

Life Is On



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Eliwell has been making control systems and services for commercial and industrial refrigeration and air conditioning units for more than 35 years, offering highly innovative and technologically advanced products. Eliwell is a company of the Schneider Electric Group. Subscribe to our newsletter on the site www.eliwell.com.

Life Is On

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REFRIGERATION SOLUTIONS CATALOGUE



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Refrigeration solutions catalogue

CONTENTS

CONTROLS		7
IDPlus 961 HC - IDPlus 974 HC	32x74 hydrocarbon-compatible refrigeration thermostats	8
IDPlus 902 - IDPlus 961	32x74 cold/hot thermostats	9
IDPlus 961 ICE BANK	32x74 refrigeration thermostats	10
IDPlus 971 - IDPlus 974	32x74 refrigeration thermostats	11
IDPlus 978	32x74 universal refrigeration thermostat	12
Wiring diagrams	ID 985 /S/E/CK - Echo	13
32x74 refrigeration thermostats	Wiring diagrams	13
ICPlus 902	32x74 cold/hot thermostats	14
ICPlus 915	32x74 cold/hot thermostats	15
IC 917/PID (SSR)	PID 32x74 cold/hot thermostats	16
EMPlus 600	Temperature, humidity, pressure indicators	17
EWTL 300 - EWTL 310 - DST-30	LCD thermometers	18
EWDR 981 - EWDR 984	DIN controllers for refrigeration	19
EWDR 983 LX/S - EWDR 985 LX/S/C/K	DIN controllers for remote counters	20
DR4020	Universal DIN controllers	21
DR4022	Universal DIN controllers with serial port	22
EW4820 (SSR)	Universal 48x48 controllers	23
EW4822 (SSR)	Universal 48x48 controllers with serial port	24
EW7210 - EW7220	Universal 72x72 controllers	25
EW7221 - EW7222	Universal 72x72 controllers with serial port	26
EWTSPPlus 990	32x74 timers and counters	27
EWRC 300 NT - EWRC 500 NT	Controllers for cold rooms	28
EWRC 5000 NT - EWRC 5010 NT - EWRC 5030 NT	Controllers for cold rooms	29
IDPanel 978	Single-phase and three-phase electrical panels for cold rooms	30
EWCM 400D PRO	Compact controllers for compressor racks	31
EWCM 4120 - 4150 - 4180	32x74 controllers for compressor racks	32
EWCM 9000 PRO DOMINO /CO2T	Control for transcritical CO2 booster / parallel compression solution	33
EWCM 8900 - 9100 EO	DIN controllers for compressor racks	34
EWCM 9900 EO	DIN controllers for compressor racks	35
FASEC 33 - FASEC 43 (C) - FASEC 53	Speed controllers for single-phase fans	36
WM 253	Speed controllers for single-phase wall fans	37
DRM300 - RGM300	Speed controllers for three-phase fans	38
CFS02- CFS04 - CFS06 - CFS08	Power modules to control fan speed	39

CONTENTS

SOLUTIONS FOR SUPERMARKETS		40
DOMINO CO2 transcritical system	Control solution with transcritical CO2 booster / parallel compression application	41
EWCM 9000 PRO-HF	Programmable controller with transcritical CO2 booster / parallel compression application	42
EWCM 8900 - 9100 EO	DIN controllers for compressor racks	43
EWCM 9900 EO	DIN controllers for compressor racks	44
Subcritical CO₂ cascade system	Motorised electronic valve control	45
RTX600/V DOMINO - RTD600/V DOMINO	DIN controllers for remote EEV systems	46
RTX600	DIN controllers for counters and cold rooms	47
KDEPlus - KDWPlus - ECPlus - KDTPlus	User interface for RTX, RTD, RTN series controllers	48
EEV Pulse SYSTEM	EEV system for retrofit	49
PXV	Electronic pulse expansion valve	51
RTX 600 /VS DOMINO	DIN controllers for remote systems with Stepper EEV	54
EEV Stepper system	EEV stepper system	55
SXVB	Bipolar stepper expansion valves	56
TelevisGo	Monitoring and maintenance systems via web	59
TelevisBlue	Remote monitoring and maintenance for small systems	61
EWSense	Wireless system for temperature measuring	63
TelevisIn / TelevisOut	Data acquisition modules and actuators	64
LKD	Detection and indication of refrigerant leaks	65
Memory 1000	Recording and printing temperature	66
SerialAdapter - LanAdapter	Connectivity modules for systems	67
RadioAdapter (/S) - RadioKey	Wireless connectivity modules	68
BusAdapter 130 - 150	RS-485 opto isolator connectivity modules	69
Modem GSM/GPRS	Modems	70

ELECTROMECHANICAL COMPONENTS		71
D16P	Adjustable single pressure controllers	72
D17P	Adjustable dual pressure controllers	74
D16T	Adjustable temperature controllers	76
Accessories D Controls	Accessories for D pressure and temperature controllers	78
NSD	Fixed setting pressure switches	79
RV	4 ways reversing valves	81
NTC Probes	NTC semi-conductor temperature probes	84
Pt100 - Pt1000 probes	Pt100 - Pt1000 thermo-resistive temperature probes	85
PTC - TC probes	PTC semi-conductor temperature probes, TC thermocouples	86
EWPA 007 - 030 - 050	Pressure transducers	87
EWPA 010 - 030 - 050	Ratiometric pressure transducers	88
EWHS 2840 - 3040 -3140 - 3140/S	Humidity probes	89

CONTENTS

ACCESSORIES

90

DeviceManager	Controller configuration software	91
Unicard - USB Copy Card - Copy Card - Multi Function Key	Memory for fast configuration and updating of controllers	92
Drip protection - Plexiglass protection	Protections for 32x74 controllers	93
TF Transformers	Transformers	94

OEM PRODUCTS

95

RB 200 series	Entry level solutions for connectible refrigerated counters with compressor on board	96
EWPlus series	Solutions with icon display	97
EWPlus 961 - 971 EO Dispenser	Solutions for connectible refrigerated dispensers / beer taps	97
EWPlus EO series	High energy saving solutions	98
EWPlus 978	Solutions for double evaporator and double compressor	99
IWP 750	Solutions for mono-blocks	100
IWC 700 series	Controllers for professional applications / catering	101
RTX 600 /V DOMINO - RTD 600 /V DOMINO	Controllers for supermarket counters	102
RTX600 - RTN600 series	Controllers for supermarket counters	103
RTN400 - RTN400 SM series	Controllers for plug-in supermarket counters	104
KD - ECPlus series user interfaces	User interfaces for RT family	105
EWBC 800 series - KDT BC	Solutions for blast chillers	106
EWBC 1400	Solutions for blast chillers	107
FREE Way	Programmable platform	108
FREE Smart	Programmable platform	109
FREE Panel	Programmable platform	109
FREE Advance	Programmable platform	110
FREE Evolution	Programmable platform	110

APPENDIX

111

Temperature Probe Tables	Appendix	112
IDPlus vs EW and ID, ICPlus vs IC compatibility	Compatibility tables	115

ELECTRONIC CONTROLS

Eliwell operates in the commercial, industrial and catering refrigeration sector, offering high technological innovation and efficiency products and solutions.

Eliwell controllers are the ideal solution for compressor racks and equipment. They guarantee quality and safe preservation of fresh and frozen foods, providing the best refrigeration plant results, energy savings and reduced maintenance.

The vast range of sizes available makes Eliwell controllers fully adaptable to a vast range of applications.

Eliwell products are characterised by:

- › Reliable
- › Simple to use
- › Energy saving
- › Minimal environmental impact

IDPlus 961 HC - IDPlus 974 HC

32x74 hydrocarbon-compatible refrigeration thermostats



Codes	Description	Relay rating	Power supply
IDP17D07*0100	IDPlus 961 NTC -HC	2Hp	230Vac
IDP2EDB7*0100	IDPlus 974 NTC -HC	2Hp/8A/5A	230Vac

*The number or letter in this position indicates the languages available for the code:
0=IT; E=EN

Applications

Controllers in the IDPlus range are new-generation devices suitable for static and ventilated units at normal and low temperatures. The (-HC) versions in particular are suitable for use with units which utilise flammable refrigerants in category 2L or 3, such as **R290** or **R600**. They feature the **Deep Cooling Cycle** function (advanced algorithm allowing rapid temperature decrease). The **Easy Map** function offers multiple preloaded machine configurations and the **Condenser Over Heating** function monitors the compressor discharge temperature, signalling any condenser maintenance requirements.

Common features

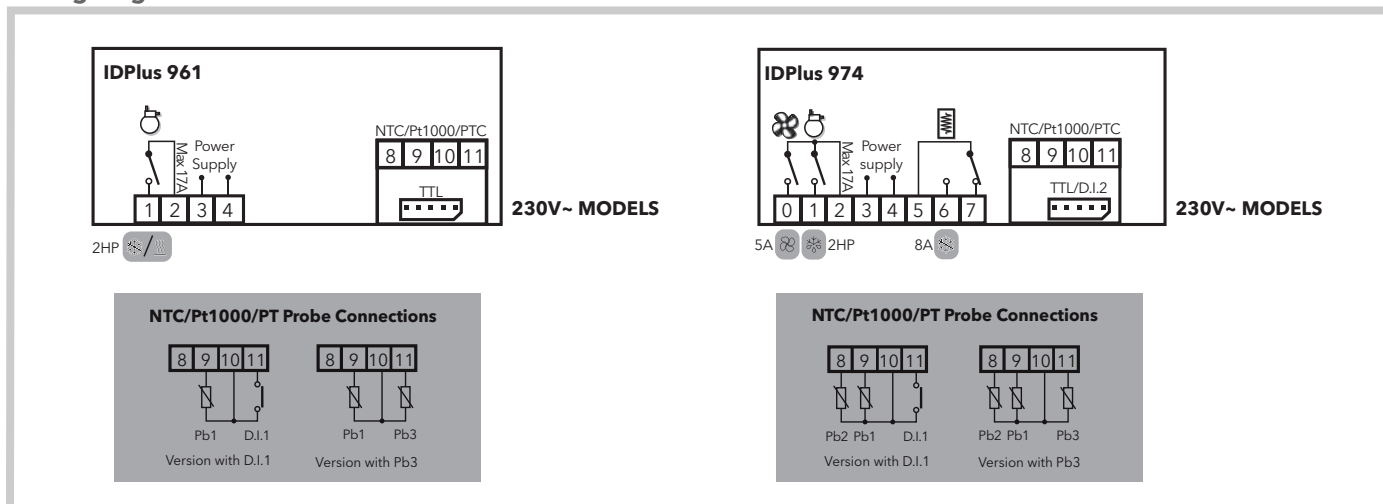
Appearance	New front design	Operating temperature	-5...50°C
Display	Simplified user interface	Storage temperature	-30...85°C
Configuration	4 default configurations included, can be selected and restored	Ambient humidity for operation and storage	10...90% RH (non-condensing)
Container	PC+ABS UL94 V-0 plastic resin casing, polycarbonate display window, thermoplastic resin buttons	Function	HACCP, DCC, Easy Map, COH
Dimensions	front panel 79x37 mm, depth 59 mm	Connectivity	can be connected to TelevisSystem and ModBus
Installation	panel mounting with 71x29 mm (+0.2/-0.1 mm) drilling template	Accessories	New USB/TTL Unicard for uploading/downloading parameters

Technical data

	IDPlus 961 -HC	IDPlus 974 -HC
Display range:	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C • Pt1000 probe: -55.0...150.0°C 	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C • Pt1000 probe: -55.0...150.0°C
Display:	with decimal point * 3 digits + sign	with decimal point * 3 digits + sign
Analogue inputs:	1 PTC / NTC / Pt1000 *	2 PTC / NTC / Pt1000 *
Configurable inputs:	1 digital (SELV) / analogue (PTC/NTC/Pt1000)*	1 digital (SELV) / analogue (PTC/NTC/Pt1000)* 1 digital (SELV) / serial TTL*
Connections:	TTL port for connection to Unicard/Copy Card or TelevisSystem/ModBus monitoring device*	TTL port for connection to Unicard/Copy Card or TelevisSystem/ModBus monitoring device*
Digital outputs:	1 SPST 2 Hp 12(12) A 250 Vac	1 SPDT ½ Hp 8(4) A 250 Vac 1 SPST 2 Hp 12(12) A 250 Vac 1 SPST 5(2) A 250 Vac
Measurement range:	-55.0...150.0°C	-55.0...150.0°C
Accuracy:	better than 0.5% of integral-scale + 1 digit	better than 0.5% of integral-scale + 1 digit
Resolution:	1 or 0.1°C	1 or 0.1°C
Power consumption:	3 W max	3W max
Power supply:	• 230 Vac ±10% 50/60 Hz	• 230 Vac ±10% 50/60 Hz
Buzzer:	not present	present
HACCP:	present	present

* selectable by parameter

Wiring diagrams



IDPlus 902 - IDPlus 961

32x74 cold/hot thermostats



Codes	Descr.	Relay capacity	Power supply
IDP11D07*0000	IDPlus 902 NTC	8A	230Vac
IDP11D03*0000	IDPlus 902 NTC	8A	12Vac/±
IDP17D07*0000	IDPlus 961 NTC	2Hp	230Vac
IDP17D03*0000	IDPlus 961 NTC	2Hp	12Vac/±

*The number or letter in this position indicates the languages available for the code:

0=IT; A=GR; C=CZ; E=EN; F=FR; G=DE; I=FI; L=FL; N=NL; O=PO; P=PT; R=RU; S=ES; T=TR; W=SV; Y=NO; Z=PT(BR).

Applications

The controllers in the IDPlus 902 and 961 ranges are new-generation devices with one activation point, capable of operation in conjunction with both heated applications and static cold storage units at normal temperatures (over 0°C). IDPlus 902 and 961 controllers are equipped with the following functions: **Deep Cooling Cycle** (advanced algorithm that allows a rapid reduction in temperature), **Easy Map** (function that allows multiple preloaded machine configurations) and **Condenser Over Heating** (function that allows monitoring of the compressor discharge temperature, notifying the need for maintenance of the condenser).

