NC		
	M4-U230	Under-Voltage Release	230VAC	Right Hand Side Mtg	
	M4 32R PFHN4	Plastic Enclosure IP65	Red/Ylw	Surface	
	M4 32R PFH4		Blk/Grey		
	M4 32 SEV	Connection Block - Pin Type			
	M4 32 SE	Connection Block - Fork Type	3 Pole	25mm <sup>2</sup>	
	M4 32 VK1	Link Module M4 32 To K1 Contactor			
	M4 32 VK3	Link Module M4 32 To K3 Contactor			


## K0 Series Mirco Contactors

	Part No.	Description	Auxiliary Contact	Control Voltage	AC3		
					kW 400V	Current	
	K0-05D01 230	Micro Contactor	1NC	220-240VAC	2.2kW	5 Amps	
	K0-05D01 24			24VDC			
	K0-05D10 230		1NO	220-240VAC			
	K0-05D10 24			24VDC			
	K0-05D10=24			24VDC Coil	-		


Relay-size contactor,  
smallest in the world!



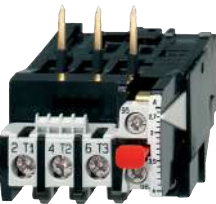
### K1 Series Miniature Contactors

	Part No.	Description	Auxiliary Contact	Control Voltage	AC3		
					kW 400V	Current	
	K1-09D10 24	Mini-Contactor	1NO	24VAC	4Kw	9Amps	
	K1-09D10 230			230VAC			
	K1-09D10=24			24VDC			
	K1-12D10 24			24VAC			
	K1-12D10 230			230VAC			
	K1-12D10=24			24VDC			
	K1-09D01 24		1NC	24VAC	4Kw	9Amps	
	K1-09D01 230			230VAC			
	K1-09D01=24			24VDC			
	K1-12D01 24			24VAC			
	K1-12D01 230			230VAC			
	K1-12D01=24			24VDC			

### K1 Contactor Accessories

	Part No.	Description	Contactor Types	Mounting	Detail	
	HK40	Auxiliary Contact Block	Fits All K1 Contactors	Top	4NO	
	HKM 02				2NC	
	HKM 11				1NO+1NC	
	HKM 22				2NO+2NC	




### Miniature Thermal Overloads For K1 Series Contactors

	Part No.	Description	Auxiliary Contact	Overload Setting Range	
	U12/16E 0.18 K1	Miniature Thermal Overload	1NO+ 1NC	0.12 - 0.18Amps	
	U12/16E 0.27 K1			0.18 - 0.27Amps	
	U12/16E 0.4 K1			0.27 - 0.40Amps	
	U12/16E 0.6 K1			0.40 - 0.60Amps	
	U12/16E 0.9 K1			0.60 - 0.9Amps	
	U12/16E 1.2 K1			0.80 - 1.2Amps	
	U12/16E 1.8 K1			1.2 - 1.8Amps	
	U12/16E 2.7 K1			1.8 - 2.7Amps	
	U12/16E 4 K1			2.7 - 4.0Amps	
	U12/16E 6 K1			4 - 6Amps	
	U12/16E 9 K1			6 - 9Amps	
	U12/16E 11 K1			8 - 11Amps	
	U12/16E 14 K1			10 - 14Amps	




Terms & Conditions apply. Subject to change without notice

### K3 High Temp/Heavy Duty Compact Contactors & DOL Starters

	Part No.	Description	Control Voltage	AC3		
				kW 400V	Current	
	K3-10ND10...	1 N/O Contactor		4kW	10A	
	K3-14ND10...			5.5kW	14A	
	K3-18ND10...			7.5kW	18A	
	K3-22ND10...			11kW	22A	
	K3-10ND01...	1 N/C Contactor		4kW	10A	
	K3-14ND01...			5.5kW	14A	
	K3-18ND01...			7.5kW	18A	
	K3-22ND01...			11kW	22A	
	K3-24A00 230...	Contactor	AC Frame Please Specify Required Control Voltage	11kW	24A	
	K3-32A00...			15kW	32A	
	K3-40A00...			18.5kW	40A	
	K3-50A00...			22kW	50A	
	K3-62A00...			30kW	62A	
	K3-74A00...			37kW	74A	
	K3-90A00...			45kW	90A	
	K3-115A00...			55kW	115A	
	K3-151A00 230...			75kW	150A	
	K3-176A00 230...			90kW	175A	
	K3-18NK01 230	Contactor - Capacitive Switching		12kVAr 3 phase	400V	
	K3-24K00 230...			20kVAr 3 phase	400V	
	K3-32K00 230...			25kVAr 3 phase	400V	
	K3-50K00 230...			33kVAr 3 phase	400V	
	K3-62K00...			50kVAr 3 phase	400V	
	K3-74K00 230...			75kVAr 3 phase	400V	

### DOL Motor Starters, Pre-Wired, Fully Enclosed, IP65. Thermal Overloads


	P1T10...	DOL Motor Starter	AC Frame Please Specify AC Voltage	4kW	9A	
	P1T18...			7.5kW	16A	
	U12/16E 1.2 K3	Thermal Overload Relay for K3 DOL		0.8 - 1.2A		
	U12/16E 1.8 K3			1.2 - 1.8A		
	U12/16E 2.7 K3*			1.8 - 2.7A		
	U12/16E 4 K3			2.7 - 4A		
	U12/16E 6 K3			4 - 6A		
	U12/16E 9 K3			6 - 9A		
	U12/16E 11 K3			8 - 11A		
	U12/16E 14 K3			10 - 14A		
	U12/16E 18 K3			13 - 18A		

Note: Where "... " is present add required coil voltage to codes.


\*Available while stocks last

Terms &amp; Conditions apply. Subject to change without notice


### Auxiliary Contact Blocks

	Part No.	Description	Contactor Types	Mounting	Detail	
	HA10	Aux Contact Block Standard Type	Fits All K3 Contactors	Top	1NO	
	HA01				1NC	
	HB11		K3-24 / K3-115	Side	1NO+1NC	
	HN10	Aux Contact Block PLC Type	Fits All K3 Contactors	Fits All K3 Contactors	1NO	
	HN01				1NC	

### Mechanical Interlocks


	LG 10889	Mechanical Interlock	K3-10 / K3-40	Side	-	
	LG 10890		K3-50 / K3-74		-	
	LG 8511		K3-65 / K3-115		-	
	LG10397H		K3-150 / K3-175		-	

### Contactor Coils

	Part No.	Description	Contactor Types	Detail	Operating Voltage	
	K10N/4...	Replacement Contactor Coils	K3-10N...K3-22N	AC Operation Only*	12/24/ 110/230/ 415VAC (Specify)	
	K3-6/4...		K3-10...K3-22			
	K24/4...		K3-24...K3-40			
	K45/4...		K3-50...K3-74			
	K3-115/4...		K3-90...K3-115			

Note: Please enquire for DC contactors &amp; coils




### Coil Suppressor Units

	Part No.	Description	Contactor Types	Detail	Operating Voltage	
	K2-E230	Coil Suppressor Units	K3-10 To K3-22	Varistor	110-230VAC/DC	
	RC-K3 230		K3-74	RC	110-230VAC/DC	
	RC-K3N 24		New Type	RC	12-24VAC/DC	
	RC-K3N 230		K3-10N To K3-22N		110-230VAC/DC	



Terms & Conditions apply. Subject to change without notice

### Thermal Overloads For K3 Series Contactors / DOL Motor Starters

	Part No.	Description	Auxiliary Contact	Contactor (Up To)	Setting Range	
	U3/32 0.18	Thermal Overload For K3 Contactors	1NO+ 1NC	K3-10ND...	0.12 - 0.18A	
	U3/32 0.27				0.18 - 0.27A	
	U3/32 0.4				0.27 - 0.40A	
	U3/32 0.6				0.40 - 0.60A	
	U3/32 0.9				0.60 - 0.9A	
	U3/32 1.2				0.80 - 1.2A	
	U3/32 1.8				1.2 - 1.8A	
	U3/32 2.7				1.8 - 2.7A	
	U3/32 4				2.7 - 4.0A	
	U3/32 6				4 - 6A	
	U3/32 9				6 - 9A	
	U3/32 11				8 - 11A	
	U3/32 14			K3-14ND...	10 - 14A	
	U3/32 18			K3-18ND...	13 - 18A	
	U3/32 24			K3-22A...	17 - 24A	
	U3/32 32			K3-32A...	23 - 32A	
	U3/42 14			K3-24A00	10 - 14A	
	U3/42 20				14 - 20A	
	U3/42 28				20 - 28A	
	U3/42 42			K3-32A00	28 - 42A	
	U3/74 28			K3-50A00	20 - 28A	
	U3/74 42				28 - 42A	
	U3/74 52				40 - 52A	
	U3/74 65			K3-74A00	52 - 65A	
	U3/74 74				60 - 74A	
	U3/32SM	Separate Mounting Bracket	-	-	-	








Terms &amp; Conditions apply. Subject to change without notice




### Modular (MCB Style) Contactors

	Part No.	Description	17.5mm Modules	Current AC-1 A	Contacts	Control Voltage	
	R20-11 24	Modular Contactor (MCB Style) To DIN43880 IP20	1M	20 Amps	1NO+1NC	24VAC	
	R20-11 230					230VAC	
	R20-02 230				2NC		
	R20-20 24				2NO	24VAC	
	R20-20 230						
	R25-02 230			25Amps		230VAC	
	R25-11 230						
	R25-20 230						
	R25-02 24						
	R25-11 24					24VAC	
	R25-20 24						
	R25-04 230				4NC		
	R25-13 230				1NO+3NC	230VAC	
	R25-22-230				2NO+2NC		
	R25-31 230				3NO+1NC		
	R25-40 24			25 Amps		24VAC	
	R25-40 230						
	R40-40 230			40A	4NO	230VAC	
	R63-40 230		3M	63A			
	RH11	Auxiliary Contact Block For MCB Style Contacts 1NO+1NC					
	P750	Heat Dissipation Insert For Contactors (0.5M) 8.75mm					




Terms & Conditions apply. Subject to change without notice


### Switch Disconnectors IP65 Panel Mount

	Part No.	Description	Legend	Current AC21	Poles	Colour	
	LTS20 E A3	Loadbreak Switches IP65 Base Mount	0 - I	20A	3 Pole	Black/Silver	
	LTS25 E A3			25A			
	LTS32 E A3			32A			
	LTS40 E A3			40A			
	LTS63 E A3			63A			


### Switch Disconnectors Lockable IP65 Panel Mount

	LTS20 EH1 A3	Loadbreak Switches Lockable IP65 Panel Mount	0 - I	20A	3 Pole	Black/Silver	
	LTS25 EH1 A3			25A			
	LTS32 EH1 A3			32A			
	LTS40 EH1 A3			40A			
	LTS63 EH1 A3			63A			


### Emergency Stop Mains Switch Lockable IP65 Panel Mount

	LTS20 EHN4 A3	Loadbreak Switches Lockable IP65 Panel Mount	0 - I	20A	3 Pole	Red/Yellow	
	LTS25 EHN4 A3			25A			
	LTS32 EHN4 A3			32A			
	LTS40 EHN4 A3			40A			
	LTS63 EHN4 A3			63A			
	LTS80 EHN4 A3			80A			

### Emergency Stop Mains Switch Lockable IP65 Base Mount c/w Door Clutch

	LTS20 VZVHN4 A3	Loadbreak Switches Lockable IP65 Base Mount	0 - I	20A	3 Pole	Red/Yellow	
	LTS25 VZVHN4 A3			25A			
	LTS32 VZVHN4 A3			32A			
	LTS40 VZVHN4 A3			40A			
	LTS63 VZVHN4 A3			63A			
	LTS80 VZVHN4 A3			80A			

### Enclosed Lockable Maintenance & Safety Switches IP65 - UV Protected


	LTS20 PFHN4 A3	Enclosed Loadbreak Switches Lockable IP65	0 - I	20A	3 Pole	Red/Yellow	
	LTS25 PFHN4 A3			25A			
	LTS32 PFHN4 A3			32A			
	LTS40 PFHN4 A3			40A			
	LTS63 PFHN4 A3			63A			
	LTS80 PFHN4 A3			80A			

### DC Isolators for PV Panels


	Part No.	Description	Poles	
	LS16 PFLH4 A2	PV Isolator 16A at 600VDC Enclosed	2 Pole	
	LS16 PFLH4 A4		4 Pole	

Terms &amp; Conditions apply. Subject to change without notice

### Miniature Off-On Cam Switches Standard Handle 16mm Mounting - IP65

	Part No.	Base Mtg	Legend Plate	Current AC-21 Amps	Poles	
	M4H Z A1+003	Mini Off-On Cam Switch	0 - I	10Amps	1	
	M4H Z A3+003		30mm		3	


### Mini Change Over Cam Switches Standard Handle 16mm Mounting - IP65

	M4H Z U1+006	Mini Cam Switch Changeover	I - 0 - 2	10Amps	1	
	M4H Z U3+006		30mm		3	
	M4H Z U1+088		MAN-OFF-AUTO 30mm		1	


### Mini Cam Switches Key Operated 16mm Mounting - IP65

	M4H Z A1+SA2	Off-On	0 - I	10Amps	1	
	M4H Z U1+SA2	Changeover	MAN-OFF-AUTO			



### Off-On Cam Switches Standard Handle 22mm Mounting - IP65

	M10H Z A1+003	Off-On Cam Switch	0 - I	20Amps	1	
	M10H Z A3+003		48mm		3	

### Changeover & Multistep Cam Switches Std Handle 22mm Panel Mtg - IP65

	M10H Z U1+006	Changeover Cam Switch 20Amps	I - 0 - 2	20Amps	1	
	M10H Z U3+006		48mm		3	
	M10H Z U1+088		MAN-OFF-AUTO		1	
	M10H Z U3+088		48mm		3	
	M10H Z U1+008		FOR-OFF-REV		1	
	M10H Z U3+008		48mm		3	
	M10H Z W1+G2+132	Multi-step Cam Switch No Off	48mm 1 - 2	20Amps	1	
	M10H Z ST31+G2		60° 1 - 2 - 3			
	M10H Z ST41+G2+1234		45° 1-2-3-4			

### Instrumentation Cam Switches Standard Handle 22mm Panel Mtg - IP65

	M10H Z M31+242+503	Ammeter Switch	L1, L2, L3 48mm	20Amps	1	
	M10H Z V1+249+504	Voltmeter Switch	Phase/Phase & Ph/N 48mm			
	M10H Z V3+243+504		Phase/Phase 48mm			



### Miscellaneous Cam Switches

	M10H Z 556H SPEC	IR33 Dairy Vat Selector Switch	5 Position Selector 48mm	20Amps	1	
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### Push Button Operators 22mm Mounting - IP67

	Part No.	Description	Operation	Colour	
	B3D RT	Flush Push Button Operator Only Std Head	Impulse (Spring Return)	Red	
	B3D GN			Green	
	B3DSW			Black	
	B3D BL	Modular System - add contact holder & PB contacts		Blue	
	B3D GE			Yellow	
	B3D WS			White	
	B3DL RT	Illuminated Flush Push Button Operator Only Std Head	Impulse (Spring Return)	Red	
	B3DL GN			Green	
	B3DL BL	Modular System - add contact holder, PB contacts & lamp block		Blue	
	B3DL GE			Yellow	
	B3DL WS			White	


### Indicator Lights 22mm Mounting - IP67

	B3MB24 RT	Indicator Lights	High Performance LED 24VAC/DC	Red	
	B3MB24 GN	Mono Block - complete units		Green	
	B3MB24 BL			Blue	
	B3MB24 GE			Yellow	
	B3MB24 WS			White	
	B3MB24 KL			Clear	
	B3MB230 RT	Indicator Lights	High Performance LED 230VAC/DC	Red	
	B3MB230 GN	Mono Block - complete units		Green	
	B3MB230 BL			Blue	
	B3MB230 GE			Yellow	
	B3MB230 WS			White	
	B3MB230 KL			Clear	

### Push Button & Lamp Holder Contacts



	Part No.	Description	Operating Voltage	Detail	
	B3M	PB Contact Connector Screw type	-	-	
	B3S	Contact Block & Lampholder Clip	-	3 Way	
	B3T10	Push Button Contact Block	690VAC	1NO	
	B3T01			1NC	
	B3F	Lampholder Contact Block Ba9s	Direct Voltage	-	

### LED Lamps - Longlife


	B3-L230RTB	LED Lamp Longlife (10 Years) Ba9s	170-250V AC/DC	Red	
	B3-L230GNB			Green	
	B3-L230BLB			Blue	
	B3-L230GEB			Yellow	
	B3-L230WSB			White	

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### Push Button Selector & Key Switches 22mm Mounting - IP65

	Part No.	Description	Operation	Colour	
	B3KN2	Selector Switch	2 Position	Latched	Black
	B3KN8	Knob style operator, add contact holder & contacts to complete	3 Position	Spring Return	
	B3KN3			Latched	
	B3KN6			Spring Return - Left	
	B3KN7			Spring Return - Right	
	B3KN1			Spring Return - Both	
	B3SAT	Key removable in 'OFF' position only, add contact holder & contacts to complete	2 Position	Spring Return	Black
	B3SARR0	3 Position	Latched		
	B3SATT0		Spring Return - Both		
	B3SAR 0	Key Switch	2 Position	Latched	
	B3SAR 01				
	B3SAR102		3 Position	Spring Return - Left	
	B3SATR02				


### Reset Push Buttons

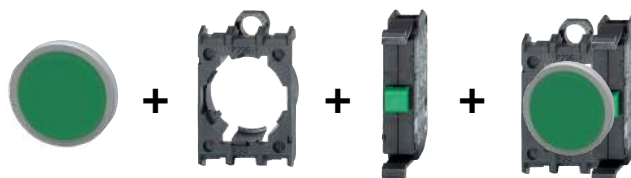
	B3GRB-31.5	Flush PB Operator + O/L Extn Reset Rod	19.5 - 38.5mm Rod	Blue	
	B3GRB-60		38.5 - 60mm Rod		

### Emergency Stop Operators

B3P34RT-0	Emergency Push Button Operator Only - 40mm	Rotolock - Twist Release	40mm	
BS3P44S3		Key Release	Red	

### Emergency Stop Switches - Complete

	BG10P34-11	Emergency Push Button Enclosed - 40mm	1NO + 1NC	40mm Red Rotolock	
	BG10P44S3-11	Key Emergency Push Button Enclosed - 40mm		40mm Key Red	
	BG10P34P-11	Emergency Push Button Enclosed - 70mm		70mm Red Rotolock	

**COMPLETE UNIT =**
**Operator + Contact Holder + Contact Blocks**










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## Test, Measurement And Safety Instruments

- ❑ Voltage & continuity probe testers
- ❑ Digital multimeters, auto ranging
- ❑ Digital clamp meters to 1000Amps
- ❑ Insulation and installation testers




	Part No.	Description	Features	Measure Category	Voltage Range	
	PROFIPOL +		Handyman Safety Tester IP65	CAT II 690 V CAT III 600 V	12-690V AC/DC	
	DUSPOL ANALOG V2	Tradesman's Probe Testers	12 To 1000V - IP65	Cat IV 600V	12-1000V AC/DC	
	DUSPOL ANALOG V2 +2M		12 To 1000V - IP65 with 2 Mtr lead	Cat IV 600V	12-1000V AC/DC	
	DUSPOL EXPERT V2		Load Connection + Phase Sequence LED + Vibrating Alarm & Torch IP65	Cat IV 600V	12-1000V AC/DC	
	DUSPOL DIGITAL V2	Voltage Tester + Continuity	Digital Tester + Torch & Vibrate Alarm IP65	Cat IV 600V	1.0 -1000V/ 1200V DC	
	DUSPOL DIGITAL V2+2M		Load Connection + Phase Sequence LED + Vibrating Alarm & Torch IP65 2 Mtr Lead	Cat IV 600V	1.0 -1000V/ 1200V DC	
	TRITEST easy	Non-Contact Voltage Tester	with Phase Rotation		200 - 1000 VAC	
	DUSPOL CARRY CASE	Case Accessory	Nylon Carry Case with Velcro		-	



**The best DUSPOL ever!**

**BENNING**

Ideal for voltage tests of photovoltaic systems and wind power plants, of hybrid vehicles and of high system voltages in industry.




## Insulation & Resistance Testers and Installation Tester

	Part No.	Low Impedance Memory	Insulation Resistance	Resistance	Voltage Memory	
	IT 101	.01Ω-40Ω	1KΩ-20GΩ	.01Ω-40KΩ	≤600VAC/DC	
	Insulation & Resistance Tester	Leakage Current / Polarization Index / Dielectric Absorption Rate / Auto Discharge Function / Null Balance Of Measuring Lines			500	
	Cat IV 600V True RMS				Measuring	
					Results	
	IT 130	.01Ω-2000Ω	1KΩ-1000MΩ	-	550VAC	
	Installation Tester	Earth Resistance & Lux Sensor			1800	
					Results	
	BENN CC1	Current Clamp Transducer (Plug In) For Digital Multimeters Inc 4mm Safety Leads			200A	


## Accessories

TEST LEAD 2MM	Safety Measuring Leads	4mm Ø x 2mm Tip	
TEST LEAD 4MM		4mm Ø x 4mm Tip	
TEST LEAD SET	Test Leads For Digital MM/Clamp Meter	Fits MM4	
BENN TA1	Safety Alligator Test Clamps Cat III 1000V	Red/Black 4mm Ø	
BENN TA4	Magnetic Adaptor Holder & Belt For Strapping Meters To Cabinets & Machines	DMM's + IT 101	
BENN F1	Replacement DMM Fuse For MM2-3-5-6-7	1A 500V	
BENN F10	Replacement DMM Fuse For MM5-6-7	10A 500V	
BENN F16	Replacement DMM Fuse For MM5-6-7	16A 500V	

## Special Testers

	TRITEST Pro	Phase Sequence Indicator	
	DUTEST Pro	Continuity & Circuit Tester and Torch	
	BENN CFLEX 1	Current Clamp Transducer for use with DMM's 0.3 to 3000Amp	
	BENN CFLEX 2	Current Clamp Meter, Digital, Flexible Loop 0.3 to 3000Amp	

## PV Installation Testers

	Part No.	Description	
	BENN PV1-1	Photovoltaic Installation Tester	
	BENN SUN2	Irradiance and Temp Instrument for PV Testers	
	BENN CC3	Clamp meter for PV installations	

### Accessories Range, Spare Parts & Servicing

Eurotec supports Benning customers with a full range of purpose designed accessories and spare parts. Eurotec's onsite service facility provides back up support for warranty and servicing of your Benning instrument.



## Refrigeration



boss mini supervisor



UltraCello

ir33+

ir33 DIN

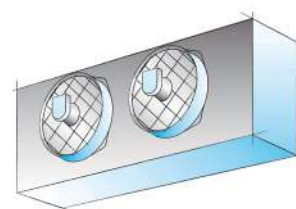


ExV Sistema

Supervisory solutions

Display cabinet & cold room controllers

Electronic expansion valves





## IR33+: New generation of controls for commercial refrigeration

The IR33+ is the evolution of the IR33 family, inheriting and extending all the features that have made it a market benchmark over the years.

- Touch keypad
- Large display +30% compared to IR33
- Intuitive user interface
- Modbus and CAREL protocols
- Mechanical, Electrical and functional compatibility with IR33

### New features include:

#### Appearance:

- touch keypad
- completely flat surface, for much better hygiene, in complete compliance with HACCP requirements
- new design and new layout of the buttons

#### Usability:

- larger and brighter display (30% bigger than the ir33)

- intuitive user interface: ON/OFF, dedicated alarm icons and direct muting of the buzzer
- context messages on the display while browsing

#### Integration with monitoring and supervisory systems:

- Modbus® and CAREL protocols (with automatic recognition) available as standard on the entire range

#### Compatibility with ir33:

- drilling template, assembly, dimensions, wiring diagrams and parameters are the same as on the ir33

### Flat

The surface of the controllers is perfectly flat and thin, allowing easy cleaning and ensuring the highest level of hygiene, in complete compliance with HACCP requirements.



### Intuitive

New, more intuitive user interface. The main functions are highlighted, such as set point display and auxiliary output activation.



### Touch

The keypad is touch sensitive for a more attractive and appealing look. This allows the possibility to create custom user interfaces based on different applications.







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## Selecting the right controller

The Carel IREV/DN33 may look like only two models, but internally there can be many important differences. Eurotec supports almost 60 models each of the IREV, DN33 Refrigeration and Universal input controllers. These versatile controllers can differ both in hardware and software, according to the requirements of an application.


For new installations and replacement of controllers where the part number is not known we need to understand the needs of your application;

- Is the unit to be used for heating, cooling or another purpose?
- What is the temperature range to be monitored?
- What is the preferred sensor technology to be used (& probe length)?
- What inputs and outputs are required?
- What is the control voltage?
- Is an audible alarm required, is an alarm output contact required?

## New! IR33+ Series Panel Mount Refrigeration Controllers

	Part No.	Description	Control Voltage	Output	Corresponding IR33 p/n	
	IREVM0LN0U	Thermometer + Internal Buzzer	12/24 Vac 12/30 Vdc	N/A	IR33M00N00	
	IREVM0EN0U		230VAC	N/A	IR33MOER00	
	IREVS0LN0U	Medium Temp Controller	12/24 Vac 12/30 Vdc	1 Relay	IR33SOLN00 IR33SOLR00	
	IREVS0EA0U		230VAC	2 Relay	IR33SOER00 IR33SOEA0U	
	IREVC0LN0U	Low Temp Controller	12/24 Vac 12/30 Vdc	4 Relays	IR33COLR00	
	IREVC0LC0U		12/24 Vac 12/30 Vdc	4 Relays + RTC	IR33COLB00	
	IREVC0HN0U		115-230 Vac	4 Relays	IR33COHR00	
	IREVF0EN0U		230 Vac	3 Relays	IR33FOER00	
	IREVC0HC0U	Low Temp Controller +RTC	115-230 Vac	4 Relays	IR33COHB00	
	IREVSOENHC	Heating or Cooling thermostat (non essential parameters hidden)	230 Vac	1 Relay	IR33SOENHC	
	IROPZ48500	Serial Interface - RS485				

## DN33 Series DIN Rail Mount 4M - Refrigeration Controllers

	Part No.	Description	Control Voltage	Output	
	DN33COLB00	Low Temp Controller + RTC	12/24V AC/ DC	4 Relays	
	DN33COHR00	Low Temp Controller + 2HP Comp Relay	115/230VAC		
	DN33SOEN00	1 Stage T'stat + Static Defrost	230VAC	1 Relay	
	DN33SOENHC	Heating or Cooling 'Stat (Essential Parameters Only)	230VAC	1 Relay	
	DN33FOEN00	Low Temp Controller No Alarm Relay	230VAC	3 Relays	
	DN33FOET00	Low Temp Controller + RTC	230VAC	4 Relays 1 Aux Relay	
	DN33HOHB00		115/230V AC	5 Relays Inc 2 Aux Relays	
	DN33 POLBR0 Kit	Replacement Kit for IR32POLBR0			
	IROPZSER30	Serial Interface - RS485 Or Remote Display For DN33			



## SmartCella:

### The essential solution for your small cold rooms

- Smart solution based on ir33+ logic and experience
- Intuitive user interface
- Flexible IP65 box ready for additional components
- Modbus and CAREL protocols with auto-recognition
- DIN rail for fast wall mounting

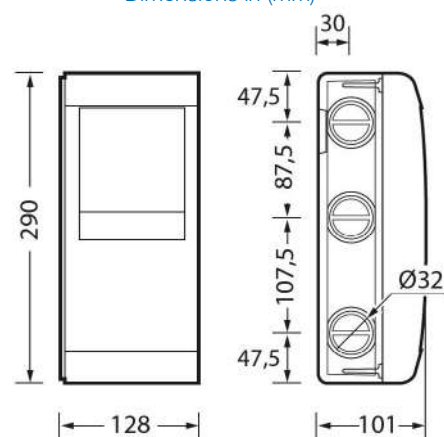


Flexible and expandable with additional modules

Model with free space to allow customers to add:

- External relays
- Contactors
- Auxillary terminals

Dimensions in (mm)



## UltraCella platform - The innovative solution for your cold rooms

The new generation of controls based on the latest CAREL technology and innovative mechanical concept. A wide range of controls, to fit all cold room needs in terms of types, features and size.

### One platform for all your applications

You can upgrade UltraCella with additional contents thanks to the new modular concept

#### Ultra EVD Module:

- Easy to assemble and connect to UltraCella leading to energy saving results of CAREL ExV
- Including new Ultracap function and internal power transformer.

#### Ultra Power Module:

- Extremely flexible system to add electric devices or additional features. e.g Circuit breaker, Additional 3HP relay for compressor



Example of the UltraCella with the Ultra EVD module and Power module



#### HACCP:

Temperature and alarm data logging:  
User can save data easily on a USB key




Pending certification "Fitness for purpose" and world's best practice in terms of food safety



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## Carel Cella Range SmartCella

	Part No.	Description	Detail	Output	
	WE00S1EN00	SmartCella	Medium Temp	1 Relay 230Vac	
	WE00C2HN00		Low Temp	4 Relays 115-230Vac	

## MasterCella 2



MD33A5ER00	MasterCella2 Compressor Controller	Medium Temp	3 Relays	
MD33D5EB00		Low Temp	5 Relays	
IROPZSEM30	RS485 Serial & Remote Display Interface - Auto Polarity			

## UltraCella



WB000DG0F0	Optional Modules	UltraCella, Green 2 line display with Humidity Control	6 Relays 230Vac	
WM00ENSI00		EXV Module with interface for Ultracella or Smartcella		
WM00ENNI00		Blind EXV Module for Ultracella		
WM00P000NN		Power Module main switch for Ultracella or Smartcella		

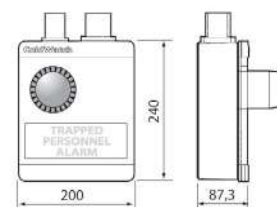
## ColdWatch



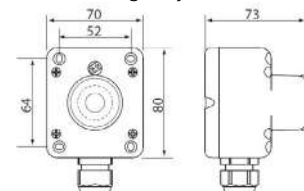
CM00006236	Trapped Personnel Alarm Kit with Battery Backup	
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Dimensions in (mm)

Control Unit



Emergency Button




### Example Application:

- Control unit** housed in a plastic case with removeable front panel allowing ample customisation possibilities. Cable inlet from below and above. Flashing light and siren at the front to signal alarms. Control board housed inside with voltage-free contact for controlling additional devices, such as: shutdown cold room, switch on the light in the cold room, activate a telephone dialler. The backup battery installed inside the control unit ensures activation even in the event of blackout.
- Emergency button** with LED for easy identification, always on, supplied with polycarbonate adhesive label and complete with drilling template.



## Carel Easy Controllers

	Part No.	Description	Detail	Output	
	EasyCool	EasyCool controller with 1.5m HP probe	Medium Temp	1 Relay 230Vac	
	EasyFreeze	EasyFreeze controller with 1.5m HP probe	Low Temp	3 Relay 230Vac	
	PJZC81050	2 Stage Controller with Relay Board		4 Relay 230Vac	
	PEOPZC3000	3m cable for PJEZ split controller	-	-	



# easy: the shape of simplicity



### ON/OFF functions:

The unit can be switched ON/OFF either from digital input or directly from the keypad.



### Flat keypad:

The keypad is one of the most innovative aspects of this instrument. The completely flat surface allows easy cleaning and ensures greater hygiene, in complete compliance with the HACCP directive.

### High Efficiency Display:

To ensure greater visibility and simplify the reading of the values and the operating status, the height of the digits has been increased by 27% compared to traditional displays. Decimal resolution is available on all easy and easy compact models.



### Easy to Install

Easy installation using the front mounting system



### Easy to Plug

Easy wiring thanks to the built in transformer and the relays with power rating up to 2 Hp



### Easy to Clean

Easy to clean thanks to the perfectly flat keypad




### Easy to Read

Easy to read, high efficiency display and digits that are 27% larger than traditional displays




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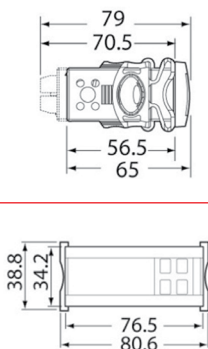
### IR33 Universal Panel Mount Controllers - 1 Stage + I/R + Buzzer

	Part No.	Description	Inputs	Outputs	Control Voltage	Includes	
	IR33V9MR20	Universal Input Controller	2 Universal	1 Relay	24 Vac/Vdc	Buzzer & Infrared receiver	
	IR33V9HR20		2 Digital	Digital	115-230 V		
	IR33V7LR20	Temperature Input Controller	2 Temperature	1 Relay	12 - 24 Vac 12 - 30 Vdc		
	IR33V7HR20		2 Digital	Digital	115-230 V		


### DN33 Universal Series DIN Rail Mtg Controllers 4M - 1 Stage + I/R + Buzzer

 *Std Models IR33V7HR20 DN33V7HR20	DN33V9MR20	Universal Input Controller	2 Universal		24 Vac/Vdc	Buzzer & Infrared receiver	
	DN33V9HR20		2 Digital		115-230 V		
	DN33V7LR20	Temperature Input Controller	2 Temperature	1 Relay	12 - 24 Vac 12 - 30 Vdc		
	DN33V7HR20		2 Digital	Digital	115-230 V		

### IR33 Universal Panel Mount Controllers - 2 Stage + I/R + Buzzer

	IR33W9MR20	Universal Input Controller	2 Universal		24 Vac/Vdc	Buzzer & Infrared receiver	
	IR33W9HR20		2 Digital		115-230 V		
	IR33W7LR20	Temperature Input Controller	2 Temperature	2 Relays	12 - 24 Vac 12 - 30 Vdc		
	IR33W7HR20		2 Digital	Digital	115-230 V		


### DN33 Universal Series DIN Rail Mtg Controllers 4M - 2 Stage + I/R + Buzzer

	DN33W9MR20	Universal Input Controller	2 Universal		24 Vac/Vdc	Buzzer & Infrared receiver	
	DN33W9HR20		2 Digital		115-230 V		
	DN33W7LR20	Temperature Input Controller	2 Temperature	2 Relays	12 - 24 Vac 12 - 30 Vdc		
	DN33W7HR20		2 Digital	Digital	115-230 V		


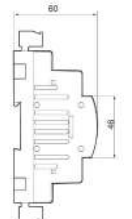
IR33\*9/DN33\*9 Universal Input = NTC, PTC, PT100, t/c J or K, 0-20/4-20mA 0-10V, ratiometric

IR33\*7/DN33\*7 Temperature Input = NTC, PTC & PT1000


### IR33 Universal Series Panel Mount Controllers - Four Stage (Relays)

	Part No.	Description	Inputs	Outputs	Control Voltage	Includes	
	IR33Z9MR20	Universal Input Controller	2 Universal	4 Relays	24 Vac/Vdc	Buzzer & Infrared receiver	
	IR33Z9HR20		2 Digital	Digital	115-230 V		
	IR33Z7LR20	Temperature Input Controller	2 Temperature	4 Relays	12 - 24 Vac 12 - 30 Vdc		
	IR33Z7HR20		2 Digital	Digital	115-230 V		


### DN33 Universal Series Din Rail Mtg Controllers 4M - Four Stage (Relays)

	DN33Z9MR20	Universal Input Controller	2 Universal	4 Relays	24 Vac/Vdc	Buzzer & Infrared receiver	
	DN33Z9HR20		2 Digital	Digital	115-230 V		
	DN33Z7LR20	Temperature Input Controller	2 Temperature	4 Relays	12 - 24 Vac 12 - 30 Vdc		
	DN33Z7HR20		2 Digital	Digital	115-230 V		
	IR33*9/DN33*9 Universal Input = NTC, PTC, PT100, t/c J or K, 0-20/4-20mA 0-10V, ratiometric						
	IR33*7/DN33*7 Temperature Input = NTC, PTC & PT1000						

### IR33 Universal Series Panel Mount Controllers - Four Stage (SSR's)

	Part No.	Description	Inputs	Outputs	Control Voltage	Includes	
	IR33A9MR20	Universal Input Controller	2 Universal	4 SSR's	24 Vac/Vdc	Buzzer & Infrared receiver	
	IR33A9HR20		2 Digital		115-230 V		
	IR33A7LR20	Temperature Input Controller	2 Temperature 2 Digital		12 - 24 Vac 12 - 30 Vdc		

### DN33 Universal Series DIN Rail Mtg Controllers 4M - Four Stage (SSR's)


	DN33A9MR20	Universal Input Controller	2 Universal	4 SSR's	24 Vac/Vdc	Buzzer & Infrared receiver	
	DN33A9HR20		2 Digital		115-230 V		
	DN33A7LR20	Temperature Input Controller	2 Temperature 2 Digital		12 - 24 Vac 12 - 30 Vdc		






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### IR33 Series Panel Mount Universal Controllers - 1 Relay + 1 x 0-10V Out

	Part No.	Description	Inputs	Outputs	Control Voltage	Includes
	IR33B9MR20	Universal Input Controller	2 Universal	1 Relay	24 Vac/Vdc	Buzzer & Infrared receiver
	IR33B9HR20		2 Digital	Digital	115-230 V	
	IR33B7LR20	Temperature Input Controller	2 Temperature 2 Digital	1 Relay Digital 1x 0-10vdc	12 - 24 Vac 12 - 30 Vdc	


### DN33 Series DIN Rail Mtg Universal Controllers 4M - 1 Rly + 1 x 0-10V Out

	DN33B9MR20	Universal Input Controller	2 Universal	1 Relay	24 Vac/Vdc	Buzzer & Infrared receiver
	DN33B9HR20		2 Digital	Digital	115-230VAC	
	DN33B7LR20	Temperature Input Controller	2 Temperature 2 Digital	1x 0-10vdc	12 - 24 Vac 12 - 30 Vdc	

### IR33 Series Panel Mount Universal Controllers - 2 Relays + 2 x 0-10V Out

	IR33E9MR20	Universal Input Controller	2 Universal	2 Relay	24 Vac/Vdc	Buzzer & Infrared receiver
	IR33E9HR20		2 Digital	Digital	115-230 V	
	IR33E7LR20	Temperature Input Controller	2 Temperature	2x 0-10vdc	12 - 24 Vac 12 - 30 Vdc	
	IR33E7HB20		2 Digital		115-230 V	Real Time Clock Buzzer & Infrared receiver

### DN33 Series DIN Rail Mtg Universal Controllers 4M - 2 Rlys + 2 x 0-10V Out

	DN33E9MR20	Universal Input Controller	2 Universal	2 Relay	24 Vac/Vdc	Buzzer & Infrared receiver
	DN33E9HR20		2 Digital	Digital	115-230 V	
	DN33E7LR20	Temperature Input Controller	2 Temperature 2 Digital	2x 0-10vdc	12 - 24 Vac 12 - 30 Vdc	

IR33\*9/DN33\*9 Universal Input = NTC, PTC, PT100, t/c J or K, 0-20/4-20mA 0-10V, ratiometric

IR33\*7/DN33\*7 Temperature Input = NTC, PTC & PT1000




#### IR33/DN33

#### Need to know...


- Panel or surface mounting?
- Cooling/heating or both?
- If 'universal' type, how many stages?
- Control voltage?
- Output relays, quantity, type & rating?
- Sensor type, required range & length?



## Accessories For IR33+ Refrigeration And Universal Series Controls

	Part No.	Description			Detail	
 Please see the DHECN price list section for larger transformers & switchmode power supply's	TRM00NC000	LCD Battery Thermometer c/w 2m Sensor -40 To +100°C			Available while stocks last	
	IRBOX00000	Surface Mount Box c/w Cut-out For IR33 Controls (71x29mm) 125x125x100mm				
	Note:	IRDRBOX is now coded EBOX04M66 (see below)			IP65	
	S90CONN001	Auxiliary Board Connector				
	RLY2402HP	Load Switching Relay 30Amps 2HP 230VAC 1NO				
	IROPZSEM30	RS485 serial & Remote Display interface with automatic polarity recognition				
	IROPZSER30	On board serial interface for RS485 or remote display for DN33 series				
	IROPZ48500	RS485 serial interface for IR33 & DN33				
	IROPZKEY00	IR33, DN33, MasterCella2 & PowerCompact Programming Key				
	IROPZKEYA0	230V ,IR33, DN33, MasterCella2 & PowerCompact Programming Key				
	IROPZPRG00	USB-12C Programming Interface for use with VPM Software				
	IR00XGD000	Remote Display (3digit) for IR33, DN33 & MasterCella2. (require PSTCON cable & IROPZDSP00)				
	IREVXGD000	Remote display for IR33+ (require PSTCON cable IROPZDSP00				
	IROPZDSP00	Remote display interface for IR33				
	PSTCON01B0	Remote display cable 1.5 metre				
	PSTCON05B0	5m Connection Cable For IR33 Remote Display				
 	TRA2400001	Encapsulated Transformer	24VAC	3VA	60x45x35mm	
	TRA0060000		12/24VAC	5VA	60x60x40mm	
	TRADR4W024	DIN Rail Transformer	230V/24VAC	4VA	50x 40x40mm	
	TRADR1W024	DIN Rail Transformer for MasterCella Split Terminal		10VA	50x 40x40mm	

## EUROBOX M66 Control Boxes

	Part No.	Description	Dimensions h x w x d	Format (Rows)	17.5mm Modules	
	EBOX04M66	DIN Modular Enclosure IP66	190x112x106mm	1R x 4M	4M	
	EBOX08M66		190x184x106mm	1R x 8M	8M	
	EBOX12M66		250x256x140mm	1R x 12M	12M	
	Note:	Each DN33 controller requires 4M mounting space				



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## Temperature Probes

	Part No.	Description	IP Rating	Probe Size	Cable Length	Range	
	NTC015WH01	NTC Immersion & Ambient Sensor Std Response Time	IP68	6 Ø x 60mm	1.5m	-50 to +100°C	
	NTC030WH01				3m		
	NTC060WH01				6.0m		
	NTC120WH01			6 Ø x 52mm	12m		
	DAIRYPROBE6MIP68CT	Coated NTC Immersion Sensor Dairy		6 Ø x 60mm	6.0m	-50 to +105°C	
	NTC015WF00	NTC Immersion & Ambient Sensor Fast Response Time	IP67	4 Ø x 40mm	1.5m	-50 to +105°C	
	NTC060WF00				6.0m		
	NTC015HP00	NTC Ambient Only Sensor Std Response Time	IP67	6 x 5 x 5mm	1.5m	-50 to +60°C	
	NTC060HP00				6.0m		
	NTC030HF01	NTC Sensor Strap On	IP67	20mm	3.0m	-5 to +90°C	
	NTC015HT00	NTC Sensor High Temp	IP55	5 Ø x 20mm	1.5m	-5 to +150°C	
	NTC060HT00				6.0m		
	PTC0150000	PTC Sensor/ Probe Immersible	IP65	6 Ø x 100mm	1.5m	0 to +150°C	
	PTC015W000		IP67		1.5m	-50 to +100°C	
	PTC060W000				6.0m		
	PT100000A1	PT100 Sensor/Probe	IP67	6 Ø x 100mm	3.0m	-50 to +250°C	
	PT100012A1		IP67	6 Ø x 45mm	12m		
	T16-J-6x100-F-3M	Thermocouple/ Probe	IP67	6 Ø x 100mm	3.0m	J-Type	
						0-550°C	
	T16-K-6x100-F-3M					K-Type	
	1413306AXX	Brass Probe Pocket 8.5 Ø x 60mm					
	1413309AXX	Stainless Steel Probe Pocket 7.5 Ø x 60mm					

NB: Supply includes sensor & cable only; NTC sensors are specific to the brand of controller



The ideal solution to respond to a variety of market requirements

- high number of inputs and outputs for control needs;
- innovative management algorithms for energy savings;
- Comprehensive and flexible control menu
- multiple integration/supervision possibilities


# pRack Platform

The complete solution for compressor racks



High  
Efficiency  
Solutions.