Common features

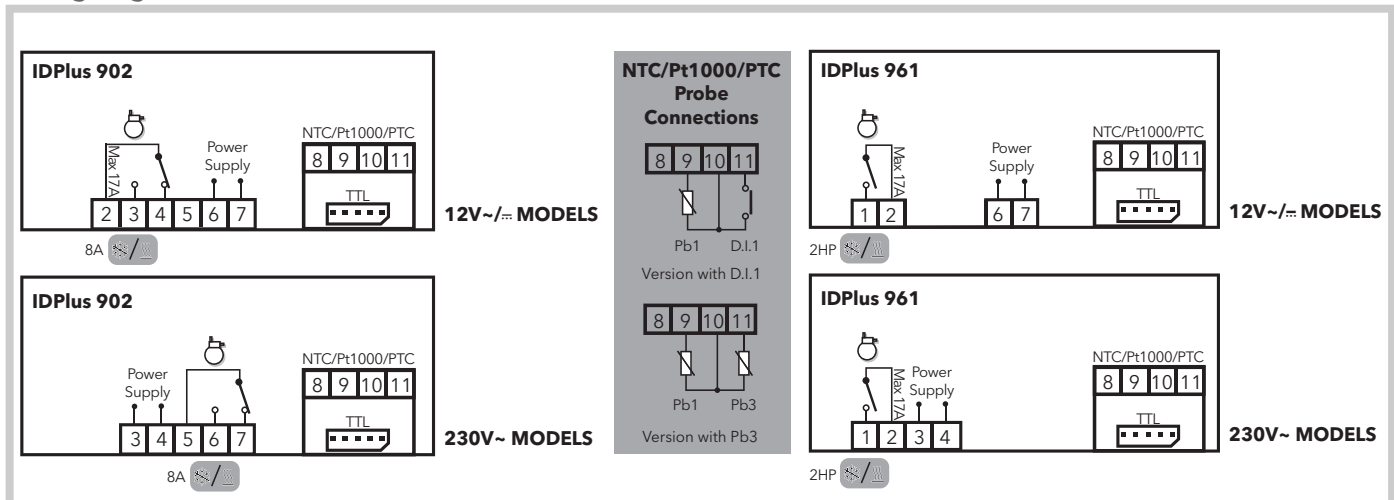
Appearance	New front design	Operating temperature	-5...55°C
Display	Simplified user interface	Storage temperature	-30...85°C
Configuration	4 default configurations included, can be selected and restored	Ambient humidity for operation and storage	10...90% RH (non-condensing)
Container	PC+ABS UL94 V-0 plastic resin casing, polycarbonate display window, thermoplastic resin buttons	Functions	HACCP, DCC, Easy Map, COH
Dimensions	front panel 79x37 mm, depth 59 mm	Connectivity	can be connected to TelevisSystem and ModBus
Installation	panel mounting with 71x29 mm (+0.2/-0.1 mm) drilling template	Accessories	New USB/TTL Unicard for uploading/downloading parameters

Technical data

	IDPlus 902	IDPlus 961
Display range:	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C • Pt1000 probe: -55.0...150.0°C 	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C • Pt1000 probe: -55.0...150.0°C
Display:	with decimal point * 3 digits + sign	with decimal point * 3 digits + sign
Analogue inputs:	1 PTC / NTC / Pt1000 *	1 PTC / NTC / Pt1000 *
Configurable inputs:	1 digital (SELV) / analogue (PTC/NTC/Pt1000)*	1 digital (SELV) / analogue (PTC/NTC/Pt1000)*
Connections:	TTL port for connection to Unicard/Copy Card or TelevisSystem/ModBus monitoring device*	TTL port for connection to Unicard/Copy Card or TelevisSystem/ModBus monitoring device*
Digital outputs:	1 SPDT ½ Hp 8(4) A 250 Vac	1 SPST 2 Hp 12(12) A 250 Vac
Measurement range:	-55.0...150.0°C	-55.0...150.0°C
Accuracy:	better than 0.5% of integral-scale + 1 digit	better than 0.5% of integral-scale + 1 digit
Resolution:	1 or 0.1°C	1 or 0.1°C
Power consumption:	3 W max	3 W max
Power supply:	<ul style="list-style-type: none"> • 230 Vac ±10% 50/60 Hz • 12 Vac/± ±10% 50/60 Hz 	<ul style="list-style-type: none"> • 230 Vac ±10% 50/60 Hz • 12 Vac/± ±10% 50/60 Hz
HACCP:	present	present

*(selectable by parameter).

Wiring diagrams



IDPlus 961 ICE BANK

32x74 refrigeration thermostats



Codes	Description	Relay rating	Power supply
IDP17DB70EA00	IDPlus 961 ICE BANK	2Hp	230Vac
L56H2001001	L56 ice sensor		
L56H3001001	L56 ice sensor		

Applications

IDPlus 961 ICE BANK is a controller designed to offer a compact, efficient solution to control the refrigeration of drink dispensers, such as beer and soft drinks. Thanks to platform versatility and a library of available functions, Eliwell has integrated control of temperature and ice level into a single controller that can be parametrized from the keyboard to adapt to the various application configurations easily.

Common features

Appearance	New front design	Operating temperature	-5...55°C
Display	Simplified user interface	Storage temperature	-30...85°C
Container	PC+ABS UL94 V-0 plastic resin casing, polycarbonate display window, thermoplastic resin buttons	Ambient humidity for operation and storage	10...90% RH (non-condensing)
Dimensions	front panel 79x37mm, depth 59mm	Function	Presence of water/ice, ice thickness, temperature control
Installation	panel mounting with 71x29mm (+0.2/-0.1mm) drilling template	Accessories	New USB/TTL Unicard for uploading/downloading parameters

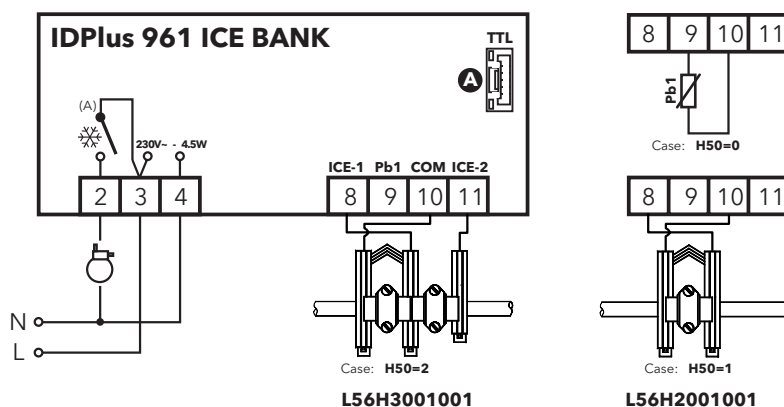
Technical data

IDPlus 961 ICE BANK

Display range:	NTC probe: -50.0...110.0°C
Display:	with decimal point * 3 digits + sign
Analogue inputs:	1 x NTC, 1 x L56 ice sensor
Connections:	TTL port for connection to Unicard/Copy Card
Digital outputs:	1 SPST 2 Hp 12(12) A 250 Vac
Measurement range:	-55.0...110.0°C
Accuracy:	better than 0.5% of integral-scale + 1 digit
Resolution:	1 or 0.1°C
Power consumption:	3 W max
Power supply:	230 Vac ±10% 50/60 Hz

* selectable by parameter

Wiring diagrams



IDPlus 971 - IDPlus 974

32x74 refrigeration thermostats



Codes	Descr.	Relay capacity	Power supply
IDP29DB7*0000	IDPlus 971 NTC	2Hp/8A	230Vac
IDP29DB3*0000	IDPlus 971 NTC	2Hp/8A	12Vac/±
IDP2EDB7*0000	IDPlus 974 NTC	2Hp/8A/5A	230Vac
IDP2EDB3*0000	IDPlus 974 NTC	2Hp/8A/5A	12Vac/±

*The number or letter in this position indicates the languages available for the code:

0=IT; A=GR; C=CZ; E=EN; F=FR; G=DE; I=FI; L=FL; N=NL; O=PO; P=PT; R=RU; S=ES; T=TR; W=SV; Y=NO; Z=PT(BR).

Applications

Controllers in the IDPlus 971 range are new-generation devices suitable for static refrigeration units at normal and low temperatures; controllers in the IDPlus 974 range are suitable for static and ventilated refrigeration units at low temperatures. IDPlus 971 and 974 controllers are equipped with the following functions: **Deep Cooling Cycle** (advanced algorithm that allows a rapid reduction in temperature), **Easy Map** (function that allows multiple preloaded machine configurations) and **Condenser Over Heating** (function that allows monitoring of the compressor discharge temperature, notifying the need for maintenance of the condenser).

Common features

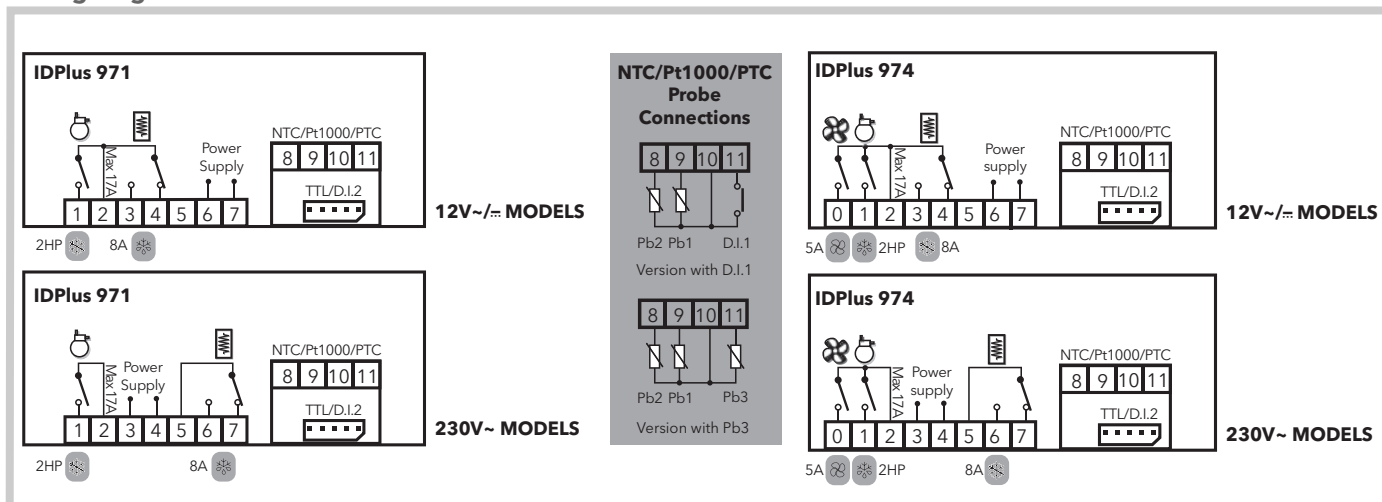
Appearance	New front design	Operating temperature	-5...55°C
Display	Simplified user interface	Storage temperature	-30...85°C
Configuration	4 default configurations included, can be selected and restored	Ambient humidity for operation and storage	10...90% RH (non-condensing)
Container	PC+ABS UL94 V-0 plastic resin casing, polycarbonate display window, thermoplastic resin buttons	Function	HACCP, DCC, Easy Map, COH
Dimensions	front panel 79x37 mm, depth 59 mm	Connectivity	can be connected to TelevisSystem and ModBus
Installation	panel mounting with 71x29 mm (+0.2/-0.1 mm) drilling template	Accessories	New USB/TTL Unicard for uploading/downloading parameters

Technical data

	IDPlus 971	IDPlus 974
Display range:	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C • Pt1000 probe: -55.0...150.0°C 	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C • Pt1000 probe: -55.0...150.0°C
Display:	with decimal point * 3 digits + sign	with decimal point * 3 digits + sign
Analogue inputs:	2 PTC / NTC / Pt1000 *	2 PTC / NTC / Pt1000 *
Configurable inputs:	1 digital (SELV) / analogue (PTC/NTC/Pt1000)* 1 digital (SELV) / serial TTL*	1 digital (SELV) / analogue (PTC/NTC/Pt1000)* 1 digital (SELV) / serial TTL*
Connections:	TTL port for connection to Unicard/Copy Card or TelevisSystem/ModBus monitoring device*	TTL port for connection to Unicard/Copy Card or TelevisSystem/ModBus monitoring device*
Digital outputs:	1 SPDT ½ Hp 8(4) A 250 Vac 1 SPST 2 Hp 12(12) A 250 Vac	1 SPDT ½ Hp 8(4) A 250 Vac 1 SPST 2 Hp 12(12) A 250 Vac 1 SPST 5(2) A 250 Vac
Measurement range:	-55.0...150.0°C	-55.0...150.0°C
Accuracy:	better than 0.5% of integral-scale + 1 digit	better than 0.5% of integral-scale + 1 digit
Resolution:	1 or 0.1°C	1 or 0.1°C
Power consumption:	3 W max	3W max
Power supply:	<ul style="list-style-type: none"> • 230 Vac ±10% 50/60 Hz • 12 Vac/± ±10% 50/60 Hz 	<ul style="list-style-type: none"> • 230 Vac ±10% 50/60 Hz • 12 Vac/± ±10% 50/60 Hz
Buzzer:	present	present
HACCP:	present	present

* selectable by parameter

Wiring diagrams



IDPlus 978

32x74 universal refrigeration thermostat



Codes	Descr.	Relay capacity	Power supply
IDP24DB7*0000	IDPlus 978 NTC	1.5Hp	230Vac

*The number or letter in this position indicates the languages available for the code:

0=IT; E=EN; F=FR; G=DE; R=RU; S=ES; Z=PT(BR).

Applications

Controllers in the IDPlus 978 range are new-generation devices suitable for small and medium-sized mono-blocks. IDPlus 978 controllers are equipped with the following functions: **Deep Cooling Cycle** (advanced algorithm that allows a rapid reduction in temperature), **Easy Map** (function that allows multiple preloaded machine configurations) and **Condenser Over Heating** (function that allows monitoring of the compressor discharge temperature, notifying the need for maintenance of the condenser).

Common features

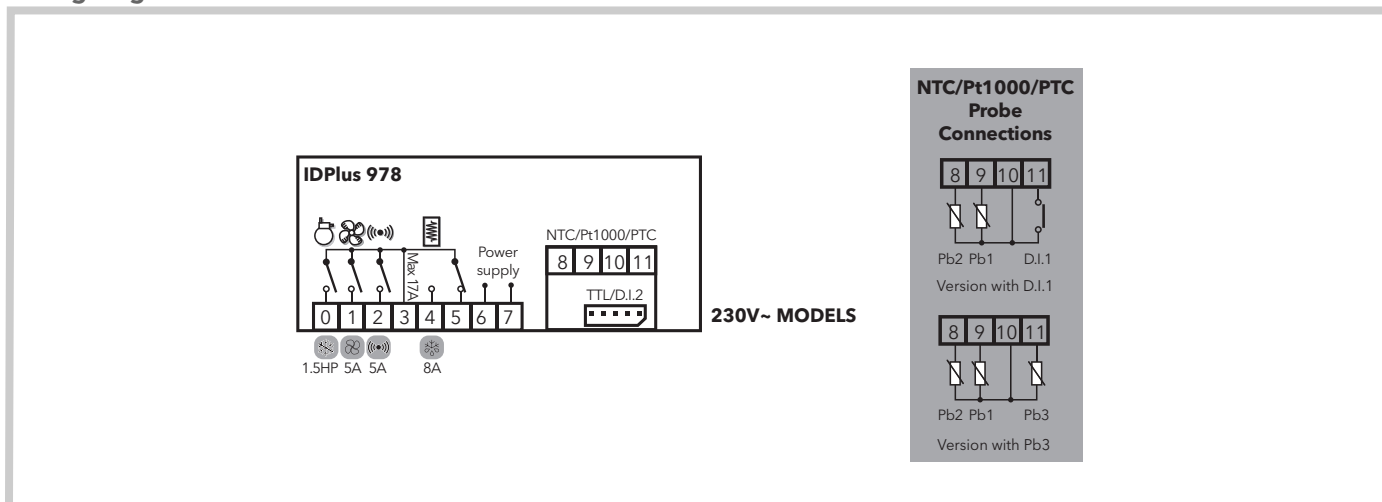
Appearance	New front design	Operating temperature	-5...55°C
Display	Simplified user interface	Storage temperature	-30...85°C
Configuration	4 default configurations included, can be selected and restored	Ambient humidity for operation and storage	10...90% RH (non-condensing)
Container	PC+ABS UL94 V-0 plastic resin casing, polycarbonate display window, thermoplastic resin buttons	Function	HACCP, DCC, Easy Map, COH
Dimensions	front panel 79x37 mm, depth 59 mm	Connectivity	can be connected to TelevisSystem and ModBus
Installation	panel mounting with 71x29 mm (+0.2/-0.1 mm) drilling template	Accessories	New USB/TTL Unicard for uploading/downloading parameters

Technical data

	IDPlus 978
Display range:	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C • Pt1000 probe: -55.0...150.0°C
Display:	with decimal point * 3 digits + sign
Analogue inputs:	2 PTC / NTC / Pt1000 *
Configurable inputs:	1 digital (SELV) / analogue (PTC/NTC/Pt1000)* 1 digital (SELV) / serial TTL*
Connections:	TTL port for connection to Unicard/Copy Card or TelevisSystem/ModBus monitoring device*
Digital outputs:	1 SPDT ½ Hp 8(4) A 250 Vac 1 SPST 5 A 250 Vac 1 SPST 1.5 Hp 10(6) A 250 Vac 1 SPST 5 A 250 Vac
Measurement range:	-55.0...150.0°C
Accuracy:	better than 0.5% of integral-scale + 1 digit
Resolution:	1 or 0.1°C
Power consumption:	3 W max
Power supply:	230 Vac ±10% 50/60 Hz
Buzzer:	present
HACCP:	present

* selectable by parameter

Wiring diagrams



ID 985 /S/E/CK - Echo

32x74 refrigeration thermostats



Codes	Description	Power supply	Power supply
ID34DR2SCDH00	ID 985/S/E/CK	1.5Hp	100...240Vac
EH000010VE000	Echo		

*The number or letter in this position indicates the languages available for the code:
0=IT; E=EN; F=FR; G=DE; R=RU; S=ES; Z=PT(BR).