## pRack Programmable Controller

	Part No.	Description	Details	
	PRK300L3FK	pRack 300 series controller & Connector kit	Large	
	PRK300S3FK		Inc External PGD1 & Cable	
	PRK300S3E0	pRack 300 series controller with 2 SSR outputs and connector kit	Small	
	PRK30TL3FK	pRack 300 series controller with remote PGDE display & cable		




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## **pCO Sistema Terminals and Accessories**

	Part No.	Description	
	PCOS004850	RS485 Serial Board	
	PCOS00AKY0	Programming Key	
	PCOS00AKC0	USB Adapter & Telephone Connector For PCOS00AKY0	
	PGDT10000FR10	10 inch PGD Touch Display	
	PGD1000W00	Wall Mtg PGD LCD Term 132x64 Pixels	Requires S90CONN001
	PLD00GFP00	pLDPRO LCD, 132x64 pixels, pLAN	
	PGR04000FA000	pGDX 4.3" Panel Front Indoor-Serial RJ12 Connector -No RTC	
	PGR04000TCDA0	pGDX 4.3" Browser Panel Front Outdoor-Serial Screw Connector-Ethernet-Buzzer -IP65	
	PGB04000TERBO	pGDX 4.3" Browser Panel Front -IP65	
	PGB04000WECB0	pGDX 4.3" Browser Wall - T/H probe onboard	
	PGTA00FB00	Standard Carel Black Frame for pGDX 4,3"	
	PGTA00FH00	Standard Black Transparent Frame with T/H holes for pGDX 4,3"	

## **Energy Meters & Accessories**

	MT100D2100	1 Phase Power Meter	
	MT300W3200	3 Phase Power Meter without user interface, connection with CT (Emeter3SE)	
	MTOPZD0000	User Terminal for 3 phase Power Meter	
	MTOPZT1000	100A Current Transformer	
	MTOPZT2000	200A Current Transformer	



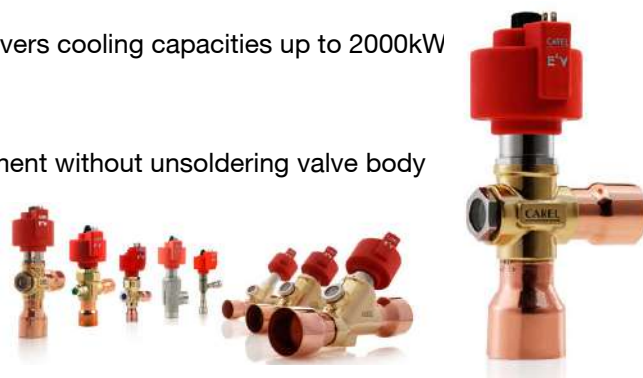


## EXV Electronic Expansion Valve System



The range of electronic expansion valves offered by CAREL covers cooling capacities up to 2000kW

The main features of the EXV valves are:


- ▣ External stator replaceable without dismantling the valve
- ▣ Removable motor mechanism to assist soldering & replacement without unsoldering valve body (E2V-Z Model)
- ▣ Integrated sight glass (optional on E2V & E3V)
- ▣ Gearless - movement on stainless steel ball bearings
- ▣ Perfect refrigeration tightness when valve closed
- ▣ Proven Reliability
- ▣ Very precise equal percentage flow control



## Expansion Valves (Hydrocarbon also available)

	Part No.	Description	Size	Connections	
	E2V05BSF00	Electronic Expansion Valve	5	12mm	
	E2V09BSF00		9		
	E2V11BSF00		11		
	E2V14BSF00		14		
	E2V18BSF00		18	16mm	
	E2V24BSM00		24		
	E2V30BSM00		30		
	E2V35BSM00		35		
	E3V45SWR10	Electronic Expansion Valve	45	3/4" - 7/8" ODF Without sight glass	
	E3V45SSR10			18-22mm ODF	
	E3V55SSR10		55	3/4" - 7/8"	
	E3V55SWR10			22mm and 28mm	
	E3V65SSS10		65		
	E4V85BWT00	Electronic Expansion Valve With Sight Glass	85	1 1/8" and 1 3/8"	
	E4V95BWT00		95		
	E5VA2AST00	Electronic Expansion Valves with Sight Glass	120	35mm and 35mm	
	E5VA5AST00		150		
	E6VB2ASV00		200	42mm and 42mm	


## E2V-Z Range of Serviceable Expansion Valves

	E2V03ZWF13	E2V-Z Serviceable Electronic Expansion Valve	3	1/2"	
	E2V05ZWF13		5		
	E2V09ZWF13		9		
	E2V11ZWF13		11		
	E2V14ZWF13		14		
	E2V18ZWF13		18		
	E2V24ZWF13		24	5/8"	
	E2V30ZSM13		30		
	E2V35ZSM13		35		




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## Expansion Valves for CO2 Applications

	Part No.	Description	Size	Connections	
	E2V05CS100	Electronic Expansion Valve for Transcritical CO2 applications	5	13mm	
	E2V09CS100		9		
	E2V11CS100		11		
	E2V14CS100		14		
	E2V18CS1C0		18	5/8"	
	E3V35CWM00		35		
	E3V55CWR00		55		
	E3V65CWR00		65		



## Expansion Valves For Ammonia

	E2V09BS000	Electronic Expansion Valve - Stainless Steel For Ammonia	9	10mm	
	E2V11BS000		11		
	E2V14BS000		14		
	E2V18BS000		18		
	E2V24BS000		24		
	E2V30BS000		30		
	E2V35BS000		35		


## Electronic Expansion Valve Drivers

	Part No.	Description	Detail/Notes	
	EVD0000E20	EVD Evolution Universal Driver	RS485/Modbus	
	EVD0000E50	EVD Evolution Carel Valve Driver		
	EVD0000T20	EVD Universal Twin Driver For Carel EEV		
	EVD0000T50	EVD Carel Valve Twin Driver For Carel EEV		


## Electronic Expansion Valve & Driver Accessories

 	EVDIS00EN0	EVD Evolution Display		
	EVDCNV00E0	Convertor For EVD/EVO	USB To tLAN	
	EVD0000UC0	Ultra Capacitor Module	-	
	EEVMAG0000	Magnets for Manual Driving <i>*While stocks last*</i>	Set of 3	
	E2VCABS300	EEV Valve Cable & Connector	3m - Shielded	
	E2VCABS600		6m - Shielded	
	E2VCABS610	Z Valve Cable & Super Seal Connector		
	E2VMAG0000	E2V Magnet Tool	-	
	E2VSTA0200	E2V Stator (Coil)	For E2V**B Valves	
	E2VSTA0371	Unipolar stator with 0.7m lead	-	
	E3VORI0000	E3V "O" Ring		

### Electronic Expansion Valve & Driver Accessories continued

	Part No.	Description	
	E3VSTA0000	E3V Stator (Coil)	For E3V*A* Valves
	E6VORI0100	E6V "O" Ring	-
	E4VSTA0000	E4V Stator (Coil)	For E4V*A* Valves
	E3VSTA0201	E3V Stator (Coil) - New	For E3V*A* Valves
	E4VORI0000	E4V "O" Rings	-
	E5VORI0100	E5V "O" Ring	-
	E5VE6VSTA0	Valve Stator	For E5V or E6V Valve


### Fan Speed Controllers

	Part No.	Description	Input	Output
	FCSM042300	Fan Speed Driver Module Single Phase (Please ensure motor is compatible)		4 Amps
	FCSM082300			8 Amps
	FCSM122300			12 Amps
	FCR3064020	3 Phase Fan Power Board with RS485		6 Amps
	FCR3094040			9 Amps
	FCR3124020			12 Amps
	FCR3204020			20 Amps

### Stand-alone Fan Speed Controller

FCPM082010	Fan Speed Controller	Requires Pressure Sensors	230VAC	8 Amps
FCPM00A01K		Kit c/w Pressure Sensors 0-34.5bar & Cable		

### Pressure Sensors

	SPKT0011C0	Pressure Transmitter  (Requires SPKC002310 or SPKC005310 Cable & Connector)	"1/4" Female Flare Connection"	0 To 10bar	4-20mA
	SPKT0021C0			-0.5 To 7bar	
	SPKT0031C0			0 To 30bar	
	SPKT00B1C0			0 to 44.8 bar	
	SPKT00D8C0	NEW P Series Pressure Transmitter  (Requires SPKC002310 or SPKC005310 Cable & Connector)		0 To 150bar	0-5V
	SPKT00G1S0			0 To 60bar	
	SPKT0013P0			-1 to 9.3bar	
	SPKT0033P0			0 to 34.5bar	
	SPKT0043P0			0 to 17.3bar	
	SPKT00B6P0			0 to 45bar	
	SPKT00L1S0			0 to 90bar	
	SPKC002310	Cable With Packard Style Connector For Transmitters		2mtr	
	SPKC005310			5mtr	

# Carel Supervisory Solutions

## Carel boss

### Mobile-ready local supervisor.

boss is the Carel local supervisory system for medium to large size installations. It can be accessed easily via a built in Wifi network from any mobile device without the need of special software or Apps.

#### Key Features:

- Modbus, Bacnet TCP/IP, Bacnet MS/TP all built in
- Built in Wi-Fi
- MicroSD backup
- Built in heat sink so no cooling
- No fan required making operation quiet
- Desktop, wall or DIN mounting configurations
- Reliable Unix derived operating system with TLS encryption
- Meets EN-12830 standard for temperature and recording of food in storage and distribution applications

#### ALWAYS IN YOUR POCKET:

The boss supervisor is completely browsable from all mobile devices, for both daily access and system maintenance, right from commissioning.



Convenience store



Supermarket



Hypermarket



## boss mini

boss mini, a new more compact solution and suitable for all system sizes, inherits the same usability and connectivity features of boss, as well as its typical user experience. From one single access point, boss mini monitors the site in real time, using maps and intuitive displays to show data on all the refrigeration and air-conditioning units, lighting and energy consumption.





## boss micro

boss micro is the new size of boss family supervisors, designed to cover applications with a limited number of units monitored yet that require the same user experience and advanced system management functions as the larger sizes.

boss micro offers the same user interface as boss and boss mini, with HW and SW features optimised for the target applications.



### boss & boss mini Carel Supervisory Networks

	Part No.	Description	
  	BMBST00BP0	boss micro 4G version	
	BMBST00RP0	boss micro Ethernet version	
	BMEST00LE0	boss mini Advanced Supervisor	
	BMEST00RS0	boss mini Basic Supervisor	
	BMESTDNA0K	boss mini DIN Bracket	
	BMESTRLA00	boss mini 3 relay module	
	BMHST00XS0	boss Monitoring System Standard Capacity	
	BMHST00XE0	boss Monitoring System Extended Capacity	
	BMHST01P00	1 boss Plug in Credit	
	IOM0002300	I/O Module 230VAC	
	IOM0002400	I/O Module 24VAC	
	IROPZ48500	Serial Card For IR33	
	IROPZSEM30	MD33 Serial Card RS485 and/or repeater display card	
	IROPZSER30	DN33 On Board Serial Card RS485 and/or repeater display card	
	PCOS004850	pCOXS, pCO1 & pCO3 Serial Card RS485	
	CVSTDUMOR0	USB RS485 Converter	
	CVSTDUTLF0	USB RS485 Converter Telephone Connector	

### Refrigerant Detectors (available while stocks last)

	Part No.	Description	
	DPWLKIT200	Red Sounder beacons low voltage 12 . . 24 Vac/dc IP65	





## Carel GLD: Gas leakage detectors for fixed installations

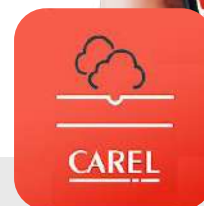
CAREL offers the range of GLD sensors for detecting leakages of **CFC, HFC, HFO and CO2** refrigerant gases, designed to meet all industrial refrigeration and air conditioning needs (supermarkets, shopping centres and other public places) in units that require continuous control and monitoring.

The CAREL GD\* series gas leakage detectors guarantee monitoring in rooms where there is a risk of gas leakages due to the installation of refrigerated units, providing prompt notification and thus ensuring cost savings by avoiding system stoppages.



When a leakage above a certain concentration is detected, the sensor sends a signal to the connected controller or supervisor. An alarm is also displayed locally with an audible and visual signal. Available in versions with semiconductor sensitive element and infrared for CO2.

A **pre-calibrated sensor** is available on request to simplify maintenance for periodic verification of the detector's calibration, thus eliminating the need to use a calibration gas.



### Dedicated app: Rileva

The app for smartphones is available (downloadable from the App Store and Google Play) for faster interaction with the device during configuration, installation and routine maintenance/service



#### Functions

- Audible alarm ON/OFF
- Performance guaranteed down to -40°C
- User interface: "RILEVA" app for IOS and Android
- Safety relay ON/OFF

INPUT  
24 Vdc power supply



#### OUTPUT

- Warning, alarm and general alarm relay
- 4-20 mA or 0-10V, 0-5V analogue output
- Modbus RTU RS485 serial




### Carel GLD Series Refrigerant Gas Leak Detectors



Part No.	Description
GDWBI20A00	IR CO2 Gas Detector
GDWBS01A00	R32A Gas Detector
GDWBS02A00	R134A Gas Detector
GDWBS04A00	R404A Gas Detector
GDWBS06A00	R407F Gas Detector
GDWBS07A00	R410A Gas Detector
GDWBS08A00	R448A Gas Detector
GDWBS09A00	R449A Gas Detector
GDWBS18A00	R513A Gas Detector
GDWBE19A00	GLD R717 Electrochemical Gas Detector
GDOPZK0000	GLD Calibration Cup excluding regulator

## RTA200 Series Temperature Controls For Heating And Cooling

	Part No.	Description	Relay	Temperature Range	
	RTA200A230	DIN Rail Mount Thermostat	Auto	-35 To -5°C	
	RTA200B230			-10 To +20°C	
	RTA200C230			+5 To +35°C*	
	RTA200D230			+35 To +65°C	
	RTA202F230		Man-Hi	+65 To +95°C	
	RTA202E230		Man-Low	-20 To +10°C	

Note\* Recommended model for underfloor heating. All types require NTC sensors.

## Carel Quickfinder Apps for iOS & Android



We are pleased to inform you of the release of CPQ, the new Carel EXV selection tool. The main new features are: Possibility of multiple configurations, Full part number visibility, Filters based on valve characteristics, Project management

Don't wait, sign up for your new account! Visit <https://cpq.carel.com/>



CAREL presents QuickFinder, the selection tool for refrigeration applications.

This has been designed and developed for distributors and installers, with the following objectives:

- To provide a useful contribution in the field, when product information is needed during installation or maintenance, such as parameter tables, alarm tables, connection diagrams and instruction sheets, thus helping the installer in their every day work, and making access to this information faster.
- To offer a CAREL alternative to other products available on the market. Distributors or installers who want to use a CAREL controller for a specific application can now refer to a table with complete comparison of compatible instruments.

Visit <http://www.carel.com/apps> to download the app



pRack size & more

The pRack tool for retail applications.

This app has been designed for:

- SIZING To suggest the most matching codes and architecture. It is also possible to export a pdf file with summary information about your choice.
- FINDING information, starting from: CAREL codes, Mask Index, Supervisory name and Alarm codes.
- MORE To provide a useful contribution both in the office and in the field, when product information is needed during selection or installation or maintenance.

Visit <http://www.carel.com/apps> to download the app



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iJ is the new CAREL family of controllers for commercial refrigeration, designed to cover and overcome the typical requirements of merchandisers and food storage or display equipment.

iJ offers significant scope to create a custom look with colours and graphics to enhance the refrigerated units based on customer requirements, and its modular design can easily fit and empower final units improving both functionalities and energy consumption. iJ is simply connected to enable IoT services with a cutting edge user experience through smart app for each kind of user.

Discover more at <https://ij.carel.com/>



RED optimise is the new generation of CAREL digital services dedicated to retail applications with the following main objectives:

- **Reduce operating costs:** save hours on alarm management by focusing only on any current critical conditions, thanks to alarm priority and filters.
- **Optimise energy consumption:** reduce energy consumption by analyzing working conditions, identify and adopt the most virtuous consumption profiles to maximize the benefit.
- **Improve food quality:** avoid malfunctions to maintain performance over time.

Find out more at <https://euroshop.carel.com/red>

## The most complete range of humidifiers

### Successful solutions for humidity control.

A unique, complete, affordable and advanced range of products has positioned CAREL in the top humidifier manufacturers in the world.

Our systems for humidity control include; adiabatic humidifiers (air/water, pressurised water, centrifugal) and isothermal humidifiers (electrical, immersed electrodes and gas) which enable the right solution to be found for every kind of application.



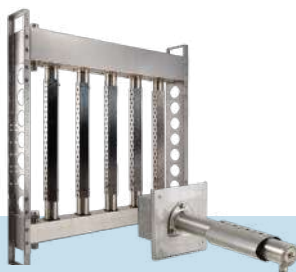
**humiFog** 100 - 1000 l/h  
High-Pressure Adiabatic Humidifier - 70bar



**heaterSteam** 2 - 80kg/h  
Electrical Steam Humidifiers



**gaSteam** 45 - 450kg/h  
Gas Fired Isothermal Humidifier



**ultimateSAM**  
High Efficiency Centralised Steam Distributors



**humiSonic** 0.5 - 18kg/h  
Ultrasonic Humidifiers



**humiDisk** 1 - 6.5kg/h  
Centrifugal Adiabatic Humidifier



**OptiMist** 50 - 1000 l/h  
High-Pressure Adiabatic Humidifier - 10bar




**humiSteam** 1 - 130kg/h  
Immersed Electrode Steam Humidifiers




**MC Multizone** 60 - 230kg/h  
Compressed Air Adiabatic Humidifier




## humiSteam Humidifiers - Electrode Type

	Part No.	Description	Output	
	CHF01V2001	Compact Steam Humidifier	1.6kg/hr	
	UE003YDCC1	humiSteam 230VAC Single Phase	3.0kg/hr	
	UE008YLCC1		8.0kg/hr	
	UE015YLCC1		15kg/hr	
	UE018YLCC1		18kg/hr	
	UE025YLCC1	humiSteam 400VAC Three Phase	25kg/hr	
	UE035YLCC1		35kg/hr	
	UE045YLCC1		45kg/hr	
	UE065YLCC1		65kg/hr	

## humiDisk Atomising Humidifiers

	UC0100DK00	Centrifugal Humidifier + Pipes + Wall Mtg Bracket	1.0kg/hr	
	UC0650D100	Humidisk Humidifier, single phase, 50 Hz, with antifreeze	6.5kg/hr	

## HeaterSteam Titanium (touch display)

	UR006HL104		6 kg/h,	
	UR010HL104	heaterSteam humidifier	10 kg/h	
	UR013HL104	400V 3PH, titanium version	13 kg/h	
	UR020HL104	with pGDX	20 kg/h	

### humiSteam immersed electrode steam humidifier

The rational choice! The result of CAREL's forty-year experience in the field of steam humidifiers, and the most appropriate choice for a wide variety of air humidification applications: commercial spaces, offices, industrial facilities and steam baths.

- three types of control;
- models from 1.5 to 130 kg/h;
- control probe and modulating limit probe;
- disposable or openable cylinders;
- auto-tuning based on type of water.

### humiDisk centrifugal humidifier

The practical and flexible solution: a small, sturdy and easy to install humidifier; ideal for cold rooms and small spaces, paper and printing industries, textile industries.

- easy to install;
- minimum maintenance;
- automatic emptying cycles;
- adjustable capacity.


### heaterSteam electric heater steam humidifier

The ideal humidifier for technological or medical applications that require precision, reliability and a perfectly sterile environment. These units can operate on both drinking water and demineralised water. Using demineralised water guarantees practically maintenance-free operation.


- reliability and total protection against overheating;
- precision  $\pm 1\%$  RH and complete modulation;
- maximum hygiene;
- models from 2 to 80 kg/h.



### Humidifier Bottles/Cylinders

	Part No.	Description	Electrical	Conductivity	Capacity	
	BL0S1E00H2	Low Conductivity Cylinder	1 Phase	75-350 µS/cm	1 - 3kg/hr	
	BL0T2B00H2		3 Phase		5 - 8kg/hr	
	BL0T3B00H2				10 - 18kg/hr	
	BL0T2C00H2	Medium Water Conductivity Cylinder	3 Phase	350-750	5-8kg/hr	
	BL0T3C00H2			µS/cm	10-18kg/hr	
	BL0S1F00H2	High Conductivity Cylinder	1 Phase	750-1250 µS/cm	1 - 3kg/hr	
	BL0T2D00H2		3 Phase		5 - 8kg/hr	
	BL0T3D00H2				10 - 18kg/hr	
	BL0SRF00H2	OEM Kit Replacement Cylinder Med/Hi Conduct	1 Phase	750-1250	1 - 3kg/hr	
	BL0T1D00H2		3 Phase	µS/cm	3kg/hr	
	BL0S2E00H2	All Conductivity's Cylinder	1 Phase	750-1250 µS/cm	5kg/hr	


### Ventilated Steam Distributor (for models up to UE015)

	Part No.	Description	
	VSDU0A0003	Ventilated Steam Distributor VSDU0A	
	VSDREM0003	Base For Remote Mounting VSDU0A	

### Steam Distributors - Stainless Steel

	Part No.	Description	Diameter	Length	
Larger steam distributors are available for larger humidification systems. 	DP035D22R0	Stainless Steel Steam Distributor	Ø 22mm	L = 350mm	
	DP045D22R0			L = 450mm	
	DP060D22R0			L = 600mm	
	DP085D22R0			L = 850mm	
	DP035D30R0	Stainless Steel Steam Distributor	Ø 30mm	L = 350mm	
	DP045D30R0			L = 450mm	
	DP060D30R0			L = 600mm	
	DP085D30R0			L = 850mm	



### Steam Hose

	1312360AXX	22mm Steam Hose With Spring	
	1312365AXX	30mm Steam Hose With Spring	
	1312367AXX	40mm Steam Hose With Spring	





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### Clima Series Air-conditioning Controls, 24VAC

	Part No.	Description	Temp & rH	Input	Output	
	ADCA000210	Heat Pump T'stat + RTC	10 To 40°C	2AI 1DI	2 Relays	
	ADCD000110	Humidistat + RTC	10 - 40°C 10 - 70%	2AI 1DI	1 Relay 1AO (0-10VDC)	
	ADCF000210	Advanced Stat/ Humidistat/RTC	10 - 40°C 10 - 70%	2AI 1DI	1DO	

### Digital Temperature And Humidity Sensors (Supply = 8-32VDC/12-24VAC)

	Part No.	Description	Temp	Humidity	Output	
	DPWC111000	Wall Sensor	-10 To +60°C	10 To 90% rH	0-1V/4-20mA	
	DPWC112000				0-10VDC	
	DPWT010000			-	0-1V/4-20mA	
	DPWT011000			-	Res NTC	
	DPWT014000			-	RS485	
	DPDC110000	In Duct Sensor (L=272mm)	-20 To +70°C	10 To 90% rH	0-1V/4-20mA	
	DPDC112000				0-10VDC	
	DPDC210000			0 To 100% rH	4-20mA	
	DPDT011000			10 To 90% rH	Res NTC	
	DPDC110000	Industrial Wall Sensor	-10 To 60°C	10 To 90% rH	4-20mA	
	DPDC210000		-20 To 70°C	0 To 100% rH	0-1V/4-20mA	

### Flood Detection Systems

	Part No.	Description	
	FLOE000010	Flood Sensor Detector (DIN mounted)	
	FLOS000000	Water Sensor	
	FLOR000000	Flood Sensor Ribbon (25mtr) Roll	



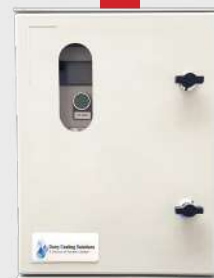
## Control Panel Solutions for Industry

Control Panel Solutions (CPS), a division of Eurotec Ltd, has been building control panels for the HVAC&R and Industrial sectors since 2008. CPS integrates and value-adds to the extensive range of HVAC&R and Electrical control and monitoring Solutions sold by Eurotec to New Zealand industry for over 30 years.

CPS is supported by the wealth of industry and application knowledge that has been synonymous with Eurotec for over a quarter of a century, with a focus on providing quality control panels at competitive prices, yet providing clients with custom solutions to meet their application requirements.

With a wide range of in-house expertise and products, we have the ability to produce complete turnkey control panel solutions that are pretested and programmed before going to site, therefore minimizing the installation time and providing faster on-site commissioning.



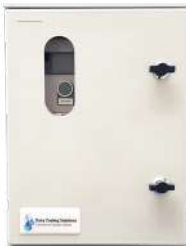
This profile features a selection of projects which demonstrate the range of Control Panel Solution's capabilities.





## Dairy Farm Panel Solutions

CPS have become a leading manufacturer and supplier of Refrigerated Milk Vat and Electronic Valve Control Panels to the dairy sector controlling all the functions necessary for optimum control on the Farm Milk Vat Systems.

	Part No.	Description	Application	
All panels are inclusive of Rotary Selector switch, timed and manual CIP wash functions.				
	CPS Dairy SML	Horizontal Dairy Panel Small (no outer enclosure)	Single Vat	
	CPS Dairy 2C	Dual Circuit Controller Panel (no outer enclosure)	Dual Vat	
	CPS Dairy SML V	Vertical Dairy Panel Small (no outer enclosure)	Single Vat	
As well as including Rotary Selector switch, timed and manual CIP wash functions these panels below are in the IP66 outer enclosure with window.				
	CPS Dairy W	Standard Dairy Panel	Single Vat	
	CPS Dairy W Horiz	Horizontal Standard Dairy Panel		
	CPS Dairy 2C W	Standard 2 Circuit Dairy Panel	Dual Vat	

2 Point Temperature Logging Panel for the farm vat also inclusive of Rotary Selector switch, timed and manual CIP wash functions this panel below is in an IP66 outer enclosure with window.

## Dairy Farm Electronic Expansion Valve Controls

	Part No.	Description	Application
	EVD 2D	2 x EEV Valve Driver*	Single Vat with base pads only
	EVD 4D	4 x EEV Valve Driver*	Single Vat with both base and side pads

\* Electronic Valves not included as they need sizing to the plant

## Standard Refrigeration Solutions:

### Low and Medium Temperature up to 14A, 1 & 3 phase Compressor Load

Suitable for the smaller 1 & 3 phase packaged condensing units. Panels include: 3 phase Contactor & Overload for compressor, up to 4A Fan single phase circuit, up to 10A Defrost circuit. Interface connections for safety circuit. Standard Carel temperature sensor also included.



CPS MT6A	MT Single Comp Up to 6 Amps load	3 phase packaged condensing units
CPS MT9A	MT Single Comp Up to 9 Amps load	
CPS MT11A	MT Single Comp Up to 11 Amps load	
CPS MT14A	MT Single Comp Up to 14 Amps load	
CPS MT-2-11A	MT Twin Comp Up to 11 Amps load each	Twin 3 phase Packaged Condensing units
CPS MT-2-14A	MT Twin Comp Up to 14 Amps load each	

### Low Temperature up to 9A, 3 phase Compressor Load

Suitable for the smaller 3 phase packaged condensing units. Panels include; 3 phase contactors, overloads for compressors only, Temperature Sensor and terminals for ease of connections and include interface wiring for safety circuit if required. Separate single phase circuits for Fan @ 5A Load, Defrost @ 10A Load.



CPS LT6A	LT Single Comp Up to 6 Amps load	3 phase packaged condensing units
CPS LT9A	LT Single Comp Up to 9 Amps load	
CPS LT-2-6A	LT Twin Comp Up to 6 Amps load each	Twin 3 phase compressor contactors and overloads
CPS LT-2-9A	LT Twin Comp Up to 9 Amps load each	

Other models designed and built to your specification please talk to your Eurotec Sales Engineer



## Standard Electronic Expansion Valve Control

Part No.	Description	Application
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Includes all valve driver/s, sensors and standard cabling in IP66 rated enclosure. Suitable as a retro fit solution or for new installs. It has been proven that retro fitting these valves to an existing refrigeration plant (with thermostatic Expansion Valves) improves plant operational efficiency, reflecting in better cool down times and lower power consumption. These panels are wired so each valve is independently controlled from its driver.

Please note electronic valves are not included as each site will need correct sizing for optimum control.

Talk to one of our Sales Engineers today.



CPS EVD 1 Single Valve Only

CPS EVD 1 Z 1 x EEV Valve Driver suitable for 'Z' type of Valves only

CPS EVD 2 2 Valve

CPS EVD 2 Z 2 x EEV Valve Driver suitable for 'Z' type of Valves only

CPS EVD 2D 2 x EEV Valve Driver

CPS EVD 3 3 Valve

CPS EVD 3 Z 3 x EEV Valve Driver suitable for 'Z' type of Valves only

CPS EVD 4 4 Valve

CPS EVD 4 Z 4 x EEV Valve Driver suitable for 'Z' type of Valves only



**Larger EVD panels available on request.** NB: It is recommended that the max length of cable between driver, valves and sensors is 30 meters, so in most instances we have found that distributed controls work best.

## Bespoke Supervisor Solutions



**Supervisory:** Can be integrated into your panel or supplied as a stand-alone product

For the **smaller to medium sized** we recommend the Carel boss mini supervisor.

The boss mini is a monitoring, control and optimisation solution for small and medium sized supermarkets; cold rooms, restaurant chains, service stations and retrofits

For more information on the boss mini, please refer to page 48 of this catalogue or contact your local Eurotec Refrigeration Sales Engineer.



Carel BOSS is the new local supervisory system for **medium to large** size installations. It can be accessed easily via a built in Wifi network from any mobile device without the need of special software or Apps.

The Carel BOSS can be integrated into:

- Industrial Refrigeration Plant Controls
- Fish, Meat and Fruit Processing Plants
- Large Ice Banks for industrial applications

For further technical information on the BOSS, please refer to page 54 of this catalogue or contact our Sales Engineers for more information.

## HVAC Control Panel Solutions

### Description

All panels are made to order and can be customized to customers specifications. Allow a 4 week lead time for manufacture and build.



### Car Park Ventilation Controller

The Car Park Ventilation controller enables control of car park fans (exhaust/supply/jet fans) via Modbus control signals. Multiple zones can be set up using expansion modules, for managing and monitoring car park fans and sensors.

The controller operates the car park ventilation system in accordance with AS 1668.2:2012 by checking carbon monoxide levels and regulating the ventilation system. Expansion modules can be added to the system for individual zone control and Mechanical Service Switch Board control (Auto/Off/On). The controller can also be integrated into the building Fire system and will operate in accordance with AS 1668.1:2015.



### Commercial Kitchen Ventilation Solution

Our plug & play unit interlocks the extract and supply system in a commercial kitchen. This will allow a constant negative pressure in the kitchen, preventing smoke and fumes to travel into your dining area. The addition of a pressure switch, can prevent overheating of the extract system if the fan is not working or the duct is blocked by shutting down the gas supply.

For control, there is an ON/Off switch with a trim pot which can be placed inside your kitchen. All of the controls and drives are housed in an IP66 enclosure and are preprogrammed, saving you costs on setup time.

The unit consist of the following:

- P66 Metal Powder Coated Enclosure
- Air pressure switch & tubing kit
- Interfaces to Speed Control Pot
- Output for Gas Solenoid
- Outputs for optional indication lights (SAF on, EAF on, Gas Sol. Open).



### Stairwell & Lift Shaft Pressurisation Solution

One of the most hazardous situations that can be faced in a building is smoke. While fires themselves are often damaging, it is smoke that can cause the most injuries.

A smoke control system controls the flow of smoke in a building in the event of a fire. It keeps smoke from spreading throughout the building and gives the building's occupants a clear evacuation route, as well as preventing further damage to the building's interior.

Eurotec have developed the Lift Shaft & Stairwell Pressurisation Controller, which enables control of the pressurisation fan in your stairwell or lift shaft during a fire hazard. It does this by monitoring smoke sensors placed in the supply duct and stairwell/lift shaft.

## Bespoke Solutions for Industry

This section is a guide of those panels we have provided as solutions for Refrigeration, HVAC, Electrical and Instrumentation sectors. Please contact us directly and we can discuss your requirements.

### Refrigeration Custom Control Panels

Pricing is P.O.A as each custom panel is priced individually after a layout drawing has been submitted and controls concept agreed to. These panels generally include all equipment for a complete turnkey control solution for Racks, Chiller and Freezer rooms, Defrost functions, Condenser Fan Control, Evaporator Fan control, VSD controls.

#### Description



#### Control Panel for Transcritical CO2 Plant

This electrical and control panel was specifically designed and built by CPS to be part of a Transcritical CO2 system. The CPS team worked closely with the plant designer to ensure their detailed control requirements were met.

- 250amp main isolator 120amp MCCB
- 2 x Carel pRack300T controllers for Main and parallel compressor racks
- Carel EEV drivers for the 2 x Carel High Pressure Valves
- Individual controllers for each room's temperature and defrost control
- Carel bOSS supervisory module



#### Control Panel for Cold Storage applications

This panel was a standard Control Panel Solutions design. The rack supplied refrigeration to eight medium sized temperature rooms, and each room was controlled with Carel SmartCella controllers. The panel also controlled a separate condensing unit for a Blast Chiller.

- 250amp rated panel
- 4 x compressor rack
- 3 x condenser fans
- Carel pRack 100 controller



#### Control Panel for Industrial Cold Storage applications

This panel is CPS Division programmed and electrically tested, built for a cold store with 5 Freezers and 1 ELA area. Carel pRack300 manages the 4 compressor rack, and the Carel EVDEVO and EXV's offer energy saving and accurate superheat control on the evaporators.

- Remote access, data logging & alarm management by Carel bOSS
- Under floor heater control incorporated
- Carel c.pCO PLC with custom engineered software logic for precise control of room temperatures



#### Control Panel for Flower Export Cold Storage Facility

A complete design, build and commissioning of a full Carel Control system to manage 5 refrigerated zones in a flower export processing facility. CPS built the panel as one assembly which was then delivered to site.

- All evaporators in the zones have Carel Electronic Expansion Valves (EEV) being driven by EVD Evolution Drivers and backed up by Ultracap modules for shutdown in the event of a power failure
- Carel IR33+ manages the temperature and defrost control of the zones
- Whole system is supervised by Carel Boss Mini

## HVAC Custom Control Panels

Pricing is P.O.A as each custom panel is priced individually after a layout drawing has been submitted and controls concept agreed to. Below are some examples of custom built HVAC control panels.

	Description
--	-------------



### Lab Close Temperature & Humidity Control

This speciality product manufacturer required close temperature and humidity control in one of its testing labs. Eurotec supplied a Carel humidifier along with an Innotech PLC to control the environment in the lab.

#### Features:

- HMI Touch Screen
- Real-time & historical data trending
- Run/Fault indication
- Alarm descriptions on HMI
- Web server with remote access



### Retirement Village Natural Ventilation

Eurotec supplied a control system for natural ventilation and smoke vents in a communal lobby of a retirement village.

Acting as natural ventilation in Auto mode the vents would open if rain was not detected, to provide airflow and allow heat to escape. The controls were also integrated into the fire panel to open on fire and let the smoke escape.

#### Features:

- Fire Panel integration
- Rain detection
- Natural ventilation control
- Auto/Manual control



### Timber Pyrolysis Controls

Recycling building timber destined for the landfill and turning it into a charcoal product for domestic heating, Eurotec's control system closely monitors and maintains each chamber in the kiln to get the desired product outcome.

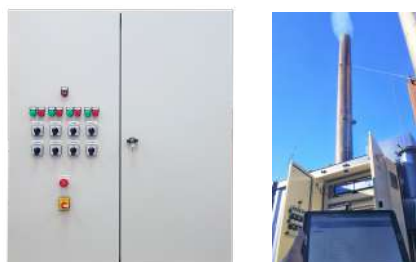
The client wanted to upgrade and improve their pyrolysis system to incorporate remote monitoring and control, as well as having a simple tablet interface for on-site operators.

Off-site managers are able to login and see real time values and even be able to interact remotely.

Built in logging gives the client the ability to see historical temperature trends and ensure the pyrolysis process is working efficiently and effectively.

#### Features:

- Remote access over secure mobile VPN
- Web server graphical interface
- 4 x kiln chamber temperature control
- Pressure monitoring
- Real time monitoring and data logging





## Electrical & Instrumentation Custom Control Panels

Pricing is P.O.A as each custom panel is priced individually after a layout drawing has been submitted and controls concept agreed to. Below are some examples of custom built control panels.

### Description



#### E4M Services Panel

##### Features:

- Control of extract fans and supply air fans
- Heater bank circuits
- Outdoor units, these units will be controlled by centralised controller with 10.4" LCD display.
- Auto/off/manual options for all circuits.
- Run and Fault status indications with lamp test facility.



#### Saveris 2 Temperature Logging Alarm Panel

##### Features:

- 2 point external Temp probes (additional)
- Battery Powered or Externally powered 230VAC or 12VDC
- With Wifi connected it sends logging data to the cloud for easy review and report creation.
- Great for fridge/freezer truck monitoring.



#### Main Switchboard Panel (MSB)

##### Features:

- 3ph Tariff metering.
- 12TP distribution board.
- Custom industrial controls with PLC .
- Local supervisory system with built in wifi.
- Modular design cabinet wall mount/floor standing.
- Up to 630A for light industrial/ commercial applications.

Note: Modular DBs available in various sizes and IP ratings. Please contact Eurotec for further info.



#### Pump Station Control Panel

Eurotec Designed and manufactured a multi pump station control system for 4 x 30kw pumps.

Control scenario: 1.Timed rotation of pumps or 2.First in First Out

##### Features:

- 4 x 30 kW Soft starters with internal bypass contactors.
- Supervisory safety relays per pump.
- Main Cpc controller programmed to control all 4 pumps in various modes.
- Panel mount 10" Graphical user interface (HMI).
- Facility to read complete system data and also independent pump data like load current, voltage , and hrs of run from HMI.
- Facility to read pump ON/OFF status and fault indication from HMI.
- Hi level Alarm with Mute facility and Fault alarm Audible with Flashing.
- AUTO-OFF-MAN selection.




## Process Timers & Temperature Control



- Timers, MCB style for distribution board mounting
- Timers, analogue & digital, plug-in, 48x48mm, multivoltage multifunction & multi-range 0.5 seconds to 60 hours
- Temperature controllers, analogue & digital, plug-in, 48mm for 'J & K' thermocouples & PT100 probes, multi-voltage, 8A




## Analog Timer - Plug-In, 8Pin, Delay-Off & Multifunction

	Part No.	Description	Function(s)	Time Ranges	Control Voltage(s)	
	TC82	Plug-In Timer Panel Mounting 48x48mm	6 Functions A, B, C, D, E, F	16 Ranges	24-230V AC/DC	

## Analog Timer - Plug-In, 11Pin, Multifunction, Multivoltage

	TC90	Plug-In Timer Panel Mounting 48x48mm, With Memory	10 Functions A, B, C, D, E, F, G, H, L, M	0-240Hrs 10 Ranges	24-48VDC & 24-230VAC	
	TC93	Plug-In Timer Panel Mounting 48x48mm, Back Lit	15 Functions Am, Bm, Ci, Cm, Da, Dm, J, Km, Lv, Mv, Sm, St, Tm	0-60Hrs 12 Ranges		

## Digital Multifunction Timer - Integral Terminals, Multivoltage

	TC40/24	Timer Panel Mounting 48x48mm	B, C, E, F1, F2, H1, H2, S1, S2	0-9999 Hrs	24VAC/DC	
	TC40/230				110-230VAC	


## Analogue Function Codes

A	Delay ON, 1 instantaneous & 1 delayed relay	H	ON during timing with one contact instant & memory during counting
Am	Relay on delay with start command, 1 instant + 1 timed	J	Pulsed relay on delay with start command, 1 instant + 1 timed relay
B	Delay ON, 2 delayed relays	Km	Relay on during timing at the turn off of the command, 1 delayed + 1 timed relay
Bm	Relay on delay with start command, 2 delayed relays	L	Percentage time single cycle, 1 instantaneous + 1 percentage relay
C	ON during timing; 2 relays	Lv	Percentage time single cycle with start command, two relays with a symmetrical output
Ci	Equal repeating OFF-ON with remote start		
Cm	Relay on during timing with start command, two relays	M	Percentage time continuous cycle, 1 instant + 1 percentage relay
D	ON during timing; 1 instantaneous + 1 ON timing relay	Mv	Percentage time continuous cycle with start command, 2 relays with a symmetrical output
Da	Relay on delay at turn off, two temporized relays	Sm	Totalizer with delay at the start command, 2 relays
Dm	Relay on during timing with start command, 1+1 relay	St	Star-Delta timer, 2 relays, 150ms delay on changeover
E	Flasher continuous cycle; 2 relays with asymmetrical cycle	Tm	Totalizer with on delay and pulsed output with start command, 2 relays
F	2 pulsed relays, delay ON (1s) delayed	Tv	Totalizer with start/stop command, 2 relays with a symmetrical output
G	ON during timing; Two contacts and memory during counting	W	Relay on delay with a bistable start command, two relays




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### Analog Temperature Controller - 8Pin, Multivoltage, On-Off Control

	Part No.	Description	Temp Range	Sensor	Control	
	RC918J30R	Plug-In Analog Temperature Controller 48x48mm 1CO	0-300°C	J, K + PT100	24-230V AC/DC	
	RC918J70R		0-700°C			
	Note:		RC918 includes LED bar graph.			


### Analog Temp Control - 11Pin, Multivoltage, On-Off Control + Alarm

	RC911V30R	Plug-In Analog Temperature Controller 48x48mm 1CO + Alarm	0-300°C	J, K + PT100	24-230V AC/DC
	RC911V70R		0-700°C		
	Note: RC911 includes LED bar graph.				

### Digital Temp Control - Integral Terminals, On-Off Control, Programmable

	RC481A/24	Digital Temperature Controller 48x48mm 1CO + Alarm	-200-+1999°C (Dependant on probe spec)	J, K + PT100	24V AC/DC	
	RC481A/230				100-240V AC	
	Note: The RC48 digital controller can be set to + or -1999°C, however all probes are unable to operate below absolute zero so it is not possible to measure a temperature below absolute zero, -273.15°C.					

### Sensor/Thermocouple Probes

	Part No.	Description	Type/Size	Cable	Temp Range	
	PT100000A1	PT100 Sensor/Probe IP65	PT100 6 Ø x 100mm	3.0m Teflon cable	-70 To +250°C	
	T16-J-6x100-F-3M	Thermocouple/Probe IP67	Type J 6 Ø x 100mm		0-550°C	
	T16-K-6x100-F-3M		Type K 6 Ø x 100mm		0-800°C	
	NB: Supply includes sensor & cable only					



## Process Units & High Precision Sensors for Liquid and Gas processing in the Food & Beverage Industries

### Best of Technology. Centec.

Eurotec is proud to be appointed as the New Zealand distributor for German manufacturer Centec. Centec's range offers solutions for Brewery, Dairy and Winery systems along with high precision sensors. The focus of our product range in the NZ market is for the Brewery and Food manufacturing sectors.