Applications

ID 985 controllers are suitable for any application on ventilated refrigeration units at normal or low temperature. The Echo is a remote signal repeater which can be connected to ID 985/S/E/CK controllers.

ID 985 /S/E/CK compact electronic controllers, specifically designed for supermarket refrigeration systems, are equipped with on-board integrated RS-485, remote display (Echo) and switching power supply; they guarantee quality and safety in the preservation of fresh and frozen foods and ensure the maximum efficiency of the refrigeration system in terms of energy saving.

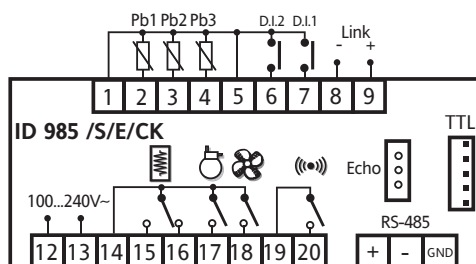
Common features

Front panel protection rating	IP65	Operating temperature	-5...55°C
Container	PC+ABS UL94 V-0 plastic resin casing, polycarbonate display window, thermoplastic resin buttons	Storage temperature	-30...85°C
Installation	panel mounting with 71x29mm (+0.2/-0.1mm) drilling template	Ambient humidity for operation and storage	10...90% RH (non-condensing)

Technical data

	ID 985/S/E/CK	Echo
Display range:	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -50.0...140.0°C 	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -50.0...140.0°C
Display:	no decimal point * 3 and a half digits + sign	no decimal point * 3 and a half digits + sign
Analogue inputs:	3 PTC or NTC *	-
Digital inputs:	2 voltage-free inputs	-
Connections:	TTL port for connection to Copy Card and TelevisSystem or to systems based on ModBus protocol internal RS-485 for connection to TelevisSystem or to systems based on ModBus protocol	3-way connection (GND, data, 12 V) on quick-connection terminal block
Digital outputs:	3 SPST 5(2) A 1/4 hp 250 Vac + 1 SPDT 8(3) A 250 Vac	-
Measurement range:	-55...140°C	-
Accuracy:	better than 0.5% of integral-scale + 1 digit	-
Resolution:	0.1 °C	1 or 0.1°C
Power consumption:	2.5 W max	-
Power supply:	100...240 Vac ±10% 50/60 Hz	from the instrument to which it is connected
Dimensions:	front panel 74x32 mm, depth 66 mm	front panel 48x28.6 mm - depth 15 mm
Installation:	panel mounting with 71x29 mm (+0.2/-0.1 mm) drilling template	panel mounting with 45.9x26.4 mm (+0.2/-0.1 mm) drilling template
Output for Echo:	present (/E model)	-
Link:	present (/CK model)	-
Clock:	present (/CK model)	-

Wiring diagrams



ICPlus 902

32x74 cold/hot thermostats



Codes	Descr.	Probe*	Power supply
ICP11D0750000	ICPlus 902 NTC-PTC 230V	NTC/PTC	230Vac
ICP11D0450000	ICPlus 902 NTC-PTC 12/24Vac/≐	NTC/PTC	12...24Vac/12...36V≐

*selectable by parameter

Applications

ICPlus 902 controllers are one-step electronic devices, used to control temperature. They are compatible with Televis**System** and with Modbus protocol monitoring systems.

Common features

Container	PC+ABS UL94 V-0 plastic resin casing, polycarbonate display window, thermoplastic resin buttons	Operating temperature	0...55°C
Dimensions	front panel 79x37 mm, depth 59 mm	Storage temperature	-30...85°C
Installation	panel mounting with 71x29 mm (+0.2/-0.1 mm) drilling template	Ambient humidity for operation and storage	10...90% RH (non-condensing)

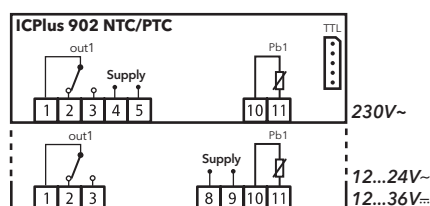
Technical data

ICPlus 902 NTC/PTC

Display range:	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -50.0...140.0°C
Display:	no decimal point * 3 and a half digits + sign
Analogue inputs:	1 PTC or NTC *
Digital inputs:	not available
Connections:	TTL port for connection to USB Unicard, Televis System and systems with ModBus protocol
Digital outputs:	1 SPDT 8(4) A 250 Vac
Measurement range:	from -50 to 140
Accuracy:	better than 0.5% of end of scale+1 digit
Resolution:	0.1 or 1°C
Power consumption:	<ul style="list-style-type: none"> • 3 W for 12...24 Vac model • 3 W for 230 Vac model
Power supply:	<ul style="list-style-type: none"> • 12 Vac, 24 Vac, 12...24 Vac/12...36 V≐ (°) ±10% 50/60 Hz • 115 Vac/230 Vac ±10% 50/60 Hz

* selectable by parameter (°) non-insulated power supply

Wiring diagrams



ICPlus 915

32x74 cold/hot thermostats



Codes	Descr.	Probe*	Power supply
ICP22JI750000	ICPlus 915 J/K PT100 230 V	J/K PT100	230 Vac
ICP22JI450000	ICPlus 915 J/K PT100 12/24 Vac/≐	J/K PT100	12...24 Vac/12...36 V≐
ICP22DI750000	ICPlus 915 NTC-PTC 230 V	NTC/PTC	230 Vac
ICP22DI450000	ICPlus 915 NTC-PTC 12/24 Vac/≐	NTC/PTC	12...24 Vac/12...36 V≐
ICP22IO750000	ICPlus 915 V/I 230 V	V/I	230 Vac
ICP22IO450000	ICPlus 915 V/I 12/24 Vac/≐	V/I	12...24 Vac/12...36 V≐

*selectable by parameter

Applications

IC Plus 915 controllers are electronic two-step devices, either dependent or independent or with neutral zone, used for the control of temperature, relative humidity and pressure. They are compatible with TelevisSystem and with Modbus protocol monitoring systems.

Common features

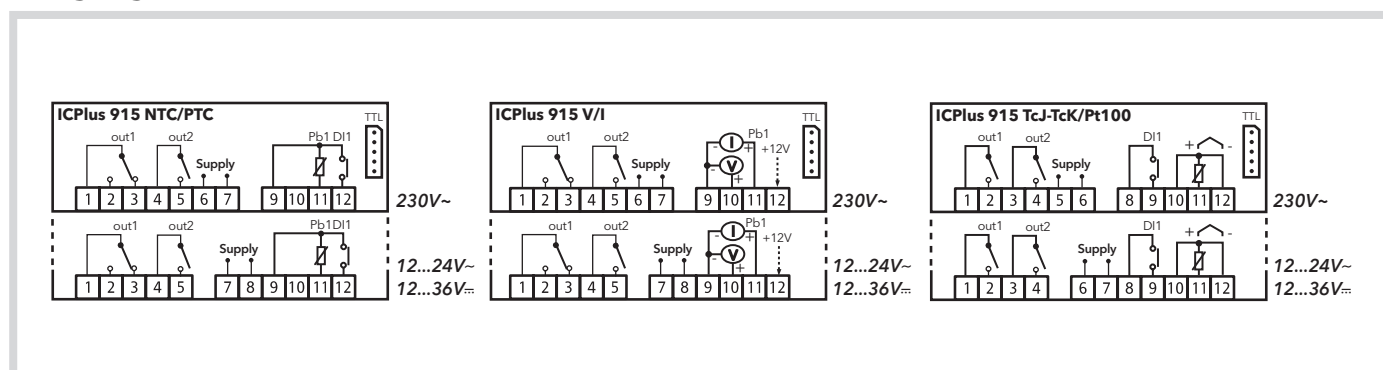
Container	PC+ABS UL94 V-0 plastic resin casing, polycarbonate display window, thermoplastic resin buttons	Operating temperature	0...55°C
Dimensions	front panel 79x37 mm, depth 59 mm	Storage temperature	-30...85°C
Installation	panel mounting with 71x29 mm (+0.2/-0.1 mm) drilling template	Ambient humidity for operation and storage	10...90% RH (non-condensing)

Technical data

	ICPlus 915 NTC/PTC	ICPlus 915 V/I	ICPlus 915 TC/Pt100
Display range:	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -50.0...140.0°C 	<ul style="list-style-type: none"> • -199...199 * • -199.9...199.9 * • -1999...1999 * 	<ul style="list-style-type: none"> • Pt100 probe: -150...650°C • TcJ probe: -40...750°C • TcK probe: -40...1350°C
Display:	no decimal point * 3 and a half digits + sign	no decimal point * 3 and a half digits + sign	no decimal point * 3 and a half digits + sign
Analogue inputs:	1 PTC or NTC *	1V-I (0...1V, 0...5V, 0...10V, 0...20mA, 4...20mA)*	1 Pt100 or 1 TcJ/TcK
Digital inputs:	1 clean contact at extra low safety voltage	not available	1 clean contact at extra low safety voltage
Connections:	TTL port for connection to USB Unicard, TelevisSystem and systems with ModBus protocol	TTL port for connection to USB Unicard, TelevisSystem and systems with ModBus protocol	TTL port for connection to USB Unicard, TelevisSystem and systems with ModBus protocol
Digital outputs:	1 SPDT 8(4) A 250 Vac + 1 SPST 8(4) A 250 Vac	1 SPDT 8(4) A 250 Vac + 1 SPST 8(4) A 250 Vac	1 SPST 8(4) A 250 Vac + 1 SPST 8(4) A 250 Vac
Measurement range:	from -50 to 140	from -999 to 1000	from -150 to 1350
Accuracy:	better than 0.5% of end of scale+1 digit	better than 0.5% of end of scale+1 digit	Pt100: 0.5% for whole scale + 1 digit, 0.2% from -150 to 300°C TcJ: 0.4% for whole scale + 1 digit TcK: 0.5% for whole scale + 1 digit, 0.3% from -40 to 800°C
Resolution:	0.1 or 1°C	0.1 or 1°C	Pt100: 0.1°C (0.1°F) up to 199.9°C; 1°C (1°F) beyond this TcJ: 0.1°C (0.1°F) up to 199.9°C; 1°C (1°F) beyond this TcK: 0.1°C (0.1°F)
Power consumption:	<ul style="list-style-type: none"> • 3 W for 12...24 Vac model • 3 W for 230 Vac model 	<ul style="list-style-type: none"> • 3 W for 12...24 Vac model • 3 W for 230 Vac model 	<ul style="list-style-type: none"> • 3 W for 12...24 Vac model • 3 W for 230 Vac model
Power supply:	<ul style="list-style-type: none"> • 12Vac, 24Vac, 12...24Vac/12...36V≐ (°) ±10% 50/60 Hz • 115 Vac/230 Vac ±10% 50/60 Hz 	<ul style="list-style-type: none"> • 12Vac, 24Vac, 12...24Vac/12...36V≐ (°) ±10% 50/60 Hz • 115Vac/230 Vac ±10% 50/60 Hz 	<ul style="list-style-type: none"> • 12Vac, 24Vac, 12...24Vac/12...36V≐ (°) ±10% 50/60 Hz • 115 Vac/230 Vac ±10% 50/60 Hz

* selectable by parameter (°) non-insulated power supply

Wiring diagrams



IC 917/PID (SSR)

PID 32x74 cold/hot thermostats



Codes	Descr.	Probe*	Power supply
IC12DI0TMD700	IC 917/PID	NTC/PTC	230 Vac
IC12ZI0TMD700	IC 917/PID	TC/Pt100	230 Vac
IC1RDI0TMD700	IC 917/PID SSR	NTC/PTC	230 Vac
IC1RZI0TMD700	IC 917/PID SSR	TC/Pt100	230 Vac

*selectable by parameter

Applications

IC 917 controllers are electronic two-step devices, either dependent or independent, ON/OFF action, PD, PID, Soft Start function and Autotuning

Common features

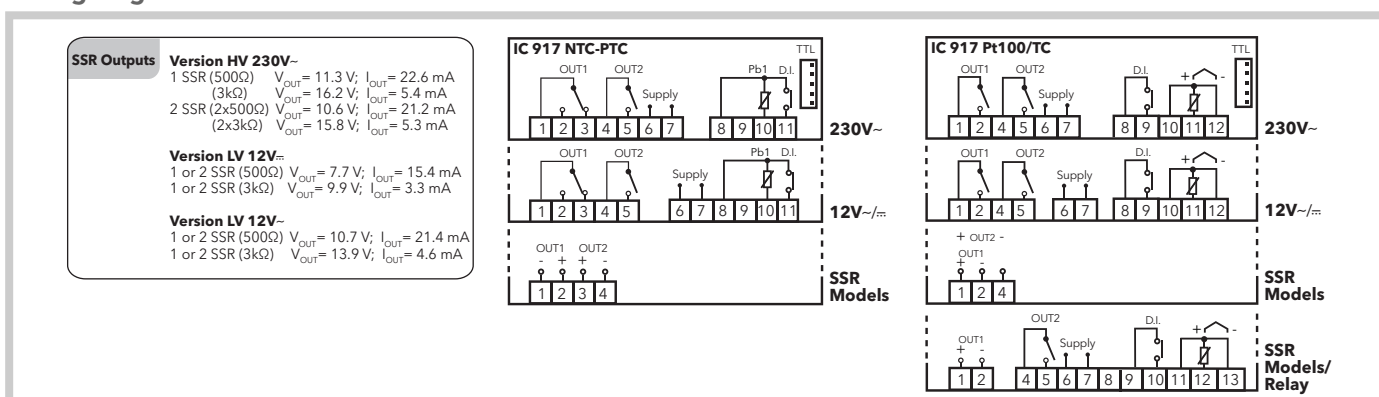
Container	PC+ABS UL94 V-0 plastic resin casing, polycarbonate display window, thermoplastic resin buttons	Operating temperature	-5...55°C
Dimensions	front panel 74x32 mm, depth 59 mm	Storage temperature	-30...85°C
Installation	panel mounting with 71x29 mm (+0.2/-0.1 mm) drilling template	Ambient humidity for operation and storage	10...90% RH (non-condensing)
		Soft Start Function	present