With more than 40 years of experience Centec develop and manufacture units and sensors for liquid and gas processing in food, beverage, pharmaceutical, chemical and energy industries.

Centec sensors are applied in laboratory and process environments as "stand alone" devices or part of a process control system. They ensure that products are produced to consistently high standards and that processes run extremely efficient with the least consumption of raw materials.

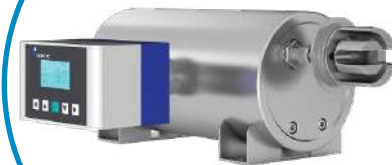
The combination of sensors and systems offered by Centec is unique. No other company provides this scope of supply from a single source!

#### Food and Beverage Industries:

The largest brewery groups in the world trust Centec technology, they design and manufacture automated process skids for the production of beers and beer based mixed drinks.

Centec equipment is used throughout the entire brewing process. e.g. for water purification and water deaeration, wort cooling and wort aeration, yeast dosing and yeast management, blending and carbonation, product sterile filtration and flash pasteurization. Centec technology includes high precision sensors for accurately measuring extract, alcohol, O<sub>2</sub> and CO<sub>2</sub>.


For soft drinks, dairy and food industries, a large variety of customized process units are available. Centec have decades of experience in water treatment, carbonation, nitrogenation, liquid blending, flash pasteurization and cleaning-in-place.






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## O<sub>2</sub> Measurement

	Model	Applications	
	OXYTRANS TR	<ul style="list-style-type: none"> <li>Food &amp; Drink: Brewery, Soft Drinks, Wine &amp; Spirits, Dairy &amp; Food</li> <li>Pharma: Pharmaceutical, Biotechnology</li> <li>Chemistry: Chemical</li> </ul>	
	OXYTRANS M	<ul style="list-style-type: none"> <li>Energy: Electronics, Semiconductor, Solar Energy, Bio Fuel, Power Plants (coal &amp; nuclear), Power Supply Stations</li> </ul>	


## CO<sub>2</sub> Measurement

	CARBOTEC TR-PT		
	CARBOTEC NIR	<ul style="list-style-type: none"> <li>Food &amp; Drink: Brewery, Soft Drinks, Wine &amp; Spirits, Dairy &amp; Food</li> </ul>	


## Concentration: Density Measurement

	RHOTEC	<ul style="list-style-type: none"> <li>Food &amp; Drink: Brewery, Soft Drinks, Wine &amp; Spirits, Dairy &amp; Food</li> <li>Pharma: Pharmaceutical, Biotechnology</li> <li>Chemistry: Chemical, Petrochemical</li> <li>Energy: Electronics, Semiconductor, Bio Fuel, Power Plant (nuclear), Power Supply Stations</li> </ul>	
	RHOTEC "AlcTax")	<ul style="list-style-type: none"> <li>Food &amp; Drink: Brewery, Wine &amp; Spirits</li> </ul>	


## Sound Velocity Measurement

	SONATEC	<ul style="list-style-type: none"> <li>Food &amp; Drink: Brewery, Soft Drinks, Wine &amp; Spirits, Dairy &amp; Food</li> <li>Pharma: Pharmaceutical, Biotechnology</li> <li>Chemistry: Chemical, Petrochemical</li> <li>Energy: Electronics, Semiconductor, Bio Fuel,</li> </ul>	
	PLATOMONITOR		
	SONATEC HW	<ul style="list-style-type: none"> <li>Food &amp; Drink: Brewery</li> </ul>	

## Density & Sound Velocity Measurement

	COMBITEC	<ul style="list-style-type: none"> <li>Food &amp; Drink: Brewery, Soft Drinks, Wine &amp; Spirits, Dairy &amp; Food</li> <li>Pharma: Pharmaceutical, Biotechnology</li> <li>Chemistry: Chemical, Petrochemical</li> <li>Energy: Electronics, Semiconductor, Bio Fuel, Power Plant (nuclear)</li> </ul>	
	BEERMONITOR	<ul style="list-style-type: none"> <li>Food &amp; Drink: Brewery</li> </ul>	
	RHOTEC L (Laboratory Density Measurement)	<ul style="list-style-type: none"> <li>Food &amp; Drink: Brewery, Soft Drinks, Wine &amp; Spirits, Dairy &amp; Food</li> <li>Pharma: Pharmaceutical, Biotechnology</li> <li>Chemistry: Chemical, Petrochemical</li> <li>Energy: Electronics, Semiconductor, Bio Fuel, Power Plant (nuclear)</li> </ul>	

## Sensor Control System

	MCM 68	<ul style="list-style-type: none"> <li>Food &amp; Drink: Brewery, Soft Drinks, Wine &amp; Spirits, Dairy &amp; Food</li> <li>Pharma: Pharmaceutical, Biotechnology</li> <li>Chemistry: Chemical, Petrochemical</li> <li>Energy: Electronics, Semiconductor, Solar Energy, Bio Fuel, Power Plants (coal &amp; nuclear), Power Supply Stations</li> </ul>	
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## Thermostats

- Standard immersion thermostats for hot water cylinders
- High temperature immersion thermostats for the dairy industry
- Consumer adjustable thermostats for catering equipment, spa's, urns and incubators



## Water Heater Thermostats

	Part No.	Description	Size	Contacts	Setting Range	
	TSD00701	Immersion Thermostat	"7" 172mm	20Amps SPST	0...80°C	
	TSD01101		"11" 266mm		30...80°C	
	TSDH0701		"7" 172mm		40...120°C Hi Temp - Dairy Thermostat	
	TSDH1101		"11" 266mm		70...120°C Hi Temp - Dairy Thermostat	
	TSDR0704		"7" 172mm		0...73°C Safety Cut-Out @ 87°C +/- 7°C	

### HWC Thermostats

Thermostat failure principally due to over current conditions created by; element failure, rapid/frequent switching, water quality, and under voltage.

## Consumer Adjustable Thermostats

	GTLH3093		1450 x 122 x 6mm		0...40°C Spa's / Incubators / A-C	
	GTLH3094		1430 x 74 x 6mm		30...110°C Spa's / Incubators / A-C	
	GTLH0189*		1430 x 69 x 6mm		30...110°C Spa's / Incubators / A-C	
	GTLH0188*	Thermostat + Knob	830x 196 x 3mm	20Amps	60...205°C Spa's / Incubators / A-C	
	GTLH0187		1621 x 171 x 3mm		50...320°C Spa's / Incubators / A-C	
	GTLH3176		633 x 83 x 6mm		0...120°C	
	GTLH0118		695 x 70 x 6mm		0...80°C	
	*Note:	"Includes ""stuffing"" gland"				
	BBSC0033	With Man Reset O'temp @90°C	500 x 108 x 6mm	20Amps	0...80°C	
	BOT30047	Thermostat Mounting Kit			0...80°C	
	BOT30031	(Knob, Bezel & 2 Screws)			0...120°C	

### Preventative Actions

Check supply voltage, lime build up and set value. Check the element condition and correct fuse/MCB protection, replace element &amp; thermostat.






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## Gas Detection


- Gas detectors for common gases such as Carbon Monoxide, Carbon Dioxide, Nitrogen Dioxide, Nitric Oxide, Ammonia, Chlorine, Ozone, Combustible Gases like Methane and Propane, Oxygen and more.
- For commercial, light industrial & public buildings




## Standalone CO Controllers For Car Park Buildings

	Part No.	Description	Range	
	SCC-A-NO2B	Self Contained NO2 Sensor	0-10ppm	
	SCC-A-TCO	Self contained CO Sensor	0-200ppm	

## Gas Detection Transmitters

	Part No.	Description	Output	
	LPT-TCO	CO Sensor/Transmitter	4-20mA Output	
	LPT-TCO-S	CO Sensor/Transmitter (Splash Proof)		

## Calibration & Function Service Checks

	-	Annual Calibration/Function Check & Certification	On Site (Auckland Only)	
	-		Return To Base	

## Special Applications

CETCI gas detectors are also used to detect gases in special applications including commercial swimming pools, water purification, arenas, wineries & breweries, waste water treatment & many more.





## Food Industry & Vaccine Thermometers, Data Loggers




- “Lollipop” & needle probe thermometers for HACCP”
- Fridge thermometers for audited vaccine storage
- USB temperature data loggers





## Waterproof Thermometers

	Part No.	Description	Temperature Range	IP Rating	
	11050	Lollipop Thermometer	-40 to +155°C	IP67	
	11063	Needle Probe - Jumbo Display	-40°C to +155°C	IP56	
Note:		Battery = LR44/A76 1.5V			



## USB Data Loggers (Flash Link®) LCD With Red LED Alarm

	20917	Single Use Transport Logger	5/15/45/75 days Free Software	IP54	
	20908*	Re-useable Logger	3823 Data Points	-40°C To +65°C	
	20902*	Re-Usable Logger & Immersion Probe	-40 To +85°C	IP67 With Silicon Cap	
Note:		Battery = CR2032 Lithium (18 months)			
	20412*	Software License for USB Data Loggers & Thermometers			
<b>Important:</b>		A license is required for full functionality. One license is required per PC. Without a license, data can be read on the instrument, but not downloaded.			



## Fridge Logger/Thermometer With Audible Alarm

	20932 (1mtr cable probe)	Vaccine Fridge Min/Max Audible Alarm Logger & Glycol Filled Vial	-40°C +40°C Free Software	
	12238 (3mtr cable probe)	Certified/Calibrated Fridge Alarm Thermometer & Glycol Filled Vial	Int = -10 To +50°C Ext = -50 To +70°C	

## High Temperature Loggers

	20629	High Temp Stainless Steel Data Logger internal probe	-40°C - 150°C	Submersible	
	20630	High Temp Stainless Steel Data Logger with external probe			



## Brix & Salinity Refractometers

	12223	Digital Brix Refractometer, 0-45%	
	12220	Analogue Brix Refractometer, 0-32%	





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## Din Rail Power Supply's

	Part No.	Description	Primary	Secondary	Capacity	Size	
 HDR power supply's available in 12VDC and 24VDC outputs HDR30/45/60	HDR3012	Switchmode Power Supply IP20 DIN Rail Mount Insulated	85-264V AC / 120-370V DC	12VDC	2.0A 24w	93x78x56mm	
	HDR4512				3.5A 42w		
	HDR6012				5.0A 54w		
	HDR3024			24VDC	1.5A 36w		
	HDR4524				1.9A 48w		
	HDR6024				2.5A 60w		
	HDR7524	Switchmode Power Supply DIN Rail Mount		24VDC	3.2A 76w	125x55x100mm	
	HDR12024				5.0A 120w	125x65x100mm	

## Transformers

	TRA12UN100	Encapsulated Transformer	230VAC	12VAC	3VA	60 x 45 x 35mm	
	TRA2400001			24VAC			
	TRA0060000			12/24VAC	6VA		
	VCM25	Control Transformer	230VAC	12/24VAC	25VA	90 x 70 x 55mm	
	VCM50				50VA	100 x 70 x 60mm	
	Transformer 63VA	Transformers		24VAC	63VA	90 x 100 x 80mm	
	Transformer 100VA				100VA		
	TRADR4W024				DIN Rail Mtg Xformer 2M		24VAC
	TRADR1W024	10VA					

## Dwyer Gauges


- ❑ “Industry standard” manometers & Magnehelic® gauges”
- ❑ Standard stocked range + specials on request



## Manometers

	Part No.	Description	Pressure	
	MARK11 MODEL M-700Pa	Manometer	10-0-700pa	
	134896	Replacement Red Oil - 250mL	-	

## Series 2002 - Magnehelic® Differential Pressure Gauges

	2000-60PA		0-60pa	
	2000-125PA		0-125pa	
	2000-250PA		0-250pa	
	2000-500PA	Magnehelic Gauge (114.3mm Ø cut out)	0-500pa	
	2000-750PA		0-750pa	
	2000-1KPA		0 -100pa x 10	
	2300-120PA		-60 / 0 / + PA60	

# Magnehelic®

- Clear plastic face
- Precision litho-printed scale
- Red tipped pointer
- Pointer stops
- Zero adjustment screw
- “0” ring seal
- Die cast aluminum case
- Silicone rubber diaphragm
- Calibrated range spring

Ambient temperature range: 20° to 140°F

“Rated total pressure: 20” Hg to 15 PSIG (for applications with high cycle rate within gauge total” pressure rating, next higher rating is recommended)

“Connection: 1/8” NPT high and low pressure taps, duplicated - one pair side and one pair on the back”

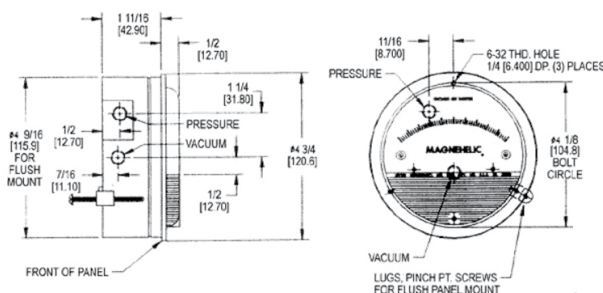
Accuracy: ±2% of full scale (3% on 0 and 4% on -00 ranges), throughout range at 70°F

Options: Transparent overlays; Adjustable signal flag; Portable units; Air filter gauge accessory package

“Standard accessories: Two 1/8” NPT plugs for duplicate pressure taps, two 1/8” pipe”

thread to rubber tubing adapters, and three flush mounting adapters with screws

(mounting ring and snap ring retainer substituted for 3 adapters in MP & HP gauge accessories)






Terms & Conditions apply. Subject to change without notice

## HVAC Sensors & Transmitters


- Temperature & humidity
- Carbon Dioxide sensors
- Velocity sensors
- HVAC sensors for a wide range of applications






## HVAC Humidity/Temperature Sensors - Working Range; 10-95%

	Part No.	Description	IP Rating	Sensor Type	Mounting	Output	
	EE10-FT3	Humidity & Temperature Transmitter	IP20	PT100 Internal	Wall	0 - 10V	
	EE10-FT6					4 - 20mA	
	EE160-HT3XXPAB		IP65	Ext Probe	Duct	0 - 10V	
	EE160-HT3XXPBB			Probe		0 - 10V	
	EE160-HT6XXPBB					4 - 20mA	


## Humidity/Dew Point/Temperature Sensors - High Demanding Applications

	EE210-HT3PADB	Humidity & Temperature Transmitter	IP65	-	Wall with display	0 - 10V	
	EE210-HT3PBxB			Probe 200mm	Duct	0 - 10V	
	EE210-HT6PCxB			Remote Probe	-	4 - 20mA	

## Carbon Dioxide (CO2) Sensors & Transmitter

	Part No.	Description	IP Rating	Range	Mounting	Output	
	EE80-2CS	CO2 Sensor with no display <i>(Available while stocks last)</i>	IP30	0-2Kppm	Wall	Switch	
	EE80-2CSD04	CO2 Sensor with Display					
	EE850-C3XX-FP-002	CO2	IP65	0 - 2K ppm 200mm probe	Duct	0-10V	
	EE820-C3XPP-005	CO2 Transmitter	IP54	0-5K ppm	Wall	0-10V	
	EE820-C6XPP-005			0-5K ppm		4-20mA	
	EE820-C6XPP-010			0-10K ppm			

## HVAC Velocity Sensor

	EE65-VB5	Velocity Sensor	IP65	200mm	Duct	0-10V	
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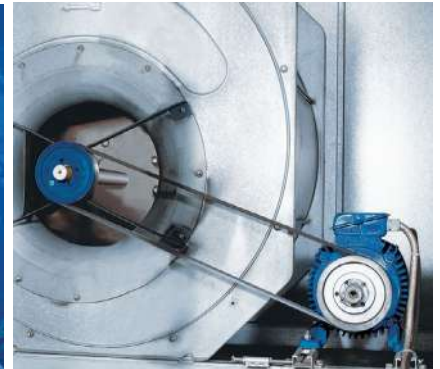
Note: Other models and versions of E+E transmitters are available on request



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## Industrial Application Sensors and Transmitters

	Part No.	Description	Measuring Range	Mounting	Output	
	EE310	High-end Humidity and Temperature Transmitter			0-1/5/10V, 0/4-20mA	
	EE300Ex	Humidity and Temperature Transmitter for intrinsically safe applications	0-100% RH -40...180 °C	Wall	4-20 mA (2-wire)	
	EE33	Humidity and Temperature Transmitter for permanent high-humidity and polluted environment			0-1/5/10 V or 0/4-20 mA	
	EE23	Cost optimised transmitter for industrial and high-end HVAC applications	0...100% RH -40...120 °C	Wall	0-5/10 V, 0/4-20mA	
	EE220	Humidity and temperature transmitter with interchangeable probes	0...100% RH -40...80 °C		0-1/10 V or 4-20 mA	
	EE354	Miniature dew point meter for refrigeration dryers	-20...50 °C		Modbus RTU and 4-20mA	
	EE355	Dew point sensor / transmitter for industrial drying processes	-60...60°C		0-5/10V, 0/4-20mA	
	EE364	Compact Moisture in Oil Transmitter	-40...80°C or -40...100 °C	In-line	2 x 4-20 mA / MODBUS RTU	
	EE371	Dew point sensor / transmitter in compact design with display	-60...60 °C		0-1/5/10 V or 0/4-20 mA	
	EE35	Dew point and temperature transmitter	-60...60 °C or 0...60 °C		0-5/10V, 0/4-20mA	
	HUMLOG20 THI	Temperature & Humidity Data Logger		Wall	-	
			-20...50 °C			
	HUMLOG20E	Data Logger for Humidity, Temp, Air Pressure & CO2		Wall	-	
	OMNIPOINT 30	Omniport Multifunctional Handheld Meter  for precise measurement of humidity, temperature, dew point, CO2, air velocity, volumetric flow and air pressure.	0...50°C	Handheld	-	



## Energizing a world that demands more

As commercial and industrial businesses become increasingly dependent upon machines and focus on upgrading aging systems, the control components that run these machines/systems need to be more efficient... and more intelligent than ever before.

Eaton's best-in-class portfolio of variable frequency drives (VFDs) are designed to meet your performance requirements while saving space, improving safety and working smarter. Eaton VFDs will save you money by improving the efficiency and productivity of your systems.



***Eurotec are proud to have been appointed as a  
Authorised Solutions Partner for Eaton Drives.***  
Our nationwide Refrigeration, HVAC and Electrical  
Business Unit Sales Teams are available to help you  
with your drives applications.

Eaton drives are designed for Industrial, HVAC, Refrigeration, water/wastewater treatment, machinery OEM and other application demands. Whether designing a new industrial complex, renovating an existing structure or developing a new machine, Eaton and Eurotec Ltd have the right product for your application.



## Eaton DH1 380-500V IP54 Drives

### Variable Speed Drives

Eaton's best-in-class portfolio of variable frequency drives (VFDs) are designed to meet your performance requirements while saving space, improving safety and working smarter. Eaton VFDs will save you money by improving the efficiency and productivity of your systems.

#### Key Features:

- High spec sensorless vector open loop dedicated HVAC&R drive, with inbuilt 5% dc choke.
- Ideally suited for variable torque (fan & centrifugal pump) applications.
- Internal RFI filter complying with emc category 2.
- Available off-the-shelf with IP54 enclosure protection, suitable for direct wallmounting.
- Comms inbuilt onboard - Modbus/RTU, Modbus/TCP, BacNet MS/TP, BacNet/IP.
- Conformal coated boards, suitable for tropical & coastal high humidity environments.
- Complies with local C-Tick & RCM mark & product standards AS/IEC61800, 61000 series.
- Real time clock & graphic copy/paste keypad with local/remote key & onscreen diagnostics.
- Preset speeds, jump frequencies, sleep/wake modes, 2 PID feedback loops inbuilt.
- Patented 'Active Energy Control' energy saving software, added savings over other drives.
- Quick Start Wizard and user friendly soft keys.



Part No.	Description	Frame Size	Low Overload	
			P (kW)	I (L)
DH1-343D3FB-C54C	DH1 Variable Speed Drive, 415V IP54	1	1.1	3.3
DH1-344D3FB-C54C		1	1.5	4.3
DH1-345D6FB-C54C		1	2.2	5.6
DH1-347D6FB-C54C		1	3	7.6
DH1-349D0FB-C54C		1	4	9
DH1-34012FB-C54C		1	5.5	12
DH1-34016FB-C54C		2	7.5	16
DH1-34023FB-C54C		2	11	23
DH1-34031FB-C54C		2	15	31
DH1-34038FN-C54C*		3	18.5	38
DH1-34046FN-C54C*		3	22	46
DH1-34061FN-C54C*		3	30	61
DH1-34072FB-C54C		4	37	72
DH1-34087FB-C54C		4	45	87
DH1-34105FB-C54C		4	55	105
DH1-34140FN-C54C*		5	75	140
DH1-34170FN-C54C*		5	90	170
DH1-34205FN-C54C*		5	110	205
DH1-34261FN-C54C*		6	132	261

\* Without Internal Brake Chopper

## Eaton DG1 380-500V IP54 General Purpose Drives

### Key Features:



- High spec sensorless vector open loop general purpose industrial drive, with inbuilt 5% dc choke.
- Suitable for variable torque (fan/pump) and constant torque (conveyor/crusher/compressor) applications.
- Internal RFI filter complying with emc category 2 & inbuilt brake chopper in frames 1-3.
- Available off-the-shelf with IP54 enclosure protection, suitable for direct wall mounting.
- Comms inbuilt onboard - Ethernet/IP, Modbus/RTU, Modbus/TCP, BacNet MS/TP.
- Conformal coated boards, suitable for tropical & coastal high humidity environments.
- Complies with local C-Tick & RCM mark & product standards AS/IEC61800, 61000 series.
- Real time clock & graphic copy/paste keypad with local/remote key & onscreen diagnostics.
- Preset speeds, jump frequencies, sleep/wake modes, 2 PID feedback loops inbuilt
- Patented 'Active Energy Control' energy saving software, added savings over other drives.

	Part No.	Description	Frame Size	High Overload Constant Torque		Low Overload Variable Torque		
				P (kW)	I (L)	P (kW)	I (L)	
	DG1-342D2FB-C54C	DG1 General Purpose Variable Speed Drive, 415V  IP54  C/W Brake Chopper	1.1kW	1	0.75	2.2	1.1	3.3
	DG1-343D3FB-C54C		1.5kW	1	1.1	3.3	1.5	4.3
	DG1-344D3FB-C54C		2.2kW	1	1.5	4.3	2.2	5.6
	DG1-345D6FB-C54C		3.0kW	1	2.2	5.6	3	7.6
	DG1-347D6FB-C54C		4.0kW	1	3	7.6	4	9
	DG1-349D0FB-C54C		5.5kW	1	4	9	5.5	12
	DG1-34012FB-C54C		7.5kW	2	5.5	12	7.5	16
	DG1-34016FB-C54C		11kW	2	7.5	16	11	23
	DG1-34023FB-C54C		15kW	2	11	23	15	31
	DG1-34031FB-C54C		18.5kW	3	15	31	18.5	38
	DG1-34038FB-C54C		22kW	3	18.5	38	22	46
	DG1-34046FB-C54C		30kW	3	22	46	30	61
	DG1-34061FN-C54C	DG1 General Purpose Variable Speed Drive, 415V  IP54	37kW	4	30	61	37	72
	DG1-34072FN-C54C		45kW	4	37	72	45	87
	DG1-34087FN-C54C		55kW	4	45	87	55	105
	DG1-34105FN-C54C		75kW	5	55	105	75	140
	DG1-34140FN-C54C		90kW	5	75	140	90	170
	DG1-34170FN-C54C		110kW	5	90	170	110	205
	DG1-34205FN-C54C		132kW	6	110	205	132	261
	DG1-34245FN-C54C		160kW	6	132	245	160	310

## Eaton DE1 Economy Drives



### Key Features:

- Variable motor speed, as easy to use as a motor starter.
- Trip-free design ensures maximum machine availability.
- Out-of-the-box commissioning without parameterization.
- Special skills or knowledge of variable speed drives is not required.
- Screwdriver parameterization with an optional configuration module (DXE-EXT-SET).
- Full integration into SmartWire-DT and the PowerXL™ drivesConnect software.
- For challenging ambient conditions (such as temperatures from -10°C to +60°C).
- RS485 Modbus communications inbuilt as standard.
- International standards CE, UL, cUL and cTick.

### DS7 Compact Soft Starters, 380-500V IP54

Part No.	Description	Frame Size	High Overload		Low Overload		
			P (kW)	I (L)	P (kW)	I (L)	
DE1-121D4FN-N20N	DE1 Drive 240V	1	0.25	1.4	0.25	1.4	
DE1-122D3FN-N20N		1	0.37	2.3	0.37	2.3	
DE1-122D7FN-N20N		1	0.55	2.7	0.55	2.7	
DE1-124D3FN-N20N	IP20	1	0.75	4.3	0.75	4.3	
DE1-127D0FN-N20N		1	1.5	7	1.5	7	
DE1-129D6FN-N20N		2	9.6	9.6	2.2	9.6	

### 415V IP20 / 3-ph in, 3-ph out with inbuilt emc filter

DE1-341D3FN-N20N	DE1 Drive 415V IP20	1	0.37	1.3	0.37	1.3	
DE1-342D1FN-N20N		1	0.75	2.1	0.75	2.1	
DE1-343D6FN-N20N		1	1.5	3.6	1.5	3.6	
DE1-345D0FN-N20N		2	2.2	5	2.2	5	
DE1-346D6FN-N20N		2	3	6.6	3	6.6	
DE1-348D5FN-N20N		2	4	8.5	4	8.5	
DE1-34011FN-N20N		2	5.5	11.3	5.5	11.3	
DE1-34016FN-N20N		2	7.5	7.5	7.5	16	

### Accessories

Part No.	Description	
DXE-EXT-SET	DE1 Parameterization Module	
DX-KEY-LED2	Remote Keypad LED Display, IP54, 3M Cable	
DXG-CBL-PCCABLE	DG1 RS485 Programming Cable USB-TO-RJ45	
DX-COM-STICK3-KIT	Eaton DE Parameter Copy Stick, Bluetooth 3	
DX-CBL-PC-3M0	USB/RS485 Converter with RJ45 Cable 1.5M	



## DS7 Compact Soft Starters, 380-500V IP54

### Key Features:



- Tool-less plug connection, ensuring easy connection & wiring with other switching devices such as motor-protective circuit-breakers.
- Connection design, handling & the 45 mm device width match our motor-protective circuit-breakers & contactors of the device series exactly.
- The DS7 ensures a jerk-free increase in torque and effective current reduction in the three-phase motor startup phase.
- Nine device versions for motor ratings from 1.1kW to 15kW/ 400V or 3A to 32A/ 480V are available.
- Furthermore, the DS7 is also available with a 24 V AC/DC or 110/230 V control voltage input.
- Settings & status values can be remotely transferred via SmartWire-Darwin gateway regardless of whether Profibus DP or CANopen control commands are used.

Part No.	Description	Rated Operational Current	Rated Power for 3ph motors at AC 400 V P, kW	Control Supply
DS7-34DSX004N0-D	Eaton Compact Soft Starter	4amp	1.5 kW	24VDC
DS7-34DSX007N0-D		7amp	3 kW	
DS7-34DSX009N0-D		9amp	4 kW	
DS7-34DSX012N0-D		12amp	5.5 kW	
DS7-34DSX016N0-D		16amp	7.5 kW	
DS7-34DSX024N0-D		24amp	11 kW	
DS7-34DSX041N0-D		41amp	22 kW	
DS7-34DSX055N0-D		55amp	30 kW	
DS7-34DSX070N0-D		70amp	37 kW	
DS7-34DSX081N0-D		81amp	45 kW	
DS7-34DSX100N0-D		100amp	55 kW	
DS7-34DSX135N0-D		135amp	75 kW	
DS7-34DSX160N0-D		160amp	90 kW	
DS7-34DSX200N0-D		200amp	110 kW	

### Options & Accessories

Part No.	Description
PSG60E	Accessory - Eaton 60W Power Supply, 85-264V AC Input, 24V DC 2.5A Output

## S811+ Advanced Soft Starters, Std 3/6-wire 415V AC

### Key Features:



- Built-in bypass contactor and full solid-state overload protection.
- Analog input to monitor critical process.
- Adjustable ramp times & 3 start-delay timers.
- Adjustable torque & kick start control.
- 30 faults queue, which can be accessed through a comms network.
- Programmable overload settings, 31-100% of rated current.
- Digital Interface Module(DIM) to safely configure, commission, monitor and troubleshoot.
- 2 separate Soft start ramps and Soft stop control.
- Keypad can read and display circuit breaker status.
- Native Modbus RTU communications capability.
- Six SCR, 3-phase control.
- User-selectable inline or inside-delta wiring configuration.

Part No.	Description	Max Current (amps)		kW rating at 415V AC		
		Normal Duty	Severe Duty	Normal Duty	Severe Duty	
S811+N37P3S	Eaton Advanced Soft Starter S811	37	22	18.5	11	
S811+N66P3S		66	42	30	22	
S811+R10P3S		105	65	55	37	
S811+R13P3S		135	80	75	45	
S811+T18P3S		180	115	90	55	
S811+T24P3S		240	150	132	75	
S811+T30P3S		304	192	160	90	
S811+U42P3S		420	305	220	160	
S811+V50P3S		500	365	260	200	
S811+V65P3S		650	420	355	220	
S811+V72P3S		720	480	400	260	
S811+V85P3S		850	525	450	300	
S811+V10P3S		1000	575	560	330	



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## Temperature Calibration Sources

Accurate temperature measurements are essential if you need to meet standards, regulations or guidelines. Ensuring that your thermometers are reading accurately is an essential part of this process and using a reference calibration source can help you achieve this.


We have a range of temperature calibration sources that allow you to verify the readings from probe or IR thermometers, providing you with the confidence that your measurements are accurate.



## CSEC Series Dry Block Calibrators - Economy

	Part No.	Description	Range	Accuracy	
	CSEC1	Dry Block Temperature Calibrator	+ 30.0 to + 200.0 °C	± 0.2°C 1 digit	
	CSEC2		40.0°C below ambient to +85.0°C		
	CSEC3		-30°C below ambient (or -10°C min) to +105.0°C	±0.3 °C 1 digit	

## CS Series Precision Temp Dry Block Calibrators

	CS173	Dry Block Temperature Calibrator	+30.0°C to +200.0°C	± 0.2°C ± 1 digit	
	CS174		40.0°C below ambient to +85.0°C		
	CS175			± 0.05°C ± 1 digit	

### CSEC Series - Economy Temperature Calibration Sources

The CSEC Series is an economic range of temperature calibration sources and is available in three versions, each of which provide a highly accurate, very stable temperature output which is ideal for the calibration thermometers as well as general purpose temperature measurement instruments.

- For use with probe thermometers
- Standard front 7-hole probe insert
- PID Controller with platinum film sensor
- High accuracy & stable temperature source
- User adjustable temperature
- User adjustable °C or °F display



### CSEC Series - Precision Temperature Calibration Sources

The CS Series is available in three versions, each of which provide a highly accurate, very stable temperature output which is ideal for the calibration and servicing of reference thermometers as well as general purpose temperature measurement instruments.

All of the standard CS Series can also be used with an external reference thermometer, such as the Eurotec RT162 or PC Temp RT2, to provide a complete reference, verification and calibration system.



## Industrial Switchgear, Crane & Hoist Controls

- ❑ Limit switches (miniature DIN), insulated & aluminium
- ❑ Micro switches
- ❑ Foot switches
- ❑ Crane/pendant controls
- ❑ Tail lift controls



### FT1/FA1 Range - Mini Limit Switches, IP65

	Insulated Thermoplastic	Aluminium	Contact Action	Contacts	Operating Head	Insulated	Aluminium
	FT1P31Z11	FA131Z11	Snap	1NO+ 1NC	Steel Plunger		
	FT1P31X11	FA131X11	Slow				
	FT134Z11	FA134Z11	Snap		Roller Plunger		
	FT134X11	FA134X11	Slow				
	FT1P32Z11	FA132Z11	Snap		Roller Lever Plunger Horizontal Action		
	FT1P32X11	FA132X11	Slow				
	FT1P33Z11	FA133Z11	Snap		Roller Lever Plunger Vertical Action		
	FT1P33X11	FA133X11	Slow				
	FT138Z11	FA138Z11	Snap		Roller Crank		
	FT138X11	FA138X11	Slow				
	FT139Z11	FA139Z11	Snap		Adj Roller Crank		
	FT139X11	FA139X11	Slow				
	FT135Z11	FA135Z11	Snap		Spring Lever/Wobble Stick		
	FT135X11	FA135X11	Slow				
	FT136Z11	FA136Z11	Snap		"Cats Whisker"		
	FT136X11	FA136X11	Slow				
	FT137Z11	FA137Z11	Snap		Variable Length Steel Rod 3mm Ø		
	FT137X11	FA137X11	Slow				
	FT140X11	FA140X11	Snap		Rubber Roller		
	FT140Z11	FA140Z11	Slow				
	FT141Z11	FA141X11	Snap		Rubber Roller		
	FT141X11	FA141Z11	Slow				

Miniature DIN limit switches in thermoplastic (double insulated) and aluminium. Thermoplastic type also available with latch & reset mechanisms.

### FCT Range - Thermoplastic Mini Limit Switches, IP67


	Part No. Back Entry	Part No. Side Entry	Contact Action	Contacts	Operating Head	
	FCT2V01X11	FCT2L01X11	Slow	1NO+ 1NC	Steel Plunger	
	FCT2V02X11	FCT2L02X11			Roller Plunger	
	FCT2V03X11	FCT2L03X11			90° Roller Plunger	
	FCT2V04X11	FCT2L04X11			Roller Lever 14mm Ø	
	FCT2V06X11	FCT2L06X11			Adj Roller Crank	
	FCT2V07X11	FCT2L07X11			Threaded Roller Plunger	
	FCT2V08X11	FCT2L08X11			Threaded Side Roller Plunger	


### IP Range - Foot Switches, IP54

	Part No.	Description	Detail	Contacts	
	IP7007	IP Range Safety Foot Switches - With Guard	Trigger Mech - Requires Positive Action For Pedal Operation	Slow Break 1NO	
	IP7008			Slow Break 2NO	
	IP7011	IP Range Std Foot Switches - With Guard	"With Pedal Latching Device, Without Trigger Mech"	Slow Break 1NO	
	IP7006I	IP Range Std Foot Switches - Without Guard	Without Rest Position Trigger Mechanism	Slow Break 1NO+1NC	
	IP7007EM	IP Range Std Foot Switches - With Guard + Emergency Stop & Mtg Post	With Trigger Mechanism And EN ISO 13850	Slow Break 1NO	
	IP7015EM		Emergency Stop Operator	Slow Break 2NO, 2Spd	
	IP7018	IP Range Std Foot Switch (Double) - With Guard	With Trigger Mech Requires Positive Action To Allow Pedal Operation	Slow Break 1NO	
	IP7019			Slow Break 2NO	
	IP7018EM	IP Range Std Foot Switch (Double) + Emergency Stop & Mtg Post	With Trigger Mech Requires Positive Action To Allow Pedal Operation	Slow Break 1NO	
	IP7019EM			Slow Break 2NO	




### P02 PTRM Range - Pendant Controllers IP65

	Part No.	Description	Buttons	Contacts	Dimensions L x W x D	
	P021	Single Speed Motor Control	2 Up/Dn	2 x 1NO	263 x 58 x 60mm	
	P022			2 x 2NO		
	P024			2 x 1NO+1NC		
	P02D2			2 x 1NO 2 Speed		
	P02CD	1 Speed Motor Control 1kW		1NC+ 2NO		

	Cat Ref.	Description	Buttons	Dimensions L x W x D	
	P02RM	Single Speed Motor Control	"E-Stop Turn-To-Release + 2 Way Spring Return Centre Off"	263 x 58 x 60mm	

### P03 PTRM Range - Small Hoist Pendant Controllers IP65

	Part No.	Description	Buttons	Contacts	Dimensions L x W x D	
	P031	Hoist Control Single Speed	3 Push Buttons	1NC+	340 x 65 x 90mm	
				2 x 1NO		
	P032			1NC+		
				4 x 1NO		
	P033	Hoist Control 1 Speed 1kW	E-Stop + Up + Down	1NC+		
				6 x 1NO		
	P03CD	Hoist Control 1 Speed 1kW		2NC+1NO	340 x 65 x 90mm	
				4NO+2NC		
	P03D2	Hoist Control 2 Speed		1NC+	340 x 65 x 90mm	
				4 x 1NO		
	P03CH	Hoist Control Single Speed	2Pos Key Sw + Up + Down	1NC+ 2NO		



### Custom Assembly

Custom assembled pendant controls can be supplied ex-stock to customers exact specifications. Possibilities include up to 14 operators (push buttons, emergency stop switches, selector & key switches, indicator lights) with single & two-speed contacts. Spare parts and accessories are also available ex-stock to support Giovenzana clients


### 'PL' Range - Single Row Modular Pendant Enclosures

	Part No.	Description	Push Buttons	Contacts		
				1 Speed	2 Speed	
	PL05E	Single Row Pendant Control IP65 c/w Push Buttons & Contacts	4 + E-Stop	4NO+1NC	-	
	PL05D2E			2NO+1NC	2NO	
	PL05D4E			1NC	4NO	
	PL07E		6 + E-Stop	5NO+1NC	-	
	PL07D2E			4NO+1NC	2NO	
	PL07D4E			2NO+1NC	4NO	
	PL07D6E			1NC	6NO	
	PL08E		6 + E-Stop + Start Alarm	6NO+1NC	-	
	PL08D2E			4NO+1NC	2NO	
	PL08D4E			2NO+1NC	4NO	
	PL08D6E			1NC	6NO	
	PL10E		8 + E-Stop + Start Alarm	8NO+1NC		
	PL12E		10 + E-Stop + Start Alarm	10NO+1NC		


### 'PLB' Range - Double Row Modular Pendant Controls

	Part No.	Description	Push Buttons	Contacts		
				1 Speed	2 Speed	
	PLB04E	Double Row Pendant Control IP65 c/w Push Buttons & Contacts	Up & Down + E-Stop & Start Alarm	2NO+1NC	-	
	PLB04D2E			1NC	2NO	
	PLB06E		4 PB's + E-Stop & Start Alarm	4NO+1NC	-	
	PLB06D2E			2NO+1NC	2NO	
	PLB06D4E			1NC	4NO	
	PLB08E		6 PB's + E-Stop & Start Alarm	6NO+1NC	-	
	PLB08D2E			4NO+1NC	2NO	
	PLB08D4E			2NO+1NC	4NO	
	PLB08D6E			1NC	6NO	
	PLB10E		8 PB's + E-Stop & Start Alarm	8NO+1NC		
	PLB12E		10 PB's + E-Stop & Start Alarm	10NO+1NC		
	PLB14E		12 PB's + E-Stop & Start Alarm	12NO+1NC		



### 'PL' Range - Single Row Modular Pendant Enclosures

	Part No.	Description	Dimensions	Cable Entry	Positions	
	PL05K	Single Row Pendant Control Enclosure, IP65	345x73x68mm	7-18mm Ø	5	
	PL07K		495x73x68mm		7	
	PL08K		530x73x68mm	9-21mm Ø	8	
	PL10K		640x73x68mm		10	
	PL12K		710x73x68mm		12	

### 'PLB' Range - Double Row Modular Pendant Enclosures

	PLB04K	Double Row Pendant Control Enclosure, IP65	345x108x65mm	9-21mm Ø	4	
	PLB06K		399x108x65mm		6	
	PLB08K		453x108x65mm	12-24mm Ø	8	
	PLB10K		547x108x65mm		10	
	PLB12K		601x108x65mm		12	
	PLB14K		655x108x65mm		14	

### 'TLP' Range - Tail Lift Control, IP65

	Part No.	Description	Push Button Operators	Contacts	
	TLP1EPP	TLP-Light Tail Lift Control	40mm E-Stop Push-Pull	1NC	
	TLP1VPP		40mm E-Stop Push-Pull With Indication	1NC	
	TLP1ESR		40mm E-Stop Twist-To-Release	1NC	
	TLP1BAL		40mm Impulse Alarm Push Button	1NO	
	TLP2	TLP Tail Lift Control 2 Direction Mechanically Interlocked	Up PB Down PB	1NO 1NO	
	TLP3A		Up PB Common PB Down PB	1NO 1NO 1NO	
	TLP3B		30mm E-Stop Twist-To-Release Up PB Down PB	1NC 1NO 1NO	

### 'TLP' Range - Tail Lift Control, IP65 Conitnued

	Part No.	Description	Push Button Operators	Contacts	
	TLP3C	TLP Tail Lift Control 2 Direction Mechanically Interlocked	2 Pos Key Sw Up PB Down PB	1NO 1NO 1NO	
	TLP4A	TLP Tail Lift Control 2 Direction Mechanically Interlocked	30mm E-Stop TTR Up PB Common PB Down PB	1NC 1NO 1NO 1NO	
	TLP4B		2 Pos Key Sw 30mm E-Stop TTR Up PB Down PB	1NO 1NC 1NO 1NO	
	TLP4C	TLP Tail Lift Control 4 Direction Mechanically Interlocked	Up PB Down PB Right PB Left PB	1NO 1NO 1NO 1NO	
	TLP4D	TLP Tail Lift Control 4 Direction Mechanically Interlocked	Up PB Down PB 2 Pos Selector 30mm E-Stop TTR	1NO 1NO 1NO 1NC	
	Note: TTR = Twist-To-Release				

### Industrial Buzzers

	Cat Ref.	Description	Details(s)	Cable Entry	Positions	
	G75230AC	Crane Claxon (Siren) 75mm Ø	IP30	88dB	230VAC	
	G7524AC				24VAC	
	G7524DC				24VDC	
	G10024AC	Crane Claxon (Siren), Double Insulated 100mm Ø	IP65	95dB	24VAC	
	G100230AC				230VAC	
	G11710009	Claxon Mounting Base	G75	76.5mm Ø x 56mm		
	G11710010		G100	95.5mm Ø x 56mm		

### Pushbuttons & Contact Blocks

	Part No.	Description	
	PL005019	Button black single speed DOWN	
	PL005027	Button black single speed REVERSE	
	PL005023	Button black single speed LEFT	
	PL005020	Button black single speed DOWN double arrow	
	PL005028	Button black single speed REVERSE double arrow	
	PL005024	Button black single speed LEFT double arrow	
	PL005031	Button black single speed SPIN RIGHT	
	PL005032	Button black single speed SPIN RIGHT double arrow	
	PL005033	Button black double speed SPIN RIGHT	
	PL005004	Button white single speed UP	

## Pushbuttons & Contact Blocks

	Part No.	Description	
	PL005012	Button white single speed FORWARD	
	PL005008	Button white single speed RIGHT	
	PL005005	Button white single speed UP double arrow	
	PL005013	Button white single speed FORWARD double arrow	
	PL005009	Button white single speed RIGHT double arrow	
	PL005016	Button white single speed SPIN RIGHT	
	PL005017	Button white single speed SPIN RIGHT double arrow	
	PL005018	Button white double speed SPIN RIGHT	
	PL005021	Button black double speed DOWN	
	PL005029	Button black double speed REVERSE	
	PL005025	Button black double speed LEFT	Not for use with TLP Range of controls
	PL005006	Button white double speed UP	
	PL005014	Button white double speed FORWARD	
	PL005010	Button white double speed RIGHT	
	PL005001	Green Start Button	
	PL005002	Green Start Alarm Button	
	PL005003	Yellow Alarm Button	
	PL005034	Blue Button Blank	
	PL005035	White Button Blank	
	PL005036	Black Button Blank	
	PL005037	Red Button Blank	
	PL005038	Green Button Blank	
	PL013001	Mushroom operator Ø 30 Turn to release. EN ISO 13850	With vision
	PL006001	Key Selector	0 - 1 90°
	PL006002		1-0-2 45°
	PL007001	Knob Selector	0 - 1 90°
	PL007002		1-0-2 45°
	PL007003		1 > 0 < 2 45°
	PL015001	Hole Plug	
	PL004001	Contact Block for	1NC
	PL004002	P02 - P03 - PL - PLB Range	1NO
	PCW01	Contact Block for TLP Range	1NC
	PCW10		1NO
	PL004010	Multi-speed Contact Block	Double Step 1NO + 1NO



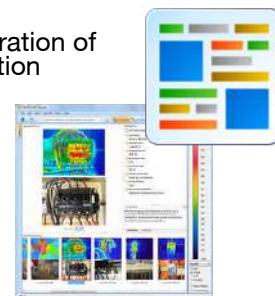


## IRT Cronista® 3.6 from Grayess

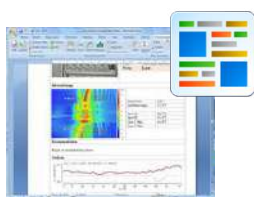
IRT Cronista® is a unique tool for organization of infrared images, their evaluation and generation of significant reports. All functions needed for image management, analysis and report generation are combined in one piece of software.