Technical data

	IC 917/PID NTC/PTC (SSR)	IC 917/PID TC/Pt100 (SSR)
Display range:	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C 	<ul style="list-style-type: none"> • Pt100 probe: -150...650°C • TcJ probe: -40...750°C • TcK probe: -40...1350°C
Display:	3 and a half digits + sign	3 and a half digits + sign
Analogue inputs:	1 PTC or NTC *	1 Pt100 or 1 TcJ/TcK*
Digital inputs:	1 clean contact at extra low safety voltage	1 clean contact at extra low safety voltage
Connections:	TTL port for connection to Copy Card	TTL port for connection to Copy Card
Digital outputs:	1 SPDT 8(3) A 1/2 hp 250 Vac • 1 SPST 8(3) A 1/2 hp 250 Vac SSR models: please see wiring diagram	2 SPST 8(3) A 1/2 hp 250 Vac SSR models: please see wiring diagram
Measurement range:	from -55 to 140°C	from -150 to 1350°C
Accuracy:	better than 0.5% of end of scale+1 digit	Pt100:0.5% for whole scale + 1 digit, 0.2% from -150 to 300°C TcJ: 0.4% for whole scale + 1 digit TcK: 0.5% for whole scale + 1 digit, 0.3% from -40 to 800°C
Resolution:	0.1°C (0.1°F) up to 199.9°C; 1°C (1°F) beyond this	Pt100:0.1°C (0.1°F) up to 199.9°C; 1°C (1°F) beyond this TcJ: 0.1°C (0.1°F) up to 199.9°C; (1°F) beyond this TcK: 0.1°C (0.1°F)
Power consumption:	<ul style="list-style-type: none"> • 1.5 W for 12 Vac model • 3 W for 230 Vac model 	<ul style="list-style-type: none"> • 1.5 W for 12 Vac model • 3 W for 230 Vac model
Power supply:	<ul style="list-style-type: none"> • 12 Vac/±10% 50/60 Hz • 230 Vac ±10% 50/60 Hz 	<ul style="list-style-type: none"> • 12 Vac/±10% 50/60 Hz • 230 Vac ±10% 50/60 Hz
Alarm:	optional	optional

* selectable by parameter

Wiring diagrams



EMPlus 600

Temperature, humidity, pressure indicators



Codes	Descr.	Probe*	Power supply
EMP60D0350000	EMPlus 600 NTC-PTC	NTC/PTC	12Vac/~
EMP60D0450000	EMPlus 600 NTC-PTC	NTC/PTC	12...24Vac/~
EMP60D0750000	EMPlus 600 NTC-PTC	NTC/PTC	230Vac
EMP60P0350000	EMPlus 600 Pt100/TCJ-K	Pt100/TC	12Vac/ ~
EMP60P0450000	EMPlus 600 Pt100/TCJ-K	Pt100/TC	12...24Vac/~
EMP60P0750000	EMPlus 600 Pt100/TCJ-K	Pt100/TC	230Vac
EMP60I0350000	EMPlus 600 V-I	4...20 mA/0...10V	12Vac/~
EMP60I0750000	EMPlus 600 V-I	4...20mA/0...10V	230Vac

*selectable by parameter

Applications

The EMPlus 600 is a device for measuring temperature, humidity and pressure in commercial refrigeration and industrial applications

Common features

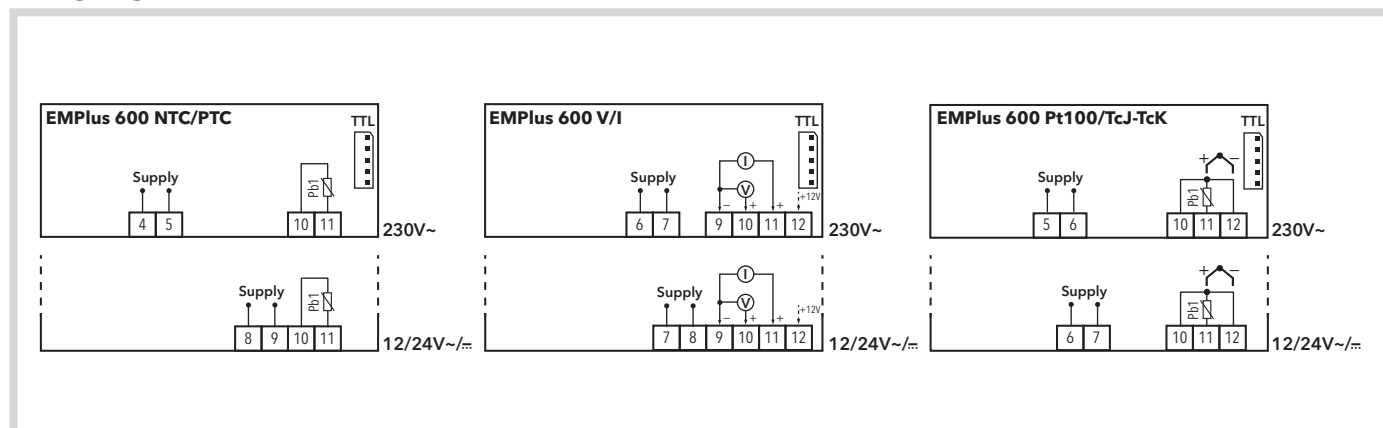
Container	PC+ABS UL94 V-0 plastic resin casing, polycarbonate display window, thermoplastic resin buttons	Operating temperature	-5...55°C
Dimensions	front panel 79x37mm, depth 59mm	Storage temperature	-30...85°C
Installation	panel mounting with 71x29mm (+0.2/-0.1mm) drilling template	Ambient humidity for operation and storage	10...90% RH (non-condensing)

Technical data

	EMPlus 600 NTC/PTC	EMPlus 600 V/I	EMPlus 600 TC/Pt100
Display range:	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -50.0...140.0°C 	<ul style="list-style-type: none"> • -199...199 * • -199.9...199.9 * • -1999...1999 * 	<ul style="list-style-type: none"> • Pt100 probe: -150...650°C • TcJ probe: -40...750°C • TcK probe: -40...1350°C
Display:	no decimal point * 3 and a half digits + sign	no decimal point * 3 and a half digits + sign	no decimal point * 3 and a half digits + sign
Analogue inputs:	1 PTC or NTC *	1 V-I (0...1V/0...5V/0...10V/0...20mA/4...20mA)*	1 Pt100 or 1 TcJ/TcK
Connections:	TTL port for connection to USB Unicard, TelevisSystem and systems with ModBus protocol	TTL port for connection to USB Unicard, TelevisSystem and systems with ModBus protocol	TTL port for connection to USB Unicard, TelevisSystem and systems with ModBus protocol
Measurement range:	from -50 to 140	from -999 to 1000	from -150 to 1350
Accuracy:	better than 0.5% of end of scale+1 digit	better than 0.5% of end of scale+1 digit	Pt100: 0.5% for whole scale + 1 digit, 0.2% from -150 to 300°C TcJ: 0.4% for whole scale + 1 digit TcK: 0.5% for whole scale + 1 digit, 0.3% from -40 to 800°C
Resolution:	0.1 or 1°C	0.1 or 1°C	Pt100: 0.1°C (0.1°F) up to 199.9°C, 1°C (1°F) beyond TcJ: 0.1°C (0.1°F) up to 199.9°C, 1°C (1°F) beyond TcK: 0.1°C (0.1°F)
Power consumption:	<ul style="list-style-type: none"> • 3W for 12...24Vac model • 3W for 230Vac model 	<ul style="list-style-type: none"> • 3W for 12...24Vac model • 3W for 230Vac model 	<ul style="list-style-type: none"> • 3W for 12...24Vac model • 3W for 230Vac model
Power supply:	<ul style="list-style-type: none"> • 12Vac, 24Vac, 12...24Vac/12...36V~ (°) ±10% 50/60Hz • 115Vac/230Vac ±10% 50/60Hz 	<ul style="list-style-type: none"> • 12Vac, 24Vac, 12...24Vac/12...36V~ (°) ±10% 50/60Hz • 115Vac/230Vac ±10% 50/60Hz 	<ul style="list-style-type: none"> • 12Vac, 24Vac, 12...24Vac/12...36V~ (°) ±10% 50/60Hz • 115Vac/230Vac ±10% 50/60Hz

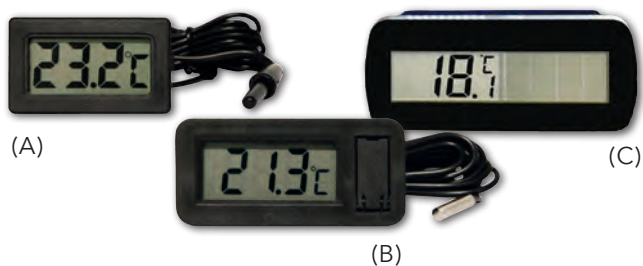
* selectable by parameter (°) non-insulated power supply

Wiring diagrams



EWTL 300 - EWTL 310 - DST-30

LCD thermometers



Codes	Description	Probe cable length
T1M1BT0107 (A)	EWTL 300	1.5 m
T1M1BT0109 (B)	EWTL 310	1.5 m
T1M1BT0105 (C)	DST-30	1 m

Applications

The EWTL 300/310 is a range of LCD digital temperature gauges with temperature probes connected to the instrument via a cable of length 1.5, 2 or 3 metres. AN adapter that allows to replace 32x64 mm front tools (with 24.5x58 template hole mm) with the EWTL 300 thermometer is available. DST-30 is a solar-cell thermometer specifically designed for refrigerated counters and display units.

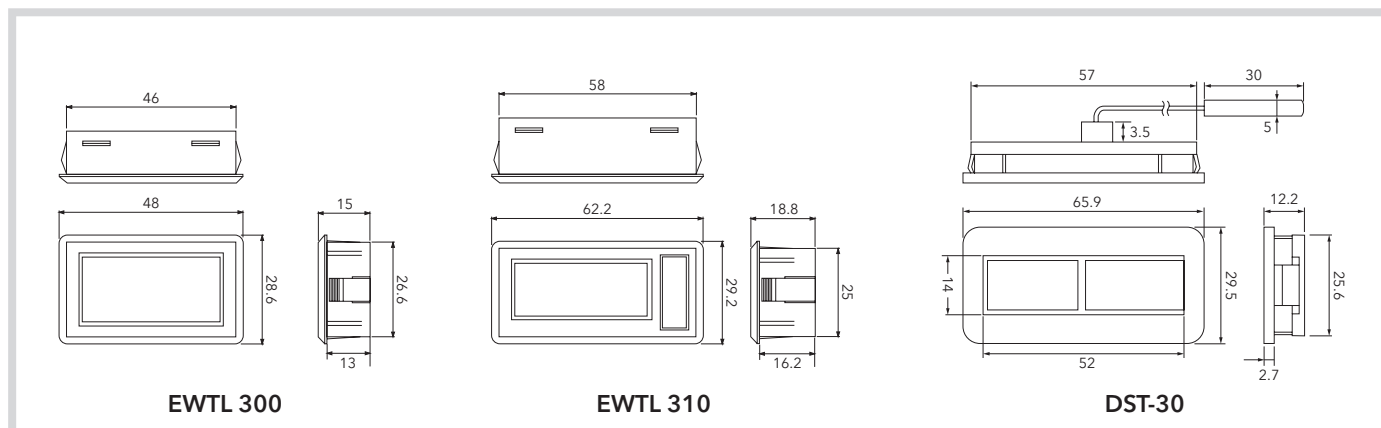
Common features

Installation panel-mounted

Technical data

	EWTL 300	EWTL 310	DST-30
Display:	LCD with 2 and 1/2 digits	LCD with 2 and 1/2 digits	LCD 24x14 mm
Resolution:	0.1 °C	0.1 °C (1°C <20°C)	0.1°C
Accuracy:	±1°C	±1°C	±1°C
Probe:	connected to instrument, cable length 1.5m	connected to instrument, cable length 1.5m	connected to instrument, cable length 1m
Display refresh:	10 seconds	12 seconds	
Display range:	-50...70°C (-58...158 °F)	-50...70°C (-58...158 °F)	-20...80°C
Dimensions:	front panel 48x28.6 mm depth 13 mm	front panel 62.2x29.2 mm depth 16.2 mm	front panel 66x30 mm depth 11.6 mm
Installation:	46x26.6 mm	58x25 mm	57x25.6 mm
Power supply:	two 1.5V LR 44 batteries or equivalent - duration 12 months	one 1.5V LR 44 battery or equivalent - duration 12 months	integrated solar cells
Protection rating:			IP68

Dimensions



EWDR 981 - EWDR 984

DIN controllers for refrigeration



Codes	Descr.	Probe*	Power supply
DR26DI0TCD700	EWDR 981	NTC/PTC	230Vac
DR3CDI0TCD700	EWDR 984	NTC/PTC	230Vac

*selectable by parameter

Applications

The EWDR range of products, available in a 4 DIN module size (70x85mm), is designed for applications requiring controllers installed on DIN rails Omega, such as electrical panels for cold rooms, or applications with centralised electrical panels.

Common features

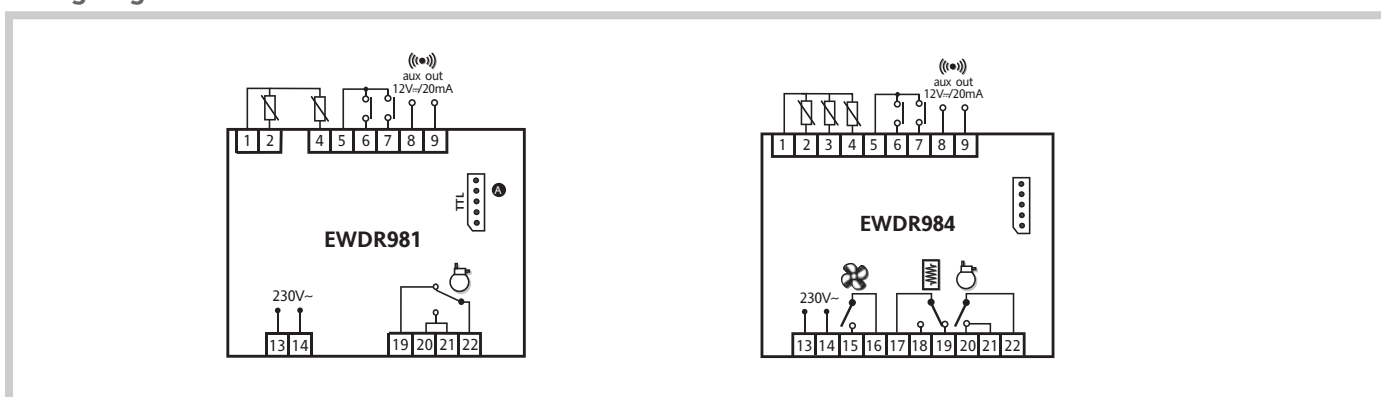
Container	plastic casing with 4 DIN modules	Ambient humidity for operation and storage	10...90% RH (non-condensing)
Dimensions	front panel 70x85mm, depth 61mm	Connections	on screw-on terminal block for $\leq 2.5 \text{ mm}^2$ wires (just one wire per terminal for power connections)
Installation	on DIN rail (Omega) or wall mounted		
Operating temperature	-5...55°C		
Storage temperature	-30...85°C		

Technical data

	EWDR 981	EWDR 984
Display range:	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C 	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C
Display:	no decimal point * 3 and a half digits + sign	no decimal point * 3 and a half digits + sign
Analogue inputs:	2 PTC or NTC *	3 PTC or NTC *
Digital inputs:	2 voltage-free inputs *	2 voltage-free inputs *
Connections:	TTL port for connection to Copy Card	TTL port for connection to Copy Card
Digital outputs:	1 SPDT 15A 1hp 250Vac	1 SPDT 8(3)A 250Vac 1 SPST 15A 1hp 250Vac 1 SPST 8(3)A 250Vac
Analogue outputs:	output 12V \pm /24mA *	output 12V \pm /24mA *
Measurement range:	from -55 to 140°C	from -55 to 140°C
Accuracy:	better than 0.5% of integral-scale + 1 digit	better than 0.5% of integral-scale + 1 digit
Resolution:	1 or 0.1°C	1 or 0.1°C
Power consumption:	5VA max	5VA max
Power supply:	230Vac \pm 10% 50/60Hz	230Vac \pm 10% 50/60Hz

* selectable by parameter

Wiring diagrams



EWDR 983 LX/S - EWDR 985 LX/S/C/K

DIN controllers for remote counters



Codes	Descr.	Probe*	Power supply
DR38DI0TCD700	EWDR 983	NTC/PTC	230Vac
DR38DF0SCD700	EWDR 983/CS LX	NTC/PTC	230Vac
DR34DI0TCD700	EWDR 985	NTC/PTC	230Vac
DR35DR0SCD700	EWDR 985/CS LX BUZ.	NTC/PTC	230Vac

*selectable by parameter

Applications

The EWDR range of products, available in a 4 DIN module size (70x85mm), is designed for applications requiring controllers installed on DIN rails Omega, such as electrical panels for cold rooms, or applications with centralised electrical panels.

The EWDR 983 LX and EWDR 985 LX devices are equipped with an internal clock (RTC) for the management of the defrosting and the RS-485 serial port for the connection to TelevisSystem.

Common features

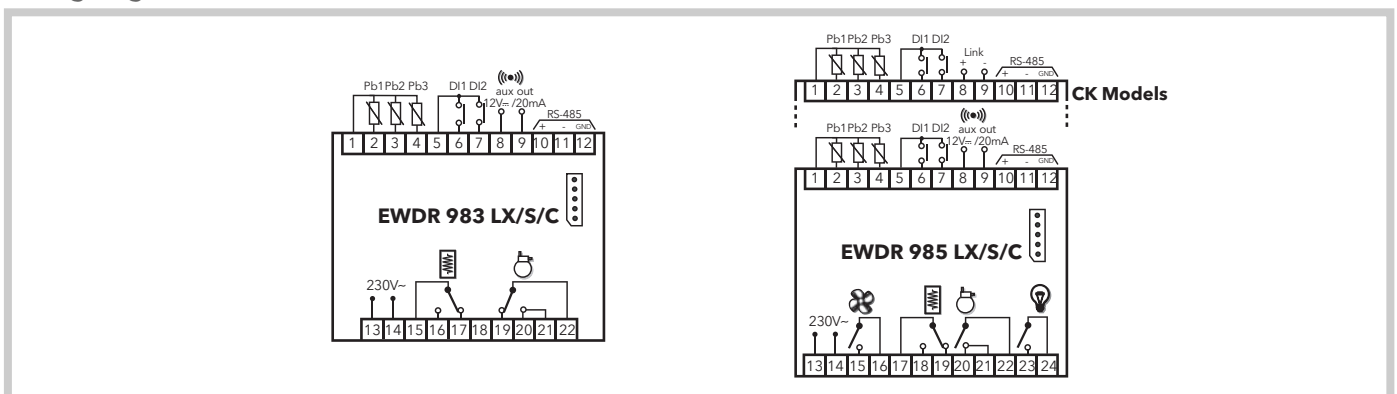
Container	plastic casing with 4 DIN modules	Ambient humidity for operation and storage	10...90% RH (non-condensing)
Dimensions	front panel 70x85mm, depth 61mm	Connections	on screw-on terminal block for ≤ 2.5 mm ² wires (just one wire per terminal for power connections)
Installation	on DIN rail (Omega) or wall mounted		
Operating temperature	-5...55°C		
Storage temperature	-30...85°C		

Technical data

	EWDR 983 LX/S	EWDR 985 LX/S/C/K
Display range:	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C 	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C
Display:	no decimal point * 3 and a half digits + sign	no decimal point * 3 and a half digits + sign
Analogue inputs:	3 PTC or NTC *	3 PTC or NTC *
Digital inputs:	2 voltage-free inputs *	2 voltage-free inputs *
Connections:	TTL port for connection to Copy Card LX only: RS -485 for connection to TelevisSystem	TTL port for connection to Copy Card LX only: RS -485 for connection to TelevisSystem
Digital outputs:	1 SPDT 8(3)A 250Vac 1 SPDT 15A 1hp 250Vac	1 SPST 8(3)A 1/2hp 250Vac 1 SPDT 8(3)A 1/2hp 250Vac 1 SPST 15A 1hp 250Vac 1 SPST 8(3)A 1/2hp 250Vac
Analogue outputs:	output 12V~/24mA *	output 12V~/24mA *
Measurement range:	from -55 to 140°C	from -55 to 140°C
Accuracy:	better than 0.5% of integral-scale + 1 digit	better than 0.5% of integral-scale + 1 digit
Resolution:	1 or 0.1°C	1 or 0.1°C
Power consumption:	5VA max	5VA max
Power supply:	230Vac \pm 10% 50/60Hz	230Vac \pm 10% 50/60Hz
Link:	not available	available
Clock:	available	available

* selectable by parameter

Wiring diagrams



DR4020

Universal DIN controllers



Codes	Descr.	Probe*	Power supply
E4D12E00BH710	DR4020	Pt100	100...240Vac
E4D12A00BD710	DR4020	TC	100...240Vac
E4D12I00BN710	DR4020	V/I/Pt100	100...240Vac
E4D12N00BH710	DR4020	NTC/PTC/Pt1000	100...240Vac
E4D12E00BH410	DR4020	Pt100	12...24Vac/≐
E4D12A00BD410	DR4020	TC	12...24Vac/≐
E4D12I00BN410	DR4020	V/I/Pt100	12...24Vac/≐
E4D12N00BH410	DR4020	NTC/PTC/Pt1000	12...24Vac/≐

* selectable by parameter

Applications

The new Eliwell thermoregulators in the Universal Controller series are ideal for all industrial applications requiring high precision temperature control, ranging from the moulding of plastic materials and packaging, to raw material transformation process control.

Common features

Container	plastic casing with 4 DIN modules	Operating temperature	-5...55°C
Dimensions	front panel 70x85mm, depth 61mm	Storage temperature	-20...85°C
Installation	on DIN rail (Omega) or panel mounting, with 70x45mm (+0.2/-0.1mm) drilling template	Ambient humidity for operation and storage	10...90% RH (non-condensing)

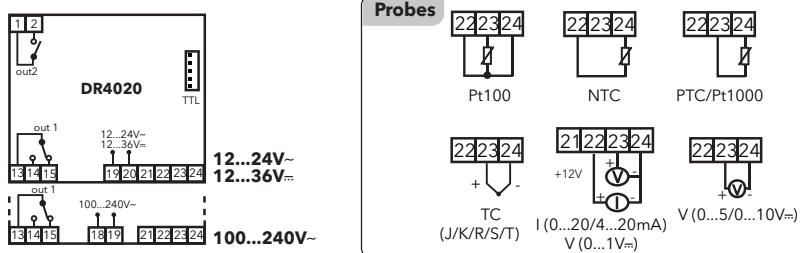
Technical data

DR4020

Display:	no decimal point * 2 4-digit displays + sign
Analogue inputs:	1 input* (see Probes diagram on Wiring Diagram)
Digital inputs:	not available
Connections:	TTL port for connection to Copy Card and Unicard
Digital outputs:	1 SPDT 8(3)A 250Vac 1 SPST 8(3)A 250Vac
Analogue output:	not available
Measurement range:	according to probe used
Accuracy:	according to probe used
Resolution:	according to probe used
Power consumption:	4W max
Power supply:	<ul style="list-style-type: none"> 12...24Vac/12...36V≐ ±10% 50/60Hz 100...240Vac ±10% 50/60Hz

*selectable by parameter

Wiring diagrams



DR4022

Universal DIN controllers with serial port



Codes	Descr.	Probe*	Power supply
E4D12EASBH710	DR4022	Pt100	100...240Vac
E4D12NASBH710	DR4022	NTC/PTC/Pt1000	100...240Vac
E4D12AASBD710	DR4022	TC	100...240Vac
E4D12IASBN710	DR4022	V/I/Pt100	100...240Vac
E4D12VASBN410	DR4022	V/I/Pt100	12...24Vac/≠

*selectable by parameter

Applications

The new Eliwell thermoregulators in the Universal Controller series are ideal for all industrial applications requiring high precision temperature control, ranging from the moulding of plastic materials and packaging, to raw material transformation process control.

Common features

Container	plastic casing with 4 DIN modules	Operating temperature	-5...55°C
Dimensions	front panel 70x85mm, depth 61mm	Storage temperature	-20...85°C
Installation	on DIN rail (Omega) or panel mounting, with 70x45 mm (+0.2/-0.1 mm) drilling template	Ambient humidity for operation and storage	10...90% RH (non-condensing)

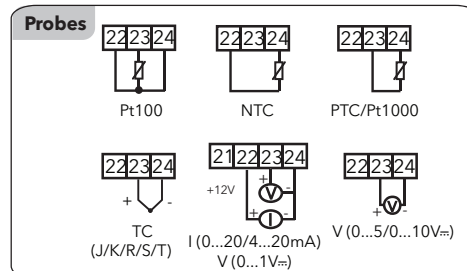
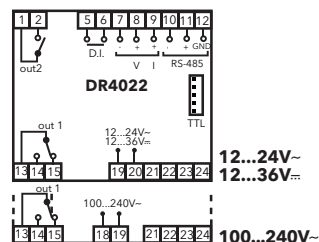
Technical data

DR4022

Display:	no decimal point * 2 4-digit displays + sign
Analogue inputs:	1 input* (see Probes table)
Digital inputs:	1 clean contact at extra low safety voltage
Connections:	TTL port and internal RS-485 for connection to Copy Card, Unicard, TelevisSystem and ModBus protocol systems
Digital outputs:	1 SPDT 8(3)A 250Vac 1 SPST 8(3)A 250Vac
Analogue output:	V-I: 0...1V, 0...5V, 0...10V / 0...20mA, 4...20mA
Measurement range:	according to probe used
Accuracy:	according to probe used
Resolution:	according to probe used
Power consumption:	4W max
Power supply:	<ul style="list-style-type: none"> • 12...24Vac/12...36V≠ ±10% 50/60Hz • 100...240Vac ±10% 50/60Hz

*(selectable by parameter)

Wiring diagrams



EW4820 (SSR)

Universal 48x48 controllers



Codes	Descr.	Probe*	Power supply
E481BIOXBH700	EW4820	V/I/Pt100	100...240Vac
E481SIOXBN700	EW4820 SSR output	V/I/Pt100	100...240Vac
E481BP0PMH700	EW4820	Pt100/Pt1000/NTC/PTC/TC	100...240Vac
E481SP0PMH700	EW4820 SSR output	Pt100/Pt1000/NTC/PTC/TC	100...240Vac
E481BP0PMH400	EW4820	Pt100/Pt1000/NTC/PTC/TC	12...24Vdc/±
E481SP0PMH400	EW4820 SSR output	Pt100/Pt1000/NTC/PTC/TC	12...24Vdc/±

* selectable by parameter

Applications

The Eliwell thermoregulators in the Universal Controller series are ideal for all industrial applications requiring high precision temperature control, ranging from the moulding of plastic materials and packaging, to raw material transformation process control.

Common features

Container	PC+ABS UL94 V-0 resin plastic casing, switch keys with adhesive polycarbonate film	Operating temperature	-5...55°C
Dimensions	front panel 48x48mm, depth 113mm	Storage temperature	-20...85°C
Installation	panel-mounting, with 45x45mm (+0.2/-0.1mm) drilling template	Ambient humidity for operation and storage	10...90% RH (non-condensing)

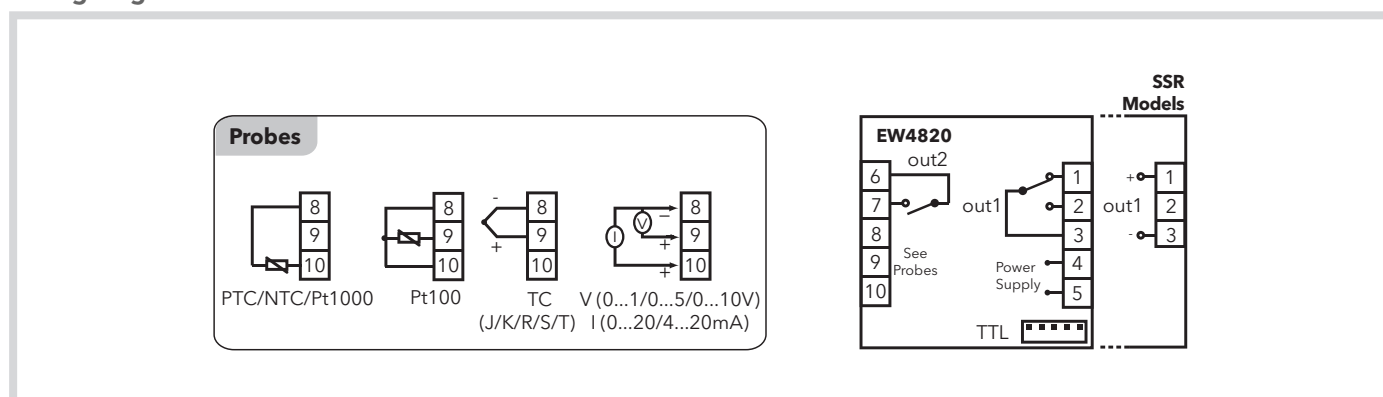
Technical data

EW4820 (SSR)

Display:	no decimal point * 2 4-digit displays + sign
Analogue inputs:	1 input* (see Probes table)
Digital inputs:	not available
Connections:	TTL port for connection to Copy Card or TelevisSystem
Digital outputs:	1 SPDT 3A 250Vac 1 SPST 2A 250Vac
Digital outputs - SSR models:	Vout = 0...12V \pm / Imax = 0...15mA / Vmin = 7.5V 1 SPST 2A 250Vac
Analogue output:	not available
Measurement range:	according to probe used
Accuracy:	according to probe used
Resolution:	according to probe used
Power consumption:	<ul style="list-style-type: none"> • 2.45W for 12...24Vdc/12...36V\pm model • 2.40W for 100...240Vacmodel
Power supply:	<ul style="list-style-type: none"> • 12...24Vdc/12...36V\pm \pm10% 50/60Hz • 100...240Vdc \pm10% 50/60Hz

*(selectable by parameter)

Wiring diagrams



EW4822 (SSR)

Universal 48x48 controllers with serial port



Codes	Descr.	Probe*	Power supply
E481BIISBH700	EW4822 AO 4...20mA	V//Pt100	100...240Vac
E481BPIQMH700	EW4822 AO 0...20mA	Pt1000/Pt100/NTC/PTC/TC	100...240Vac
E481BPVQMH700	EW4822 AO 0/10V	Pt1000/Pt100/NTC/PTC/TC	100...240Vac
E481SPIQMH700	EW4822 AO 0...20mA SSR output	Pt1000/Pt100/NTC/PTC/TC	100...240Vac
E481BPIQMH400	EW4822 AO 0...20mA	Pt1000/Pt100/NTC/PTC/TC	12...24Vac/±
E481SPIQMH400	EW4822 AO 0...20mA SSR output	Pt1000/Pt100/NTC/PTC/TC	12...24Vac/±

*selectable by parameter

Applications

The Eliwell thermoregulators in the Universal Controller series are ideal for all industrial applications requiring high precision temperature control, ranging from the moulding of plastic materials and packaging, to raw material transformation process control.