Thermographic Organizer Analyzer Reporter

- ▣ Fast and comprehensive high quality reports of your daily work with one mouse click
- ▣ Customized layout templates to match your needs
- ▣ Clearly structured and easy-to-use user interface
- ▣ Wide range of high-quality and powerful analysis tools

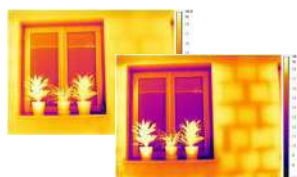


## IRT Cronista® 3.6



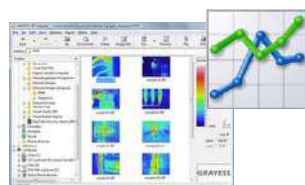
- Create fast and comprehensive high quality reports of your daily work with just one mouse click
- Easily organize and manage your files in folder structure in the familiar way of Windows Explorer.
- Customizable user interface
- Easy image analysis with multi points and profile lines - preview infrared and corresponding visual image, define temperature range settings and analyze infrared image with points and profiles

## IRT Pro Cronista®



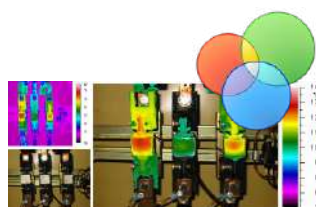
- PRO version of IRT Cronista with a another great functionality
- Get out the best of your images by using IRT Cronista's "Contrast Enhancement". It gives you the possibility to choose between 4 setting modes for your colour palette
- No contrast enhancement, histogram equalization, auto plateau equalization, manual plateau equalization
- Includes additional advanced analysis tools

## IRT Analyzer® 6.0



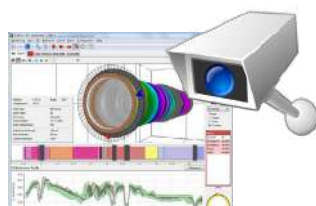
- Professional thermographic analysis and reporting tool for researchers
- Comprehensive and easy to use
- Accurate detailed analysis for professional thermographic engineers, including sequence analysis;
- Quickly made eye-catching reports in Microsoft Word;
- Integrated communication for real-time image acquisition, analysis and process control.

## IRT Stitch® 2.0



- Thermographic Image Builder - Examine and analyze high or wide objects.
- Create a large size infrared image mosaic, showing the whole object, by combining multiple infrared images.
- Improve the resolution of your camera.
- Match remotely sensed images of the same area taken after a certain period of time.
- With IRT Stitch® it is easy to accurately diagnose thermal problems in large target areas and to communicate important details, in order to facilitate repairs.

## IRT KilnMonitor® 2.06



- IRT KilnMonitor® is the full featured computer system that allows you to monitor, process and trace data from several kilns at once.
- Scanners control module for real-time temperature acquisition
- Input/output control module
- Kiln visualization module (2D and 3D)
- Thermographic analysis module
- Historical storage module






Terms & Conditions apply. Subject to change without notice

## Refrigerant Gas Detection

- HCFC, HFC, CO<sub>2</sub>, NH<sub>3</sub> and HFO Sensors
- Standalone or networked (optional)
- 4-20mA signal output



## Air Scan Infra-Red Sensor

	Part No.	Description	Gas Type	Range	Enclosure Nema Size	
	IR-F9-CO2-1%-N1*	Air Scan Infra-Red Sensor	CO <sub>2</sub>	0/10000ppm	Nema 1	
	IR-F9-R134A-0/3000-N		R134A			
	IR-F9-R22-0/3000-N1		R22			
	IR-F9-R404A-0/3000-N		R404A			
	IR-F9-R410A-0/3000-N		R410A	0/3000ppm		
	IR-F9-HFO1234ZE		R1234ZE			
	IR-F9-HFO1234YF		R1234YF			
	IR-F9-R507A-0/3000-N		R507A			
	EC-F9-NH3-0/1000-LCD*	Ammonia Sensor + LCD	NH <sub>3</sub>	0/1000ppm	Nema 1	
	EC-FX-NH3-0/1000	Ammonia Sensor				
	EC-FX-NH3-0/1000-LCD	Ammonia Sensor + LCD				
	EC-FX-NH3-0/100-LCD			0/100ppm		
	EC-FX-CA	Calibration Adapter	-	-	-	

\*Available while stocks last.



eZsense

Combustible gas leak pen detector

Detects Natural Gas, Butane, Propane, LPG and LNG

0 ~ 10,000 ppm

## EC-FX-NH3: A new and improved approach to ammonia gas detection.

Breakthrough technology, only from Honeywell Analytics.

In response to the challenging conditions found in Industrial Refrigeration, Honeywell Analytics has developed an innovative new ammonia detector - delivering reliability, accuracy and long-lasting performance that you can't get anywhere else.

The EC-FX-NH<sub>3</sub>, an evolution of our Manning EC-F9-NH<sub>3</sub>, features an all-new ammonia sensor

with a proprietary electrolyte that stands up to harsh environments.

So whether you're monitoring ammonia in blast freezers, cold storage or engine rooms, you can feel confident in the effectiveness of your gas detection system, helping you ensure life safety, prevent food spoilage and manage costs.



## BMS - Building Management System

- Innotech is a complete BMS system that can also be used for standalone HVAC controls.
- For new & retrofit applications, inquire with Eurotec's HVAC team for complete, engineered specifications and system pricing.



## Omni BEMS Controllers

Create savings and efficiencies throughout the life-cycle of your building with the Omni range of Building and Energy Management System (BEMS) controllers. Maintain your building's comfort levels efficiently with an Omni unified control, monitoring and reporting system that provides actionable analytics to help you save.

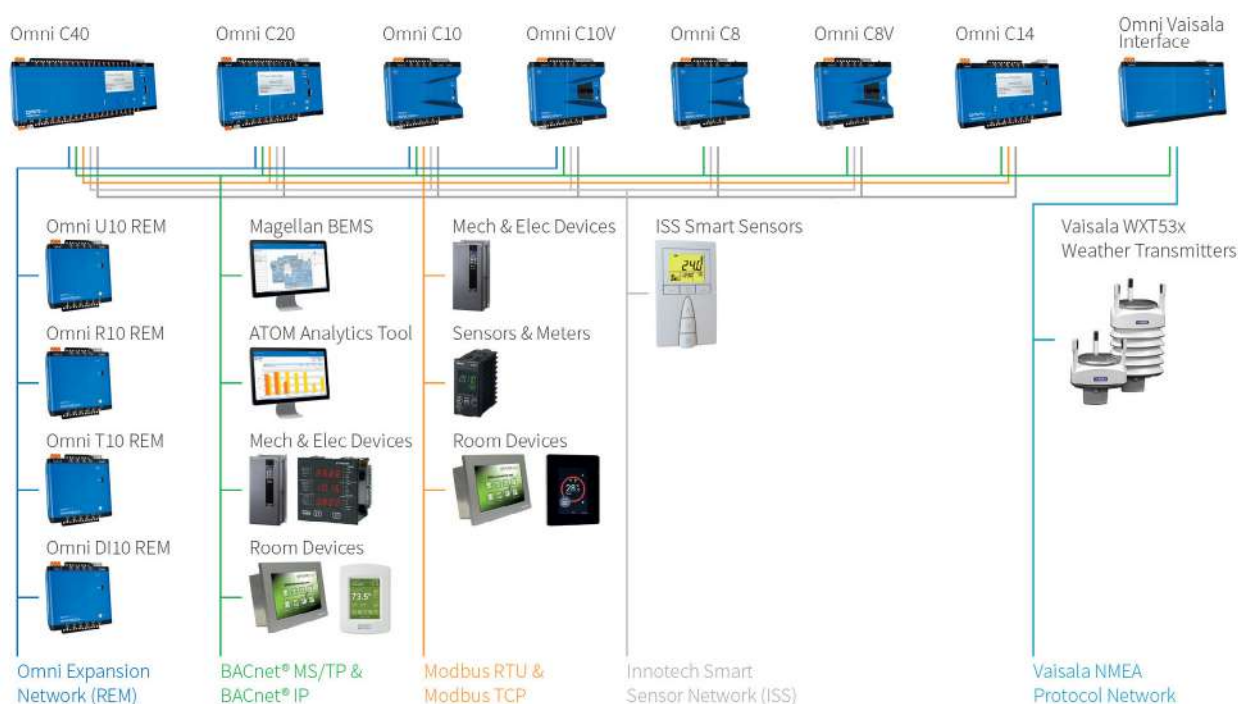
Master your energy usage and carbon footprint with Omni controllers providing effective management of your building's equipment to minimise waste. Integrate with other services using the native support of BACnet and Modbus for comprehensive control of all building systems.

**omni.**

Building & Energy Management System (BEMS)

### Key Omni Features

- Native BACnet with BTL Listing
- BACnet MS/TP & BACnet IP
- Native Modbus RTU and TCP
- Protocol Routing
- The Easiest I/O - User Configurable Points (UI/O) with self diagnostics
- Multi-user, HTML 5 web interface
- Variety of models & expansion options to cater to all projects
- Compatible with existing Innotech, BACnet or Modbus BEMS
- On-board data logging
- Real-time clock & battery backup for fail-safe critical applications



## Omni Programmable Network Controllers

	Part No.	Description	Detail	
	OMC8	Omni Compact Controller	4UI/O, 4 Triac O/p	
	OMC8V		VAV, 4UI/O, 4 Triac O/p, VAV	
	OMC10		VAV, 6UI/O, 4 Triac O/p	
	OMC10V		VAV, 6UI/O, 4 Triac O/p	
	OMC14D	OMNI 14 Point with Display		
	OMC20D			
	OMC40D			
	OMFL-WEB	Omni Hardware License Key for additional 14 Web-Graphic Pages		

### Versatile Compact Controllers with Expandable, Configurable Points.

Innotech Controls are about to release the new OMNI Compact Controllers in the Pacific region. This new controller will allow us to offer solutions for all sizes and complexities of HVAC projects.

#### SIMPLY POWERFUL

From simple Variable Air Volume (VAV) applications to large plant control

#### HIGHLY FLEXIBLE POINTS

Fully programmable points (UI/O) combined with dedicated Triac outputs & optional differential pressure transducer

#### SCALABLE SOLUTION

Connect additional points using the Omni Remote Expansion Module (REM) Network1

#### SIMPLE TO INTEGRATE

Integrate with other services using the native support of BACnet & Modbus1 for comprehensive control of all building systems.

#### DATA AT YOUR FINGERTIPS

Live monitoring, alarming, scheduling, trending, adjustment & historical analysis via an HTML5 web interface1



## COMPACT POWER



- Native BACnet with BTL Listing
- BACnet MS/TP & BACnet IP
- Native Modbus RTU and TCP
- Automatic Protocol Routing
- Easiest I/O - User Configurable Points (UI/O) with self diagnostics
- Triac Outputs (Modulated PWM or Digital ON/OFF)
- Multi-user, HTML 5 web interface
- Variety of models & expansion options
- Compatible with existing Innotech, BACnet or Modbus BEMS
- On-board data logging
- Real-time clock & battery backup for fail-safe critical applications
- Live monitoring of data
- Export trend log data to CSV
- BACnet Broadcast Management Device (BBMD) support
- Simple pressure sensor commissioning via on-board web server interface.

### Omni Web Graphics



- Omni C8, C10, C14, C20 and C40 controller range now supports Omni Web Graphics
- The Omni default licence provides one (1) web graphic page as standard with max 50 watches/page.
- An additional fourteen (14) web graphic pages are available by ordering the hardware feature licence upgrade
- Maximum of 250 watches in total per controller.







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## Smart Sensors

	Part No.	Description	Integrated Thermistor	Universal Inputs	Real Time Clock	
	ISS01	InnTOUCH Smart Sensor	✓	-	-	
	ISS02		✓	-	✓	
	ISS03		✓	✓	-	
	ISS04		✓	✓	✓	
	VTR8350A5000B	Viconics Low voltage fan coil & Zone Controller-thermostat, FanCL touchscreen, RH, BACnet				
	VCM8001V5045	Out-of-the-box CO2 sensor module to improve fresh air quality in schools, restaurants, offices and other small buildings (Add-on optional item)				


## Controllers

	Part No.	Description	Operating Voltage	Outputs	
	IWP2011	1 Heat 1 Cool	-	2 x 2A C/O Switched & 0-10V	
	IWP2022	2 Heat 2 Cool (Similar to RTR7603/230*)		4 x 2A C/O Switched & 0-10V	
	IWP4011	1 Heat 1 Cool		2 x 2A C/O Switched & 0-10V	
	IWP4022	2 Heat 2 Cool (Similar to RTR7603/24*) (Available while stocks last)		4 x 2A C/O Switched & 0-10V	
	M3K03	Micro 3000 Controller 1 Heat 1 Cool 3 Speed Fan	240VAC	0-10 VDC	

## Sensors

	Part No.	Description	Detail	
	SEN4	NTC Sensor	SS Temp With 3Mtr Lead	
	SEND2		Bead Detector 10kΩ	
	SEND3		Duct Detector 10kΩ	
	SEW21		Room Detector 10kΩ	
	SEW21A		Room Averaging Sensor	

## Solid State Relay

	SSR25	Solid State Relay	SS Relay 40Amp incl Heat Sink	
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## Magellan Software



### MAGELLAN SERVER

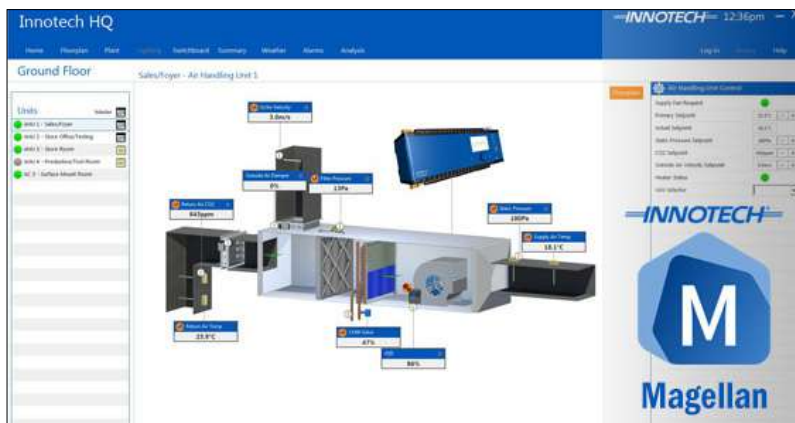
Magellan Server Software

A standalone runtime-only program for the end-user for projects up to 250 points.

### MAGELLAN BLDR

Magellan Builder Software

Combines the design package and the runtime package in one program, allowing the designer to immediately trial the design in real time.



### Innotech Magellan Software

Magellan is an event-driven, object oriented real-time Supervisory Control and Data Acquisition (SCADA) package. It provides a simple, intuitive mechanism to effortlessly design either simple or sophisticated supervisory and control programs using a drag-and-drop approach.

Magellan eliminates the need to sift through hundreds of device addresses or protocol descriptions by displaying a graphical representation of all points available in a network of controllers. Using a drag-and-drop approach, data values can be displayed in a variety of ways leaving the designer more time to construct a useful and practical interface for the end-user.


### Applications

Building Management Systems, Shopping Centre Management, Agriculture/Horticulture Monitoring, Factory Process and Control. Domestic Lighting & Control Applications.

### Key Features

- True object-oriented design features enabling the designer to reuse objects and designs for other projects.
- Real time operation allows new values to be displayed as soon as they change.
- Range of simple and complex control and mathematical calculations and formulae to control such things as the position or visibility state of objects.
- Intuitive design methodology allows the designer to create a wide range of projects with minimal training.
- Seamless integration with Innotech products and devices. Connects to existing Innotech Building & Energy Management System running Magellan Server V2.00 or newer.

## ATOM Data Acquisition & Billing Management Software

	Part No.	Description	
	ATOM	ATOM Data Acquisition & Billing Management Software	



**Innotech Atom: simple, intuitive interface to analyse your building performance and cost.**

In recent times we have seen clients encouraged to upgrade to expensive subscription-based energy platforms after enjoying years without ongoing fees. It is not uncommon to have 300+ meters connected across a portfolio, consisting of electrical, water, thermal, oil and gas meters using industry standard protocols like #BACnet, #Modbus, M-Bus or low-level pulses. These packages often charge per meter (or points) to ascertain the initial cost and then charge per meter/per year for the life of the installation.



Innotech's ATOM Building Services Analysis, Billing and Reporting platform bucks the trend by providing a single up-front cost, no ongoing subscription or licensing fees for additional meters/points, and providing property owners with an affordable, comprehensive option to monitor, analyse, compare and generate customised reports and bills to measure and manage their building services across their entire portfolio.

### Key Features

- Data Acquisition, Analysis and Reporting.
- A Billing utility using Crystal Reports for Electrical, Water, Gas, Thermal Energy, Hours Run (With Activity Statement).
- Individual Carbon emissions and totalisation.
- Single or web-based multi-user license with no ongoing licensing fees.
- Real-time monitoring of performance.
- Historical Analysis, comparisons for Daily, Weekly, Monthly and Yearly.
- High Level Integration with BACnet, Modbus, M-Bus and other industry standard protocols.
- Save on installation costs by creating meters and adding or subtracting existing meters.
- Guarantee data integrity and email or SMS for critical services errors, database size or if user defined targets are exceeded.
- User-friendly interface to interrogate your building's performance.



## Communications & Control Modules

	Part No.	Description	Detail
	WXT532-C1	Vaisala Micro Weather Station	Wind Speed & Direction, Humidity, Liquid precipitation, Barometric Pressure and Temperature
	WXT536-C1		
	WSP150	Vaisala Weather Station - Surge Protection	
	OMWEB02	OmniWeb Vaisala BACnet Interface	



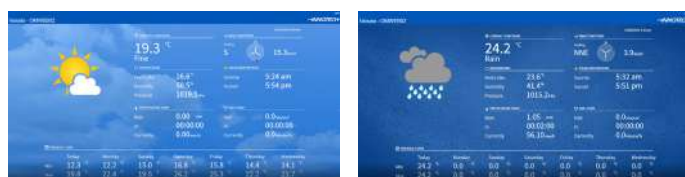
### Key Features:

- Native BACnet with BTL Listing
- BACnet MS/TP & BACnet IP
- Multi-user, HTML 5 web interface
- Simple setup via web interface
- Live monitoring of data
- 7 Day historical data with temperature high/low, and precipitation information
- Up to 5000 record per BACnet Trend Log
- Export trend log data to CSV
- Geographical location Sunrise/Sunset data
- BACnet Broadcast Management Device (BBMD) support
- BACnet MS/TP to BACnet IP routing
- Predefined BACnet Objects (no manual mapping required)
- Battery backed real-time clock
- Scientific grade weather data
- Maintenance free weather transmitter

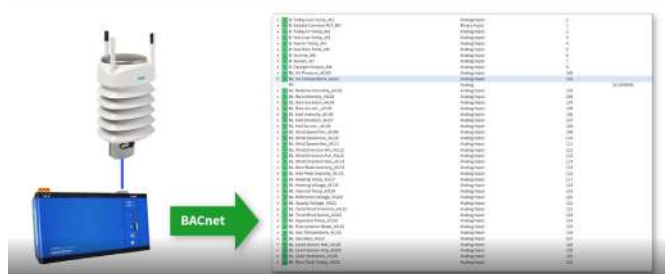
### Innotech Omni Vaisala Weather Station Interface

The Omni Vaisala Interface is a digital controller that connects to a locally installed Vaisala WXT53x weather transmitter and provides your Building Management System (BMS) with real-time weather data. Using the Vaisala weather station interface you can proactively adjust for hot or cold fronts to mitigate their impact on energy use and automatically prepare your building for inclement weather.

Integration is simple with the ability to connect to new or existing Building Management Systems via BACnet, and you have all data at your fingertips with live monitoring & historical analysis via an HTML5 web interface.



### Omni Vaisala Interface






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## Pressure Switches



- Compressed air switches
- Water pressure switches
- Electronic controls for pump automation & protection





### Compressed Air Switches

	Part No.	Description	Electrical	Setting Range	Differential	
	PTA/12G	Compressed Air Switch	3 Phase 415VAC 16Amps	3-12Bar	1.5Bar	
	PTA/12RP	Compressed Air Switch + Regulator				



### Water Pressure Switches IP44

 	PM/5G	Water Pressure Switch	1 Phase 230VAC 16Amps	1-5Bar	0.6/2.3 Bar	
	PT/12G		3 Phase 415VAC 16Amps	3-12Bar	1.5/5 Bar	
	VC100	'Loss Of Prime Switch'	1 Phase 230VAC 16Amps	1.5-4.5Hg	-	

### Flow Controls

	Part No.	Description	Electrical	Setting Range	IP Rating	
 	BRIO2000	Electronic Flow / Pressure Control Device	110-230VAC 12Amps	1-3.5Bar	IP65	
	FLUOMAC		110-230VAC 10Amps		IP54	

### Low Pressure Switches

	Part No.	Description	Setting Range	IP Rating	
 	LP318F14	Low Pressure Switch adjustable with reset	0.5-2 Bar	IP44	

### Pressure Conversion

Bar	PSI	kPA
1 bar = 14.5 psi 100 kpa 750mm hg 29.53 in. of mercury	1 PSI = 6.895 kPa 51.71mm Hg 2.036 in. of mercury 0.069 bar	1 kPA = 0.01 bar 0.145 psi 7.5188mm Hg 0.2953 in. Of of mercury



### Wireless Thermostats & Chronostats

- ▣ Wireless system for long distance and inaccessible areas.
- ▣ Thermostats & chronostats (timer) combination



### Wireless Chronostat

	Part No.	Description	
	TP-83TX	Wireless Chronostat (Use With AC-82 Receiver)	
	AC-82	1 Channel Receiver For TP-82TX & TP-83TX	

### GSM Dialler

	GD-04	GSM Dialler 2 + Relay + 4 + Digital input 12VDC	
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The TP-83 is a wireless indoor thermostat with a programmable weekly heating schedule and antifreeze protection.

The device is capable of recognizing **warm-up persistence characteristics** (within 2 days) and will adjust the settings accordingly so that a high level of operational comfort is achieved. You need not find out how early the heating should start in order to get to a comfortable temperature at the desired time. The required timing is configured automatically. Temperature adjustment can be performed by simply turning the setting knob

# CHRONOSTAT












Terms & Conditions apply. Subject to change without notice

### Klemsan Industrial Automation Solutions

- Time control
- Protection
- Alarm
- Analog Signal
- Switching
- Communication
- Energy Monitoring






### Transducers - Signal Converters, DIN Rail Mount

	Part No.	Description	Sensor Type	Input	Output	Supply		
	ASCON 311	Configurable Signal Converter Casing Width 17.5mm	DC Current & Voltage (mV,V,mA)	0..60mV 0..100mV 0..250mV 0..500mV 0...1V 0...2V 0...205V 0...5V 0...10V 0...20V	-6...60mV -100...100mV -250...250mV -500...500mV -1...1V -2...2V -2.5...2.5V -5...5V -10...10V -20...20V	0...5mA 0...10mA 0...20mA -5...5mA -10...10mA -20...20mA 4...20mA 0...24mA 4...24mA 0...12mA	11-30 V DC	
	ASCON 331	Configurable Thermocouple Converter Casing Width 17.5mm	Thermo-couple (J,K,E,R,S)	Configurable: J: -200°C...1200°C K: -200°C...1350°C E: -200°C...950°C R: -50°C...1750°C S: -50°C...1750°C		11-30 V DC		
	ASCON 321	Configurable PT100 Converter Casing Width 17.5mm	PT100 (2,3,4 wire)	-150°C...800°C Configurable	0...5V 5...0V 0..10V 10...0V -5...5V	0...20mA 20...0mA 4...20mA 20...4mA 20...20mA	11-30 V DC	
	ASCON 352	Signal Temperature Converter with RS485 Casing Width 17.5mm	Thermo-couple (J,K,E,R,S)	Signal: -30 signal combinations 4-20mA, 0-10V, etc  PT100: -150°C...800°C Configurable  Thermocouple: J: -200°C...1200°C K: -200°C...1350°C E: -200°C...950°C R: -50°C...1750°C S: -50°C...1750°C	RS485	11-30 V DC		
	CT3-AC-24	True RMS Current Transducer		0-1 AAC 0-2 AAC 0-3 AAC 0-4 AAC 0-5 AAC	0-2mA 4-20mA +-20mA 20-0mA 20-4mA	0-5V 0-10V +5V +10V 10-0V	10-36V	




### Signal Isolators

	Part No.	Description	Input	Output
	PISO-DC-1-420	Signal Isolator	1 Input 4-20mA	1 Output 4-20mA
	PISO-DC-DUO			2 Outputs 4-20mA

## Energy Meters - Panel/Din Mount

	Part No.	Description	Digital Input	Digital Output	Analog Output	Supply
	KLEA 320P	Energy Meter, 3 Phase		2 Outputs	-	
	KLEA 322P	- 7 segment display - Panel Mount - LCD Screen		Transistor 5-30 VDC 20Hz, 50ms	2	
	KLEA 220P	- Real time clock - Password Protection - Current/Voltage Ratio 1-5000	Dry Contact 5000 vrms		-	85-300 V AC
	KLEA 110P	- TT, TN, IT Networks - 2 Tariffs		7 Outputs Transistor 5-30 VDC 20Hz, 50ms	-	
	ECRAS 100	Energy Meter, 3 Phase - 7 segment display - Panel Mount - Password Protection - Current/Voltage Ratio 1-5000 - TT, TN, IT Networks - 2 Tariffs				85-300 V AC
	POWYS 3111	Energy Meter, 3 Phase - 7 segment display - DIN Rail Mount - Current/Voltage Ratio 1-5000 - TT, TN, IT Networks				
	POWYS 3121	Energy Meter, 3 Phase - LCD Screen - DIN Rail Mount - Current/Voltage Ratio 1-5000 - TT, TN, IT Networks				

## Miscellaneous

	Part No.	Description	Auxillary Contacts	Supply Voltage	Functions
	T1-K	Multifunction Timer Casing Width 17.5mm	Max ratings AC (for NO side)	24-300 V DC	- On delay - Off delay
	T1-M5	(Only T1-K has trigger control input)	1 C/O (SPDT) 5A/250V	24-300 V AC	- On-Off delay - On Flasher - Off Flasher - On delay with control input
	G1D-SA	Voltage Monitoring Relay Casing Width 17.5mm	Max ratings AC (for NO side) 1 C/O (SPDT) 10A/250V	380-480VAC +25 Input Voltage Range: 50-60Hz	- Phase Failure - Phase Sequence 3Ø without neutral - Adjustable Unbalanced Protection
	RAPIDUS 231R-E	- Measuring system: 3Ø - LCD Screen: Available - Real time clock: Available Password protection: Available		- Current/Voltage transformer ratio: 1-5000 - Networks: TT,TN.IT - Step Configurations: Manually assign, predefined.	
	ETOR-4	Ethernet Gateway (TCP/IP - RS485) Casing Width 17.5mm			24VAC/DC







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## DIN Rail Mount Terminals - Screw Type

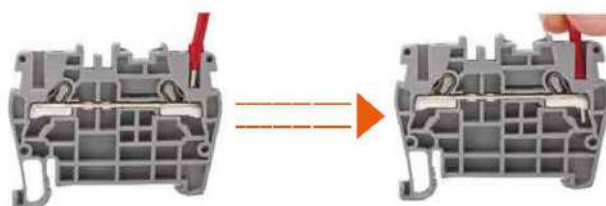
	Part No.	Description	Size	Connection Data (min - max.)				
				Conductor Cross Section Solid & Stranded	2 Conductors	Insulation Stripping Length	Torque	
	AVK 2,5 GREY	DIN Rail Terminal 2.5mm Screw Type	2.5mm	0,2 - 4mm <sup>2</sup>	0,5 - 1,5mm <sup>2</sup>  2 conductors with same cross section, stranded, TWIN ferrules with plastic sleeve (min-max.)	9-10mm	0,4 - 0,6Nm	
	AVK 2,5 BLUE							
	AVK 2,5 GREEN							
	AVK 2,5 YELLOW							
	AVK 2,5 RED							
	AVK 2,5 BLACK							
	AVK 2,5 WHITE							
	AVK 2,5 ORANGE							
	AVK 2,5 BROWN							
	AVK 4 GREY	Screw Type DIN Rail Terminal	4mm	0,2 - 6mm <sup>2</sup>	0,5 - 2,5mm <sup>2</sup> " "	9-10mm	0,5 - 0,8Nm	
	AVK 6 GREY		6mm	0,2 - 10mm <sup>2</sup>	0,5 - 4mm <sup>2</sup> " "	10-12mm	0,8 - 1,2Nm	
	AVK 6 GREEN							
	AVK 6 RED							
	AVK 6 WHITE							
	AVK 6 BLUE							
	AVK 6 BLACK							
	AVK 10 GREY		10mm	0,5 - 16mm <sup>2</sup>	0,5 - 6mm <sup>2</sup> " "	12-14mm	1,2 - 1,8Nm	
	AVK 16 GREY		16mm	2,5 - 25mm <sup>2</sup> 4-25mm <sup>2</sup>	1,5 - 10mm <sup>2</sup> " "		1,2 - 2,0Nm	
	AVK 25 RD GREY		25mm	1,5 - 35mm <sup>2</sup>	" "		2,0 - 3,0Nm	
	AVK 35 RD GREY		35mm	1,5 - 50mm <sup>2</sup>	1,5 - 16mm <sup>2</sup> " "	16-18mm	2,5 - 3,5Nm	
	AVK 2.5-4TK	DIN Rail Terminal Earth Screw Type Green/Yellow	2.5-4mm	0,2 - 0.6mm <sup>2</sup>	0,5 - 2,5mm <sup>2</sup> " "	9-10mm	0,5 - 0,8Nm	
	AVK 6TK		6mm	0,2 - 10mm <sup>2</sup>	0,5 - 4mm <sup>2</sup> " "	10-12mm	0,8 - 1,2Nm	
	AVK 10TK		10mm	0,5 - 16mm <sup>2</sup>	0,5 - 6mm <sup>2</sup> " "		1,2 - 1,8Nm	
	AVK 16T RD		16mm	1,5 - 25mm <sup>2</sup>	0,75 - 10mm <sup>2</sup> " "	12-14mm	1,2 - 2,0Nm	
	PIK 2,5N GREY	DIN Rail Terminal	2.5mm	0,2 - 4mm <sup>2</sup>	0,5-1,5mm <sup>2</sup> 2 conductors with same cross section, stranded, TWIN ferrules with plastic sleeve (min-max.)	9-10mm	0,4 - 0,6Nm	

## DIN Rail Mount Terminals - Spring Clamp Type

	Part No.	Description	Size	Connection Data (min - max.)			
				Conductor Cross Section Solid & Stranded	2 Conductors	Insulation Stripping Length	
	PYK 2,5 GREY	DIN rail terminal Spring clamp type	2.5mm	0,34 - 4mm <sup>2</sup> 0,34-2,5mm <sup>2</sup>	0,5mm <sup>2</sup> " "	9-10mm	
	PYK 4 GREY	DIN rail terminal Spring clamp type	4mm	0,34 - 6mm <sup>2</sup> 0,25-4mm <sup>2</sup>	1,0mm <sup>2</sup> " "		
	PYK 6 GREY	DIN rail terminal Spring clamp type	6mm	0,5 - 10mm <sup>2</sup> 0,5-6mm <sup>2</sup>	1,5mm <sup>2</sup> " "	11-13mm	
	PYK 10 GREY	DIN Rail Terminal Spring Clamp Type	10mm	0,5 - 16mm <sup>2</sup> 0,5 - 10mm <sup>2</sup>	0,5-1,5mm <sup>2</sup> 2 conductors with same cross section, stranded, TWIN ferrules with plastic sleeve (min-max.)	13- 15mm	
	PYK 2,5T	DIN Rail Terminal Earth Spring Clamp Type Green/Yellow	2.5mm	0,34 - 4mm <sup>2</sup> 0,34 - 2,5mm <sup>2</sup>	0,5mm <sup>2</sup> " "	9- 10mm	
	PYK 4T		4mm	0,34 - 6mm <sup>2</sup> 0,25 - 4mm <sup>2</sup>	1 mm <sup>2</sup> " "		
	PYK 6T		6mm	0,5 - 10mm <sup>2</sup> 0,5 - 6mm <sup>2</sup>	1,5mm <sup>2</sup> " "	11-13mm	
	PYK 10T		10mm	0,5 - 16mm <sup>2</sup> 0,5 - 10mm <sup>2</sup>	4 mm <sup>2</sup> " "	13-15mm	
	PYK 2,5-2F GREY	DIN Rail Terminal Double Deck Spring Clamp Type Grey	2.5mm	0,34 - 4mm <sup>2</sup> 0,34 - 2,5mm <sup>2</sup>	0,5mm <sup>2</sup> " "	9- 10mm	
	PYK 2,5-3F GREY	DIN Rail Terminal Tripple Deck Spring Clamp Type Grey	2.5mm				

### Easy mounting of PYK Series Terminals




Solid/stranded cables (with ferrules) are connected to the terminal just by pushing in, without the need to use a screwdriver. The patented design of its spring provides fast and safe connection in heavily vibrating environments.







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### Accessories for DIN Rail Mount Terminals Continued

	Part No.	Description	Size	
	NPP/AVK 2,5-10 GREY		2.5mm	
	NPP / AVK 16 GREY	DIN Rail Terminal, End plate, AVK, Grey	16mm	
	NPP AVK 25 RD GREY		25mm	
	APP/AVK35-35RDGREY		35mm	
	NPP/PYK 2,5 GREY		2.5mm	
	NPP/PYK 4 GREY		4mm	
	NPP/PYK 6 GREY	DIN Rail Terminal, End plate, PYK, Grey	6mm	
	NPP/PYK 10 GREY		10mm	
	NPP2PIK4N-PIK2,5NGRY	DIN Rail Terminal, End plate, PIK, Grey		
	NPP/PYK 2,5-2F GREY	DIN Rail Terminal, End plate, PYK, Double Deck, Grey	2.5mm	
	NPP/PYK 2,5-3F GREY	DIN Rail Terminal, End plate, PYK, Tripple Deck, Grey		
	KD 3 GREY	DIN Rail End Stop - Single level terminals, Grey	2.5mm -10mm	
	KD 7 GREY	DIN Rail End Stop - Multi-level and Larger terminals, Grey	2.5mm (multi) 10mm-35mm (large)	

### Terminal Accessories

	Part No.	Description	Compatible with	
	UK 2,5/10 - AVK 2,5		AVK 2.5	
	UK 4/10 - AVK 4		AVK 4	
	UK 6/10 - AVK 6	Cross Connecting Link 10-way Comes with Screws	AVK 6	
	UK 10/10 - AVK 10		AVK 10	
	UK 16/10 - AVK 16/AVK25		AVK 16 & 25	
	DY 5 (1-10)		1 - 10 (1 card 50 labels)	
	DY 5 (11-20)		11 - 20 (1 card 50 labels)	
	DY 5 (1-50)	Terminal Labels	1 - 50 (1 card 50 labels)	AVK 4 - AVK 16
	DY 5 (51-100)		51-100 (1 card 50 labels)	




### Mac3 Level & Pump Control Systems

- Double chamber float switch, re-injection moulded, not glued
- Capacitive level switches (electronic, floatless)
- Hydraulic regulators & pressure switches for water
- Controls for electrodes, phase monitoring & duty sequencing
- Hydrocontroller, VF drives (water cooled & standard types)



### "Key" Series Float Switches For Commercial & Farm Applications

	Part No.	Description	Current Rating	Contacts	Cable Insulation	Cable Length	
	KPM0306KY0	Key Series Float Switch	10 Amps Res <sup>1</sup>	SPDT	PVC	3M	
	KPM1006KY0					10M	
	KGM0306KY0				Neoprene	3M	
	KGM0506KY0					5M	
	KGM1006KY0					10M	
	LZM1006GY0	Key Series Float Switch *400V*	10A <sup>2</sup>			10M	


<sup>1</sup>Inductive = 4Amps : <sup>2</sup>Inductive = 6Amps

### "Mac3" Series Float Switches For Industrial Applications

	MPM0306GB0	Mac3 Series Float Switch	10 Amps Res <sup>1</sup>	SPDT	PVC	3M	
	MPM1006GB0					10M	
	MGM0306GB0				Neoprene	3M	
	MGM1006GB0					10M	
	MGM1806GB0					18M	
	NPM1006GB0	Mac3 Series Sw *PLC TYPE*	Gold Plated Contacts 1-100mA 5-24VDC	SPDT	PVC	10M	


<sup>1</sup>Inductive current rating = 4 Amps

### "Small" Series Float Switches For General Purpose Applications

	SGM0306SB0	Small Series Float Switch	10A <sup>1</sup>	SPDT	Neoprene	3M	
	SGM0506SB0					5M	
	SGM1006SB0					10M	

<sup>1</sup>Inductive = 8Amps

### "Mac5" Series Float Switches For Sewerage Applications

	JGM1006GB0	Mac5 Switch	10A <sup>1</sup>	SPDT	Neoprene	10M	
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<sup>1</sup>Inductive = 3Amps


### Float Switch Accessories

	COUNTERWEIGHT	Cable Counter Weight c/w Pivot Point Ring. Suitable For KEY, MAC3 and SMALL Series Switches)					
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## Reka2000 Series Capacitive Level Switches


	Part No.	Description	
	T00R200A00	Capacitive Level Switch With 0.5M Cable	230VAC
	T00R200A03	Capacitive Level Switch With 3M Cable	
	T00R200A10	Capacitive Level Switch With 10M Cable	
	T00R200303	Capacitive Level Switch With 3M Cable	12-24VDC
	T00R200310	Capacitive Level Switch With 10M Cable	

Reka2000 level switches activate an electronic device once a liquid has reached a pre-set level. A capacity sensor in the plastic structure makes it suitable for a wide range of liquids.

## Magnetic Level Switch For Small Wells

	AGWPM10000	Magnetic Level Switch Empty/Fill c/w 10m PVC Cable	
	AGW0000000	Agma Magnetic level switch, empty/fill, Direct pump mount	



## Agma 22 - Small Wells

	AG0NC4000	Level Regulator For Pump Connection 500mm Cable (Type B)	
	AG00000000	Level Regulator For Direct Pump Connection (Type A)	

## Water Pressure Switches IP44

VPSP030000	Water Pressure Switch IP44	1 Phase	1.5-6.0bar	
VPST060000		3 Phase	4.0-10bar	

## Level Controls

	Part No.	Description	Adj Sensitivity	17.5mm Modules	Control Voltage	
	EQ22000000	QNS Water Level Controller	5.6k Ohm	3M	230VAC	
	EQ220R0000				230VAC	
	EQ024R0000	QSR Adjustable Sensitivity Level Controller	0-100k Ohm		24VAC	
	EQ415R0000				415VAC	
	EC00CR0000				12/24VDC	
	ED22000000	DB Level Controller - Up To 7 Probes (Start, Stop & Alarms)		5M	230VAC	
	EZ08YH00Z0	Z8AS Level Controller Hi Sensitivity (68k ohm) Plug In - Includes Octal Base			230VAC	
	EZ08Y000Z0	Z8NS Level Controller Plug In + Octal Base				
	TSOND00000	Electrode Probe (Single)				
	TP00000000	Triple Electrode Holder 65mm Ø Mtg For 3 x 6mm Ø Probes				

## Phase Failure Relays

	Part No.	Description	Detail	Base Housing	Control Voltage	
	T400000000	Phase Failure Relay	1 Phase	Octal	230VAC	
	T500000000			11 Pin		
	T510000000	Phase Failure Relay + Digital Display	3 Phase	DIN 2M	415VAC	

## Rotation/Duty Controller




TMK3000000	Sequence Controller 2 Pumps Alternating Standby	230VAC	
TMK3002400		24VAC	

## ChillGard® Refrigerant & Ammonia Gas Detection

- Photo acoustic I/R Detectors for most common refrigerants
- 4-20mA outputs and relay options



### Chillgard Refrigerant Gas Detectors

	Part No.	Description	Output	Gas Type(s)	
	227796 *	Chillgard RT STR 8 Point	3 Relays & 4-20mA	Ammonia	
	766678 *			R407C	
	766680 *	Chillgard M-100 with De-icer RH&T	4-20mA	R404A (422A, 422D, 507C)	
	766681 *			R22	
	767498 *			R22	
	767499 *	Chillgard M-100 Basic	4-20mA	R404A (422A, 422D, R507C)	
	767500 *			R134A (R407C, R410A, R427C)	
	767502 *			R410A	
	767977 *			R134A (R407C, R410A, R427C)	
	767999 *		Modbus	R404A	
	768000 *			R22	
	10064883 *	Chillgard Ammonia sensor low temp w/heater			
	10066135 *	Spare part replacement sensor			

\*Available while stocks last.

### Prima X Gas Detectors

	Part No.	Description	Range	Gas Type(s)	
	10112435	Prima X P Ammonia Sensor	0 - 1000ppm	Ammonia	
	10112272	Prima X 1 O <sub>2</sub> Sensor	0-25%	O <sub>2</sub>	
	10112501	Prima X/P O <sub>2</sub> Sensor			
	10112518	Prima X-P Propane Sensor	2.1% 4-20mA	Propane	

Detection solutions  
tailored to your market's needs.

Find out more at <https://au.msasafety.com/>

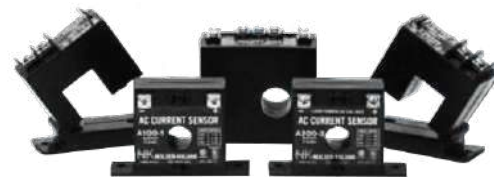






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## Current Operated Switches & Transducers



- Current switches with fixed or adjustable setpoints
- Current transducers with 4-20mA output
- Solid or split core for new and retro-fit applications




## Sentry 250 Series Current Switches - Solid State Switch (135V AC/DC)

	Part No.	Description	Details	Setpoint	
				Type	Current
	225	Current Switch - Solid Core	-	Fixed	1Amp
	250		Smart LED	Adj	1-150A
	SC225	Current Switch - Split Core	-	Fixed	1.5Amp
	SC250		Smart LED	Adj	1-150A
	Note:	225 & SC225 = 19mm Ø 250 & SC250 = 21.5mm Ø			

## Sentry 200 Series Current Transducers - 4-20mA Output

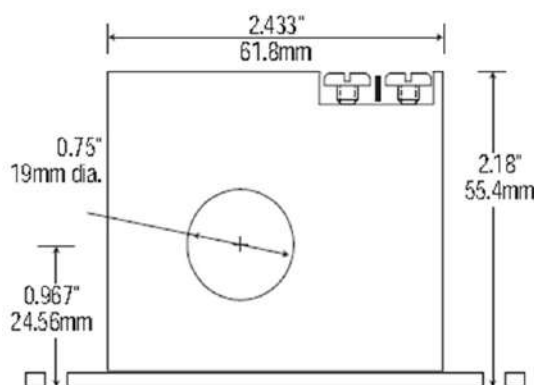
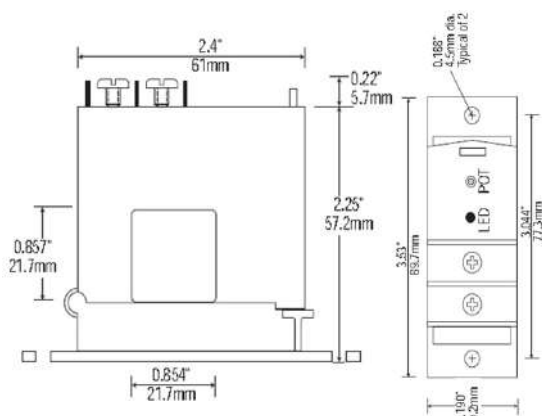
	200-1	Current Transducer - Loop Powered Solid Core	Solid Core 19mm Ø	Fixed	0-10 / 0-20 / 0-50A
	200-2			Adj	0-100 / 0-150 / 0-200A
	SC200-1	Current Transducer - Loop Powered Split Core	Split Core 21.5mm Ø	Fixed	0-10 / 0-20 / 0-50A
	SC200-2			Adj	0-100 / 0-150 / 0-200A

## Sentry HD100 Series Current Operated AC Switch - Adjustable Setpoint

	HD100-NO	Adjustable Current Switch	240VAC 10Amps 15mm Ø	1NO	1-175A
	HD100-NC			1NC	

## Sentry 200 Series High Current Transducers - 4-20mA Output

200-3	High Current Transducer - Loop Powered Solid Core 24VDC	Solid Core 76mm Ø	Fixed	0-375 / 0-500 / 0-750A
200-4				0-1000/0-1333/ 0-2000A







## Non-contact Temperature Measurement



- ❑ Infrared Thermometers and Pyrometers - small, compact and industrial
- ❑ Infrared Cameras/Thermal Imagers - high resolution thermal images



## Compact Series CS, CX, and CT Pyrometers

	Model	Description	Temperature Range
	CS LT/CSmed LT	Ideal for temperature measurement in small and narrow environments.	-40 °C to 1,030 °C
	CX LT	Robust housing especially suited for industrial applications	-30°C to 900°C
	CX hs LT	Offers the measurement of smallest temperature differences of 0.025 K	-20°C to 150°C
	CS Micro LT	Small size and temperature resistance up to 120°C make the mechanic integration of the measuring head especially cost-effective	-40°C to 1,030°C
	CS Micro 3M	Ideal for temperature measurement of metallic surfaces and allows for measurements through glass.	50°C to 350°C
	CS Micro 2W LT	Ideal measuring device in hot ambient temperatures.	-40°C to 1,030°C
	CS Micro 2W hs LT	Suited for installation in limited or cramped spaces.	-20°C to 150°C
	CS Micro 2W 2M	For temperature measurement of metals.	250°C to 800°C
 	CT LT/CT Tex LT	High variability due to selectable analog outputs as well as several digital interfaces in the electronics box	-50°C to 975°C
	CTfast LT	Ideal for quick measurements due to its extremely short response time of 6 ms	
	CThot LT	Measurement of high ambient temperatures	-40°C to 975°C
	CT 1M/2M	High-temperature measurements of metal	485°C(1M) or 250°C (2M) to 2,200°C
	CT 3M	Low-temperature measurements of metal	50°C to 1,800°C
	CT G5	Temperature measurement of glass	100°C to 1650°C
	CT P3	Precise temperature measurement of thin plastic film	50°C to 400°C
	CT P7	Temperature measurement of foils	0°C to 710°C

## High Performance CS and CT Laser Series Thermometers

	CS Laser LT	Allows for an exact marking of measurement spots even on smallest objects	-30°C to 1,000°C
	CS Laser hs LT	Measuring of the slightest temperature differences from 0.025°C on, ideal for. continual surveillance of product homogeneities.	-20°C to 150°C
	CS Laser 2M	Measurement of metallic surfaces	250°C to 1600°C
	CS Laser G5HF	Temperature measurement of glass surfaces	200°C to 1650°C
	CT Laser LT/LTF	Exact temperature measurement on smallest objects from 0,9 mm at a distance of 70 mm	-50°C to 975°C
	CT Laser 05M	Measuring of molten metals	1000°C to 2000°C
	CT Laser 1M/2M	Measuring of metals in high temperatures	250°C to 2,200°C
	CT Laser 3M	Measuring of metals with low temperatures	50°C to 1,800°C



## High Performance CS and CT Laser Series Thermometers

	CT Laser MT	Temperature measurement through flames	200°C to 1450°C
	CT Laser F2	Temperature measurement of CO flame gas	200°C to 1650°C
	CT Laser F6		
	CT Laser G5	Precise temp. measurement of glass surfaces	100°C to 1650°C
	CT Laser G7	Precise temp. measurement of ultra-thin glass surfaces	100°C to 1200°C
	CT Laser P7	Temperature measurement of plastic foils & glass surfaces	0°C to 710°C

## Video and Ratio Pyrometers

	CS video 2M	Infrared thermometer for metals with adjustable focus, cross-hair laser & video sighting.	250°C to 1600°C
	CT video 1M/2M	Video pyrometer with adjustable focus for high-temperature measurement of metals.	
	CT video 3M	Video thermometer Optris CT video 3M for metals.	50°C to 1800°C
	CT ratio 1M	Ratio pyrometer Optris CT ratio 1M for high-temperature measurement of metals.	700°C to 1800°C
	CT ratio 1M/2M	Ratio pyrometer Optris CT 1M / 2M for high-temperature measurements of metal, metal oxides & ceramics.	485°C to 2,200°C (1M) 250°C to 2,000°C (2M)

## Infrared Cameras Pi Series

	PI 400/PI 450	<ul style="list-style-type: none"> <li>Thermal images with up to 80Hz</li> <li>Very high thermal sensitivity with up to 40 mK</li> <li>Smallest IR camera in its class</li> <li>New: PI450 Measuring range up to 1500°C</li> </ul>
	PI 640	<ul style="list-style-type: none"> <li>Ideal for industrial and R&amp;D processes</li> <li>Pin-sharp thermal images and IR videos</li> <li>Optical resolution of 640 x 680px</li> <li>New: measuring up to 1500°C</li> </ul>
	PI 450/ 640 G7	<ul style="list-style-type: none"> <li>Line scan function for tempering processes</li> <li>Thermal images of glass beads right up to large panes</li> <li>Precise Temperature measurements of glass surfaces</li> </ul>
	PI 1M	<ul style="list-style-type: none"> <li>High dynamic CMOS detector with up to 764 x 380 px resolution</li> <li>450°C to 1800°C without sub-ranges</li> <li>Up to 1 kHz frame rate for fast processes</li> </ul>
	PI 05M	<ul style="list-style-type: none"> <li>High dynamic CMOS detector with up to 764 x 480 px resolution</li> <li>Wide measurement range</li> <li>900°C to 2000°C without sub-ranges</li> <li>Up to 1 kHz frame rate for fast processes</li> <li>Extensive software package and SDK included</li> </ul>
	PI NetBox	<ul style="list-style-type: none"> <li>PI NetBox is a miniature PC for the PI series of infrared cameras. It upgrades the optris PI IR camera series to stand-alone solutions or acts as USB to Ethernet adapter</li> <li>Operating system: Windows 7 Professional</li> <li>Dimensions: 113 x 57 x 47</li> </ul>

## Spot Finder Infrared Cameras Xi Series







	Xi80	<ul style="list-style-type: none"> <li>Optical resolution: 80 x 80 pixels</li> <li>Distance-to-spot-size ratio up to 190:1</li> <li>Autonomous operation with automatic spot finder</li> <li>Frame rate: 50 Hz</li> </ul>
	Xi400	<ul style="list-style-type: none"> <li>Optical resolution of 382 x 288 pixels</li> <li>Motorized focus</li> <li>Suberb distance-to-spot-size ratio up to 390:1</li> <li>Frame rate: 80 Hz</li> </ul>

## PIR Sensors, Timers, Meters, T'stats & Transformers


- ❑ PIR detectors, photo-electric (lux) switches & thermostats
- ❑ Analogue & digital timers, coin/token timers
- ❑ Coin timers
- ❑ Hours run counters & kWh meters
- ❑ Transformers & bell transformers




## Indoor PIR Motion Sensors - Ceiling Mount

	Part No.	Description		Sensor/ Cut Out	Time Delay	Sensor Range	
 <div>10m range!</div>	DICROMAT BASIC *	1 Relay		80/60mm Ø	10s - 15m	360° x 10m Ø	
	DICROMAT 1+ CR	1 Relay	Optional Remote Advanced Program		1s - 10m		
	DICROMAT 2+ CR	2 Relays			1s-10m/10s-15m		
	DICROMAT SENSOR +	PIR Sensor Only +7m Cable			1s - 10m	360° x 7m Ø	
	DICROMAT MINI	1 Relay		65/54mm Ø	6s - 12m		
	DICROMAT MINI-2	2 Relays			6s-12m/10s-30m		
	DICROMAT MICRO	1 Relay		20/16mm	6s - 12m	360° x 4m Ø	
	CIRCUMAT MINI	1 Relay Surface Mount		120mm Ø	10s - 30m	360° x 7m Ø	
	CIRCUMAT PRO CR	1 Relay Surface Mount	Optional Remote	140mm	10s - 30m	360° x 30m Ø x 3.5m	
	CIRCUMAT PRO CR 12M				10s-10m	360° x 17m Ø x 12m	
	CIRCUMAT PRO DALI	Surface Mount	Output DALI			10s-30m	360° x 30m Ø x 3.5m
	CIRUMAT PRO 1-10V	1-10V Output					
	CR Remote	“Remote Control For All “CR” Sensors”				-	

## Indoor Motion Sensors


	ORBIMAT	Wall Mount (Flush) PIR	80x80mm	1s - 20m	200° x 8m Ø	
	ECOMAT MINI	Microwave Sensor	Hidden Installation 90x51mm	5s - 30m	360° x 10m Ø	
	ECOMAT MINI 2N	Microwave Sensor with output dimming to 20% when no occupancy is detected.				

## Outdoor PIR Motion Sensors



	Part No.	Description	Time Delay	Sensor Range	IP Rating	
	PROXIMAT PRO CR	Optional Remote	10s - 10m	240° x 12m	IP55	
	MULTIMAT	Ceiling/Wall Mount	3s - 30m	200° x 12m		
	ISIMAT 200	Wall Mount				




Terms & Conditions apply. Subject to change without notice

	Part No.	Description	Sensor Range
	SPOTMAT	Ceiling/Wall Mount Led Light/PIR Sensor, Surface Mount, Battery Powered (3 x AAA Batteries Not Included)	360° x 2m


### Analogue & Digital Timers, Thermostats & Chronostats

	Part No.	Description	Time Range	Output	Operating Voltage	17.5mm Modules	
	DATA LOG	Std Digital Time Switch - DIN Modular (MCB) Style	7Day 24Hour	1 Ch	230VAC	2M	
	DATA LOG2			2 Ch			
	DATA LOG 12V			1 Channel	12VAC/DC		
	DATA LOG 24V				24VAC/DC		
	ASTRO NOVA CITY	Astonomical Time Switch - DIN Modular (MCB) Style	2 channels	230VAC			
	DATA ANNUAL	Annual Time Switch					
	BT TIME CLOCK DONGLE	Bluetooth dongle for programming ASTRO and DATA LOG time clocks					
	UNO-QRD	Analogue Time Switch - DIN Modular (MCB) Style	24Hr	1NO	230VAC	1M	
	UNO-QRS		7D24H				
	DUO QRD		24Hr	1CO		2M	
	DUO QRS		7D24H				
	SUPRA QRD		24Hr			2.5M	
	SUPRA QRS		7D24H				
	WALLMOUNT BOX	Modular Timer Cover With Integral DIN Rail					2M
	Part No.	Description	Time Range	Output	Operating Voltage		
	MINI T LOG	Digital Time Switch - Surface Or Panel Mount	7Day 24Hour	1CO	230VAC		
	MINI T QRD	Analogue Time Switch - Surface Or	24Hour				
	MINI T QRS	Panel Mount	7Day 24Hour				



### Thermostats & Chronostats

	Part No.	Description
	MIRUS	Digital Chronostat 7D24H (1 x AA 1.5V battery op)
	MIRUS BLK	
	ORUS	Digital Chronostat 7D24H (1 x AA 1.5V battery op) With Separate Probe Input (Use With NTC-NEO Room Sensor)
	CLIMA ML	Mechanical Room Thermostat
	CLIMA MLI	Mechanical Room Thermostat + On/Off Switch


## Twilight (Lux) Switches

	Part No.	Description	Detail	
	ORBILUX	Twilight Switch IP55, Surface Mtg	5-200 Lux IP55	
	VEGA	Twilight Switch IP54, Surface/Pole	5-300 Lux IP54	




## Coin Timers

 	CTM ELECT BASIC 24V	Coin Timer Basic 24VAC	Specify set up for \$1, \$2 coins or tokens
	CTM ELECT BASIC	Coin Timer Basic 230VAC	
	CTM ELECTRONIC	Coin Timer Electronic 230VAC With Pre-Warning Of Shut Down	
	TOKEN	Token For Coin Timers	
*AISI304 stainless steel versions, price on application.			

## Hours Run Counters

	Part No.	Description	Detail	Operating Voltage	
	CONTA MODULAR 230	Hours Run Meter	DIN Modular 2 x 17.5mm	230VAC	
	CONTA 230			230VAC	
	CONTA 24			24VAC	
	CONTA 110		Panel Mounting 55 x 55mm	110VAC	
	CONTA 400			400VAC	
	CONTA 12-80			12-80VDC	

## Check (kWH) Meters

	Part No.	Description	Detail	Operating Voltage	17.5mm Modules	
  	CONTAX 2511SO	kWH Meter	Single Phase 25A	230VAC 50-60Hz	1M	
	CONTAX 3221SO		Single Phase 32A		2M	
	CONTAX 6521SO		Single Phase 65A		2M	
	CONTAX D 6331 SO		Single Phase 10(63)A	3 x 230VAC (400VAC) 50Hz	3M	
	CONTAX D-0643-BUS		Three Phase		4M	
	CONTAX D9073 SO		Three Phase 90A Integral CT's Direct Connect		7M	

## Electric Vehicle Chargers - VIARIS range

Electric vehicle chargers, now even smarter.

ORBIS has launched the VIARIS range of electric vehicle charging stations for residential, commercial & public use.




## EV Chargers for Private Environments

### Viaris UNI Single Phase EV chargers

	Part No.	Hose Type	Detail	Communication	Power	
	OB94U220HA1	Hose type 2 (*)	5 meter hose	Wifi	7,4 kW 32 A	
	OB94U2A0HA1		10 meter hose			
	OB94U220HA2		5 meter hose	Wifi & Ethernet		
	OB94U2A0HA2		10 meter hose			
	OB94U220HA3		5 meter hose	Wifi & 4G		
	OB94U2A0HA3		10 meter hose			
	OB94U220HA4		5 meter hose	Wifi, Ethernet & 4G		
	OB94U2A0HA4		10 meter hose			
	OB94U2C0HA1	Outlet type 2	With shutter	Wifi		
	OB94U2C0HA2			Wifi & Ethernet		
	OB94U2C0HA3			Wifi & 4G		
	OB94U2C0HA4			Wifi, Ethernet & 4G		

### Viaris UNI Three Phase EV chargers

	OB94U720HA1	Hose type 2 (*)	5 meter hose	Wifi	22 kW 3x32 A
	OB94U7A0HA1		10 meter hose		
	OB94U720HA2		5 meter hose	Wifi & Ethernet	
	OB94U7A0HA2		10 meter hose		
	OB94U720HA3		5 meter hose	Wifi & 3G	
	OB94U7A0HA3		10 meter hose		
	OB94U720HA4		5 meter hose	Wifi, Ethernet & 3G	
	OB94U7A0HA4		10 meter hose		
	OB94U7C0HA1	Outlet type 2	With shutter	Wifi	
	OB94U7C0HA2			Wifi & Ethernet	
	OB94U7C0HA3			Wifi & 4G	
	OB94U7C0HA4			Wifi, Ethernet & 4G	

(\*) According to EN 62196-2. **NOTE:** All the chargers include load modulator according to the consumption of the installation, WIFI communication, time programming for the use of electric rates, touch or RFID activation.



### Viaris UNI Extras



Part No.	Description
OB94U003	White colour frame
OB94U004	Red colour frame
OB94U006	Green colour frame
OB940003	Certified MID single phase kilowatt-meter
OB940004	Certified MID three phase kilowatt-meter
OB940006	RFID cards (5 units) (*)

(\*) For customized RFID cards: minimum order 300 units.

### Viaris COMBI+ Single Phase EV chargers


Part No.	Hose Type	Detail	Communication	Power	Trade Price
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**IMPORTANT:** Set the right VIARIS configuration at <https://www.orbis.es/selection-tool>


OB94P220HA2	Hose type 2(*)	5 meter hose	Wifi & Ethernet	7.4 kW	
OB94P222HA2		5 meter hose + additional 5 meter cable & connector			
OB94P222AHA2		5 meter hose + additional 10 meter cable & connector		7.4 kW + 7.4 kW	
OB94P222CHA2		5 meter hose + type 2 outlet			
OB94P2A0HA2		10 meter hose		7.4 kW	
OB94P2AAHA2		10 meter hose + additional 10 meter cable & connector		7.4 kW + 7.4 kW	
OB94P2ACHA2		10 meter hose + type 2 outlet			
OB94P2C0HA2		Type 2 outlet		7.4 kW	
OB94P2CCHA2		2 x type 2 outlet		7.4 kW + 7.4 kW	
OB94P220HA4		5 meter hose	Wifi, Ethernet & 4G	7.4 kW	
OB94P222HA4		5 meter hose + additional 5 meter cable & connector			
OB94P222AHA4		5 meter hose + additional 10 meter cable & connector		7.4 kW + 7.4 kW	
OB94P222CHA4		5 meters + type 2 outlet			
OB94P2A0HA4		10 meter hose		7.4 kW	
OB94P2AAHA4		10 meter hose + additional 10 meter cable & connector		7.4 kW + 7.4 kW	
OB94P2ACHA4		10 meters + type 2 outlet			
OB94P2C0HA4		Type 2 outlet		7.4 kW	
OB94P2CCHA4		2 x type 2 outlet		7.4 kW + 7.4 kW	

 (\*) According to EN 62196-2. **NOTE:** All the chargers include load modulator according to the consumption of the installation, Wifi communication, time programming for the use of electric rates and touch activation sensor. Enclosure ABS-PC IK08.

## Viaris COMBI+ Three Phase EV chargers

	Part No.	Hose Type	Detail	Communication	Power	
<b>IMPORTANT:</b> Set the right VIARIS configuration at <a href="https://www.orbis.es/selection-tool">https://www.orbis.es/selection-tool</a>						
	OB94P720KA2		5 meter hose		22 kW	
	OB94P722KA2		5 meter hose + additional 5 meter cable & conector			
	OB94P72AKA2		5 meter hose + additional 10 meter cable & connector		22 kW + 22 kW	
	OB94P72CKA2		5 meter hose + type 2 outlet			
	OB94P7A0KA2		10 meter hose	Wifi & Ethernet	22 kW	
	OB94P7AAKA2		10 meter hose + additional 10 meter cable & connector		22 kW + 22 kW	
	OB94P7ACKA2		10 meter hose + type 2 outlet			
	OB94P7C0KA2		Type 2 outlet		22 kW	
	OB94P7CCKA2		2 x type 2 outlet		22 kW + 22 kW	
	OB94P720KA4	Hose type 2(*)	5 meter hose		22 kW	
	OB94P722KA4		5 meter hose + additional 5 meter cable with connector			
	OB94P72AKA4		5 meter hose + additional 10 meter cable & connector		22 kW + 22 kW	
	OB94P72CKA4		5 meter hose + type 2 outlet			
	OB94P7A0KA4		10 meter hose	Wifi, Ethernet & 4G	22 kW	
	OB94P7AAKA4		10 meter hose + additional 10 meter cable & connector		22 kW + 22 kW	
	OB94P7ACKA4		10 meter hose + type 2 outlet			
	OB94P7C0KA4		Type 2 outlet		22 kW	
	OB94P7CCKA4		2 x type 2 outlet		22 kW + 22 kW	

(\*) According to EN 62196-2. **NOTE:** All the chargers include load modulator according to the consumption of the installation, Wifi communication, time programming for the use of electric rates and touch activation sensor. Enclosure ABS-PC IK08.

## Viaris COMBI+ Extras


	Part No.	Description	
	OB940003	Certified MID single phase kilowatt-meter	
	OB940006	RFID cards (5 units) (*)	
(*) For customized RFID cards: minimum order 300 units.			

## Power Line Protection System - SPL

Part No.	Description
OB100007	SPL adaptation for three-phase (one for each VIARIS COMBI)
OB709600	CONTAX D-0643-BUS
<b>3 Transformers for three-phase lines</b>	
OB860050	Transformer 50A/5A 24 mm Ø
OB860200	Transformer 200A/5A 36 mm Ø
OB860300	Transformer 300A/5A 24 mm Ø
OB860600	Transformer 600A/5A 36 mm Ø
OB861000	Transformer 1000A/5A 50 mm Ø
OB861000C	Transformer 1000A/5A 60x40 mm

## EV chargers for Public Environments

### Viaries CITY Single Phase EV chargers



Part No.	Socket Type	Power
<b>IMPORTANT:</b> Set the right VIARIS configuration at <a href="https://www.orbis.es/selection-tool">https://www.orbis.es/selection-tool</a>		
OB94M3716	Socket Type 2 (*)	3,7 kW 16 A
OB94M7432		7,4 kW 32 A
<b>Extra Outlet</b>		
OB940021	Socket Type 2 (*)	3,7 kW 16 A
OB940024		7,4 kW 32 A



(\*) According to EN 62196-2. **NOTE:** The power of the additional outlet does not increase the rated power of the charger.

## Electrical Protection

Part No.	Description
OB940008	VIARIS CITY SP_ELEC PROTECT_16A 1+2+3+4
OB940009	VIARIS CITY SP_ELEC PROTECT_32A 1+2+3+4
OB940010	VIARIS CITY SP_ELEC PROTECT_16/32A 3+4
OB940011	VIARIS CITY SP_ELEC PROTECT_16A 1+2+3+5
OB940012	VIARIS CITY SP_ELEC PROTECT_32A 1+2+3+5

- 1- Protection against overloads and short circuits. Miniature Circuit Breaker (MCB) curve C
- 2- Protection against permanent overvoltage (POP)
- 3- Protection against transitory overvoltage (DPS) Type 2 Class II
- 4- AC + DC residual-current device (RCD)
- 5- AC residual-current device (RCD) type A

## Viaris CITY Three Phase EV chargers



Part No.	Socket Type	Power	
<b>IMPORTANT:</b> Set the right VIARIS configuration at <a href="https://www.orbis.es/selection-tool">https://www.orbis.es/selection-tool</a>			
OB94T1116	Socket Type 2 (*)	11 kW 3x16 A	
OB94T2232		22 kW 3x32 A	
OB94T4363		43 kW 3x63 A	
<b>Extra Outlet</b>			
OB940028	Socket Type 2 (*)	11 kW 3x16 A	
OB940029		22 kW 3x32 A	
OB940030		43 kW 3x63 A	

(\*) According to EN 62196-2. **NOTE** The power of the additional outlet does not increase the rated power of the charger.

## Electrical Protection

Part No.	Description	
OB940013	VIARIS CITY TP_ ELEC. PROTECT. 3x16A 1+2+3+4	
OB940014	VIARIS CITY TP_ ELEC. PROTECT. 3x32A 1+2+3+4	
OB940015	VIARIS CITY TP_ ELEC. PROTECT. 3x63A 1+2+3+4	
OB940016	VIARIS CITY TP_ ELEC. PROTECT. 3x16/32A 3+4	
OB940017	VIARIS CITY TP_ ELEC. PROTECT. 3x63A 3+4	
OB940018	VIARIS CITY TP_ ELEC. PROTECT. 3x16A 1+2+3+5	
OB940019	VIARIS CITY TP_ ELEC. PROTECT. 3x32A 1+2+3+5	
OB940020	VIARIS CITY TP_ ELEC. PROTECT. 3x63A 1+2+3+5	

- 1- Protection against overloads and short circuits. Miniature Circuit Breaker (MCB) curve C
- 2- Protection against permanent overvoltage (POP)
- 3- Protection against transitory overvoltage (DPS) Type 2 Class II
- 4- AC + DC residual-current device (RCD)
- 5- AC residual-current device (RCD) type A

## Viaris CITY Extras

OB940031	ETHERNET communication	
OB940025	3G communication	
OB940003	Certified MID single phase kilowatt-meter	
OB940006	RFID cards (5 units) (*)	
OB940007	Metal stand	

(\*) For customized RFID cards minimum order is 300 units

## Power Line Protection System - SPL

Part No.	Description
OB100010	VIARIS SPL CONFIGURATION - As many units as VIARIS Chargers
OB709600	CONTAX VIARIS SPL - One unit per power line - SPL Network
RP149498	SPL WIRING ACCESSORIES - One unit per power line - SPL Network
<b>Current Transformers: 1 unit for single-phase power lines, 3 units for three-phase power lines</b>	
OB860200	SPL Transformer 200A/5A 36 MM Ø
OB860600	SPL Transformer 600A/5A 36 MM Ø
OB861000C	SPL Transformer 1000A/5A 60X40 MM
OB862000C	SPL Transformer 2000A/5A 100X60 MM
OB94D035	VIARIS SPL Repeater RS-485 + Power Supply (*)

(\*) For SPL networks with more than 30 VIARIS chargers or 1.000 meters of communication line

## EV Viaris Solar

OB709800	VIARIS SOLAR Single Phase 100 A
OB709900	VIARIS SOLAR Three Phase 3x80 A

## Viaris EV Charger Tester



OB940047	VIARIS TESTER Tester for Electric Vehicle Charger installations. Tests according to UNE-EN 61851-1.
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## EV Connection Hoses



OB94D038	Flat hose T2 - T2 5 m. Single phase 32 A 250 V
OB94D054	Flat hose T2 - T2 10 m. Single phase 32 A 250 V
OB94D039	Flat hose T2 - T2 5 m. Three phase 32 A 250 V
OB94D040	Flat hose T2 - T2 10 m. Three phase 32 A 250 V
OB94D067	EV CABLE HANGER









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## Relays


- Industrial plug-in relays
- Interface relays
- Timing relays, single or multifunction/multi-voltage




## Plug-In Relays With Test Buttons And LED's

	Part No.	Description	Similar Type(s)	Contact		Voltage	
				Format	Rating		
	R2N-2CO-230VAC	Plug-In Relay + Test PB & LED	MY2	DPDT	12Amps	230VAC	
	R2N-2CO-24VDC					24VDC	
	R2N-2CO-12VDC	Plug-in Relay + LED, 8-Pin	55.32	(2P C/O)		12VDC	
	R2N-2CO-24VAC	Plug-In Relay + Test PB & LED				24VAC	
	R4N-4CO-230VAC	Plug-In Relay + Test PB & LED	MY4	4PDT	6Amps	230VAC	
	R4N-4CO-24VDC					24VDC	
	R4N-4CO-24VAC	Plug-in Relay + LED, 14-Pin	55.34	(4P C/O)		24VAC	


## Relay Bases

	Part No.	Description	Similar Type(s)	
	GZT2	R2N Relay Base DIN Rail Mtg	PYF-08A-N	-
	GZT4	R4N Relay Base DIN Rail Mtg	PYF-14A-N	-

## Relay Accessories

	M61R	Relay indicating module, Red , 24VAC/DC for GZT2/4		
	M63R	Relay indicating module, Red 230VAC for GZT2/4		
	ZGGZ4-1	Connection strip for GZT2/4 relay bases, 6 pile, Grey		
	G4 1052	Retaining clip - wire type for GZT2 & GZT4		

## Process Timers

	Part No.	Description	Contact		Control Voltage	
			Format	Rating		
	RPC-1MA-UNI	Multifunction/ Multi-voltage Timer	1CO	16Amps	12...230V AC/ DC	


## Multifunction Process Timer Modes

E - On delay	R - Off delay with control contact S
Wu - Single shot leading edge voltage controlled	Ws - Single shot leading with control contact S
Bp - Flasher pause first	Wa - Single shot trailing edge with control contact S
T - Generating a 0.5s pulse after the timed delay (T)	



## Level & Float Switches

- Insulated nylon & polypropylene level & float switches
- Stainless steel level & float switches



### Polypropylene/Nylon Level Switches

	Part No.	Description	Fitting	Thread	Operating Temp (Max)	Contact	
	MFS9-N2-2	Nylon Level Switch Horiz	Internal	"1/2" "NPT"	110°C	NO or NC	
	MFS10-N2-2		External			Reversible	


### Polypropylene/Nylon Float Switches

	Part No.	Description	Mounting	Length		Contact		
				Float	Travel			
	MFS17-A-2	Polypropylene Level/ Float Switch Vertical	Top	20mm	13mm	NO or NC Reversible		
	MFS17-B-2			25mm	8mm			
	MFS17-C-2							
	MFS17-D-2							
	MFS21-K-2	PPE Compact Float Sw Horiz	Side “1/4” “BSP”	25mm	8mm	NO or NC Reversible		

### Stainless Steel Level Switches

	Part No.	Description	Fitting	Thread	Operating Temp (Max)	Contact			
	RFS-12-2	SS316 Level Sw Horizontal	External	"1/2" "NPT"	120°C	NO or NC, Reversible			
	RFS-12P-2*		External	"1/2" "NPT"					
	RFS-13	SS304 Level Sw Horizontal	Internal	"1/8" "BSP"					
	RFS-11A-2								
	*Note:						Plug in version		

### Stainless Steel Float Switches

	Part No.	Description	Mounting	Length		Contact		
				Float	Travel			
	RFS-2-2	SS316 Level/Float Switch Vertical	Top	27mm	10mm	NO or NC, Reversible		
	RFS-4-2		Side					
	RFS-6-2		Top	48mm				
	RFS-8-2		Side	42mm	18mm			
	RFS-9-2							



**RFS-4-2**  
 Stainless Steel 316  
 Side Mounting  
 120°C Max Temp  
 1/8" BSP



**RFS-6-2**  
 Stainless Steel 316  
 Top Mounting  
 200°C High Temp  
 10 bar, 1/8" BSP



**RFS-8-2**  
 Stainless Steel 316  
 Top Mounting  
 120°C Max Temp  
 40 bar, 1/8" BSP




**RFS-9-2**  
 Stainless Steel 316  
 Side Mounting  
 120°C Max Temp  
 40 bar, 1/8" BSP

## Sustainable Environmental Controls


- Pressure switches, transmitters, transducers & sensors for HVAC systems
- Humidity, Temperature & Air Quality Sensors
- Valves & valve actuators




## Pressure Switches - IP65

	Part No.	Description	Range	
	DSB140F001	Pressure Switch	0 - 2.5 Bar	
	DSB143F001		0 - 6 Bar	
	DSB146F001		0 - 10 Bar	
	DSB152F001		6 - 16 Bar	
	DSD137F002	Differential Pressure Switch	0.2 - 1.0 Bar	
	DSD140F002		0.4 - 2.5 Bar	
	DSD143F002		0.5 - 6.0 Bar	


## Pressure Transducers

	Part No.	Description	Operating Voltage	IP Rating	Output	Range	
	DSDU101F021	Differential Pressure Transducer	24VAC	IP65	0(2) - 10V or 0(4)-20mA	0 - 1.0 Bar	
	DSDU103F021					0 - 2.5 Bar	
	DSDU106F021					0 - 6.0 Bar	


## Humidity Transducers

	Part No.	Description	Output	
	EGH130F001	Room Temperature & Humidity Transducer 5-95% rH	0 (2)-10v	


## Humidistat's

	Part No.	Description	Adjustment	Set Range	
	HSC120F001	Humidistat Wall Mounted	External	30 - 90% RH	
	HSC120F010		Internal (Tamper proof)		
	HBC111F001	Humidistat Duct Mounted	External	20 - 90% RH	



## Air Quality

	Part No.	Description	Output	
	EGQ110F001	Duct Air Quality Transducer (VOC) <i>(Available while stocks last)</i>	0-10V	
	EGQ120F001	Room Air Quality Transducer		
	EGQ212F031	Duct CO2 & Temperature Transducer		
	EGQ222F031	Room CO2 & Temperature Transducer		


## Temperature Transmitters & Sensors

	Part No.	Description	Detail	Set Range	
	EGT130F031	Room Temperature Sensor	0-10V Output	0-50°C	

## Room Thermostats 5-30°C


	Part No.	Description	Switches				
			On-Off	Cool	Fan 3 Spd	Heat	
	TSO670F001	Room T'stat Heating & Cooling	-	✓	-	✓	
	TSHK642F001	Room T'stat Fan Coil 1H/1C 2 Pipes	✓	-	✓	-	
	TSHK670F001	Room T'stat Fan Coil 4 Pipe	-	-	-	-	
	TSHK672F001		✓	-	✓	-	

## VAV Controller with Room Unit

	Part No.	Description	Detail	
	ASV205BF132E	VAV Controller 0-10V	24V AC/DC, 5 NM	
	ASV215BF132E	BACnet	24V AC/DC, 10 NM	


- Supply and return air control for individual rooms such as offices, conference and hotel rooms, in conjunction with a VAV box or a damper and flow probe.
- Pressure control in supply and return air ducts for low-noise and energy-efficient air distribution
- Communication within network via BACnet MS/TP

## Room Operating Unit ecoUnit355





	EY-RU355F032	Room Unit LCD	NTC, +, -, Fan, White	
	EY-RU355F051		NTC, +, -, Eco, Fan, Pres, White	

- Local, intuitive operation for temperature, fan and occupancy
- Large back-lit (BL) display for status information on the room condition



### Programmable Controller ecos311

	Part No.	Description	Detail	
	EY-RC311F001	Programmable ecos311 Room Controller	5 UI, 4 RO, 4 DO, 3 AO, B-ASC, MS/TP.	

### Room Automation ecos500...505

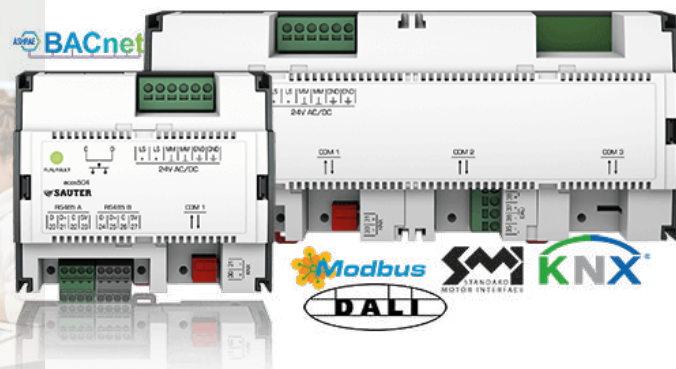
	Part No.	Description	Detail	
	EY-RC500F001	ecos500 Room Automation Station BACnet IP	<ul style="list-style-type: none"> <li>• 230V supply</li> <li>• 8 UI, 4 DI</li> <li>• 16 x N/O Contacts</li> <li>• 8 x Triac Outputs</li> <li>• 24VAC</li> <li>• 4 x AO</li> <li>• 0-10V</li> </ul>	
	EY-RC504F001	ecos504/505 Room Controller Modular	w/o COM Module	
	EY-RC504F0C1		RS485/Modbus	
	EY-RC505F071		KNX, SMI, DALI	

### Remote I/O Module ecos510/511

	Part No.	Description	Detail	
	EY-EM510F001	ecoLink510 Remote I/O module	24 V AC3 relays, 3 triacs, 3 relays	
	EY-EM511F001	ecoLink511 Remote I/O module	24 Vac 3 triacs	


## Room automation

Ideal room climate and energy efficiency: integrated, modular, open.







### Flanged Globe Valves: Water, Glycol, Steam



	Part No.	Description	Size	Flow Rate	
	BUE040F300	BUE Range 3-Way Flanged Valves	DN40	Kvs22	
	BUE050F200		DN50	Kvs40	
	BQE065F300		DN65	Kvs63	
	BQE080F300	BQE Range 3-Way Flanged Valves	DN80	Kvs100	
	BQE100F300		DN100	Kvs160	
	BQE150F300		DN150	Kvs320	
	378284102	24V Stem/Packing Box 15W Heater			
	378284100	230V Packing Box Heater			

*Note: Further sizes and valve types available on request*


### Actuators for Unit Valves

	Part No.	Description	Operating Voltage	Input	Details		
	AXM217F202	Valve Actuator	24VAC	2-3 Point	For VUL Valves and BUL /Valves		
	AXM217SF402			0 - 10V			
	AXS215SF222	Actuator - NO	24VAC	0 - 10V			
	AXS215SF122	Actuator - NC					
	AXT211F210	Actuator - NO	230VAC	On - Off			
	AXT211F212		24VAC				
	AXT211F110	Actuator - NC	230VAC	On - Off			
	AXT211F112		24VAC				

### Globe Valve Actuators - For Valves 15 to 50mm

	Part No.	Description	Detail	Valves	Speed & Force	
	AVM105SF132	Valve Drive (Screw) 24V	(0-10V)	VUN/BUN	DN15 - 25	
	AVM115SF132				DN32 - 40	
	AVM321SF132	Linear Drive 24V	Modulating (0-10V) (4-20mA)	-	DN15 - 65 1000N	



### Globe Valve Actuators - For Valves Over 65mm

	AVM234SF132-6	Valve Drive (Flanged) 24V	Modulating 0-10V Or 4-20mA	V6/B6	DN65-150	
	AVM234SF132-5				DN15-50	
	AVM234SF132			BUE / BUG/ BQE/VUE/VQE	DN65-150	



Terms & Conditions apply. Subject to change without notice

## Unit Valves

	Part No.	Description	Flow Rate	Fitting	
	BUL010F300	3 Port Unit Valve	1.6kv	DN10	
	BUL010F310		1.0kv		
	BUL010F320		0.63kv		
	BUL010F330		0.4kv	DN15	
	BUL015F300		4.0kv		
	BUL015F310		2.5kv		
	BUL020F300		5.0kv	DN20	
	VUL010F300	2 Port Unit Valve	1.6kv	DN10	
	VUL010F310		1.0kv		
	VUL010F320		0.63kv		
	VUL010F330		0.4kv		
	VUL010F340		0.16kv	DN15	
	VUL015F300		3.5kv		
	VUL015F310		2.5kv		
	VUL020F300		4.5kv	DN20	

## Globe Valves

	BUN015F300	3 Way Valve Threaded	Kvs4	DN15	
	BUN020F300		Kvs6.3	DN20	
	BUN025F300		Kvs10	DN25	
	BUN032F300		Kvs16	DN32	
	BUN040F300		Kvs22	DN40	
	BUN050F300		Kvs28	DN50	
	BUN050F200		Kvs40		
	VUN015F300	2 Way Valve Threaded	Kvs4	DN15	
	VUN020F300		Kvs6.3	DN20	
	VUN025F300		Kvs10	DN25	
	VUN032F300		Kvs16	DN32	
	VUN040F300		Kvs22	DN40	
	VUN050F300		Kvs28	DN50	
	VUN050F200		Kvs40		

## Valve Fittings


	Part No.	Description	Detail	Size	
	0361951015	1 Screw Fitting	VUN/BUN	DN15	
	0361951020			DN20	
	0361951025			DN25	
	0361951032			DN32	
	0361951040			DN40	
	0361951050			DN50	
	0378133010	Threaded Sleeve Nut	VUL/BUL	10mm ⌀	
	0378133015			15mm ⌀	
	0378133020			20mm ⌀	
	0378134010	Solder Sleeve Nut		10mm ⌀	
	0378134015			15mm ⌀	
	0378134020			22mm ⌀	

## Room Thermostats

- Electro-mechanical & electronic room thermostats
- Heating only & heatpump (air-conditioning) thermostats
- Digital chronostats (timer & thermostat combinations)
- Domestic gas detection alarm systems




## Heatpump (Air-conditioning) Electronic Thermostats With Deadband


	Part No.	Description	Setting Range	Current Rating	Operating Voltage	
	TAEZN4MC	Wall Thermostat + LED's	6-30°C	2 x 5A (1A) 250VAC	230VAC	
	TAEZN42C				24VAC	

Note: For external probes, use STLNTSA150



## Diamond Range Electronic Heatpump Thermostats

	TFF01M	Wall Thermostat With Digital Display	6-30°C	Motor = 3A 230V Valves = 0.3A 230V	230VAC	
	TFX012	Wall Thermostat + Off/On & 3 Spd Fan Sw's		2 x 5A (1A) 250VAC	24VAC	
	TFX01M				230VAC	

## Electro-Mechanical Heating/Cooling Thermostats

	TAM011MI	Standard Wall T'stat	8-30°C	16A Heat 5A Cool	230VAC	
	TAM013MI	Standard Wall T'stat + On/Off Switch & LED		2 x 5A (1A) 250VAC		

## Electronic Chronostats & Thermostats Heating + Heating & Cooling



	MAGICTIME PLUS	Programmable Heating Chronostat	5-35°C	5A (1A) 250VAC	Battery Op 1.5V AA x 2	
	ITPF221	Telephone Interface 2I/O Power Pack Incl	-	2 x 3A 250VAC	12VDC 100mA	
	TAD02M	Electronic Room T'stat c/w Digital Display	5-40°C	5A (1A) 250VAC	230VAC	

## Installing a room thermostat



Wall cavities are prone to air currents that can vary from the room temperature. As it is the room temperature that is important it is recommended that wall thermostats are surface mounted, or that any existing hole is covered by a flush plate, where possible.