Common features

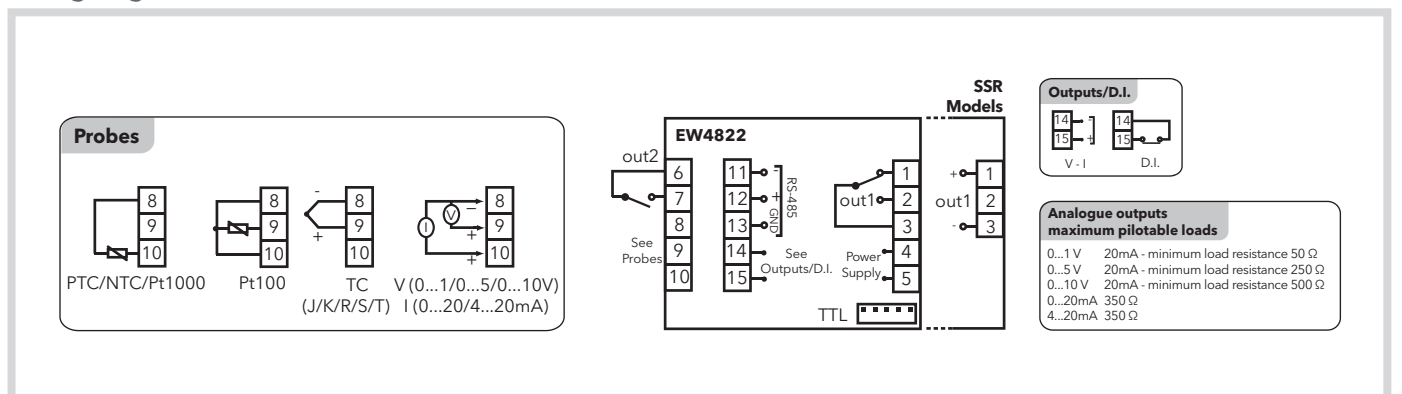
Container	PC+ABS UL94 V-0 resin plastic casing, switch keys with adhesive polycarbonate film	Operating temperature	-5...55°C
Dimensions	front panel 48x48mm, depth 113mm	Storage temperature	-20...85°C
Installation	panel-mounting, with 45x45mm (+0.2/-0.1mm) drilling template	Ambient humidity for operation and storage	10...90% RH (non-condensing)

Technical data

	EW4822 (SSR)
Display:	no decimal point * 2 4-digit displays + sign
Analogue inputs:	1 input* (see Probes table)
Digital inputs:	1 clean contact at extra low safety voltage
Connections:	TTL port for connection to Copy Card or TelevisSystem + internal RS-485 for connection to systems with ModBus protocol
Digital outputs:	1 SPDT 3A 250Vac 1 SPST 2A 250Vac
Digital outputs - SSR models:	Vout = 0...12V _± / Imax = 0...15mA / Vmin = 7.5V 1 SPST 2A 250Vac
Analogue output:	V: 0...1V, 0...5V, 0...10V or I: 0...20mA, 4...20mA maximum pilotable loads: please see wiring diagrams
Measurement range:	according to probe used
Accuracy:	according to probe used
Resolution:	according to probe used
Power consumption:	<ul style="list-style-type: none"> • 2.80W for 12...24V_±/12...36V_±model • 2.60W for 100...240V_±model
Power supply:	<ul style="list-style-type: none"> • 12...24V_±/12...36V_± ±10% 50/60Hz • 100...240V_± ±10% 50/60Hz

*(selectable by parameter)

Wiring diagrams



EW7210 - EW7220

Universal 72x72 controllers



Codes	Descr.	Probe*	Power supply
E7211A0XHD700	EW7210	TC	100...240Vac
E7211E0XHD700	EW7210	Pt100	100...240Vac
E7211N0XHD700	EW7210	NTC/PTC/Pt1000	100...240Vac
E7211A0XHD400	EW7210	TC	12...24Vac/≐
E7211E0XHD400	EW7210	Pt100	12...24Vac/≐
E7211N0XHD400	EW7210	NTC/PTC/Pt1000	12...24Vac/≐
E7212E0XBH700	EW7220	Pt100	100...240Vac
E7212A0XBD700	EW7220	TC	100...240Vac
E7212I0XBH700	EW7220	V/I/Pt100	100...240Vac
E7212N0XBD700	EW7220	NTC/PTC/Pt1000	100...240Vac
E7212E0XBH400	EW7220	Pt100	12...24Vac/≐
E7212A0XBD400	EW7220	TC	12...24Vac/≐
E7212I0XBH400	EW7220	V/I/Pt100	12...24Vac/≐
E7212N0XBD400	EW7220	NTC/PTC/Pt1000	12...24Vac/≐

*selectable by parameter

Applications

The Eliwell thermoregulators in the Universal Controller series are ideal for all industrial applications requiring high precision temperature control, ranging from the moulding of plastic materials and packaging, to raw material transformation process control.

Common features

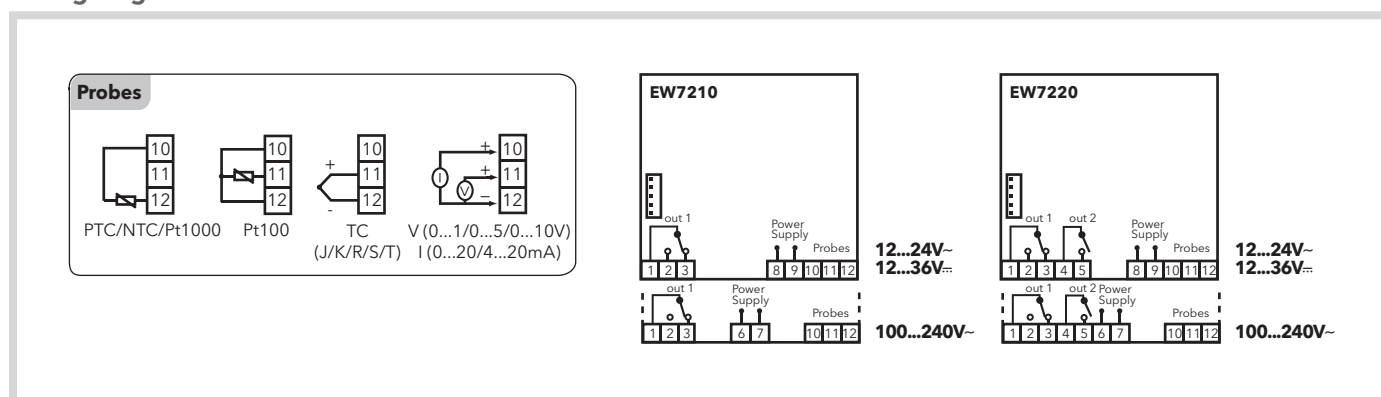
Container	PC+ABS UL94 V-0 resin plastic casing, switch keys with adhesive polycarbonate film	Operating temperature	-5...55°C
Dimensions	front panel 72x72mm, depth 80mm	Storage temperature	-20...85°C
Installation	panel-mounting, with 67x67mm (+0.2/-0.1mm) drilling template	Ambient humidity for operation and storage	10...90% RH (non-condensing)

Technical data

	EW7210	EW7220
Display:	no decimal point * 2 4-digit displays + sign	no decimal point * 2 4-digit displays + sign
Analogue inputs:	1 input* (see Probes table)	1 input* (see Probes table)
Digital inputs:	not available	not available
Connections:	TTL port for connection to Copy Card, TelevisSystem or systems with ModBus protocol	TTL port for connection to Copy Card, TelevisSystem or systems with ModBus protocol
Digital outputs:	1 SPDT 8(3)A 250Vac	1 SPDT 8(3)A 250Vac 1 SPST 8(3)A 250Vac
Analogue output:	not available	not available
Measurement range:	according to probe used	according to probe used
Accuracy:	according to probe used	according to probe used
Resolution:	according to probe used	according to probe used
Power consumption:	4W max	4W max
Power supply:	<ul style="list-style-type: none"> • 12...24Vac/12...36V≐ ±10% 50/60Hz • 100...240Vac ±10% 50/60Hz 	<ul style="list-style-type: none"> • 12...24Vac/12...36V≐ ±10% 50/60Hz • 100...240Vac ±10% 50/60Hz

*(selectable by parameter)

Wiring diagrams



EW7221 - EW7222

Universal 72x72 controllers with serial port



Codes	Descr.	Probe*	Power supply
E7213PAXBH700	Univ. EW7221	Pt100/Pt1000/NTC/PTC/TC	100...240Vac
E7213IAXBH700	EW7221	V/I/Pt100	100...240Vac
E7213PAXB700	Univ. EW7221 - RS485	Pt100/Pt1000/NTC/PTC/TC	100...240Vac
E7213PAXBH400	Univ. EW7221	Pt100	12...24Vac/≐
E7213PASBH700	EW7222 Univ.-RS485	Pt100/Pt1000/NTC/PTC/TC	100...240Vac
E7213IASBH700	EW7222	V/I/Pt100	100...240Vac
E7213PASBH400	EW7222 Univ.-RS485	Pt100/Pt1000/NTC/PTC/TC	12...24Vac/≐

*selectable by parameter

Applications

The Eliwell thermoregulators in the Universal Controller series are ideal for all industrial applications requiring high precision temperature control, ranging from the moulding of plastic materials and packaging, to raw material transformation process control.

Common features

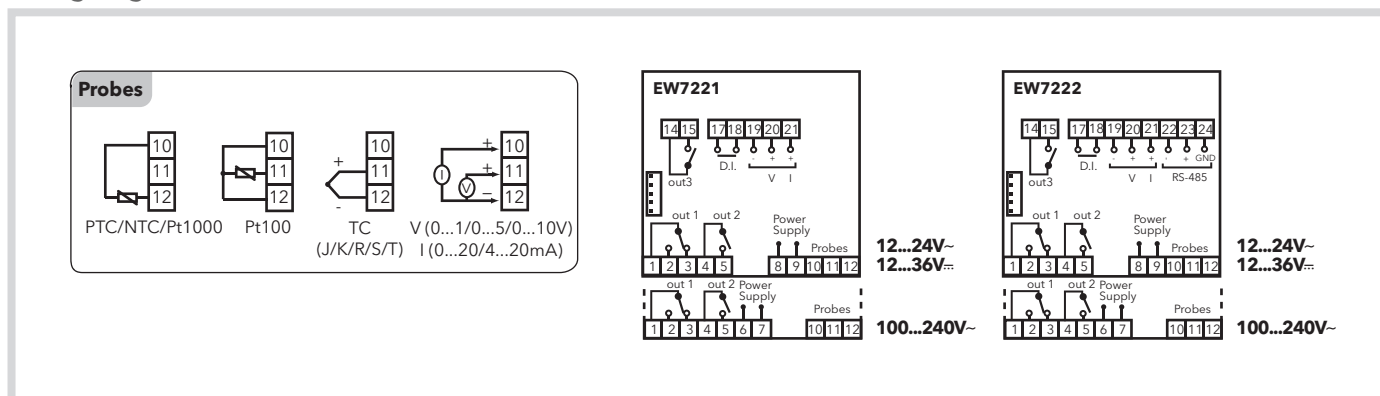
Container	PC+ABS UL94 V-0 resin plastic casing, switch keys with adhesive polycarbonate film	Operating temperature	-5...55°C
Dimensions	front panel 72x72mm, depth 80mm	Storage temperature	-20...85°C
Installation	panel-mounting, with 67x67mm (+0.2/-0.1mm) drilling template	Ambient humidity for operation and storage	10...90% RH (non-condensing)

Technical data

	EW7221	EW7222
Display:	no decimal point * 2 4-digit displays + sign	no decimal point * 2 4-digit displays + sign
Analogue inputs:	1 input* (see Analogue Inputs table)	1 input* (see Probes table)
Digital inputs:	1 clean contact at extra low safety voltage	1 clean contact at extra low safety voltage
Connections:	TTL port for connection to Copy Card, Televis System or systems with ModBus protocol	TTL and RS-485 port for connection to Copy Card, Televis System or systems with ModBus protocol
Digital outputs:	1 SPDT 8(3)A 250Vac 1 SPST 8(3)A 250Vac 1 SPST 5A 250Vac	1 SPDT 8(3)A 250Vac 1 SPST 8(3)A 250Vac 1 SPST 5A 250Vac
Analogue output:	V-I: 0...1V, 0...5V, 0...10V / 0...20mA, 4...20mA	V-I: 0...1V, 0...5V, 0...10V / 0...20mA, 4...20mA
Measurement range:	according to probe used	according to probe used
Accuracy:	according to probe used	according to probe used
Resolution:	according to probe used	according to probe used
Power consumption:	4W max	4W max
Power supply:	<ul style="list-style-type: none"> 12...24Vac/12...36V≐ ±10% 50/60Hz 100...240Vac ±10% 50/60Hz 	<ul style="list-style-type: none"> 12...24Vac/12...36V≐ ±10% 50/60Hz 100...240Vac ±10% 50/60Hz

*(selectable by parameter)

Wiring diagrams



EWTSPPlus 990

32x74 timers and counters



Codes	Descr.	Power supply
ET02010XTG700	EWTSPPlus 990	230Vac
ET02010XTG500	EWTSPPlus 990	24Vac
ET02010XTG300	EWTSPPlus 990	12Vac/±

Applications

The Eliwell series of digital timers is the ideal measuring solution for all measurable quantities in commercial refrigeration and light industry. The range is used in all applications requiring precision control of processing stages and the management of functions linked to pre-set time intervals.