## Sensors & Accessories

	Part No.	Description	For Use With...	Sensor Type	
 	STANP3	Room Sensor	TAEZN/TFEZN	NTC	
	STLNTSA150	Remote Sensor 1.5m 4.7K ohm @ 25°C IP65	TAEZN... TF...	NTC	
	STLDEIM150	Thermostat 10K Sensor Remote Probe 1.5m	TFX..., TFF...MAGICTIME PLUS	NTC	
	STLOTPA150	Remote Sensor 100K ohm @ 25°C IP44	MAGICTIME	NTC	
	STLPTSA150	Remote Sensor 2K Ohm @ 25° C IP44	TAED14MC	PTC	
	SENSOR HOUSING	Plastic Sensor Housing			



## Beagle Semiconductor Based Flammable Gas Detector




This detector has an elegant housing with a very compact size (117x85x38mm), with the following technical specifications: Control Voltage 230VAC 50Hz, Outputs 1 Relay 230VAC, 85 dB A Acoustic alarm, coloured LEDs - Active detector = green, Malfunction = yellow, Alarm = red.

BEAGLE is also equipped with a test push-button to make sure the detector is in proper working order. Compliant with UNI CEI EN50194 standards.

## Beagle - Indoor Gas Detection Alarm System (Residential/Commercial)

	Part No.	Description	For Use With...	Sensor Type	
 	BEAGLE DOUBLE	Gas Detector IP42	Methane & CO	230VAC 50Hz	
	BEAGLE LPG		LPG		
	BEAGLE LPG KIT NC	Gas Detector IP42 + N/C Solenoid Valve	LPG		
	BEAGLE LPG KIT NO	Gas Detector IP42 + N/O Solenoid Valve			
	BEAGLE MET	Gas Detector IP42	Methane		
	BEAGLE MET KIT NC	Gas Detector IP42 + N/C Solenoid Valve			
	BEAGLE MET KIT NO	Gas Detector + N/O Solenoid Valve			

## Commercial Gas Detection


	Part No.	Description	Outputs	
	RGIMETMSX2	Standalone Sensor/Controller For Natural Gas	-	
	RGI000MSX2	Central Control Module For 2 SGI Sensors	2 Relays	
	RGI000MSX4	Central Control Module For 4 SGI Sensors		
	SGIGPL	LPG Remote Sensor For RGI Controllers	-	
	SGIMET	Natural Gas Sensor For RGI Controllers	-	

## Room Pressure Monitoring System

- ❑ Graphics based LCD controller for room pressure
- ❑ Automated management for
  - Clean Rooms
  - Medical/Pharmaceutical
  - Electronics Manufacturing
  - Food Production

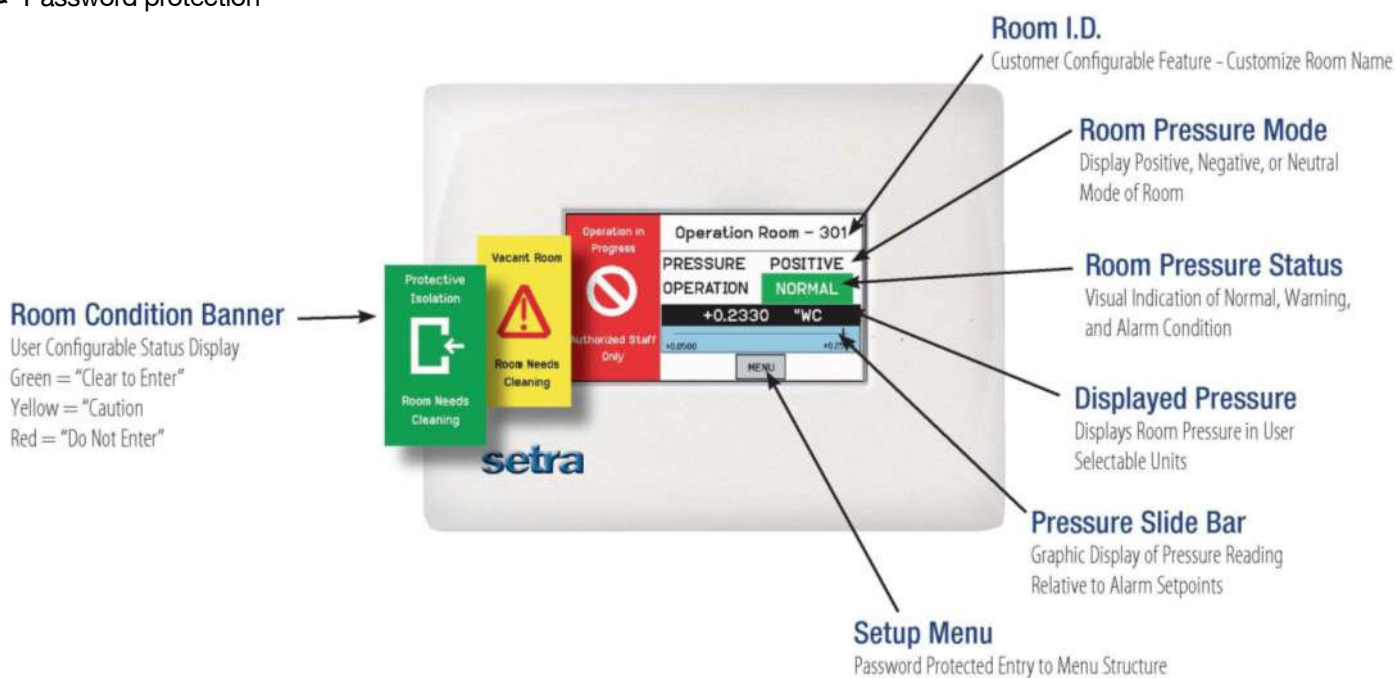


## Room Pressure Monitors

	Part No.	Description	
	SRCM025LBAH1HNS	SRCM Room Pressure Monitor, +/- 25 Pa, 24VAC	
	SRCM025LBAH2HNS	SRCM Room Pressure Monitor, +/- 25 Pa, 24VAC, BACnet	

## True Pressure Measurement

- ❑ Pressure range models from  $\pm 25\text{Pa}$  to  $\pm 1000\text{Pa}$
- ❑ High accuracy Setra low capacitance technology
- ❑ BACnet compatible version
- ❑ Suitable for both negative and positive pressure rooms
- ❑ Hygienic solution - no contamination or clogging
- ❑ Standard on-board pressure sensor and optional remote sensors (temperature/humidity)
- ❑ No visible mounting fasteners
- ❑ Face is sealed for cleaning or wipe-down
- ❑ Easy Set Up LCD touch-screen display
- ❑ Password protection










## Thermostats


- Industrial thermostats for a wide range of applications
- Duct sensors & pockets
- Gauge style thermometers




## Thermostats

	Part No.	Description	Adjust	Current Rating	Temperature		
					Range	Differential	
	7C1.1R306	Pipe/Surface Mtg Thermostat	External	16Amps	+10 To +90°C	6°±2°C	
	7C2.10306		Internal				
	7K1.1R336	Capillary T'stat 1.5m	External		0 To +90°C	4°±2°C	
	7K1.FR336				-35 To +35°C	3°±1°C	
	7P1.1R306	Immersion Thermostat	External		0 To +90°C	6°±2°C	
	7P2-10306		Internal				
	8P5.0R606	Dual Immersion T'stat	External (Fixed Manual Reset)				
	8N2.B06B6	Hot Air Dual Thermostat	Internal		0 To +60°C + +30 To +120°C	Manual Reset	
	9C2.70306	Pipe/Surface Mtg Thermostat	Internal (Manual Reset)		+30 To +70°C		
	9N2.Q03A6	High Limit Duct Mtg Thermostat			+70 To +110°C		

## Accessories

	4548.25.0A	Duct Sensor Support	
	4550.30.1A	100mm Pocket For Capillary Bulb	
	4550.30.4A	200mm Pocket For Capillary Bulb	

## Thermometer

	110.10125.00A	Capillary Thermometer Indicator Only, 55mm Ø Gauge, 30 x 6mm Ø Probe	0 To +120°C	-
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### Portable Test Instruments, Data Loggers & I/R Cameras

- Environment - dust, wind, humidity, pH measurement & gas detection
- Temperature - ambient, refrigeration, food, thermal imaging
- Mechanical - RPM counters



### Digital Probe Thermometers - Food Industry

	Part No.	Description	Range	Accuracy*	IP Rating	
	0560.1113	1113 Probe Thermometer	-20 to +230°C	±1°C*	IP67	
	0560.0103	103 Folding Thermometer	-30 to +220°C	±0.5°C*	IP55	
	0563.0104	104 Folding Thermometer	-50 to +250°C	-	IP65	
	0563.1052	T105 Robust Probe Thermometer	-50 to +275°C	±0.5°C*	-	
	0563.1051		T105 Application Set - Inc All Probes, Case & Holder			
	0613.1051	T105 Accessories	T105 Instrument Kit - Inc Short Probe & Holder			
	0613.1052		Short Penetration Probe 100mm x 3.5mm Ø			
	0613.1053		Frozen Food Probe (Drill) 90mm x 8mm Ø			
	0563.1063	106-T3 Probe Temp Meter	-50 to +275°C	±0.5°C*	-	
	0563.1080	108	-50 to +300°C	±0.5°C*	IP67	
	0563.1082	108-2	Testo 108 Waterproof Thermometer with Type T Lockable Probe			
	0560.1128	112 NTC/Pt100 Probe/Contact Thermometer	NTC -50 to +120°C PT100 -50 to +300°C	±0.2°C*	-	
	0560.9261	926 Compact Class 1Ch Instrument	-50 to +400°C	±0.3°C*	-	
	0563.9262		926 Food Set - Penetration Probe & Top Safe Case			



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### Digital Infra-Red Thermometers - Food Industry

	Part No.	Description	Range	Accuracy	
	0563.8051	805 Mini I/R & TopSafe Case	-25 to +250°C	±1.5°C (-20 To 100°C) ±2.0°C (remaining range)	
	0563.8282	826-T2 TopSafe	Infra-Red Thermometer With 1 Point Laser Guidance Inc Top Safe Protective Case		
			-50 to +300°C	±1.5°C (-20 To 100°C) ±2.0°C (remaining range)	
	0563.8284	826-T4	Infra-Red Thermometer With 1 Point Laser Guidance & Probe Inc TopSafe Protective Case		
			Infra-Red -50 to +300°C Probe 50 to +230°C	I/R = ±1.5°C (-20 To 100°C) ±2.0°C (remaining range) Probe = ±0.5°C (-20 To 100°C) ±1.0°C (remaining range)	
	0560.1040	104-IR	Infra-Red Thermometer With 2 Point Laser Guidance & Folding Probe IP65		
			Infra-Red -30 to +250°C Probe -50 to +250°C	I/R = ±1°C (0 To 250°C) ±2.0°C (-20 To -0.1°C) Probe = ±0.5°C (-30 - 99.9°C) ±2.0°C (-50 To -30.1°C)	
	0560.8316	831	Infra-Red Gun Thermometer With 2 Point Laser Guidance & Leather Pouch		
			-25 to +250°C	±1.5°C (-20 To 100°C) ±2.0°C (remaining range)	

### Food Grade Probe Wipes

	Part No.	Description	Pack	
	CI 111	Antibacterial Probe Wipes *Certified*	200 Wipes Tub	
	CI 111R		200 wipes Refill Pack	

### Food Grade - Certified Anti-bacterial Wipes

Specially formulated for supermarkets and food manufacturers where food probes are used to monitor product temperatures as part of a HACCP food safety program.

Thermometers can be cleaned in one simple operation without leaving alcohol or fragrance odors behind. The large size of the wipes means they are big enough to clean down the work space as well.



### Ingredients

Active:

- ▣ Sodium Salt of 4-chloro-
- ▣ 3-methyphenol

Other:

- ▣ Water, Isopropanol, citric
- ▣ acid Neodol-25-3s/27

### pH Measurement Instruments & Accessories

	Part No.	Description	Probe Head	IP Rating	
	0563.2051	205 Instrument Kit	Robust Penetration Probe	IP65	
	0650.2051	205 Replacement Probe			
	0554.2051	205 Storage Cap			
	0563.2061	206 pH1 Instrument Kit	Liquids		
	0563.2062	206 pH2 Instrument Kit	Semi Solids		
	0650.2061	206 pH1 Replacement Probe - Liquids			
	0650.2062	206 pH2 Replacement Probe - Semi Solids			
	0554.2067	206 Storage Cap			

### pH Measurement Consumables

	0554.2061	pH Buffer 4.01 Dosing Bottle	
	0554.2063	pH Buffer 7.01 Dosing Bottle	

### Eurotec, Testo & HACCP



Hazard Analysis and Critical Control Points, or HACCP, is a systematic preventive approach to food safety. HACCP is used in the food industry to identify potential food safety hazards, so that key actions can be taken to reduce or eliminate the risk of the hazards being realized.

HACCP systems, health department audits, the clients of food manufacturers and transporters require test instruments to be calibrated periodically to ensure their accuracy. Testo instruments are backed up in New Zealand by Eurotec's test and service facility. In addition to providing service and warranty support, Eurotec also monitors the calibration status of your instrument. Notification is mailed out through the calibration database to ensure that your instrument is calibrated annually. It is returned complete with a new calibration certificate.

### Calibration - Food Probe Instruments Only



- Single Point 'Delivery' Calibration - Food Instruments only
- Three Point HACCP Calibration

### Testo 270 Cooking Oil Tester

	Part No.	Description	IP Rating	
	0563.2750	270 Cooking Oil Tester	IP65 (Rinseable under running water)	

Cooking oil has a limited lifetime and is a measurable overhead. Changing the oil too frequently is an unnecessary expense; not changing it quickly enough is bad for the quality of the end product and can lead to complaints from the customer. Now Testo takes the guess work out of changing cooking oil.

The testo 270 easily, quickly and reliably determines the quality of cooking oil. It measures the "Total Polar Material" (TPM) content in the oil. The new testo 270 stands out thanks to ergonomic design and intuitive handling.

The clear alarm via the coloured back-lit display makes it even easier to evaluate the quality of the cooking oil. The use also prevents too early replacement of the oil that reduces the oil consumption by up to 20%.











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## Data Loggers


	Part No.	Model	Channels	Sensor	Temperature Range		IP Rating		
					Internal	External			
	0572.1560	174T	1 Int	NTC	-30...+70°C	-	IP65		
	0572.0561	174T + USB SET							
	0572.6560	174H	2 Int		-20...+70°C	-	IP20		
	0572.0566	174H + USB SET						Humidity 0...100%	
	0572.1751	175-T1	1 Int	NTC	-35...+55°C	-	IP65		
0572.1752	175-T2	1 Int + 1 Ext	NTC	-35...+55°C	-40...+120°C				
0572.1753	175-T3	2 Ext	TC T&K	-	-50...+1000°C				
	0572.1754	175-H1	2 Int	NTC	-20...+55°C	-	IP54		
			Humidity 0...100%						
	0572.1761	176-T1	1 Int	PT100	-35...+70°C	-	IP68		
	 	0572.1762	176-T2	2 Ext	PT100	-51...+400°C	-	IP65	
		0572.1763	176-T3	4 Ext	TC T&K	-	-200...+750°C	IP54	
0572.1764		176-T4	4 Ext	TC T&K	-	-200...+1000°C	IP54		
0572.1765		176-H1	2 Probes 4 Ext	NTC	-20...+70°C	-40...+70°C	IP65		
		Humidity 0...100%							
0572.1766		176-H2	2 Probes 4 Ext	NTC	-20...+70°C	-40...+70°C	IP65		
		Humidity 0...100%							
0572.1767		176-P1	1 Int 2 Probes 4 Ext	NTC + Abs Pressure	-20...+70°C	-40...+70°C	IP65		
		Humidity 0...100% 600...1100mbar							

## Logistics Data Loggers - 184 Series


	Part No.	Model	Operating Time	Sensor	Temperature Range	IP Rating	
 	0572.1841	184-T1	Single Use - 90 days	NTC	-35 to +70°C	IP67	
	0572.1842	184-T2	Single Use - 150 days				
	0572.1843	184-T3					
	0572.1844	184-T4	Unlimited Use	NTC	-80 to +70°C	IP30	
	0572.1845	184-H1			-20 to +70°C Humidity 0...100%		
	0572.1846	184-G1			-20 to +70°C Humidity 0...100% 0 to 100g Shock		



## Saveris 2 - WiFi Data Logger System

	Part No.	Model	Description	Detail	
	0572.2031	2-T1	WiFi data logger (wireless LAN)	Display & internal NTC temperature sensor	
	0572.2032	2-T2		Display, for measuring temperature, 2 connections for external NTC temperature probes or door contacts	
	0572.2033	2-T3		Display for measuring temperature, two external connections for TC temperature probes (Types K, T, J)	
	0572.2034	2-H1		Display for measuring temperature & relative humidity, capacitive internal humidity sensor	
	0572.2035	2-H2		Display for measuring temperature & relative humidity, connection for one external humidity probe	
	Note:		All Data Loggers include: USB Cable, Wall Bracket, Batteries & Calibration Certificate		

## Saveris 2 - Cloud Software Licences

	Testo Saveris 2 Cloud licence BASIC version	<b>Supplied FREE</b>
	Testo Saveris 2 Cloud licence ADVANCED version. Includes 25 SMS per logger/year*	*conditions apply, please call

## Saveris 2 Accessories\*

0572.2020	Saveris 2 Power Supply with Cable	
0572.2155	External Humidity and Temperature Probe 1.3m cable	
0572.2152	Saveris 2 Door Contact Connecting Cable Mini DIN	

\*For custom probes available for Saveris 2 please see page (TBC).

## Saveris 2 - Temperature and Humidity Monitoring to the Cloud

Temperature and Humidity monitoring to the Cloud anywhere, anytime.

The **Testo Saveris 2** system enables users to monitor temperature and humidity levels easily, anytime and anywhere, without compromising security, or creating bother with time consuming software.

The system consists of WiFi data loggers and a Cloud data store. The testo Saveris 2 WiFi data loggers reliably record temperature and humidity at defined intervals, and transmit the measurement values directly by WiFi to the Testo Cloud.

### The Testo Saveris 2 App

With the App for iOS and Android, you can now operate your Saveris 2 system with more ease and flexibility.

- Easy recognition & selection of the WiFi network\*
- Faster parallel commissioning of several loggers\*
- Create and send status reports\*
- Push notifications of limit value violations
- Combine email and SMS alarms



\*These functions are only available with the Android version of the Saveris 2 App





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### Testo 160 WiFi Data Loggers for measurement of Indoor Air Quality

	Part No.	Model	Description	Detail	
  	0572.2022	160 E	Testo 160 WiFi Data Logger	WiFi data logger with 2 connections for temperature, humidity, lux or UV probes.	
	0572.2021	160 TH		WiFi Data logger with integrated temperature and humidity sensor.	
	0572.2023	160 THE		WiFi Data Logger with integrated temperature and humidity sensor and 2 connections for probes.	
	0572.2024	160 THL		WiFi Data Logger with integrated sensors for Temperature, Humidity, Lux and UV Radiation.	
	0572.2014	160 IAQ		IAQ WiFi data logger with display and integrated sensors for temperature, humidity, CO2 and atmospheric pressure.	

**Connectivity:** The Testo Cloud is the core operating element of the Testo 160 data logger range. Measurement data is stored by the data logger via your WLAN directly to the Testo Cloud.

### Testo 160 Data Logger Accessories



0554.2006	'Deco' Customisable Cover for Testo 160 TH/ THE / E Data Loggers	
0554.2009	'Deco' Customisable Cover for Testo 160 THL Data Logger	
0554.2012	'Deco' Customisable Cover for Testo 160 IAQ Data Logger	
0554.2013	Wall bracket for Testo 160 TH / THE / E / THL Data Loggers	
0554.2015	Wall bracket for Testo 160 IAQ Data Logger	
0572.2156	External Temperature and Humidity Probe for Testo 160 Data Loggers	
0572.2157	External Lux and UV probe for Testo 160 Data Loggers	
0572.2158	External Lux Probe for Testo 160 Data Loggers	
0554.2016	Display cabinet bushing for T160 Temperature & Humidity Probes	
0554.2004	0.6m Extension Cable for External probes for T160 Data Loggers	
0554.2005	2.5m Extension Cable for External probes for T160 Data Loggers	

## Minimalistic Design. Maximum Control.

Each person has his/her own personal feel-good temperature – and most objects in museums and archives do too. But unlike us, paintings, sculptures or antique books cannot adapt, and always depend on establishment of the appropriate ambient climate.

The monitoring system Testo 160 supports you in protecting works of art from mould, bleaching, corrosion or distortion, comprehensively and at the same time unobtrusively. The added bonus of the T160 loggers is that they are 100% compatible with the Testo Saveris 2 wireless monitoring data loggers!



## Testo 560i Digital Refrigerant Scale with Bluetooth & Intelligent Valve

**NEW**



### Key features and benefits

- Automatic refrigerant charging including over-charge protection.
- Remote operation of scale through digital manifold or Smart App.
- All refrigeration measurements at a glance.
- Scale sends and receives live data directly to/from your device.
- Extremely robust with dust blocker
- Sleek design, small dimensions and lightweight construction.
- Compatible with Smart Probes for live target superheat charging.
- Compatible with Testo digital manifolds 557s, 550s, 550i and predecessor models Testo 550/557.
- Bluetooth® 5.0 with 50m+ range.
- IP Class IP44 Scale, IP54 Valve - operate in every weather condition
- Flat edges – allows to place up to 100kg refrigerant bottles.
- Long battery life of 70 hrs, with auto shut-off function.

Compatible with Testo Manifolds, Testo Smart Probes and Testo Smart App

## Digital Refrigerant Scale Testo 560i

	Part No.	Model	Description/Inclusions
	0564.1560	Testo 560i Refrigerant Scale	560i Refrigerant Scale plus shoulder bag and batteries. IP44
	0560.5600	Bluetooth Refrigerant Valve	Bluetooth valve for Testo 560i scale. Batteries included. IP54
	0564.2560	Testo 560i Scale & Valve Set	Testo 560i Set includes: - 560i Refrigerant Scale - Refrigerant Valve - Shoulder bag and batteries



## Digital Refrigeration Manifolds (Gauges)

### Testo 550i - App Controlled Manifold with 2-way valve block



The Testo 550i digital manifold enables digitally versed technicians to control their daily servicing and maintenance work entirely from their smartphone/tablet.

- **App and Bluetooth instead of cables:** Automatic probe recognition and convenient control by smartphone/tablet
- **Extremely robust housing** with IP 54 for maximum reliability
- **Minimalistic design:** The smallest digital manifold on the market
- **Favourite refrigerants list:** The most important refrigerants available quickly and easily
- **Compatible with testo Smart Probes:** Measure temperature, humidity and vacuum wirelessly



0564.2550	Testo 550i App-controlled digital manifold	Testo 550i manifold only plus calibration certificate	
0564.3550	Testo 550i App-controlled digital manifold Kit	- Testo 550i manifold, - 2 x wireless temperature probes, - Instrument case & calibration certificate	

### Testo 550s and 557s Digital Manifold with Bluetooth



0564.5501	Testo 550s Basic Kit	- 550s manifold - x2 Fixed cable temperature probes - Instrument case & Calibration certificate	
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0564.5502	Testo 550s Smart Kit	- 550s manifold - x2 wireless temperature probes - Instrument case & Calibration certificate	
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0564.5503	Testo 550s Smart Kit with filling hoses	- 550s manifold - x2 wireless temperature probes - Hose filling set (3 hoses) - Instrument case & Calibration certificate	
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0564.5571	Testo 557s Smart Vacuum Kit	- 557s manifold - x1 wireless vacuum probe - x2 temperature probes, - Instrument case & calibration certificate.	
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0564.5572	Testo 557s Smart Vacuum Kit with filling hoses	- 557s manifold - x1 wireless vacuum probe - x2 temperature probes - Hose filling set (4 hoses) - Instrument case & calibration certificate.	
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557s Smart Vacuum Kit with hoses  
0564.5572



### Testo 557s & 550s Bluetooth Manifolds

- **All results at a glance** thanks to large graphic display.
- **Automatic Bluetooth connection:** Bluetooth probes for temperature, pressure and humidity can be easily connected and offer maximum flexibility in their application. In conjunction with the testo Smart App, you can take care of digital documentation directly on site.
- **Fast and easy pressure value display** in analogue look.
- **Robust housing** with IP 54 for maximum reliability in daily use.
- **All refrigerants always available:** The App automatically updates the list.
- **Integrated calculation of the target superheat:** Effortless and fast results.

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## Digital Refrigeration Manifolds (Gauges)

### Testo 552 Manifold



Testo 552 - for the evacuation of refrigeration/air conditioning systems and heat pumps.

- Highly accurate and reliable measurement results
- Measurement data monitoring via testo Smart Probes App
- Measurement data dispatch via testo Smart Probes App
- Measurement of the evaporation temperature of H<sub>2</sub>O
- Optical alarm when a limit value is exceeded
- Extremely robust and water/dirt resistant (IP 42)
- Via a Bluetooth interface, the 552 connects with the testo Smart Probes App on your smartphone or tablet, allowing you to monitor the absolute pressure reached during the evacuation conveniently and wirelessly.

0560.5522

Testo 552 Vacuum Gauge

### Testo 552i - App Controlled Wireless Vacuum Probe



- Fast and easy determination of the vacuum from the graphic display of the reading curve: in the App or on the display of your digital manifold
- Robust housing with IP54 for maximum reliability in daily use
- Integrated 45° angle: Easy installation on any service port
- One app for everything: Display, calculation, customer data and documentation
- Connects to testo 550s / testo 557s and testo 550i via Bluetooth. Used with the testo Smart App, the Smart Probe is also perfect for quick vacuum measurement on its own.

0564.2552

Testo 552i App-controlled wireless vacuum probe

Measuring Range:  
0 to 26.66 mbar/0 to 20000 microns  
Includes batteries & calibration certificate

## Accessories



0613.5507

Temperature clamp set (wired)



0564.1001

Magnet Strap for digital manifolds



0086.0053

Testo 550 Manifold Hose Set (x3 hoses), Red/Blue/Yellow colour, 1.5m

0086.0054

Yellow 1.5m Hose for Testo 557

T557 Hose Set

Testo 557 Manifold Hose Set (x4 hoses) is a combination of part numbers 0086.0053 & 0086.0054

### Testo 316-3 Refrigerant Leak Detector



0563.3163

The Testo 316-3 refrigerant leak detector can detect all the most common cooling agents and locate even the smallest leaks.

Complies with all important regulations and norms.

Can detect all common cooling agents:  
CFCs, HFCs, FCs

Highly sensitive (< 4 g/a - 1g/a according to DIN EN14624:2012 standard) - can detect even the smallest leaks

Automatic zero setting – can detect leaks in rooms that are already contaminated



## The new Testo 316 series for leak detection

Whether it's for a small system or an industrial plant, whether you are an occasional user or a heavy user – we have the perfect solution for fast, reliable leak detection.

The new range of Testo leak detectors covers all requirements and areas of application. They include a game-changing feature: Testo's innovative 2-in-1 sensor in the testo 316-2-EX detects both gas and refrigerant, making your work even more efficient.



316i – simply SMART



316-1 – simply EASY



316-1-EX – simply SAFE





316-2-EX – simply ULTIMATE

## Handheld Gas Detection Meters Testo 316

	Part No.	Model	Description/Inclusions
	0560.3161	Testo 316i Gas Leak Detector with Bluetooth	<ul style="list-style-type: none"> <li>- Connection to Testo Smart App for ppm display and documentation</li> <li>- Measurement parameters via App: ppm, % LEL</li> <li>- Detectable gases: Methane, propane, hydrogen, butane</li> <li>- Acoustic and visual alarm</li> <li>- Sensor self-test and automatic zeroing</li> <li>- Flexible probe for locations that are difficult to access</li> </ul>
	0560.3162	Testo 316-1 Hydrocarbon Gas Leak Detector	<ul style="list-style-type: none"> <li>- Measurement parameters: ppm / vol% / %LEL</li> <li>- Detectable gases: Methane, propane, hydrogen, butane</li> <li>- Acoustic and visual alarm</li> <li>- Sensor self-test and automatic zeroing</li> <li>- Flexible probe for locations that are difficult to access</li> </ul>
	0560.3163	Testo 316-1-EX Explosion Protection Hydrocarbon Gas Leak Detector with Bluetooth	<ul style="list-style-type: none"> <li>- ATEX certification (EU/EFTA)</li> <li>- Connection to Testo Smart App for display of readings and documentation</li> <li>- Measurement parameters: ppm / vol% / %LEL</li> <li>- Detectable gases: Methane, propane, hydrogen, butane</li> <li>- Acoustic and visual alarm</li> <li>- Fine mode for precise detection of leaks</li> <li>- Sensor self-test and automatic zeroing</li> <li>- Auto-identification of the most common gas types</li> </ul>
	0564.3164	Testo 316-2-EX Multi-purpose Gas Leak Detector (HC & REF) with explosion protection with Bluetooth	<ul style="list-style-type: none"> <li>- Just one instrument for fuel gases and refrigerants (e.g. for heat pumps), without changing the sensor</li> <li>- ATEX (EU/EFTA) certification</li> <li>- Measurement parameters: ppm / vol% / %LEL / g/a</li> <li>- Acoustic and visual alarm</li> <li>- Connection to testo Smart App for display of readings and documentation</li> <li>- Sensor self-test and automatic zeroing</li> <li>- Fine mode for precise detection of leaks</li> <li>- Auto-identification of the most common gas types</li> </ul>

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## Fixed Focus Thermal Imaging Cameras

	Part No.	Model	Description	Detectors		Temp Range	
				Native	Super Res		
	0560.8650	865	Fixed Focus Thermal Imaging Camera	160 x 120	320 x 240	-20°C to +280°C	
	<div>- Visualizing temperature differences from 0.12°C</div> <div>- Automatic detection of hot and cold spots</div> <div>- Extensive accessories included: case, pro software, USB cable, lithium-ion rechargeable battery</div>						
	0560.8681	868	Fixed Focus Thermal Imaging Camera with Bluetooth	160 x 120	320 x 240	-30 to +100° C; 0 to +650° C	
	0560.8712	871	and Free Thermography App	240 x 180	480 x 360		
	<div>- Smart: the free Testo Thermography App enables you to write and send reports on site, as well as saving them online.</div> <div>- Innovative functions, such as Testo ScaleAssist, for comparable thermal images in building thermography</div>						
	0560.8721	872	Fixed Focus Thermal Imaging Camera with Bluetooth and Free Thermography App	320 x 240	640 x 480	-30 to +100° C; 0 to +650° C	

**The Testo 872 Thermal Imager:** The testo 872 thermal imager gives you the best possible support for your work in professional industrial and building thermography. Take thermal images quickly, reliably and smartly with the highest image quality, very good thermal sensitivity and innovative functions.



### Technical Highlights:



The Testo 872 thermal imager is characterized by its easy handling and its outstanding image quality. Its technical features are impressive:

- Highest image quality thanks to high resolution: 76,800 temperature measuring points for precise thermography. Infrared resolution of 320 x 240 pixels – extendible to 640 x 480 pixels via integrated SuperResolution Technology
- Detecting temperature differences from as little as 0.06°C
- Testo Thermography App to use mobile terminal devices as a second display and for remote control or to write and send reports, along with saving them online
- Wireless communication thanks to Bluetooth – this means you can also wirelessly integrate the readings of the compatible testo 770-3 clamp meter and testo 605i thermohygrometer
- Built-in digital camera and laser marker generate a real image in parallel to the thermal image
- The testo ScaleAssist automatically ensures optimum setting of the thermal image scale, which means you generate objectively comparable and error-free thermal images, for example of the thermal insulation behaviour of buildings

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## Professional Series Thermal Imaging Cameras

### Testo 883 Series - 27Hz Thermal Imaging Cameras

	Part No.	Description	Detectors		Temp Range	
			Matrix	Super Res		
 	0560.8830	Testo 883 Smart Thermal Imaging Camera • Incl. standard lens 30° x 23° • USB-C cable, USB mains unit • Li-ion rechargeable battery • calibration certificate • IRSoft software (free) & robust case				
	0563.8830	Testo 883 Smart Thermal Imaging Camera Set • Incl. standard lens 30° x 23° & tele-photo lens 12° x 9° • USB-C cable, USB mains unit • Li-ion rechargeable battery, spare battery and charging station • Calibration certificate • IRSoft software (free) & robust case	320 x 240 pixels	640 x 480 pixels	-30°C to +650°C	



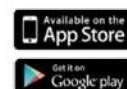
Testo 883 Camera Set (0563.8830)

The **Testo 883 thermal imager** was developed especially for maintenance staff, facility managers and building energy consultants who wish to rely on the best thermal image quality and helpful features for their thermal measuring tasks.

**In facility management and maintenance**, testo SiteRecognition technology really pays off. This feature automatically assigns thermal images (e.g. of switching cabinets) to the correct measurement object, thus eliminating the need for tedious manual image management.

**In building energy consulting**, many experts appreciate the professional software testo IRSoft, which is included with the testo 883. With this, not only can thermal images be comprehensively analyzed, they can also be summarized in impressive-looking reports. This reduces the time required and makes it easier to impress customers over the long term.

Technical Highlights:
<ul style="list-style-type: none"> <li>• Best image quality: IR resolution of 320 x 240 pixels (with SuperResolution 640 x 480 pixels); NETD &lt; 40 mK</li> <li>• Helpful features: testo SiteRecognition intelligent image management and testo ScaleAssist automatic contrast adjustment</li> <li>• Extensive analysis and documentation: With the intuitive professional software testo IRSoft</li> <li>• Testo Thermography App to use mobile terminal devices as a second display and for remote control or to write and send reports, along with saving them online</li> <li>• Full control: Manual focus and interchangeable lenses</li> <li>• Wireless transmission: Integrate readings from clamp meter or humidity probe directly into the thermal image</li> </ul>



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## Professional Series Thermal Imaging Cameras

### Testo 890 X Series - 33Hz Thermal Imaging Cameras



4.3" LCD  
Touch Screen



Part No.	Description	Detail
0563.0890 X1	Testo 890-1 with one lens*	IR Resolution 640 x 480px
0563.0890 X2	Testo 890-2 Set with two lenses*	SuperResolution 1280 x 960px High Temp up to +1200°C
0563.0890 X3	Testo 890-3 Set with three lenses*	-----
0563.0890 X4	Testo 890-4 with Super-Telephoto lens	Includes: Robust case Pro Software (free) SD card USB cable Carrying strap Lens-cleaning cloth Mains unit Li-ion rechargeable battery and Headset
0563.0890 X5	Testo 890-5 with Super-Telephoto 6.6° lens plus one lens*	
0563.0890 X6	Testo 890-6 with Super-Telephoto 6.6° lens plus two lenses*	

\*Choose between 42° standard lens, 25° lens and/or 15° telephoto lens.

## Accessories



Part No.	Description
0554.7806	Super Resolution Upgrade: 4 x more measurement values for even more detailed analysis of thermal images
0554.8805	Lens Protection Glass: Special Gernamium protective glass for optimum protection from dust & scratching
0554.8802	Additional Battery: Lithium ion rechargeable battery for extending operating time
0554.8801	Fast Battery Charger: Desktop charging station for 2 rechargeable batteries
A1	Telephoto Lens 9° x 7° (Testo 875-2i only)
G1	High Temperature measurement up to 550°C (Testo 875-2i only)
B1	Humidity measurement





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## Testo Smart Probes - Compact Measuring Instruments optimized for Smartphones

- For HVAC, Refrigeration and Heating contractors, measurement is more mobile than ever before
- Can be operated wirelessly with your own smartphone or tablet. All measurement data is transmitted directly to the free Testo Smart Probes App




### Testo Smart Probes


	Part No.	Model/Description	Features	
 	0563.2915	Testo 915i with TC Surface Probe	<ul style="list-style-type: none"> <li>Fast-response surface probe with sprung thermocouple strip.</li> </ul>	Measuring range -50 to +350 °C
	0563.1915	Testo 915i with TC Immersion Probe	<ul style="list-style-type: none"> <li>Robust, fast-response immersion/penetration probe ideal for temperature measurements in liquids, pastes and semi-solid media.</li> </ul>	
	0563.3915	Testo 915i with TC Air Probe	<ul style="list-style-type: none"> <li>Ideal for measuring ambient temperature as well as temperatures in ducts and at air outlets.</li> </ul>	Measuring range -50 to +400 °C
	0563.4915	Testo 915i with flexible TC probe	<ul style="list-style-type: none"> <li>Flexible probe is ideal for carrying out your temperature measurements, e.g. at locations that rigid probes cannot access.</li> </ul>	
	0602.5093	TC Probe Kit	<ul style="list-style-type: none"> <li>Temperature probe kit - with air probe, immersion/penetration probe and surface probe (TC type K).</li> </ul>	
	0560.2115 02	115i Clamp Thermometer	<ul style="list-style-type: none"> <li>Measurement of flow and return temperature in heating systems</li> <li>Temperature measurement on refrigeration systems</li> <li>Extended Bluetooth® range up to 100m</li> <li>Measuring range -40 to +150 °C</li> </ul>	
	0560.1905	905i Ambient Thermometer (Available while stocks last)	<ul style="list-style-type: none"> <li>Temperature measurement in rooms, ducts and air outlets</li> <li>Fast identification of temperature change by graph curve display</li> <li>Measuring range -50 to +150 °C</li> </ul>	
	0560.1805	805i Infrared Thermometer	<ul style="list-style-type: none"> <li>Non-contact, infrared measurement of the surface temperature</li> <li>Measurement spot marking with visible 8-point laser circle</li> <li>Measuring range -30 to +250 °C</li> </ul>	
	0560.2605 02	605i Thermohygrometer	<ul style="list-style-type: none"> <li>Measurement of air humidity and temperature in rooms and ducts</li> <li>Automatic calculation of the dewpoint and the wet bulb temperature</li> <li>Extended Bluetooth® range up to 100m</li> <li>Measuring range 0 to 100 %RH; -20 to +60°C</li> </ul>	
	0560.1405	405i Thermal Anemometer	<ul style="list-style-type: none"> <li>Measurement of air flow velocity, volumetric flow and temperature</li> <li>Measuring range -20 to +60 °C</li> </ul>	
	0560.1410	410i Vane Anemometer	<ul style="list-style-type: none"> <li>Measurement of air flow velocity, volumetric flow and temperature</li> <li>Presentation of the volume flow of several outlets for the purposes of regulating systems</li> <li>Measuring range -20 to +60 °C</li> </ul>	



## Testo Smart Probes Continued

	Part No.	Model/ Description	Features
	0560.2549 02	549i High Pressure Meter	<ul style="list-style-type: none"> <li>• Measurement of high and low pressure</li> <li>• Quick &amp; easy installation at the pressure connection</li> <li>• Low refrigerant loss thanks to hoseless application</li> <li>• Extended Bluetooth® range up to 100m</li> <li>• Measuring range -1 to 60 bar</li> </ul>
	0560.1510	510i Differential Pressure Meter	<ul style="list-style-type: none"> <li>• Measuring of gas flow pressure and static pressure</li> <li>• Measurement menu for pressure-drop test incl. alarms</li> <li>• Easy configuration and determination of the volume flow with Pitot tube</li> <li>• Measuring range -150 to +150 hPa</li> </ul>

## Testo Smart Probe Sets

	0563.5915	Testo 915i with TC Probes Set	<ul style="list-style-type: none"> <li>• Universal temperature kit with 915i Smart Probe and plug-in immersion/penetration probe, air probe, surface probe and Smart Case.</li> </ul>
	0563.0002 10	Testo Smart Probe Refrigeration Set	<ul style="list-style-type: none"> <li>• Measures CFC, HFC, HCFC, N, H<sub>2</sub>O, CO<sub>2</sub>.</li> <li>• Hose free installation on refrigeration systems.</li> <li>• Easy calculation of Superheating/Subcooling.</li> <li>• Report creation and transfer via smart phone.</li> <li>• Extended Bluetooth® range up to 100m for particularly flexible applications.</li> </ul>
	0563.0003 10	Testo Smart Probe VAC Set	<ul style="list-style-type: none"> <li>• For the measurement of air and surface temperature, humidity, air velocity and volume flow.</li> <li>• Application specific menus: volume flow measurement at ducts in outlets, identification of mould risk etc.</li> <li>• Easy parameterization of the outlet/duct cross-section</li> </ul>
	0563.0004 10	Testo Smart Probe Heating Set	<ul style="list-style-type: none"> <li>• For all temperatures and pressures on heating systems</li> <li>• Gas flow and static pressure as well as pressure drop test including alarm function.</li> <li>• Flow and return temperature, temperatures of under-floor heating and radiators.</li> </ul>
	0563.0002 32	Testo Smart Probe Ultimate HVAC&R Set	<ul style="list-style-type: none"> <li>• Carry out all measurements in the areas of heating, air conditioning, refrigeration and ventilation with one kit.</li> <li>• All Smart Probes for temperature, pressure, humidity and flow velocity in one kit.</li> <li>• Display of measurement data progression as a graph or table.</li> </ul>
	0516.0240	Testo Smart Case Refrigeration	<ul style="list-style-type: none"> <li>• Robust on the outside, soft on the inside: the Testo Smart Case has a hard outer shell and integrated foam insert with compartments for a precise fit of the instruments.</li> </ul>
	0516.0260	Testo Smart Case VAC	
	0516.0270	Testo Smart Case Heating	
	0516.0032	Testo Smart Case Temperature	



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## Testo Electrical Measuring Instruments

	Part No.	Model	Description	Features	Measure Category	Voltage Range	
	0590.7601	Testo 760-1	Digital Multimeter	Current Measuring range 1mA - 10 A AC/DC  Resistance Measuring range 0.1 - 40 MΩ	Cat IV 300 V Cat III 600 V	0.1mV -600V AC/DC	
	0590.7602	Testo 760-2	True-RMS Multimeter	Current Measuring range 0.1 uA - 10 A AC/DC		0.1mV -600V AC/DC	
	0590.7603	Testo 760-3		Resistance Measuring range 0.1 - 60 MΩ		0.1mV -1000V AC/DC	
	0590.7701	Testo 770-1	True-RMS Clamp	Current Measuring range 0.1 - 400 A AC/DC	Cat IV 600 V Cat III 1000 V	0.1mV -600V AC/DC	
	0590.7702	Testo 770-2		Resistance Measuring range 0.1 Ω - 40 MΩ			
	 <div>Works with Testo Smart Probe App!</div>	0590.7703		Testo 770-3	Bluetooth and Testo Smart Probes App  Current Measuring range 0.1 - 600 A AC/DC  Resistance Measuring range 0.1 Ω - 60 MΩ		
0590.7450		Testo 745		Non-contact Voltage Tester	Measuring point illumination	Cat IV 600 V Cat III 1000 V	12 to 1000 V AC
	0590.7501	Testo 750-1	Voltage Tester	Continuity Testing < 500 kΩ	Cat IV 600 V Cat III 1000 V	12 to 690 V AC/DC	
	0590.7502	Testo 750-2		Rotating magnetic field testing 100 to 690 V AC at 50/60 Hz			
	0590.7503	Testo 750-3					
	0590.7551	Testo 755-1	Current/Voltage Tester	Current Measuring Range 0.1 to 200 A	CAT IV 600 CAT III 1000V	6 to 600 V AC/DC	
	0590.7552	Testo-755-2		Resistance Measuring range 1 Ω to 100 kΩ  Continuity Testing < 50 Ω		6 to 1000 V AC/DC	

Works with  
Testo Smart  
Probe App!

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## Accessories

	Part No.	Description	
	0590.0001	Magnetic Hanger	
	0590.0002	Thermo couple adapter Type K Multimeter	
	0590.0003	Clamp Meter Adapter	
	0590.0004	Fuse set 5x 10A/1000S	
	0590.0005	Fuse Set 5x 10A/600V	
	0590.0006	Fuse Set 5x 630mA/1000V	
	0590.0007	Fuse Set 5x 630mA/600V	
	0590.0008	Set Safety Alligator Clips	
	0590.0009	Set Alligator Clips	
	0590.0010	Set 2mm Test Leads (90° plug)	
	0590.0011	Set 4mm Standard Test Leads (90° plug)	
	0590.0012	Set 4mm Standard Test Leads (straight plug)	
	0590.0013	Set Lead Extensions (straight plug)	
	0590.0014	Set Lead Extensions (90° plug)	
	0590.0016	Carrying Case Testo 760	
	0590.0017	Carrying Case Testo 755/ Testo 770	
	0590.0021	Thermo couple Adapter Type K Clamp Meter	







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## Temperature Instruments



	Part No.	Model	Description	
	0560.9250	925	Compact Class Temperature Measuring Instrument -50 to 1000°C	1 Channel Instrument T/C Type K <ul style="list-style-type: none"><li>• Audible Alarm</li><li>• Inc Battery &amp; Calibration Protocol</li></ul>
	0560.9221	922		2 Channel Instrument T/C Type K <ul style="list-style-type: none"><li>• Audible Alarm</li><li>• Inc Battery &amp; Calibration Protocol</li></ul>
Note: For Probe selection please refer to page 160 & 161				
	0560.1108	110	Compact Class Temperature Measuring Instrument -50 to +150°C	1 Channel Instrument NTC <ul style="list-style-type: none"><li>• Audible Alarm</li><li>• Inc Battery &amp; Calibration Protocol</li></ul>
	0560.7207	720	Compact Class Temperature Measuring Instrument -100 to +800°C/-50 to +150°C	1 Channel Instrument PT100/NTC <ul style="list-style-type: none"><li>• Min/max Display</li><li>• Inc Battery &amp; Calibration Protocol</li></ul>
Note: For Probe selection please refer to page 160 & 161				
	0560.7351	735-1	Pro-Line Temperature Measuring Instrument IP65 -200 to +1760°C	3 Channel Instrument T/C Type K/T/J/S & Pt100 <ul style="list-style-type: none"><li>• Displays, saves &amp; prints Delta T min,max &amp; mean values</li><li>• Audible Alarm</li><li>• Inc Battery &amp; Calibration Protocol</li></ul>
	0563.7352	735-2		3 Channel Instrument T/C Type K/T/J/S & Pt100 <ul style="list-style-type: none"><li>• Data Memory</li><li>• PC Software</li><li>• USB Interface Cable</li><li>• Displays, saves &amp; prints Delta T min,max &amp; mean values</li><li>• Audible Alarm Calibration Protocol</li></ul>
Note: For Probe selection please refer to pages 160 & 161				

## Temperature & Humidity Wall Mount



	Part No.	Model	Description	Accuracy
	0560.6081	608-H1	Wall Mount Thermo Hygrometer	±3%
	0560.6082	608-H2	Wall Mount Thermo Hygrometer + Alarm	
	0560.6220	622	Desk/Wall Mount Thermo Hygrometer + Alarm	±2% @ 10 To 95% rH
	0560.6230	623	Desk/Wall Mount Thermo Hygrometer + Manometer	

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## Industrial I/R Guns

	Part No.	Model	Description	Accuracy	
	0560.8311	830-T1 -30 To +400°C	Gun Style Infra-Red Thermometer	±1°C	
	0560.8312	830-T2 -30 To +400°C	Gun Style I/R Thermometer + 2pt Laser & K-Type Input 12:1 Optics		
	0560.8314	830-T4 -30 To +400°C	Gun Style I/R Thermometer + 2pt Laser & K-Type Input 30:1 Optics		
	0602.0393	830 Surface Probe			
	0516.8302	830 Protective Leather Pouch			
	0560.8351	835-T1 Industrial Infrared Thermometer -30 to +600°C	Gun Style High Temperature Infra-Red Thermometer With 4 Point Laser Guidance & K-Type Probe Infra-Red -30 to +600C	±1,0 °C (+0,0 to +99,9°C ±1% of mv (remaining range)	
	0560.8352	835-T2 Industrial Infrared Thermometer -50 to +1500°C	Gun Style High Temperature Infra-Red Thermometer With 4 Point Laser Guidance & K-Type Probe Infra-Red (-10 To 1500°C) K-Type T/C Probe (-50 To 1000°C)	±2°C ±0.5°C	

## Temperature & Humidity Meters

	0563.6251	625 -200 to +1370°C 0 to 100% RH	Compact Class Temperature & Humidity Measuring Instrument	±0.5°C		
	0554.0190	Radio Module 915MHz upgrade				
	0554.0191	RH Radio probe handle (refer pg 143 for further detail)				
	0560.6351	635-1 -200 to +1370°C 0 to 100% RH	Pro-Line Temperature & Humidity Measuring Instrument	±0.3%		
	0563.6352	635-2 -200 to +1370°C 0 to 100% RH	Pro-Line Temperature & Humidity Measuring Instrument + USB Memory & Software			
	<b>635 series probes</b>					
	0614.1635	Temperature probe for wall surfaces				
0636.6160	Material Moisture Probe					
Note:	For Probe selection refer to page 27 & 28.					



## Testo 420 Volume Flow Hood

	Part No.	Description	Details	
	0563.4200	420 Volume Flow Hood Set	Volume flow hood set for larger swirl outlets for measuring volume flow, temperature and relative humidity Lightweight at only 2.9 kg	
	0554.4202		Fabric Hood 610 x 1220mm	
	0554.4201	Replacement hood for Testo 420 volume flow hood	Fabric Hood 305 x 1220mm	
	0554.4200		Fabric Hood 360 x 360mm	
	0554.4209	Telescopic Stand for Testo 420	Telescopic stand (up to 4m) with wheels – ideal for measuring at ceiling outlets.	

## Less Weight. More Precision.

Light, precise and convenient – the volume flow hood Testo 420 significantly facilitates the regulation of volume flow at larger air intakes and outputs.

With only 2.9 kg, it is the lightest model on the market. And with the integrated flow straightener, it sets new measurement precision standards at swirl outlets. This allows users to fulfil hygienic Indoor Air Quality guidelines and stipulations in ventilation and air conditioning systems quickly and precisely, e.g. in industry, office rooms or in clean rooms.







### Bluetooth + App



- Monitoring
- Reporting
- Remote Control

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### Testo 400 IAQ Measuring Instruments

	Part No.	Model	Description	
	0560.0400	Testo 400 Universal IAQ Instrument	<ul style="list-style-type: none"> <li>High-precision, location-independent, built-in differential pressure sensor</li> <li>Integrated absolute pressure sensor</li> <li>Measures all IAQ-related parameters: Flow, temperature, humidity, pressure, illuminance, radiant heat, turbulence, CO2 and CO</li> </ul>	
	0563.0401	Testo 400 IAQ & Comfort Kit with tripod	<ul style="list-style-type: none"> <li>Determine the concentration of CO2 humidity, air temperature and turbulence.</li> <li>Kit includes: Testo 400 universal IAQ instrument, CO2 probe (with Bluetooth® handle), turbulence probe with cable, globe thermometer (Ø 150 mm) with cable, measuring tripod with bag, case.</li> </ul>	
	0563.0400.71	Testo 400 Air Flow Kit with hot wire probe	<ul style="list-style-type: none"> <li>Determination of the volume flow at outlets by measuring the reference pressure and entering the manufacturer-specific K-factor.</li> <li>Kit includes: testo 400 universal IAQ instrument, hot wire probe (with Bluetooth® handle and telescope), vane probe head (Ø 100 mm), high-precision humidity/temperature probe head, 90° angle, case.</li> </ul>	
	0563.0400.72	Testo 400 Air Flow Kit with 16mm vane probe	<ul style="list-style-type: none"> <li>Determination of the volume flow at outlets by measuring the reference pressure and entering the manufacturer-specific K-factor.</li> <li>Kit includes: testo 400 universal IAQ instrument, 16 mm vane probe (with Bluetooth® handle and telescope), vane probe head (Ø 100 mm), high-precision humidity/temperature probe head, 90° angle, case.</li> </ul>	

### Testo 440 Air Velocity and IAQ Measuring Instruments

	Part No.	Model	Description	
	0560.4401	Testo 440 Air Velocity and IAQ Measuring Instrument.	<ul style="list-style-type: none"> <li>Up to 3 probes can be connected simultaneously: a Bluetooth probe, wired probe and a temperature probe with type K thermocouple connector.</li> </ul> <p>(Probes sold separately)</p>	
	0560.4402		<ul style="list-style-type: none"> <li>Includes a differential pressure sensor: for Pitot tube measurement and monitoring filters</li> </ul>	
	0563.4404	Testo 440 Humidity Kit with Bluetooth®	<ul style="list-style-type: none"> <li>Kit includes a Testo 440 Instrument with Bluetooth humidity probe and carry case.</li> <li>Humidity sensor measuring range: 0 to 100% RH / -20 to +70 °C accuracy: ±2% RH / ±0.5 °C</li> </ul>	

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## Testo 440 Air Velocity and IAQ Measuring Instruments

	Part No.	Model	Description	
	0563.4400	Testo 440 Hot Wire Kit	<ul style="list-style-type: none"> <li>Kit includes a Testo 440 Instrument with Ø 9mm hot wire probe with 1.7m cable length and carry case.</li> <li>Hot wire probe 0 to 30 m/s and -20 to +70 °C</li> <li>Probe includes telescope that can be extended to 0.85m</li> </ul>	
	0563.4401	Testo 440 16mm Vane Kit	<ul style="list-style-type: none"> <li>Kit includes a Testo 440 Instrument with Ø 16mm vane probe with 1.7m cable length and carry case.</li> <li>Vane probe measuring range from 0.6 to 50 m/s</li> <li>Probe includes telescope that can be extended to 0.85m</li> </ul>	
	0563.4402	Testo 440 Lux Kit	<ul style="list-style-type: none"> <li>Kit includes a Testo 440 Instrument with lux probe (1.4m cable) and carry case.</li> <li>Lux probe with a measuring range 0 to +100000 lux.</li> </ul>	
	0563.4403	Testo 440 100mm Vane Kit with Bluetooth®	<ul style="list-style-type: none"> <li>Kit includes a Testo 440 Instrument with Vane probe (Ø100mm) with Bluetooth including temperature sensor and carry case.</li> <li>Vane probe +0.3 to +35 m/s, -20 to +70 °C</li> </ul>	
	0563.4405	Testo 440 CO <sub>2</sub> Kit with Bluetooth®	<ul style="list-style-type: none"> <li>Kit includes a Testo 440 Instrument with CO<sub>2</sub> probe* with Bluetooth, including temp and humidity sensor, and carry case. (*please do not use probe in condensing atmospheres.)</li> <li>CO<sub>2</sub> probe 0 to 10,000 ppm, -10 to +50°C, 5 to 95% RH</li> </ul>	
	0563.4406	Testo 440 Air Flow ComboKit 1 with Bluetooth®	<ul style="list-style-type: none"> <li>Kit includes a Testo 440 Instrument with Vane probe (Ø 100 mm) with Bluetooth including temp sensor, Hot wire probe and carry case.</li> <li>Vane Probe: +0.3 to +35 m/s, -20 to +70 °C</li> <li>Hot Wire probe: 0 to 30 m/s and -20 to +70 °C</li> </ul>	
	0563.4407	Testo 440 Air Flow ComboKit 2 with Bluetooth®	<ul style="list-style-type: none"> <li>Kit includes a Testo 440 Instrument with Vane probe (Ø 100 mm) with Bluetooth including temp sensor, Vane probe (Ø 16mm) with fixed cable 1.7m cable and telescope, and carry case.</li> <li>Vane probe Ø 100 mm: +0.3 to +35 m/s, -20 to +70 °C</li> <li>Vane probe Ø 16mm: 0.6 to 50 m/s</li> </ul>	
	0563.4409	Testo 440 Delta P Air Flow ComboKit 1 with Bluetooth®	<ul style="list-style-type: none"> <li>Kit includes a Testo 440dP incl differential pressure Instrument with Vane probe (Ø 100mm) with Bluetooth including temp sensor, Hot wire probe head (Ø 9mm) incl. temp and humidity sensor, and carry case.</li> <li>Vane probe: +0.3 to +35 m/s, -20 to +70 °C</li> <li>Hot wire probe: -20 to +70 °C, 5 to 95% RH</li> </ul>	
	0563.4410	Testo 440 Delta P Air Flow ComboKit 2 with Bluetooth®	<ul style="list-style-type: none"> <li>Kit includes a Testo 440dP incl differential pressure Instrument with Vane probe (Ø 100mm) with Bluetooth incl. temp sensor, 16 mm vane probe head incl. temp sensor, Humidity/temp probe head (Ø 12mm), and carry case.</li> <li>Vane probe Ø 100 mm: +0.3 to +35 m/s, -20 to +70 °C</li> <li>Vane probe Ø 16mm: +0.6 to +50 m/s, -10 to +70 °C</li> <li>Humidity/Temp probe: 0 to 100% RH / -20 to +70 °C</li> </ul>	
	0563.4408	Testo 440 Indoor Comfort Combo Kit with Bluetooth®	<ul style="list-style-type: none"> <li>Kit includes a Testo 440-1 Instrument with CO<sub>2</sub> probe* with Bluetooth, including temp and humidity sensor, Turbulence probe with 1.4m cable and carry case. (*please do not use probe in condensing atmospheres.)</li> <li>CO<sub>2</sub> Probe: 0 to 10,000 ppm, -10 to +50 °C, 5 to 95% RH</li> <li>Turbulence probe: 0 to +5 m/s, 0 to +50 °C thanks</li> </ul>	

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## Testo 400 & 440 Series Probes

	Part No.	Description	Detail	
	0636.9730	Humidity/Temperature probe head		
	0636.9732	Humidity/temperature probe (digital) wired	0 to 100% RH -20 to +70 °C	
	0636.9731	Humidity/temperature probe (digital) - with Bluetooth®		
	0635.1032	Hot wire probe (digital) - including temperature sensor, wired	0 to 30 m/s -20 to +70 °C	
	0635.9532	Vane probe (Ø 16 mm, digital) - wired	0.6 to 50 m/s	
	0635.9430	100 mm vane probe head	0.3 to 35 m/s -20 to +70 °C	
	0636.9770	High-precision humidity/temperature probe head	0 to 100 %RH -20 to +70 °C	
	0635.9432	Vane probe (Ø 100 mm, digital) - including temperature sensor, wired	0.3 to 35 m/s 20 to +70 °C	
	0636.9772	High-precision humidity/temperature probe (digital) - wired	0 to 100 %RH -20 to +70 °C	
	0635.9431	Vane probe (Ø 100 mm, digital) - with Bluetooth® including temperature sensor	0.3 to 35 m/s -20 to +70 °C	
	0636.9771	High-precision humidity/temperature probe (digital) - with Bluetooth®	0 to 100 %RH -20 to +70 °C	
	0635.1570	Hot wire probe head including temperature and humidity sensor	5 to 95 %RH -20 to +70 °C	
	0635.9570	16 mm vane probe head including temperature sensor	0.6 to 50 m/s -10 to +70 °C	
	0635.9370	High-precision 100 mm vane probe head including temperature sensor	0.1 to 15 m/s -20 to +70 °C	
	0635.1572	Hot wire probe (digital) - including temperature and humidity sensor, wired	5 to 95 %RH 20 to +70 °C	
	0635.1052	Fume cupboard probe (digital) - wired	0 to 5 m/s 0 to +50 °C	
	0635.1571	Hot wire probe (digital) - with Bluetooth® including temperature and humidity sensor	5 to 95 %RH -20 to +70 °C	
	0635.9572	Vane probe (Ø 16 mm, digital) - including temperature sensor, wired	0.6 to 50 m/s -10 to +70 °C	
	0635.9571	Vane probe (Ø 16 mm, digital) - with Bluetooth®, including temperature sensor		
	0635.9372	High-precision vane probe (Ø 100 mm, digital) - including temperature sensor, wired	0.1 to 15 m/s -20 to +70 °C	
	0635.9371	High-precision vane probe (Ø 100 mm, digital) - with Bluetooth® including temperature sensor		
	0636.9775	Robust humidity/temperature probe (digital) - for temperatures up to +180 °C, wired	0 to 100 %RH -20 to +180 °C	
	0628.0152	Turbulence probe (digital) wired	0 to 5 m/s 0 to +50 °C	
	0635.0551	Lux probe (digital) wired	0 to 100000 Lux	
	0632.1551	CO <sub>2</sub> probe (digital) with Bluetooth® including temperature and humidity sensor,	5 to 95 %RH 0 to +50 °C	



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### Testo 400 & 440 Series Probes

	Part No.	Description	Detail	
	0632.1552	CO <sub>2</sub> probe (digital) - including temperature and humidity sensor, wired	5 to 95 %RH 0 to +50 °C	
	0632.1550	CO <sub>2</sub> probe head including temp & humidity sensor		
	0632.1271	CO probe (digital) with Bluetooth®	Ambient CO 0 to 500 ppm	
	0632.1272	CO probe (digital) wired		
	0632.1270	CO probe head		
	0554.2222	Universal cable handle for connecting probe heads	-	
	0554.1111	Universal Bluetooth® handle for connecting probe heads	-	

### Pressure






0560.5126	512-1	Pressure Meter	0 to 2hPa	
0560.5127	512-2	Differential Pressure Meter	0 to 20hPa	
0560.5128	512-3	Air Pressure/Velocity Meter	0 to 200hPa	
0560.5129	512-4	Air Pressure/Velocity Meter	0 to 2000hPa	
		8 switchable units: kPa, hPa, Pa, mm H <sub>2</sub> O, mmHg, psi, inch H <sub>2</sub> O, inch Hg		



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## Flue Gas Analysers - Testo 310 & 300

	Part No.	Model	Description
	0563.3110	Testo 310 Flue Gas Analyzer+ I/R Printer + Integrated Probe	<ul style="list-style-type: none"> <li>- O<sub>2</sub>, CO, CO<sub>2</sub></li> <li>- Draft &amp; Pressure</li> <li>- Temperature (flue &amp; ambient)</li> <li>- Combustion efficiency &amp; excess air</li> <li>- Ambient CO</li> </ul>
	0633.3004.73	Testo 300 Long-life Gas Analyzer O <sub>2</sub> , COH <sub>2</sub> 8000 ppm	<ul style="list-style-type: none"> <li>- Intuitive measurement menus and the fast-response Smart-Touch display ensure easy operation – as on your smartphone</li> <li>- Including O<sub>2</sub>, COH<sub>2</sub> sensor 8,000 ppm</li> <li>- Large 5-inch HD display – see all the system's measuring values at a glance</li> <li>- Creation of documentation directly on site and e-mailing of report</li> </ul>
	0554.3004	T300 Bluetooth Dongle	<ul style="list-style-type: none"> <li>- Allows Bluetooth connection from the Testo 300 flue gas analyzer to Testo Smart Probes</li> <li>- Up to 100m wireless range</li> <li>- Compatible with Testo 510i, 115i and 915i Smart Probes</li> <li>- Connection TUC 1 or TUC 2</li> </ul>

## Testo 300: Truly smart flue gas measurement

### Operation via smart-touch

The smart-touch display responds immediately without any delay. That allows intuitive operation – just as easy as on your smartphone.

### E-mailing of reports

The testo 300 enables the convenient creation of documentation directly on site & the dictation function even saves you typing in the process. You can send reports to the office or customers straight away via WLAN.

### Ready to use straight away

No more waiting time. In standby mode, the testo 300 is ready at the touch of a button.

### Get the result faster

Clearly structured menus for all relevant measurements are already stored in the measuring instrument and guide you efficiently through the application.

testo 300 flue gas analyzer						
Order no.	Longlife sensors	O <sub>2</sub> sensor	CO sensor	CO H <sub>2</sub> sensor	NO sensor - can be retrofitted	Zeroing with probe in flue gas
0633 3002 70	✗	✓	4,000 ppm	✗	✗	✗
0633 3002 71	✗	✓	8,000 ppm	✓	✗	✗

testo 300 Longlife flue gas analyzer						
Order no.	Longlife sensors	O <sub>2</sub> sensor	CO sensor	CO H <sub>2</sub> sensor	NO sensor - can be retrofitted	Zeroing with probe in flue gas
0633 3004 72	✓	✓	4,000 ppm	✗	✓	✗
0633 3004 73	✓	✓	8,000 ppm	✓	✓	✗
0633 3004 82	✓	✓	15,000 ppm	✗	✓	✓
0633 3004 88	✓	✓	30,000 ppm	✓	✓	✓



**Longlife sensors**  
High-end sensors with a service life of up to 6 years for intensive use (several times a day). At least one sensor replacement is saved in the course of a normal working life.





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## Gas & Combustion For Boilers, Furnaces & Heating Systems

	Part No.	Model	Description	
	0632.3340	340 Industrial Gas Combustion Analyser	<ul style="list-style-type: none"> <li>• Automatic flow controlled sampling pump</li> <li>• Calibration records with sensor output/ life graph</li> <li>• Integrated pressure sensor</li> <li>• 18 fuels, 10 user definable</li> </ul>	
	0632.3510	350XL Emission Analyser Instrument and Control Box (Up to 6 control boxes can work with 1 analyser instrument)	<ul style="list-style-type: none"> <li>• Easy access servicing</li> <li>• Automatic flow controlled</li> <li>• Up to 6 sensors</li> <li>• Smart diagnostics</li> <li>• Bluetooth up to 100mtrs range</li> <li>• USB data interface</li> </ul>	

Gas Sensor Choices	340	350
NO <sub>2</sub> Sensor	✓	✓
SO <sub>2</sub> Sensor	✓	✓
CO <sub>low</sub> Sensor	✓	✓
NO <sub>low</sub> Sensor	✓	✓
NO Sensor	✓	✓
CO Sensor	✓	✓
CO <sub>2</sub> Sensor		✓
O <sub>2</sub> Sensor (standard)	✓	✓
CxHy sensor (Pellistor)		✓
H <sub>2</sub> S Sensor		✓

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### Pocket Line Compact Professional Instruments

	Part No.	Model	Description	
	0560.4101	410-1	Air Flow & Temperature Meter	
	0560.4102	410-2	Air Flow, Temperature, Humidity	
	0560.0460	460	Optical RPM Meter	
	0563.0510	510	Differential Pressure $\leq 100\text{hPa}$	
	0560.0511	511	Absolute Pressure $\leq 1200\text{hPa}$	
	0560.0540	540	Lux Meter	
	0560.6060	606-1	Material Moisture Meter	
	0560.6062	606-2	Material Moisture & Humidity Meter	
	0560.0610	610	Humidity & Temperature Meter	
	0560.0810	810	IR & Ambient Temperature Meter	





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## Sound Level Measurement

	Part No.	Model	Description	
	0563.8155	815	Decibel Meter With Max/Min Value Memory & Frequency Weighting	
	0563.8170	816-1	testo 816-1, sound level meter • Integrated data storage for up to 31000 measurement values • Software for data management and long-term measurement • Switchable time weighting Fast/Slow • Bar graph display • Backlit display • AC and DC output for the connection of other instruments	

## RPM Measurement

	0563.0465	465	Non-Contact Optical RPM Instrument	
	0563.0470	470	Non-Contact Optical & Mechanical RPM Instrument	
	0554.0493		Reflectors For Optical RPM Instruments	

## Anemometers

	0560.4160	416	Anemometer + 16mm Ø Telescopic (890mm) Vane Probe	
	0560.4170	417	Anemometer + 100mm Ø Vane Probe	
	0554.4172	417 Testovent	Flow straightener for Testo 417	
	0563.4170	417 Funnel set	incl. 1x200mmx200mm & 1x330mmx330mm	
	0560.4251	425	Anemometer & Temperature + Thermal Probe, Telescopic (820mm) Handle	
	0560.4053	405	Thermal Anemometer	

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### **K Type Thermocouple Probes**

Part No.	Description	Range
0602.4692	Clamp Probe For Measurements On Pipes 15 To 25mm Ø	-50 To +100°C
0628.0020	Pipe Wrap Probe With Velcro For Temp Measure On Pipes ≤120mm Ø	Max 120°C
0628.1292	Robust Waterproof "Needle" Oven Probe"	-50 To +230°C
0628.0026*	Super Fast Waterproof	-50 To +250°C
0602.4592	Pipe Wrap Probe ≤65mm	-60 To +130°C
0602.0092	Pipe Wrap Probe Spare Measurement Head Only	
0602.1293	Waterproof Immersion/ Penetration Probe	
0602.2292	Waterproof Stainless Steel Food Probe IP65	
0602.1793	Robust Air Probe	-60 To +400°C
0602.1993	Waterproof Probe with widened Head for measuring smooth surfaces	
0602.2693	Super Fast Action W/proof Immersion/Penetration Probe	-60 To +800°C
0602.0593	Fast Action Waterproof Immersion/Penetration Probe	-60 To +1000°C
0602.0693	Waterproof Surface Probe. Small Measuring Head	
0602.5792	Immersion Measurement Tip Bendable With Adaptor	-200 To +1000°C

### **T Type Thermocouple Probes**

0603.2693*	Waterproof Precision "Penetration "Needle"	
0628.0027*	Super Fast Waterproof "Penetration "Needle"	-50 To +250°C
0628.0030	Super Fast Penetration"Needle" Oven Probe"	
0603.1993	Waterproof Probe with widened Head for measuring smooth surfaces	
0603.1293	Waterproof Immersion/ Penetration Probe	
0603.2492	Handle & Reinforced Cable IP65	
0603.2192	Stainless Steel Food Probe PUR Cable IP67	
0603.3292	Frozen Food Probe Cork Screw Type	-50 To +350°C
0603.3392	Stainless Steel Food Probe Teflon Cable IP67	
0628.0023	Measurement Tip With T/C Adaptor	
0603.1793	Robust Air Probe	

\*Note: Recommended for hamburgers, steaks, pizza, eggs etc. Testo probes may be suitable for use with more than one model of instrument. Please refer to catalogue data for more information on Testo probes.

### **PT100 Probes**

0614.0235	Hi-Accuracy Waterproof Immersion/Penetration Probe	-40 To +300°C
0609.1973	Waterproof Surface Probe	
0609.1273	Robust Waterproof Immersion/Penetration Probe	
0609.7072	Laboratory Probe Glass Coated Replaceable Glass Shaft Resistant To Corrosive Substances	-50 To +400°C
0609.2272	Robust Waterproof Stainless Steel Probe IP65	
0609.1773	Robust Air Probe	





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### NTC Probes

0613.4611	Pipe Wrap Probe ≤75mm	-50 To +70°C
0613.1712	Robust Air Probe	-50 To +125°C
0613.2411	Robust Waterproof Penetration Food Probe	-25 To +150°C
0613.1912	Waterproof Surface Probe	-50 To +150°C
0613.1212	Waterproof Immersion/Penetration Probe	
0613.2211	Waterproof Food Probe Stainless Steel IP65	
0613.3311	Waterproof Stainless Steel Probe Teflon Cable IP67	



### Pitot Tubes

0635.2145	SS Pitot Tube (Velocity) 350mm
0635.2045	SS Pitot Tube (Velocity) 500mm
0635.2345	SS Pitot Tube (Velocity) 1000mm

### RH+T & Dew Point Probes

Part No.	Description	Compatible with
0636.9735	Humidity/Temperature probe Ø 12mm	Testo 635
0636.2161	High Temp humidity probe	
0636.2135	Thin humidity probe Ø 04mm	
0636.9835	Standard Dewpoint Probe	
0636.9836	Precision Pressure Dewpoint probe for comp air -60°C	

### Custom Probes

	Part No.	Description	Probe	Cable	Temp Range	Detail	
	TS419-5MT	T Type Thermocouple	4mm x 50mm	5m	-185°C to 260°C	Miniplug & Strain Relief	
	TS419-10MT			10m			
	TS419-20MT			20m			
	TS429	K Type TC Binder Probe	70mm x 3mm Rounded Tip	2m	-270°C to 1260°C		
	TS305	T Type TC Oven/Chill Insertion Probe	150mm x 4mm	2m	-185°C to 260°C		
	TS305-10MT			10m			
	TS159	Glycol Filled Temperature Probe T Type T/C	-	2m	-40°C to 90°C		
	TS159-5MT		-	5m			
	TS159-10MT		-	10m			



Probes can be made to suit your specific application. Contact your Eurotec I&M Sales Engineer to discuss further.

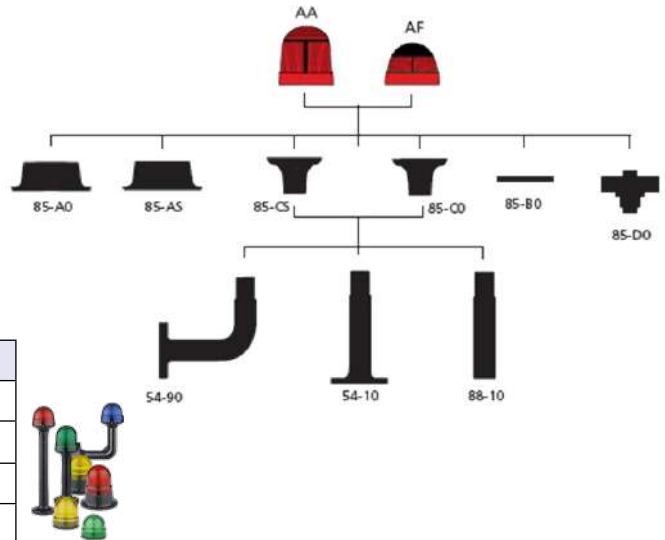
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## Visual & Audio Warning Beacons & Towers

### Series 180 Beacons

- Minimum Complete Assembly = Terminal Unit + Indicators + Cover + LED's
- Standardised LED Bulbs Across The Range
- 60mm Ø, Modular Warning Tower - IP54 (to EN 60529)
- Ambient Operating Temperature -20° to +40°C
- Light Source = BA15d (23 x 47mm) Multi LED Bulb
- Material = Polycarbonate (Extension Pole Aluminium)
- Max Cable Size = 1.5mm<sup>2</sup>
- Double Insulated (Plastic Components); Class II In Accordance With IEC536.

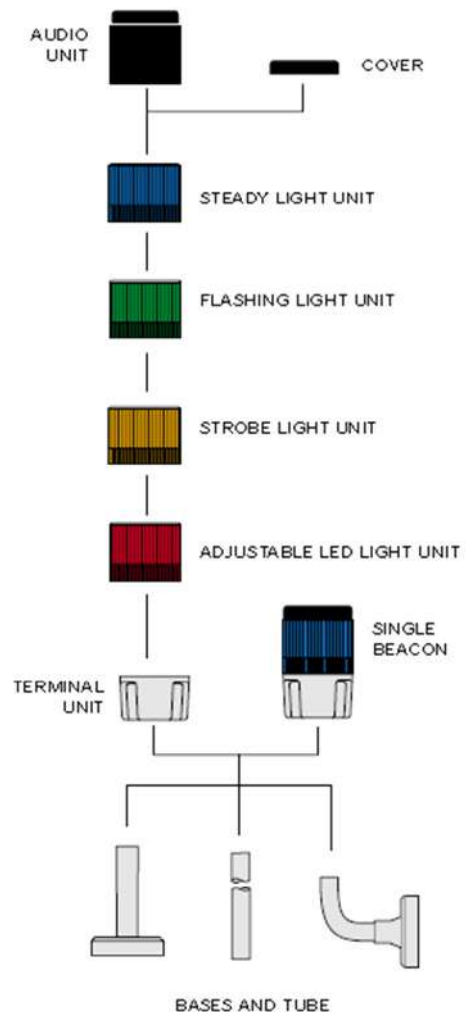
Standards	
Electromagnetic Compatibility	EEC 89/336
European Compliance	EN 60947-5-1
Low Voltage	EEC 2006/95, EEC 94/68
Vibration	2g/min EN 60068-2-6



### Series 370 Towers

- Minimum Complete Assembly = Terminal Unit + Indicators + Cover + LED's
- Audio Modules Come Complete With Cap & Must Be The Top Mounted Module
- 70mm Ø, Modular Warning Tower - IP64 (to EN60529)
- Light Source = BA15d (23 x 47mm) Multi LED Bulb
- Material = Polycarbonate (Extension Pole Aluminium)
- Max Number Of Modules = 7 (Except Single Beacon Type = 2 Modules)
- Max Cable Size = 1.5mm<sup>2</sup>
- Double Insulated (Plastic Components); Class II In Accordance With IEC536

Standards	
Electromagnetic Compatibility	EEC 89/336
European Compliance	EN 60947-5-1
Low Voltage	EEC 73/23, EEC 94/68
Vibration	2g/min EN 60068-2-6





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### Series 180 Single Modular Visual & Audio Beacons IP54 - 70(h) x 62mm Ø

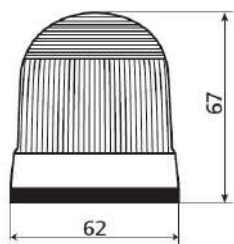
	Part No.	Description	Voltage	Colour	
	B180-AA12424+			Red	
	B180-AA13424+	Steady (Non-Flashing) Indicator		Orange	
	B180-AA14424+	Integrated Multiple LED Ba15d Bulb Included	24V AC/DC	Yellow	
	B180-AA15424+	Standard Mounting Base Included		Green	
	B180-AA16424+			Blue	
	B180-AA19424+			Clear	
	B180-AA12430+			Red	
	B180-AA13430+	Steady (Non-Flashing) Indicator		Orange	
	B180-AA14430+	Integrated Multiple LED Ba15d Bulb Included	230V AC	Yellow	
	B180-AA15430+	Standard Mounting Base Included		Green	
	B180-AA16430+			Blue	
	B180-AA19430+			Clear	
	B180-AA22424+			Red	
	B180-AA23424+	Steady Or Flashing Indicator		Orange	
	B180-AA24424+	Integrated Multiple LED Ba15d Bulb Included	24V AC/DC	Yellow	
	B180-AA25424+	Standard Mounting Base Included		Green	
	B180-AA26424+			Blue	
	B180-AA29424+			Clear	
	B180-AA22430+			Red	
	B180-AA23430+	Steady Or Flashing Indicator		Orange	
	B180-AA24430+	Integrated Multiple LED Ba15d Bulb Included	230V AC	Yellow	
	B180-AA25430+	Standard Mounting Base Included		Green	
	B180-AA26430+			Blue	
	B180-AA29430+			Clear	
	B180-AA42ABL+	Steady Or Flashing Indicator + Audio 80dB		Red	
	B180-AA43ABL+			Orange	
	B180-AA44ABL+	84 flashes/min (1.4Hz) EN 60073	24V AC/DC	Yellow	
	B180-AA45ABL+	5 Individual LED Bulbs (Permanent)		Green	
	B180-AA46ABL+	Standard Audio Base Included		Blue	
	B180-AA49ABL+			Clear	

Note: Units with integrated audio sounders are 90mm in height, 85mm across the base...

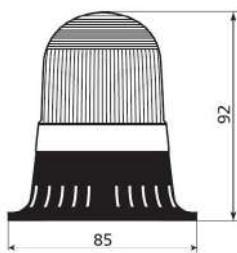
Texelco 180 Series warning devices are available in a range of colours and mounting options. Mounting accessories are shown in overleaf.

## Series 180 Mounting Accessories

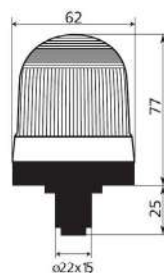
	Part No.	Description	Colour	
	B180-T370-54-10	Base (Ø 70mm) With Tube L = 100mm		
	B180-T370-54-90	Bracket - Wall Mounting 90°		
	B180-85-A0	Deep Base For 180 Series Beacons		
	B180-85-AS	Deep Base For 180 Series - Audio Devices	Black	
	B180-85-B0	Flat Base For 180 Series Beacons Only		
	B180-85-C0	Conduit Adaptor For 180 Series Beacons Only		
	B180-85CS	Conduit Adaptor For 180 Series Audio Devices		
	B180-85-D0	Bracket 22mm Ø Base Mounting For 180 Series - Beacons		
	B180-85-DS	Bracket 22mm Ø Base Mounting For 180 Series - Audio		
	B180-T370-88-10	Extension Tube L = 100mm		
	B180-T370-88A22	Bracket 22mm Ø P->S Base Adaptor Black Aluminium		
	B180-T370-55P62	Bracket Assembly - Wall Mounting		



**85-B0 AA**



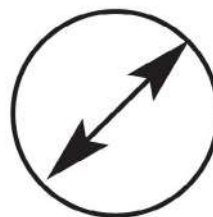
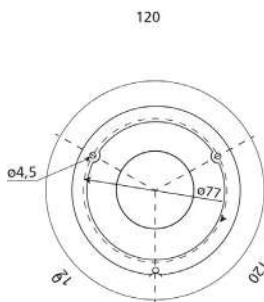
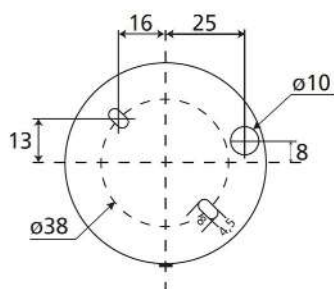
**85-B5 AA**



**85-D0 AA**



**85-CS AA**





Ø 22



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The Series 370 towers can have up to 7 modules in total. Each indicator can be steady, flashing or programmable. One audio unit can be added, which is supplied complete with the top sealing cap. The tower can be directly mounted through the wiring base or mounted on a range of base accessories or straight or angled conduit entries.