Common features

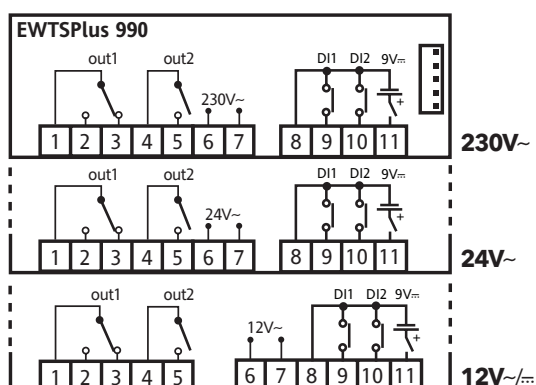
Container	PC+ABS UL94 V-0 plastic resin casing, polycarbonate display window, thermoplastic resin buttons	Operating temperature	-5...55°C
Dimensions	front panel 79x37mm, depth 59mm	Storage temperature	-30...85°C
Installation	panel-mounting, with 71x29mm (+0.2/-0.1mm) drilling template	Ambient humidity for operation and storage	10...90% RH (non-condensing)

Technical data

EWTSPPlus 990

Display range:	9999 hours / 99 hours and 59 minutes / 99 minutes and 59 seconds / 99 seconds and 99 hundredths of a second
Display:	no decimal point * 4 digits + sign
Digital inputs:	2 clean contacts at extra low safety voltage
Connections:	TTL port for connection to Copy Card and TelevisSystem
Digital outputs:	1 SPDT 8(3)A 1/2hp 250Vac 1 SPST 8(3)A 1/2hp 250Vac
Accuracy:	3.6 sec/h
Power consumption:	3VA max
Power supply:	12Vac/± or 24Vac or 230V~ ±10% 50/60Hz
External battery:	<ul style="list-style-type: none"> power supply 9V± battery duration: depends on model, with 9V±/10mA/h battery duration 1h instrument absorption with power supply from 10mA battery

Wiring diagrams



EWRC 300 NT - EWRC 500 NT

Controllers for cold rooms



Codes	Descr.	Note
RCS3HDLX2*700	EWRC 300 NT 2HP BUZZER	Buzzer
RCS3UDLX2*700	EWRC 500 NT 2HP BUZZER	Buzzer
RCS3UDTX2*700	EWRC 500 NT 2HP RTC HACCP BUZ	HACCP/Buzzer
RCA3UDRX2*700	EWRC 500 NT 2HP BUZ 4DIN W/B	Buzzer/Circuit Breaker
RCA3UDSX2*700	EWRC 500 NT 2HP RTC HACCP BUZ 4DIN W/B	HACCP/Buzzer/ Circuit Breaker
KP00Q150	RS485 Plugin 40x49mm screw-in terminals	Optional module

*The number or letter in this position indicates the language available for the code:
0: ITA; E: ENG; F: FRA; G: GER; O: POL; R: RUS; S: SPA; T: TUR; U: Arabic; W: SWE; Z: BRA

Applications

Controllers for static and ventilated cold storage rooms with direct control of the single-phase compressors up to 2 HP for on-board installation. EWRC 300 NT and EWRC 500 NT are equipped with 3 or 5 relay outputs freely configurable for controlling all the cell loads.

Common features

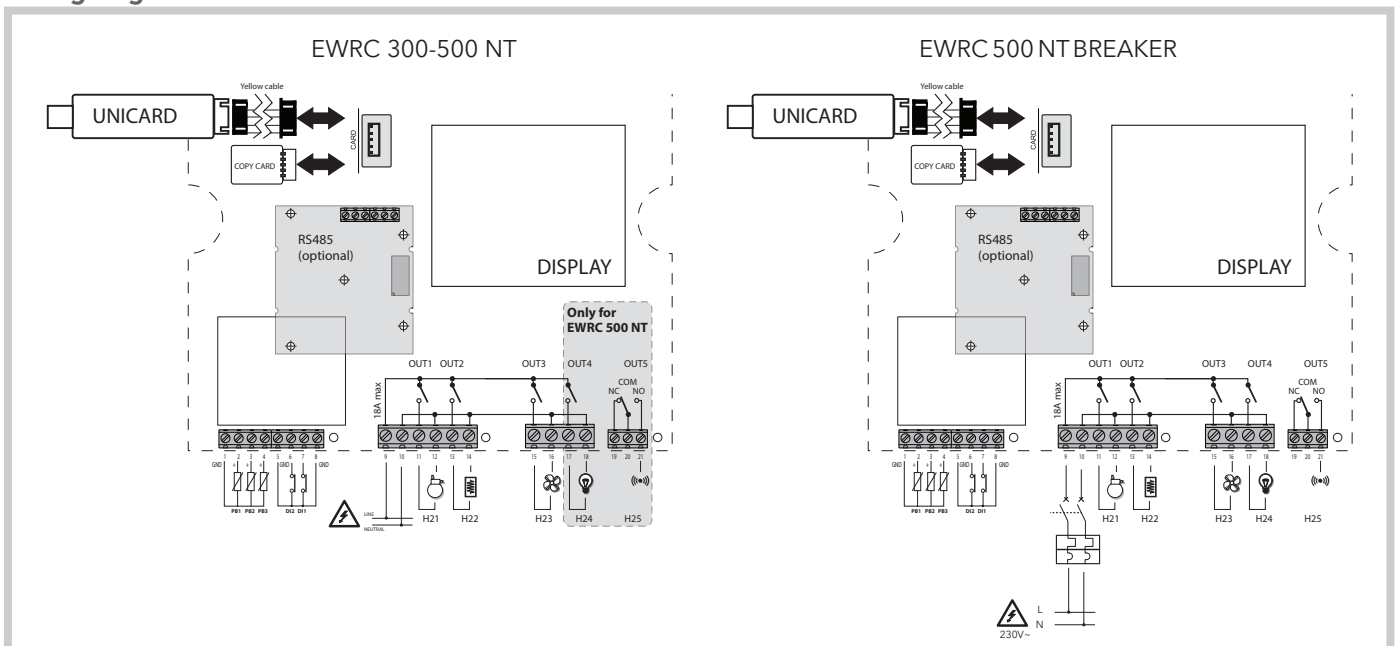
Front panel protection rating	IP65	Operating temperature	-5...50°C
Container	PC + ABS	Storage temperature	-20...85°C
Display	2 displays: 3 digits + sign and 4 digits	Ambient operation and storage humidity	10...90% RH (non-condensing)
Installation	wall-mounted		

Technical data

	EWRC 300 NT	EWRC 500 NT	EWRC 500 NT BREAKER
Max dimensions:	front panel 213x318mm, depth 102mm	front panel 213x318mm, depth 102mm	front panel 221x318mm, depth 107mm
Power supply:	230Vac ±10% 50/60Hz	230Vac ±10% 50/60Hz	230Vac ±10% 50/60Hz
Power consumption:	14W max	14W max	14W max
Magnetothermal switch:	-	-	230Vac Icn 4500 A 2P In = 16A 4 KV
Power terminals:	screw-type	screw-type	screw-type
Analogue inputs:	3 x NTC / PTC*	3 x NTC / PTC*	3 x NTC / PTC*
Display range:	NTC: -50.0...110.0°C; PTC: -55.0...150.0°C	NTC: -50.0...110.0°C; PTC: -55.0...150.0°C	NTC: -50.0...110.0°C; PTC: -55.0...150.0°C
Digital inputs:	2 voltage-free inputs	2 voltage-free inputs	2 voltage-free inputs
Connections:	TTL and RS485** port for Unicard, TelevisSystem and Modbus RTU systems	TTL and RS485** port for Unicard, TelevisSystem and Modbus RTU systems	TTL and RS485** port for Unicard, TelevisSystem and Modbus RTU systems
Digital outputs:	Common-line max 18A OUT1 common-line 2HP 12(12)A 250Vac OUT2 common-line 1HP 8(8)A 250Vac OUT3 common-line ½HP 8(4)A 250Vac	Common-line max 18A OUT1 common-line 2HP 12(12)A 250Vac OUT2 common-line 1HP 8(8)A 250Vac OUT3 common-line ½HP 8(4)A 250Vac OUT4 common-line 1HP 8(8)A 250Vac OUT5 SPDT ½HP 8(4)A 250Vac	Common-line max 18A OUT1 common-line 2HP 12(12)A 250Vac OUT2 common-line 1HP 8(8)A 250Vac OUT3 common-line ½HP 8(4)A 250Vac OUT4 common-line 1HP 8(8)A 250Vac OUT5 SPDT ½HP 8(4)A 250Vac
Measurement range:	-55...150°C	-55...150°C	-55...150°C
Resolution:	1 or 0.1°C	1 or 0.1°C	1 or 0.1°C
HACCP:	optional	optional	optional
Clock:	optional	optional	optional

* selectable from parameter **with optional module

Wiring diagrams



EWRC 5000 NT - EWRC 5010 NT - EWRC 5030 NT

Controllers for cold rooms



Code	Description	Notes
RCH300DTX*700	EWRC 5000 NT HACCP BZ 230Vac	Electronic control only
RCH301DTX*700	EWRC 5010 NT HACCP BZ 2.5-4A 230Vac	
RCH302DTX*700	EWRC 5010 NT HACCP BZ 4-6.3A 230Vac	
RCH303DTX*700	EWRC 5010 NT HACCP BZ 6-10A 230Vac	
RCH304DTX*700	EWRC 5010 NT HACCP BZ 13-18A 230Vac	
RCH305DTX*900	EWRC 5030 NT HACCP BZ 2.5-4A 400Vac	
RCH306DTX*900	EWRC 5030 NT HACCP BZ 4-6.3A 400Vac	
RCH307DTX*900	EWRC 5030 NT HACCP BZ 6-10A 400Vac	
RCH308DTX*900	EWRC 5030 NT HACCP BZ 9-14A 400Vac	
RCH309DTX*900	EWRC 5030 NT HACCP BZ 13-18A 400Vac	
RCH310DTX*900	EWRC 5030 NT HACCP BZ 17-20A 400Vac	
RCH311DTX*900	EWRC 5030 NT HACCP BZ 6kW	Evaporator unit with electric defrost 6kW
RCH312DTX*900	EWRC 5030 NT HACCP BZ 12kW	Evaporator unit with electric defrost 12kW

*the number in this position indicates the language available for the code:

1: ITA-ENG 2: ENG-AR 3: ITA-SPA 4: FRA-GER 5: GRE-RUS

Applications

Certified electrical panels line ready for use with inbuilt installation for static and ventilated cold storage rooms. Both single and three phase user control.

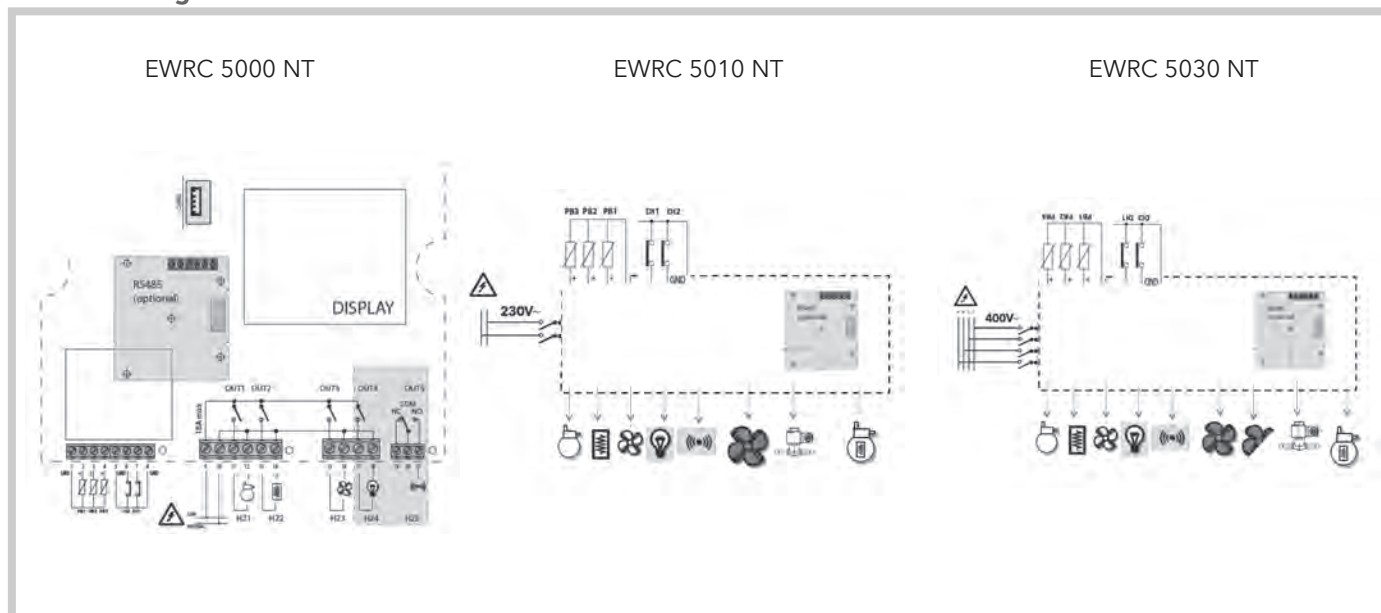
Common features

Container	PC + ABS	Operating temperature	-5...+40°C
Display	2 displays: 3 digits + sign and 4 digits	Storage temperature	-20...+70°C
Installation	wall-mounted	Ambient operation and storage humidity	10...90% RH (non-condensing)

Technical data	EWRC 5000 NT	EWRC 5010 NT	EWRC 5030 NT
Dimensions	450x 380, depth 160 (mm)	450x 380, depth 160 (mm)	450x 380, depth 160 (mm)
Power supply	230Vac +/-10% 50/60Hz	230Vac (Phase+Neutral +Earth)	400Vac (3Phase+Neutral +Earth)
Command type	single-phase	single-phase	Three-phase
Main switch	-	Two-pole magnetothermal switch	Four-pole magnetothermal switch
Connections	Screw terminals	Screw terminals on DIN rail	Screw terminals on DIN rail
Connectivity	TTL and RS485** port for Unicard, TelevisSystem and Modbus RTU systems	TTL and RS485** port for Unicard, TelevisSystem and Modbus RTU systems	TTL and RS485** port for Unicard, TelevisSystem and Modbus RTU systems
Analogue inputs	3 x NTC / PTC*	3 x NTC / PTC*	3 x NTC / PTC*
Display range	NTC: -50.0...110.0°C; PTC: -55.0...150.0°C	NTC: -50.0...110.0°C; PTC: -55.0...150.0°C	NTC: -50.0...110.0°C; PTC: -55.0...150.0°C
Resolution	0.1 °C	0.1 °C	0.1 °C
Digital inputs	2 voltage-free inputs	2 voltage-free inputs	2 voltage-free inputs
Auxiliary Protection	-	Dedicated thermal-magnetic breaker	Dedicated thermal-magnetic breaker
Buzzer	Present	Present	Present
HACCP	Present	Present	Present

* selectable from parameter - **with optional module

Functional diagram



IDPanel 978

Single-phase and three-phase electrical panels for cold rooms



Code	Description	Notes
ELP300DSX0700	IDPanel 978 5.5-8A 230Vac	HACCP / BZ
ELP301DSX0700	IDPanel 978 8-11A 230Vac	HACCP / BZ
ELP302DSX0900	IDPanel 978 3.7-5.5A 400Vac	HACCP / BZ
ELP303DSX0900	IDPanel 978 5.5-6A 400Vac	HACCP / BZ

Applications

Electrical panels line ready for use with on-board installation for static and ventilated cold storage rooms. Control of compressor and electrical resistance in single-phase and three-phase version.