### Series 370 Multiple Modular Visual & Audio Indicators IP54/64 - 70mm ø

	Part No.		Description	Colour	
	230V AC	24V AC/DC			
	T370-12-4G	T370-12-4B	Steady (Non-Flashing) Indicator Integrated Multiple LED Ba15d Bulb Included	Red	
	T370-13-4G	T370-13-4B		Orange	
	T370-14-4G	T370-14-4B		Yellow	
	T370-15-4G	T370-15-4B		Green	
	T370-16-4G	T370-16-4B		Blue	
	T370-19-4G	T370-19-4B		White	
	T370-22-4G	T370-22-4B	Flashing Indicator - 84 Flashes/Min (1.4Hz) EN 60073 Integrated Multiple LED Ba15d Bulb Included	Red	
	T370-23-4G	T370-23-4B		Orange	
	T370-24-4G	T370-24-4B		Yellow	
	T370-25-4G	T370-25-4B		Green	
	T370-26-4G	T370-26-4B		Blue	
	T370-29-4G	T370-29-4B		White	
	-	T370-42-KB	Steady Or Flashing Indicator - 84 Flashes/Min (1.4Hz) EN 60073 Integrated Multiple LED Ba15d Bulb Included	Red	
	-	T370-43-KB		Orange	
	-	T370-44-KB		Yellow	
	-	T370-45-KB		Green	
	-	T370-46-KB		Blue	
	-	T370-49-KB		White	
	-	T370-42-24	Multifunction (Programmable) Indicator Steady, flashing or rotating light 27 Integrated LED Bulbs Included	Red	
	-	T370-43-24		Orange	
	-	T370-44-24		Yellow	
	-	T370-45-H4		Green	
	-	T370-46-H4		Blue	
	-	T370-49-H4		White	
	T370-73-30	-	Audio Module c/w Lid	95dB	Intermittent Only
	-	T370-73-24		100dB	
	T370-75-30	-		95dB	Constant /Intermittent
	-	T370-75-24		100dB	
	-	T370-75-MB		90dB	16 Sounds
	T370-90-02		Wiring Unit c/w Terminals & Cover		


### Series 370 Standalone Audio Sounders Complete

-	T370-97324	Audio Sounder c/w Lid & Base	IP54	90dB	Constant	Black
T370-97530	-			95dB	Constant	
-	T370-97524			100dB	/Intermittent	
-	T370-975MB			90dB	16 Sounds	




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### Series 370 Mounting Accessories

	Part No.		Description	Colour	
	24V ACDC	230V AC			
		B180-T370-54-10	Base (Ø 70mm) With Tube L = 100mm	Black	
		B180-T370-54-90	Bracket (Ø 70mm) - Wall Mounting 90°		
		B180-T370-88-10	Extension Tube L = 100mm		
		B180-T370-88A22	Bracket 22mm Ø Aluminium Base Adaptor		

### Series 180 & Series 370 LED Bulbs

	11EBx2	11EGx2	BA15d LED Bulb 10 Front & Side Focused LED's Colour match to indicator lens (see chart below)	Red	
	11EBx4	11EGx4		Yellow	
	11EBx5	11EGx5		Green	
	11EBx6	11EGx6		Blue	
	11EBx9	11EGx9		White	

### Lens/Lamp Colour Matching

Lens	
	Red
	Yellow
	Orange
	Green
	Blue
	Clear
	White



Bulb	
	Red
	Yellow
	Green
	Blue
	White

### Multicolour LED Warning Beacons / 22mm LED Warning Lights & Sounders


**Multicolour**

- 3 Colours, 1 lens unit, 1 integrated LED Lamp
- Integrated Sounder (Optional)
- Low Current Consumption
- Compact Installation



### Multicolour LED Warning Beacons Complete IP64

	Part No.	Description	Voltage	Colours	Trade Price
	94T5B 532	Beacon Tricolour	24VDC	Green / Amber / Red	\$335.00
	94T7B 532	Beacon Tricolour + Sounder 85dB			\$385.00
	94Q1B	Beacon Quadcolour		Blue / Green / Amber / Red	\$414.00
	94Q7B	Beacon Quadcolour + Sounder 85dB			\$479.00

### 22mm Push Button Style LED Warning Lights & Sounders




ECX2071-24R	22mm Push Button Style Indicator + Sounder	24VAC/DC	Red	\$27.00
ECX2071-230R		230VAC		\$37.00




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### Series 600 Rotating Beacon 200(h) x 150mm Ø


	Part No.		Description	Colour	
	24 VAC/VDC	230V AC			
	RB-LA52-4B	-	Rotating Beacon Multichip LED bulb included	Red	
	RB-LA53-4B	-		Orange	
	RB-LA54-4B	-		Yellow	
	RB-LA55-4B	-		Green	
	RB-LA56-4B	-		Blue	
	RB-LA59-4B	-		Clear	

### S600 Series Flashing Beacons


	Part No.	Description	Voltage	Colour	
	S600-LL22-4B	Flashing Beacon, 115mm x 250mm, LED	24VAC/DC.	Red	
	S600-LL22-4G		230VAC	Red	
	S600-LL23-4B	Bulb included.	24VAC/DC.	Orange	
	S600-LL23-4G		230VAC	Orange	

> Ultra bright LED lamp >Equipped with Fresnel lens top to improve brightness  
> Low consumption, controlled via remote source (PLC, control panel, etc)


### 28mm Panel Mount Buzzers

	Part No.	Description	Voltage	Colour	
	ECX28100A	Audio signal device for panel mounting	12VDC(ac)	Black	
	ECX28100B	(28mm) pulse or continuous audio signal	24VDC(ac)		
	ECX32100A	IP20, 95dB	10-28VDC		

### Buzzer, Surface mount 55mm Diameter

	ECX55C100B	Continuous Sound 100dB, IP54	24VDC(ac)	Black	
	ECX55P100B	Pulse Sound, 100 Db, IP54	24VDC(ac)		

### Compact Electronic Sounders

	Part No.	Description	Voltage	Colour	
	ECX101K	Electronic Sounder 100dB, 28 tones, IP65 12/24 V DC, ma 32 mA	12/24VDC	Red	
	ECX101W	Electronic Sounder 100 Db, 8 tones, IP 65 100/260 V AC, max 32mA	230VAC	Red	

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### Audio/Visual Indication To EN 981

Visual		Audio	
Colour	Meaning	Characteristics	Configuration of time
<b>RED</b>	DANGER Urgent intervention to save or protect	-With variable frequency -Series of sounds -Alternate tone (two or three frequency intervals)	- ON/OFF, continuous or alternating - ON/OFF, alternating - ON/OFF, continuous or alternating
<b>Yellow / Orange</b>	ATTENTION Intervention when necessary	One sound only with a constant spectrum, minimum duration: 0.3s	-Alternating ON/OFF, which must be clearly different from "EMERGENCY EVACUATION"
<b>Orange</b>			"Max 2 different "ON" segment lengths can be in" the configuration; the first one is to be long
<b>Blue</b>	COMMAND Compulsory intervention required	-Two or three different sounds, each of them with a constant spectrum	-ON/OFF, continuous or alternating
<b>White / Clear</b>	ANNOUNCEMENT / INFORMATION Instruction to the public	-Ringing tone consisting of two tones	-Non-repetitive high-low (followed by instructions)
<b>Green</b>	END OF ALARM Situation: Out of danger	-Sound with consistent spectrum	-Continuous, at least 30s - Signal which follows one previous alarm signal

### Process Condition Indicator Colours To EN 60073

Colour	Meaning	Explanation	Operator Actions	Application
<b>RED</b>	Emergency	Dangerous conditions	Immediate action to deal with a dangerous condition by, eg; - Activate emergency stop - Opening safety valve - Start cooling pump	-Pressure/temperature out of safe limits -Voltage drop -Breakdown of a "main" unit" -Breakdown of critical control systems -Freezer temperature too high -Stop position over travel on a hoist
<b>Yellow / Orange</b>	Unusual Conditions	Abnormal conditions Impending critical condition	Monitoring and/or intervention (reset intended function)	-Pressure/temperature different from normal levels
<b>Orange</b>				-Tripping of a protective device or auxiliary unit -Conveyor overload -Over travel of a limit switch -Position change of a valve or conveyor belt -Freezer on "super" freeze
<b>Green</b>	Normal	Normal conditions	Optional	-Authorisation to proceed -Indication of normal working limits
<b>Blue</b>	Mandatory	Indication of a condition that requires action	Mandatory action	Instruction to operator to enter preselected values
<b>White / Clear</b>	No specific meaning assigned	Any meaning; may be used whenever doubt exists about the application of Red, Yellow, Green, Blue	Mandatory action	Instruction to operator to enter preselected

## Process Controls For Temperature And Pressure


- Thermostats (single & two stage) for wall, pipe & surface mtg
- HVAC thermostats
- Pressure switches
- Pressure transmitters





### Thermostats - Single Stage

	Part No.	Description	IP Rating	Set Point	Temperature					
					Range	Differential				
	A33	Ambistat Single Stage Room Thermostat	IP54	External	0 To +30°C	+0.7 To +6°C				
	A60				0 To +60°C					
	AS30			Industat Capillary T'stat 2m	IP65		Internal	0 To +30°C		
	AS33							-30 To +30°C		
	AS40	+10 To +40°C								
	AS60	0 To +60°C								
	IS95			Internal	+5 To +95°C	+2 To +12°C				
	M40	Ministat Capillary Thermostat 2m Capillary	IP54	External	-30 To +40°C	0.7 To +10°C				
	M95				+5 To +95°C	+2 To +12°C				
	MS40			Internal	-30 To +40°C	0.7 To +10°C				
	MS95				+5 To +95°C	+2 To +12°C				
	MS150				+20 To +150°C	+2.5 To +16°C				
	MS230S				+20 To +230°C	+3 To +32°C				
	MS350S			+70 To +350°C	+4 To +40°C					
				MSP35	Pipe Mtg T'stat	IP54	Internal	-10 To +35°C	3.7 To +14°C	
MSP95		+5 To +95°C								
MST8015		Ministat Capillary Thermostat c/w Pocket	IP54	Internal	-10 To +80°C	+2 To +12°C				
MST9515					+5 To +95°C					
MST15015					+20 To +150°C		+2.5 To +16°C			
MST15040										
Note:		MST15015 = 150mm probe / MST15040 = 400mm probe								
	MSK35	Duct Thermostat	IP54	Internal	0 To +35°C	0.7 To +10°C				
	MSK40				-30 To +40°C					
	MSK80				+10 To +80°C					


### Thermostats - Two Stage

	A2S30	Altero-Ambistat 2 Stage Room Thermostat	IP65	Internal	0 To +30°C	1.8°C*	
	A2S33				-30 To +30°C		
	A2S60				0 To +60°C		
	Note:	Smallest stage differential 1°C / Largest stage differential 15°C					



## HVAC Thermostats

	Part No.	Description	IP Rating	Set Point	Temperature		
					Range	Differential	
	M2S35	Alterostat HVAC 2 Stage Controller - Capillary	IP54	Internal	0 To +35°C	1.8°C	
	M2S40				-30 To +40°C		
	M2S95				+5 To +95°C	2.5°C	
	M2S150				+20 To +150°C	1.5°C	
	ADS30	Duostat HVAC Double Thermostat - Single Housing	IP54	Internal	0 To +30°C	+0.7 To +6°C	
	ADS60				0 To +60°C		
	F15	Frostat c/w 6m Capillary	IP54	Internal	-5 To +15°C	+2 ±1°C	

## HVAC Thermostats

	AS60R	Mini-Limistat 2m Capillary	IP54	Internal	0 To +60°C	+0.7 To +6°C	
	MS95R				+5 To +95°C	2 To +12°C	
	MS150R				+20 To +150°C	2.5 To +16°C	
	MS230SR				+20 To +230°C	3 To +32°C	
	MS350SR				+70 To +350°C	4 To +40°C	
	MSP95	Pipe Mounting Limistat			+5 To +95°C	3.7 To +14°C	
	MSK80R	Duct Limistat			+10 To +80°C	+0.7 To +10°C	

## Thermostat Accessories

	Part No.	Description	For Thermostats...	Diameter	Length		
	83160110K	Thermostat Pocket Only Brass Nickel Plated	M / MS / M2S / IS	10mm Ø	110mm		
	83160150K				150mm		
	83160200K				200mm		
	83160400K				400mm		
	83180150K		D...R	14mm Ø	150mm		
	84110110K	T'stat Pocket Only SS316	M / MS / M2S / IS	10mm Ø	110mm		
	84110200K		IS		200mm		
	K200	Sensor Duct Holder (Support) For MS / M2S / M4S					
	W200	Sensor Wall Holder (Support) For MS / M2S / M4S					

<b>Set Point</b>	The target value that a thermostat is set to
<b>Differential</b>	"The temperature change or "differential" between the LOW and HIGH settings"
<b>Dead Zone</b>	The difference between the set point and the point where the heating or cooling is turned on



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### **“Pressure Switches (G1/4” Female Connection) IP65”**

	Part No.	Description	Pressure		
			Range	Differential	
	P1.5	Pressostat	-0.9 To +1.5 bar	+0.1 bar	
	P2.5		+0.2 To +2.5 bar	+0.1 bar	
	P4		0 To +4 bar	+0.2 bar	
	P6		0 To +6 bar	+0.2 bar	
	P10		+1 To +10 bar	+0.4 bar	
	P16		+1 To +16 bar	+0.4 bar	
	P25		+2 To +25 bar	+1 bar	
	P40		+4 To +40bar	+1 bar	
	PK100		+10 To +100 bar	+1 bar	
	PD3.4	Differential Pressostat	0 To +3.4 bar	-	
	PD6		0 To +6 bar		
	PV6	Vari Pressostat	0 To +6 bar	0.4 To +3.2 bar	
	PV16		+1 To +16 bar	+1 To +7.5 bar	
	PVF6		0 To +6 bar	0 To +6 bar	
	PVF16		+1 To +16 bar	+1 To +16 bar	

### **“Pressure Transmitters - 4...20mA Output (G1/4” Male Connection) IP65”**

	Part No.	Description	Pressure Range	Maximum Over Pressure	
	NAT2.5A	Industrial Pressure Transmitter (Completely Welded Steel)	0 To +2.5 bar	+5 bar	
	NAT4.0A		0 To +4 bar	+8 bar	
	NAT6.0A		0 To +6 bar	+12 bar	
	NAT10.0A		0 To +10 bar	+20 bar	
	NAT16.0A		0 To +16 bar	+32 bar	
	NAT25.0A		0 To +25 bar	+50 bar	
	NAT40.0A		0 To +40bar	+80 bar	

### **Pressure Conversion**

Bar		PSI		kPA	
1 bar =	14.5 psi	1 PSI =	6.895 kPa	1 kPA =	0.01 bar
	100 kpa		51.71mm Hg		0.145 psi
	750mm hg		2.036 in. of mercury		7.5188mm Hg
	29.53 in.		0.069 bar		0.2953 in. Of
	of mercury				of mercury



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## RF Remote Control & Automation System


- Smart phone control of home automation components
- Remote control of lights (on/off + dimming) and appliances
- Wired in or wireless receivers
- Motion (passive infra red) & daylight (photo-electric) sensors
- Magnetic security sensors



Trust, turning a house into a smart home.



## Wireless Automation Control

	Part No.	Description	Format	
	ICS-2000	Internet Control Station Home Automation Controller - PC & Smart Phone Accessible	Programable Control Module - Remote Web Access & iPhone/ Android App	Controls up to 256 lights, devices & Alert system
				Remote access to Trust Receivers from anywhere in the world

## Control your Smart Home from anywhere in the world!

ICS-2000 internet Control Station. This is the hub of the system and is the ideal solution to wirelessly control and monitor your home for ultimate comfort and security via your phone or tablet whether you are home or away.



### Features:

- Control up to 256 lights and devices with your smartphone or tablet
- Monitor your home with sensors and get push notifications on your smartphone/tablet
- Free app available for iPad, iPhone and Android tablet and smartphone
- Every family member can connect their mobile device
- Program timers for devices/scenes (including sunrise/sunset recognition)



**SMART LIGHT CONTROL**  
Control up to 256 lights and devices with your smartphone or tablet.



**PROGRAM TIMERS**  
Program timers for devices/scenes (including sunrise/sunset recognition).



**COMPATIBLE**  
Compatible with all iOS 6+ / Android 2.3+, smartphones/tablets.



**SECURE COMMUNICATION**  
Safe encrypted communication using AES-128 and SSL.



**HOME MONITORING**  
Monitor your home with sensors and get push notifications on your smartphone/tablet.



**AUTOMATE SCENARIOS**  
Automate your lights, screens, etc by using the intuitive rules editor (IFTTT editor)




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## Transmitters









	Part No.	Description	Format	Function	
	AWST-8800		Single + Delay Timer	On / Off + Dimming	
	AWST-8802		Wall Switch Flush/ Surface Mounting		
	AWST-9000		Single + Double Interchangeable control buttons		
	AWMT-003	RF Transmitters	Battery Pwr'd	On / Off	
	CPS AWM 003 230V		Mini Transmitter (Use With Std NZ Wall Switches)		
	AWRT-1000		Rotary Dimmer Switch	Battery Pwr'd	On / Off + Dimming
	AYCT-102		Hand Held Remote 16 Channels (Indoor Range ≤30m)	Tuning Auto (New) Man (Old)	
	ACCT-510		Key Chain Remote Control (Outdoor Range ≤70m)	On / Off	
	AWST-6000	PIR Sensor Indoor	Wall Switch (Battery) Detection Field 20-80°	On - Off	
	APIR-2150	PIR Sensor-IP64	Outdoor (Battery) Detection Field 20-110°		

## Receivers


	Part No.	Description	Format	Rating	Function	
	ACM-3500-3**		3 Channel Receiver	3500W	Lights & Devices On/Off	
**Note:		The ACM-3500-3 has 3 built-in receivers in one unit. This combined unit costs about the same as 2 ACM-1000 receivers. All ratings for incandescent loads.				

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## Receivers

	Part No.	Description	Format	Rating	Function	
	ACM-2000	RF Receivers	Wired In	2000W	Lights & Devices On/Off	
	ACM-100			LED/ESL 3-50W Incandescent/ Halogen 20-200W	LED/CFL Switch & Dim	
	ACM-2300HC			2300W	Lights & Devices On/Off	
	ACM-LV10	LED Dimmer Receiver		12-24VDC 1 to 10V output	On - Off & Dim	
	ACM-LV24			12-24VDC (constant voltage)		
	ASUN-650	RF Receivers		500W	1P C/O (Fwd/Rev)	
	AMU-500				Normally open contact to switch 230V or 12/24VAC/DC	
	AWMD-250		Flush Box Mounted Wired In	250W	All Lights Switch & Dim	
	ACM-250LD		LED/ESL 50W Incandescent/ Halogen 250W	On-Off & Dim		
	AWS-3500	Receiver	Receiver Internal Switched Socket Mount	3500W (Max.)	Resistive Load On-Off	

## Starter Sets

	Part No.	Description	Format	
	APA3-1500R	Wireless Switching Starter Pack	1 x Remote + 3 x Plug-In Receivers 1500W at 230V	

## Energy Saving Automation & Lighting Control

- Low voltage (24VDC) lighting control system for energy saving through occupancy sensing & daylight 'harvesting'
- Dual technology sensing with combined PIR and ultrasonic sensors

### PIR Occupancy Sensor Ceiling Mount 24VDC (Indoor)

	Part No.	Description	Time Delay	Coverage Size	Application	
	W-PIR	90° Std Unit	30s-30m	27.9m <sup>2</sup>	Small Office	
	CX-100	90° Std Unit + Lux Sensor	15s-30m	185.8m <sup>2</sup>	Office	
	CB-100	PIR 90° Sensor for cold conditions. Low Temp. -40°C to +35°C	15s-10m	185.8m <sup>2</sup>	Walk-in Chillers and Freezers	
	CI-300	360° Std Unit + Lux Sensor	Std Lens	111.5m <sup>2</sup>	Larger Office	
	CI-300-1	Flush Mtg	High Density	46.5m <sup>2</sup>	Small meeting room	

### PIR Occupancy Sensor Ceiling Mount - HVAC & BMS Applications

	CI-24	360° Std Unit Flush Mtg		111.5m <sup>2</sup>		
	CI-24-1	360° Std Unit + Hi-Density Lens Flush Mounting	30s-30m	46.5m <sup>2</sup>	Offices	

### PIR Occupancy Sensor 24VDC (Outdoor) IP55

	EW-205-24-W	270° Std Unit Surface Mtg	White	12s-16m	16m Linear	Outdoor	
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### PIR Sensor DALI Continuous dimming outdoor photo/motion

	FDP-301SR-L7-TG	360° Continuous Dimming DALI outdoor motion PIR sensor, IP66, GREY					
	FDP-301SR-L7-W	360° Continuous Dimming DALI outdoor motion PIR sensor, IP66, WHITE	30sec to 30m	30.5m Diameter		Ideal for parking facilities, gas stations, pedestrian street lighting, and warehouses	
Easy commissioning & set-up of the PIR sensor from ground level via the Legrand Sensor Configuration app.							
	FDP-M1-TG	DALI FDP Sensor Mask - GREY				-	
	FDP-M1-W	DALI FDP Sensor Mask - WHITE				-	

### Ultrasonic Occupancy Sensor Ceiling Mount 24VDC

	W-500A				46.5m <sup>2</sup>		
	W-1000A	360° Ultrasonic Sensor Surface Mtg			92.9m <sup>2</sup>	Toilets and Open Plan Areas	
	W-2000A		15s-15m		185.8m <sup>2</sup>		
	W-2000H	Ultrasonic Corridor Sensor Surface Mount			24.7m Linear	Corridors	
	UT-300-1				46.5m <sup>2</sup>		
	UT-300-2	360Deg Ultrasonic + Lux Sensor Ceiling flush mount	5m-30m		92.9m <sup>2</sup>	Toilets and Open Plan Areas	
	UT-300-3				185.8m <sup>2</sup>		



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### Dual Technology Occupancy Sensors Wall & Ceiling Mount 24VDC



DT-200	90° Dual Tech + Lux Sensor Surface Mtg	5m-30m	92.9m <sup>2</sup>	Classrooms and Boardrooms
DT-300	360° Dual Tech + Lux Sensor Ceiling Flush Mtg			

### Wall Switch Occupancy Detectors & Time Switches 24VDC



Part No.	Description	Coverage Size Timer	Application
TS-400-24	Digital Time Delay Switch	5m - 12H	Storage Room
PW-100-24-W	PIR Wall Switch Man/Auto		
UW-100-24-W	Ultrasonic Wall Switch Man/Auto	5m - 30m	Small offices and Toilets
DW-100-24-W	Dual Tech Wall Switch Man/Auto		

### Daylighting Controls 24VDC



LS-102	Programmable Daylight Control	Indoor Daylight Controllers
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### High Bay Occupancy Sensors 24VDC



Part No.	Description	Application
HB-300-B	High Bay Occupancy Sensor Module	Warehouse and Gymnasiums
HB-300C-B	Low Temp -40 to +35DegC (HB-300C-B)	
HB-L1		Two sided aisleway coverage
HB-L1M	High Bay Sensor Lens Only	One sided aisleway coverage
HB-L3		360° 7m at 6m mounting height
HB-L7W		360° 20m at 12m mounting height

### Power Supply's



Part No.	Description	Input	Output	Detail
B230E-P	Power Pack Junction Box Mounting	230VAC	24VDC 114mA	20Amp Relay
BD-100E-P	Power Pack DIN Rail Mtg Hold On + Hold Off		24VDC 175mA	

### Accessories



Part No.	Description	Sensors
WC-1		DT-200 / CX-100 / CB-100
WC-2	Protective Wire Cage For Sensors	
WC-3		W-500A/ W2000H / WT / CI-200 / WPIR / DT-300 / UT-300 / CI-300
WC-4	Protective Wire Cage For Wall Switches	DW-100 / UW-100 / PW-100
CA-1	Adaptor Plate for 300 Series Sensors	
MOUNTING BLOCK	Surface Mounting Block for use with CA-1	

## Technologies

Passive Infra-Red	Ultrasonic	Dual Technology
<p>Passive infra-red (PIR) technology detects occupancy by sensing the difference between heat emitted from a human body in motion and the back-ground space. PIR sensors require a clear line of sight.</p> <p>PIR occupancy sensors differ from ordinary PIR sensors by the higher density of sensors and coverage.</p>	<p>Ultrasonic technology works by transmitting ultrasonic sound waves throughout an area and measuring the speed at which they return.</p> <p>Occupant movements change the frequency of the waves. Ultrasonic sensors can detect movement around partitions and obstacles.</p>	<p>Combined PIR and ultrasonic technology ensure maximum sensitivity and coverage for hard to sense spaces for optimal reliability and energy savings.</p>

## Recommended Uses

Passive Infra-Red	Ultrasonic	Dual Technology
<p>Small offices</p> <p>Warehouses</p> <p>Library bookstacks or other aisles</p> <p>Common areas &amp; lobbies</p> <p>Computer rooms</p>	<p>Restrooms</p> <p>Open office spaces</p> <p>Enclosed hallways</p> <p>Stairways</p>	<p>Classrooms</p> <p>Large conference rooms</p> <p>Large offices</p> <p>Lunchrooms</p>

## Coverage Patterns

Passive Infra-Red	Ultrasonic	Dual Technology	
Wall Mount...	Ceiling Mount...	Wall Mount...	
Total coverage...			
W-500A	46.5m <sup>2</sup>	W-2000A	185.8m <sup>2</sup>
W-1000A	92.9m <sup>2</sup>	W-2000H	27m Linear

Passive Infra-Red	Dual Technology
<p>Ceiling Mount - Standard Density...</p>	<p>Ceiling Mount - Standard Density...</p>

# ***Eurotec Ltd Conditions of Sale***

## **1. Definitions**

- 1.1 "Seller" shall mean Eurotec Ltd and its successors and assigns.
- 1.2 "Buyer" shall mean the Buyer or any person acting on behalf of and with the authority of the Buyer.
- 1.3 "Guarantor" means that person (or persons), or entity that agrees herein to be liable for the debts of the Buyer on a principal debtor basis.
- 1.4 "Goods" shall have the same meaning as in section 2 of the Sale of Goods Act 1908 and are goods supplied by the Seller to the Buyer (and where the context so permits shall include any supply of Services as hereinafter defined).
- 1.5 "Services" shall mean all services supplied by the Seller to the Buyer and includes any advice or recommendations (and where the context so permits shall include any supply of Goods as defined above).
- 1.6 "Price" shall mean the cost of the Goods as agreed between the Seller and the Buyer subject to clause 4 of this contract.

## **2. Acceptance**

- 2.1 Any instructions received by the Seller from the Buyer for the supply of Goods and/or the Buyer's acceptance of Goods supplied by the Seller shall constitute acceptance of the terms and conditions contained herein.
- 2.2 Where more than one Buyer has entered into this agreement, the Buyers shall be jointly and severally liable for all payments of the Price.
- 2.3 Upon acceptance of these terms and conditions by the Buyer the terms and conditions are irrevocable and can only be rescinded in accordance with these terms and conditions or with the written consent of the manager of the Seller.
- 2.4 None of the Seller's agents or representatives are authorised to make any representations, statements, conditions or agreements not expressed by the manager of the Seller in writing nor is the Seller bound by any such unauthorised statements.

## **3. Goods / Services**

- 3.1 The Goods and/or Services are as described on the invoices, quotation, work authorisation or any other work commencement forms as provided by the Seller to the Buyer.

## **4. Price And Payment**

- 4.1 At the Seller's sole discretion the Price shall be either;
  - (a) as indicated on invoices provided by the Seller to the Buyer in respect of Goods supplied; or
  - (b) Seller's quoted Price (excluding engineering or commissioning unless specified) which (subject to clause 4.2) shall be binding upon the Seller provided that the Buyer shall accept in writing the Seller's quotation within thirty (30) days.
- 4.2 Any variation from the plan of scheduled works or specifications (including, without limitation, foreign exchange fluctuations, taxes and duties, provisions of any Acts, By-Law, Order or Regulation of any parliament, municipality or local authority enacted after the date of contract between the Buyer and Seller) will be charged for on the basis of the Seller's quotation and will be shown as extras on the invoice. Payment for all extras must be made in full at their time of completion.
- 4.3 Quoted Prices shall be based on those ruling at the date of quotation. Indent prices are based on the exchange rate and freight rates ruling at date of quotation. All prices are ex-store Auckland.
- 4.4 Time for payment for the Goods shall be of the essence and will be stated on the invoice, quotation or any other order forms. If no time is stated then payment shall be on delivery of the Goods.
- 4.5 At the Seller's sole discretion, payment for approved Buyer's shall be due twenty (20) days following the end of the month in which the Goods and/or Services were provided.
- 4.6 Payment will be made by cash on delivery, or by cheque, or by bank cheque, or by credit card, or by direct credit, or by any other method as agreed to between the Buyer and the Seller.
- 4.7 The Price shall be increased by the amount of any GST and other taxes and duties which may be applicable, except to the extent that such taxes are expressly included in any quotation given by the Seller.

## **5. Delivery Of Goods**

- 5.1 Delivery of the Goods shall be made to the Buyer's address. The Buyer shall make all arrangements necessary to take delivery of the Goods whenever they are tendered for delivery, or delivery of the Goods shall be made to the Buyer at the Seller's address.
- 5.2 Delivery of the Goods to a carrier, either named by the Buyer or failing such naming to a carrier at the discretion of the Seller for the purpose of transmission to the Buyer, is deemed to be a delivery of the Goods to the Buyer.
- 5.3 Delivery of the Goods to a third party nominated by the Buyer is deemed to be delivery to the Buyer for the purposes of this agreement.
- 5.4 The failure of the Seller to deliver shall not entitle either party to treat this contract as repudiated.
- 5.5 The Seller shall not be liable for any loss or damage whatever due to failure by the Seller to deliver the Goods (or any of them) promptly or at all.

## **6. Risk**

- 6.1 If the Seller retains title to the Goods nonetheless all risk for the Goods passes to the Buyer on delivery.
- 6.2 During the period between delivery and final payment for the goods, the Buyer will maintain sufficient insurance thereon in the name of the Seller against loss or damage from any course to cover the unpaid balance of the purchase price and failing to do so no loss or damage suffered during the aforesaid period shall relieve the Buyer from payment of the balance of the purchase price or from any of the terms of this contract. During such period the Buyer will maintain all Goods and materials delivered by the Seller in good condition.
- 6.3 If any of the Goods are damaged or destroyed prior to title to them passing to the Buyer, the Seller is entitled, without prejudice to any of its other rights or remedies under these terms and conditions (including the right to receive payment of the balance of the Price for the Goods), to receive all insurance proceeds payable in respect of the Goods. This applies whether or not the Price has become payable under these terms and conditions. The pro-

duction of these terms and conditions by the Seller is sufficient evidence of the Seller's rights to receive the insurance proceeds without the need for any person dealing with the Seller to make further enquiries.

## **7. Defects/Returns/Order Cancellations**

- 7.1 The Buyer shall inspect the Goods on delivery and shall within fourteen (14) days of delivery notify the Seller of any alleged defect, shortage in quantity, damage or failure to comply with the description or quote. The Buyer shall afford the Seller an opportunity to inspect the Goods within a reasonable time following delivery if the Buyer believes the Goods are defective in any way. If the Buyer shall fail to comply with these provisions the Goods shall be conclusively presumed to be in accordance with the terms and conditions and free from any defect or damage.
- 7.2 For defective Goods, which the Seller has agreed in writing that the Buyer is entitled to reject, the Seller's liability is limited to either (at the Seller's discretion) replacing the Goods or repairing the Goods provided that:

- (a) the Buyer has complied with the provisions of clause 7.1;
- (b) the Seller will not be liable for Goods which have not been stored or used in a proper manner;
- (c) the Goods are returned in the condition in which they were delivered and with all packaging material, brochures and instruction material in as new condition as is reasonably possible in the circumstances.

- 7.3 The Seller may (in its discretion) accept the Goods for credit but this may incur a handling fee (of at least 15% of the value of the returned Goods) as determined by the Seller from time to time plus any freight.

- 7.4 Goods specially Indented or manufactured for the Buyer will not be accepted back for credit.

- 7.5 Cancellation of any order or backorder placed by the Buyer must be received in writing by the Seller prior to actual delivery of the goods. Indent orders cannot be cancelled by the Buyer unless cancellation is agreed to by the supplier of the goods to the Seller.

## **8. Warranty**

- 8.1 Subject to the conditions of warranty set out in Clause 8.2 the Seller warrants that if any defect in any workmanship of the Seller becomes apparent and is reported to the Seller within twelve (12) months of the date of delivery (time being of the essence) then the Seller will either (at the Seller's sole discretion) repair the defect or remedy the workmanship.

- 8.2 The conditions applicable to the warranty given by Clause 8.1 are:

- (a) The warranty shall not cover any defect or damage which may be caused or partly caused by or arise through:
  - i) Failure on the part of the Buyer to properly maintain any Goods; or
  - ii) Failure on the part of the Buyer to follow any instructions or guidelines provided by the Seller; or
  - iii) Any use of any Goods otherwise than for any application specified on a quote or order form; or
  - iv) The continued use of any Goods after any defect becomes apparent or would have become apparent to a reasonably prudent operator or user; or
  - v) Fair wear and tear, any accident or act of God.

- (b) The warranty shall cease and the Seller shall thereafter in no circumstances be liable under the terms of the warranty if the workmanship is repaired, altered or overhauled without the Seller's consent.

- (c) In respect of all claims the Seller shall not be liable to compensate the Buyer for any delay in either replacing or repairing the workmanship/Goods or in properly assessing the Buyer's claim.

- 8.3 For Goods not manufactured by the Seller, the warranty shall be the warranty described in Clause 8.1 unless the manufacturer of the Goods provides a longer warranty period in which case that longer period will apply.

## **9. Default & Consequences Of Default**

- 9.1 Interest on overdue invoices shall accrue from the date when payment becomes due daily until the date of payment at a rate of 2.5% compounding per calendar month and shall accrue at such a rate after as well as before any judgement.

- 9.2 If the Buyer defaults in payment of any invoice when due, the Buyer shall indemnify the Seller from and against all of the Seller's costs and disbursements including on a solicitor and own client basis and in addition all of the Seller's nominees costs of collection.

- 9.3 Without prejudice to any other remedies the Seller may have, if at any time the Buyer is in breach of any obligation (including those relating to payment), the Seller may suspend or terminate the supply of Goods to the Buyer and any of its other obligations under the terms and conditions. The Seller will not be liable to the Buyer for any loss or damage the Buyer suffers because the Seller exercised its rights under this clause.

- 9.4 In the event that:

- (a) any money payable to the Seller becomes overdue, or in the Seller's opinion the Buyer will be unable to meet its payments as they fall due, or;
- (b) the Buyer becomes insolvent, convenes a meeting with its creditors or proposes or enters into an arrangement with creditors, or makes an assignment for the benefit of its creditors, or;
- (c) a receiver, manager, liquidator (provisional or otherwise) or similar person is appointed in respect of the Buyer or any asset of the Buyer, then without prejudice to the Seller's other remedies at law:

- (i) the Seller shall be entitled to cancel all or any part of any order of the Buyer which remains unperformed in addition to and without prejudice to any other remedies; and

- (ii) all amounts owing to the Seller shall, whether or not due for payment, immediately become due and payable.

# ***Eurotec Ltd Conditions of Sale***

## **10. Title**

10.1 It is the intention of the Seller and agreed by the Buyer that property in the Goods shall not pass until:

- (a) The Buyer has paid all amounts owing for the particular Goods, and
  - (b) The Buyer has met all other obligations due by the Buyer to the Seller in respect of all contracts between the Seller and the Buyer, and that the Goods, or proceeds of the sale of the Goods, shall be kept separate until the Seller shall have received payment and all other obligations of the Buyer are met.
- 10.2 Receipt by the Seller of any form of payment other than cash shall not be deemed to be payment until that form of payment has been honoured, cleared or recognised and until then the Seller's ownership of rights in respect of the Goods shall continue.
- 10.3 It is further agreed that:
- (a) Until such time as ownership of the Goods shall pass from the Seller to the Buyer the Seller may give notice in writing to the Buyer to return the Goods or any of them to the Seller. Upon such notice the rights of the Buyer to obtain ownership or any other interest in the Goods shall cease.

- (b) If the Buyer fails to return the Goods to the Seller then the Seller or the Seller's agent may enter upon and into land and premises owned, occupied or used by the Buyer, or any premises as the invitee of the Buyer, where the Goods are situated and take possession of the Goods, without being responsible for any damage thereby caused.

## **11. Personal Property Securities Act 1999**

11.1 Upon assenting to these terms and conditions in writing the Buyer acknowledges and agrees that:

- (a) these terms and conditions constitute a security agreement for the purposes of the PPSA; and

- (b) a security interest is taken in all Goods previously supplied by the Seller to the Buyer (if any) and all Goods that will be supplied in the future by the Seller to the Buyer during the continuance of the parties relationship.

## **11.2 The Buyer undertakes to:**

- (a) sign any further documents and/or provide any further information, such information to be complete, accurate and up-to-date in all respects, which the Seller may reasonably require to register a financing statement or financing change statement on the Personal Property Securities Register;

- (b) indemnify, and upon demand reimburse, the Seller for all expenses incurred in registering a financing statement or financing change statement on the Personal Property Securities Register or releasing any Goods charged thereby;

- (c) not register a financing change statement or a change demand without the prior written consent of the Seller;

- (d) give the Seller not less than fourteen (14) days prior written notice of any proposed change in the Buyer's name and/or any other change in the Buyer's details (including but not limited to, changes in the Buyer's address, facsimile number, or business practice); and

- (e) immediately advise the Seller of any material change in its business practices of selling the Goods which would result in a change in the nature of proceeds derived from such sales.

11.3 The Seller and the Buyer agree that nothing in sections 114(1)(a), 133 and 134 of the PPSA shall apply to these Terms and Conditions.

11.4 The Buyer waives its rights as a debtor under sections 116, 120(2), 121, 125, 126, 127, 129, 131 and 132 of the PPSA.

11.5 Unless otherwise agreed to in writing by the Seller, the Buyer waives its right to receive a verification statement in accordance with section 148 of the PPSA.

11.6 The Buyer unconditionally ratifies any actions taken by the Seller under clauses 11.1 to 11.5. under and by virtue of the power of attorney given by the Buyer to the Seller.

## **12. Security & Charge**

12.1 Despite anything to the contrary contained herein or any other rights which the Seller may have howsoever:

- (a) Where the Buyer and/or the Guarantor (if any) is the owner of land, realty or any other asset capable of being charged, both the Buyer and/or the Guarantor agree to mortgage and/or charge all of their joint and/or several interest in the said land, realty or any other asset to the Seller or the Seller's nominee to secure all amounts and other monetary obligations payable under the terms and conditions. The Buyer and/or the Guarantor acknowledge and agree that the Seller (or the Seller's nominee) shall be entitled to lodge where appropriate a caveat, which caveat shall be released once all payments and other monetary obligations payable hereunder have been met.

- (b) Should the Seller elect to proceed in any manner in accordance with this clause and/or its sub-clauses, the Buyer and/or Guarantor shall indemnify the Seller from and against all the Seller's costs and disbursements including legal costs on a solicitor and own client basis.

- (c) To give effect to the provisions of clause [11, 12.1(a) to (b)] inclusive hereof the Buyer and/or the Guarantor (if any) do hereby irrevocably nominate constitute and appoint the Seller or the Seller's nominee as the Buyer's and/or Guarantor's true and lawful attorney to execute mortgages and charges (whether registerable or not) including such other terms and conditions as the Seller and/or the Seller's nominee shall think fit in his/her/its/their absolute discretion against the joint and/or several interest of the Buyer and/or the Guarantor in any land, realty or asset in favour of the Seller and in the Buyer's and/or Guarantor's name as may be necessary to secure the said Buyer's and/or Guarantor's obligations and indebtedness to the Seller and further to do and perform all necessary and other acts including instituting any necessary legal proceedings, and further to execute all or any documents in the Seller's absolute discretion which may be necessary or advantageous to give effect to the provisions of this clause.

## **13. Intellectual property**

13.1 Where the Seller has designed or drawn Goods for the Buyer, then the copyright in those designs and drawings shall remain vested in the Seller, and shall only be used by the Buyer at the Seller's discretion.

13.2 The Buyer warrants that all designs or instructions to the Seller will not cause the Seller to infringe any patent, registered design or trademark in the execution of the Buyer's order.

## **14. Cancellation**

14.1 The Seller may cancel these terms and conditions or cancel delivery of Goods and Services at any time before the Goods are delivered by giving written notice. On giving such notice the Seller shall promptly repay to the Buyer any sums paid in respect of the Price for those Goods. The Seller shall not be liable for any loss or damage whatsoever arising from such cancellation.

## **15. Privacy Act 1993**

15.1 The Buyer and the Guarantor/s (if separate to the Buyer) authorises the Seller to:

- (a) collect, retain and use any information about the Buyer, for the purpose of assessing the Buyer's creditworthiness or marketing products and services; and

- (b) to disclose information about the Buyer, whether collected by the Seller from the Buyer directly or obtained by the Seller from any other source, to any other credit provider or any credit reporting agency for the purposes of providing or obtaining a credit reference, debt collection or notifying a default by the Buyer.

15.2 Where the Buyer is a natural person the authorities under (clause 15.1) are authorities or consents for the purposes of the Privacy Act 1993.

15.3 The Buyer shall have the right to request the Seller for a copy of the information about the Buyer retained by the Seller and the right to request the Seller to correct any incorrect information about the Buyer held by the Seller.

## **16. Buyer's Disclaimer**

16.1 The Buyer hereby disclaims any right to rescind, or cancel the contract or to sue for damages or to claim restitution arising out of any misrepresentation made to him by any servant or agent of the Seller and the Buyer acknowledges that he buys the Goods relying solely upon his own skill and judgement.

## **17. Contractual Remedies Act**

17.1 The provisions of the Contractual Remedies Act 1979 shall apply to this contract as if section 15(d) of the Contractual Remedies Act which states that nothing in the Contractual Remedies Act shall affect the Sale of Goods Act 1908, were omitted from the Contractual Remedies Act 1979.

## **18. Unpaid Seller's Rights To Dispose Of Goods**

18.1 In the event that:

- (a) the Seller retains possession or control of the Goods; and

- (b) payment of the Price is due to the Seller; and

- (c) the Seller has made demand in writing of the Buyer for payment of the Price in terms of this contract; and

- (d) the Seller has not received the Price of the Goods, then, whether the title in the Goods has passed to the Buyer or has remained with the Seller, the Seller may dispose of the Goods and may claim from the Buyer the loss to the Seller on such disposal.

## **19. Consumer Guarantees Act 1993**

19.1 This agreement is subject to the provisions of the Consumer Guarantees Act 1993 in all cases except where the Buyer is contracting within the terms of a trade/business (which cases are specifically excluded).

## **20. Construction Contracts Act 2002**

20.1 The parties agree that for the purposes of the Construction Contracts Act 2002 this contract is not a commercial construction contract or a construction contract whether for a commercial or residential property or work and devise liability under this contract shall be in no way limited by any contract that the Buyer may have entered into with a third party in relation to the supply of Goods and/or Services to that third party or the payment by the third party to the Buyer of any monies whether by progress payments or otherwise.

## **21. General**

21.1 If any provision of these terms and conditions shall be invalid, void or illegal or unenforceable the validity existence, legality and enforceability of the remaining provisions shall not be affected, prejudiced or impaired.

21.2 All Goods and Services supplied by the Seller are supplied subject to the laws of New Zealand and the Seller takes no responsibility for changes in the law that affect the Goods or Services supplied.

21.3 The Seller shall be under no liability whatsoever to the Buyer for any indirect loss and/or expense (including loss of profit) suffered by the Buyer arising out of a breach by the Seller of these terms and conditions.

21.4 In the event of any breach of this contract by the Seller the remedies of the Buyer shall be limited to damages. Under no circumstances shall the liability of the Seller exceed the Price of the Goods.

21.5 Neither party shall be liable for any default due to any act of God, terrorism, war, strike, lock out, industrial action, flood, storm or other event beyond the reasonable control of either party.

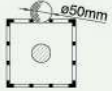
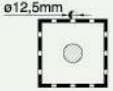
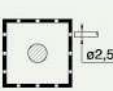
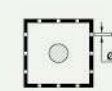


21.6 The Buyer shall not set off against the Price amounts due from the Seller.

21.7 The Seller may license or sub-contract all or any part of its rights and obligations without the Buyer's consent.

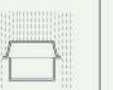
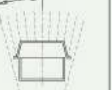
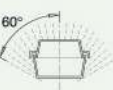

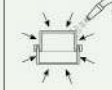
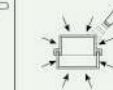

21.8 The Seller reserves the right to review these terms and conditions at any time and from time to time. If, following any such review, there is to be any change in such terms and conditions, that change will take effect from the date on which the Seller notifies the Buyer of such change.

## INGRESS PROTECTION (IP RATING) ACCORDING TO EN 60529

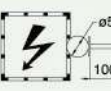
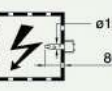

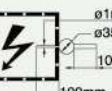
1<sup>st</sup> characteristic figure protection against the entry of solid bodies.

1 <sup>st</sup> characteristic	0	1	2	3	4	5	6
Protection against entry of foreign solid objects	None	Solid objects with min. size greater than 50mm	Solid bodies with minimum size greater than 12.5mm	Threadlike objects with section greater than 2.5mm	Threadlike objects with section greater than 1mm	Protected against dust	Dust-tight
Means of testing	None	 Globe Ø 50mm	 Globe Ø 12.5mm + test finger	 Stiff wire Ø 2.5mm	 Stiff wire Ø 1mm	 Chamber circulation of talcum	 Chamber circulation of talcum
Allowed use	In shells	Closed areas (accessible only to authorised, trained personnel)	Normal areas containing only low-value objects installation on vertical walls	Normal areas installation on vertical walls or inaccessible horizontal surfaces	Normal areas installation also on inaccessible horizontal shelves	Places occasionally dusty	Permanently dusty areas

2<sup>nd</sup> characteristic figure protection against penetration of water.

2 <sup>nd</sup> characteristic	0	1	2	3	4	5	6	7	8
Protection against water entry	None	Condensation (falling vertical drops)	Condensation (fall of drops at a 15° angle)	Sprinkling with angle up to 60° from the vertical	Splashing from all directions	Jets from all directions	Water protection sea-storms	Temporary immersion	Permanent immersion
Means of testing	None	 Dripping tray	 Dripping tray	 Overhead spray head	 360°-rotating spray head	 Ø 6.3mm nozzle flow rate 12.5 l/min	 Ø 12.5mm nozzle flow rate 100 l/min	 In tray with 1m water head	As per agreements between client and manufacturer
Allowed use	In dry rooms	In damp rooms with component in predetermined vertical position	In humid environments with component in not perfectly vertical position	Environments exposed to rain but not to bottom spray	Environments exposed to rain and bottom spray (e.g.: station with vehicle traffic)	Environments cleaned with medium-pressure water jets	Places subject to energetic washing and sea-storms (piers)	Environments subjected to temporary flooding or long-term exposure to snow	Functionality underwater

Additional letters.

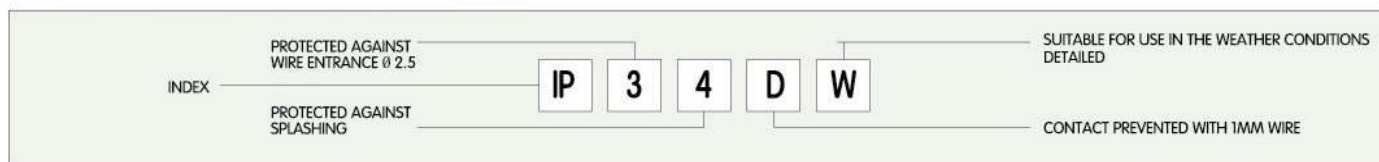
3 <sup>rd</sup> additional letter	A	B	C	D
Personal protection against contact with	The back of the hand	Fingers	Small tools	Threads, needles, nails
Test gauge	 Globe Ø 50mm	 Test finger Ø 12mm	 Stiff wire with stopping surface Ø 2.5mm	 Stiff wire with stopping surface Ø 1mm
Allowed use	Closed places (accessible only for authorised persons)	Accessible places for non-trained people	Places where small tools are used (screwdrivers)	Places where threadlike objects are used

Supplementary letters

(only for particular components)

H	High voltage equipment
M	Tested in motion against water entry
S	Tested stationary against water entry
W	With additional protection measures to be specified

Example of full application of IP code:









a CAREL Group company

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