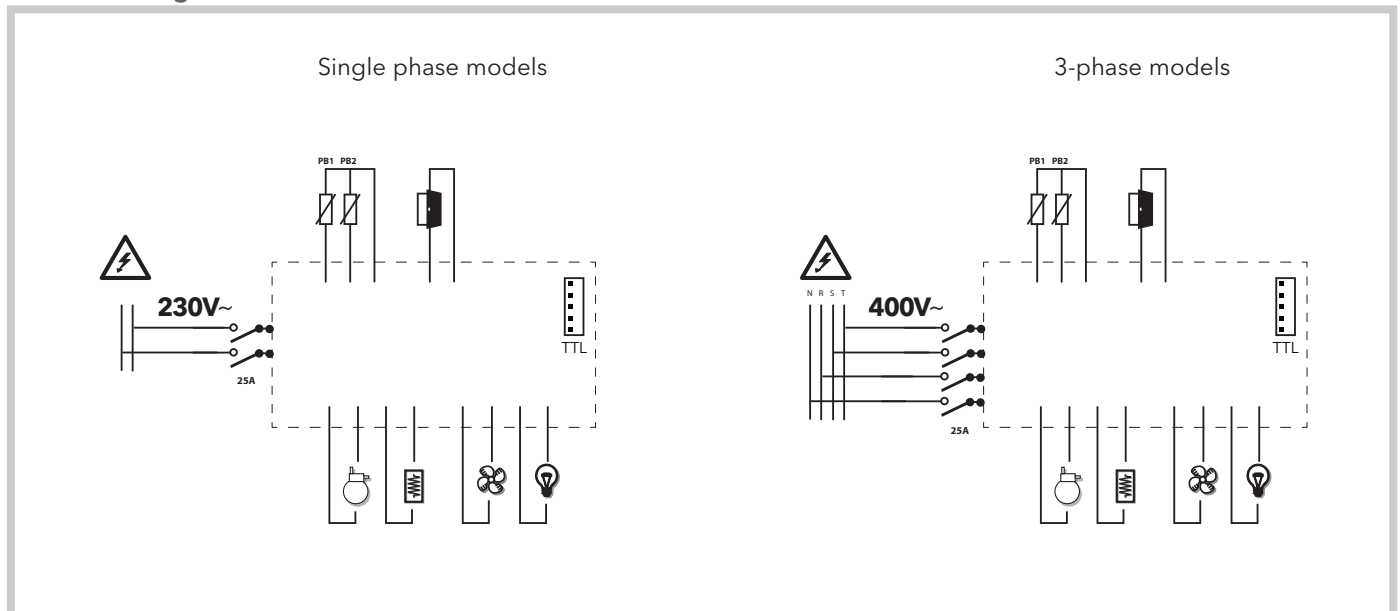
Common features

Front panel protection rating	IP54	Operating temperature	-5...50°C
Container	PC + ABS	Storage temperature	-20...+70°C
Control	IDPlus 978 Thermoregulator	Ambient operation and storage humidity	10...90% RH (non-condensing)
Installation	wall-mounted		

Technical data	IDPanel 978 5.5-8A 230Vac	IDPanel 978 8-11A 230Vac	IDPanel 978 3.7-5.5A 400Vac	IDPanel 978 5.5-6A 400Vac
Box sizes	213 x 318mm front panel, depth 102mm	213 x 318mm front panel, depth 102mm	213 x 318mm front panel, depth 102mm	213 x 318mm front panel, depth 102mm
Power supply	230Vac (Phase+Neutral +Earth)	230Vac (Phase+Neutral +Earth)	400Vac (3Phase+Neutral +Earth)	400Vac (3Phase+Neutral +Earth)
Command type	single-phase	single-phase	Three-phase	Three-phase
Door lock mains switch	25A	25A	25A	25A
Connections	Screw terminals on DIN rail	Screw terminals on DIN rail	Screw terminals on DIN rail	Screw terminals on DIN rail
Connectivity	TTL port for connection to Unicard/Copycard or TelevisSystem/ModBus monitoring device*	TTL port for connection to Unicard/Copycard or TelevisSystem/ModBus monitoring device*	TTL port for connection to Unicard/Copycard or TelevisSystem/ModBus monitoring device*	TTL port for connection to Unicard/Copycard or TelevisSystem/ModBus monitoring device*
General protection	Fuses	Fuses	Fuses	Fuses
Motor protection	Thermal relay	Thermal relay	Thermal relay	Thermal relay
Analogue inputs	2 PTC / NTC /Pt1000*	2 PTC / NTC /Pt1000*	2 PTC / NTC /Pt1000*	2 PTC / NTC /Pt1000*
Configurable inputs	1 digital (SELV) / analogue (PTC/NTC/Pt1000) 1 digital (SELV) / serial TTL*	1 digital (SELV) / analogue (PTC/NTC/Pt1000) 1 digital (SELV) / serial TTL*	1 digital (SELV) / analogue (PTC/NTC/Pt1000) 1 digital (SELV) / serial TTL*	1 digital (SELV) / analogue (PTC/NTC/Pt1000) 1 digital (SELV) / serial TTL*
Compressor	1PH 5.5 - 8.0 A	1PH 8.0 -11.0 A	3PH 3.7 - 5.5 A	3PH 5.5 - 6.0 A
Defrost	1PH 800W	1PH 800W	3PH 2400W	3PH 2400W
Evaporator fan	1PH 10(6)A 250Vac	1PH 10(6)A 250Vac	3PH 2400W	3PH 2400W
Light	1PH 8(4)A 250Vac	1PH 8(4)A 250Vac	1PH 8(4)A 250Vac	1PH 8(4)A 250Vac

* selectable by parameter

Functional diagram



EWCM 400D PRO

Compact controllers for compressor racks



Codes	Description	Notes
EPDT1PCR2400A	EWCM 436D PRO /A-CRii W/CABLES ¹	Specifically for CRii compressors
EPDT1PSTD400A	EWCM 436D PRO /A-STD W/CABLES ¹	For compressors: with steps, Digital Scroll and Inverter.
EPD01PSTD400A	EWCM 455D PRO /A-STD W/CABLES ¹	
EPE01PSTD400A	EWCM 455P PRO /A-STD W/CABLES ¹	Expandable with EXP 455D PRO
EP550000400A	EXP 455D PRO W/CABLES ²	I/O expansion
SKP1000000000	SKP 10	Display / Optional remote keyboard
COLV0000E0100	WIRING LV FREE/FLEX 1 m 20 WAY	I/O Wiring
COLV000042100	WIRING WIRING OUT 4WAY 1m	Analogue output wiring
COLV000035100	WIRING RS485 FREE/FLEX 1m	RS-485 serial wiring

¹ All controllers include wiring COLV0000E0100, COLV000042100, COLV000035100

² Includes COLV0000E0100, COLV000042100

Applications

The new series of controllers for EWCM 400 PRO compressor racks was designed to manage central cooling up to 4 compressors of which one has variable capacity, of the type CRii, Digital Scroll, or via inverter.

The controller also manages the condenser fans controlled via inverter or up to 4 steps in /STD models, 2 steps in /CRii models.

The management of the floating condensation set point according to the external temperature conditions offers energy saving, together with the noise management function with night-time setpoint for condenser fans.

The EWCM 436D PRO /A-CRii is designed for CRii series compressors with direct control of the capacity modulation valves.

Common features

Control of compressor racks up to 4 compressors or 4 steps	Energy saving with floating condensation
Modulation of the capacity for CRii series compressors up to 3 valves	Noise management with built-in clock activation
Fan control with inverter and up to 4 steps	Additional configurable regulator on analogue or digital output

Technical Data	EWCM 436D PRO	EWCM 455P PRO	EWCM 455D PRO	EXP 455D
Dimensions	"front panel 70.2x87mm, depth 61.6mm"	front panel 74x32mm, depth 60mm	front panel 70.2x87mm, depth 61.6mm	
Installation	on DIN Omega bar support	panel mounting with 71x29mm drilling template	on DIN Omega bar support	
Analogue Inputs	3 configurable analogical, clean contact digital, NTC inputs 2 voltage/current analogue configurable inputs, clean contact digital inputs			
Digital Inputs	6 clean contact digital inputs			
Analogue Outputs	1 PWM analogue output (2) low voltage (SELV) 2 analogue outputs 0 ... 10 V, low voltage (SELV) 1 analogue output 0 ... 10 V / 4 ... 20 mA / 0 ... 20 mA, low voltage (SELV)			
Digital Outputs	3 relay outputs 2 A - 230 Vac			
TRIAC outputs	2 TRIAC outputs 3 A - 230 Vac			
Expansion bus	Bus for expansion module EXP 455D			
User interface	Remote keyboard SK 10			
Monitoring	Isolated RS-485 serial port with Modbus RTU protocol			
Power supply	12/24 Vac 24 Vdc	not insulated		
Power consumption	6 VA			
Operating temperature and humidity	-20...55°C 10...90% (non-condensing)			
Storage temperature and humidity	-40...85°C 10...90% (non-condensing)			

EWCM 4120 - 4150 - 4180

32x74 controllers for compressor racks



Codes	Descr.	Power supply
EM6A12001EL10	EWCM4120 /C	12Vac
EM6A12001EL11	EWCM4120 /C with wires	12Vac
EM6A22105EL10	EWCM4150 /C	12Vac
EM6A22105EL11	EWCM4150 /C with wires	12Vac
EM6A22101EL10	EWCM4180 /C	12Vac
EM6A22101EL11	EWCM4180 /C with wires	12Vac

EM6A12001EL16	KIT EWCM 4120/C	see kit table
EM6A22101EL16	KIT EWCM 4180/C	see kit table

Applications

The EWCM 4000 range, which consists of three different controllers, is the ideal solution for small and medium-sized compressor racks, where ease of use, high control reliability and versatility are essential features for meeting all operational requirements in compressor rack management.

Common features

Display	4 figure LED	Operating temperature	-5...60°C
Container	plastic casing, flame retardant grade UL94-V0	Storage temperature	-20...85°C
Dimensions	front panel 32x74mm, depth 70mm	Ambient humidity for operation and storage	10...90% RH (non-condensing)
Installation	panel-mounted, with 71x29mm hole		

Technical data

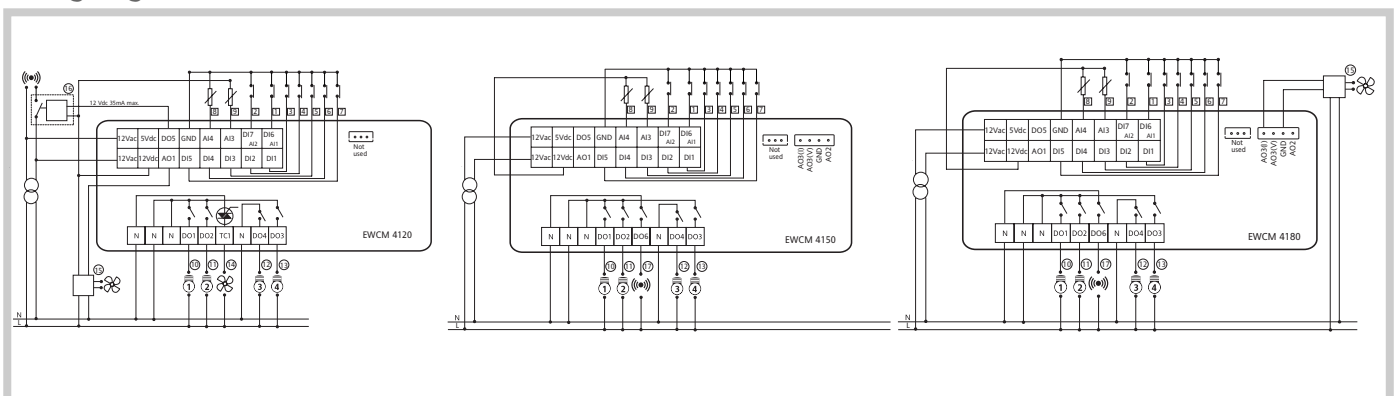
	EWCM 4120	EWCM 4150	EWCM 4180
Analogue inputs:	2 4...20mA / ratiometric 0...5V / 0...10V / NTC / D.I.*	2 4...20mA / ratiometric 0...5V / 0...10V / NTC / D.I.*	2 4...20mA / ratiometric 0...5V / 0...10V / NTC / D.I.*
Digital inputs:	7 SELV contacts	7 SELV contacts	7 SELV contacts
Analogue outputs:	<ul style="list-style-type: none"> • TRIAC • PWM - Open Collector 	<ul style="list-style-type: none"> • 2 PWM - Open Collector • 0...10V / 4...20mA / 0...20mA* 	<ul style="list-style-type: none"> • 2 PWM - Open Collector • 0...10V / 4...20mA / 0...20mA*
Digital outputs:	4 SPST 2A 250Vac + Open Collector	5 SPST 2A 250Vac + Open Collector	5 SPST 2A 250Vac + Open Collector
Connections:	TTL port for connection to Copy Card and TelevisSystem via optional module	TTL port for connection to Copy Card and TelevisSystem via optional module	TTL port for connection to Copy Card and TelevisSystem via optional module
Clock:	present	present	present
Power consumption:	5VA max	5VA max	5VA max
Power supply:	12Vac ±10% 50/60Hz	12Vac ±10% 50/60Hz	12Vac ±10% 50/60Hz

* (selectable by parameter)

KIT

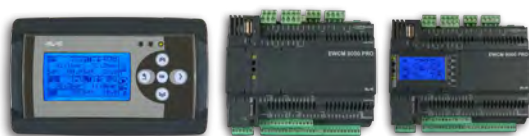
Code	Description	Details
EM6A12001EL16	EWCM 4120/C KIT	1 x EM6A12001EL11 - EWCM 4120/C with wires 1 x TF411200 - transformer 230/12 5VA shielded 1 x TD400030 - EWPA 030 R 0/5V 0/30BAR Ratiometric transd. 1 x TD400010 - EWPA 010 R 0/5V 0/10BAR Ratiometric transd. 2 x CO000027 - WIR. EWPA 1m R 0/5V Wir. for ratiometric transd.
EM6A22101EL16	EWCM 4180/C KIT	1 x EM6A22101EL11 - EWCM 4180/C with wires 1 x TF411200 - transformer 230/12 5VA shielded 1 x TD400030 - EWPA 030 R 0/5V 0/30BAR Ratiometric transd. 1 x TD400010 - EWPA 010 R 0/5V 0/10BAR Ratiometric transd. 2 x CO000027 - WIR. EWPA 1m R 0/5V Wir. for ratiometric transd.

Wiring diagrams



EWCM 9000 PRO DOMINO /CO2T

Control for transcritical CO2 booster / parallel compression solution



Code	Description	Notes
EPAS1PCTA500	EWCM 9000 PRO 42D SSR /CO2T	With integrated display and SSR output
EPAS0PCTA500	EWCM 9000 PRO 42B SSR /CO2T	SSR Outputs
EP4000000B00	EXP 4D PRO 14 I/O	Expansion module 14/ I/O
EPK01000000	EVK PRO DISPLAY /GR	Remote display

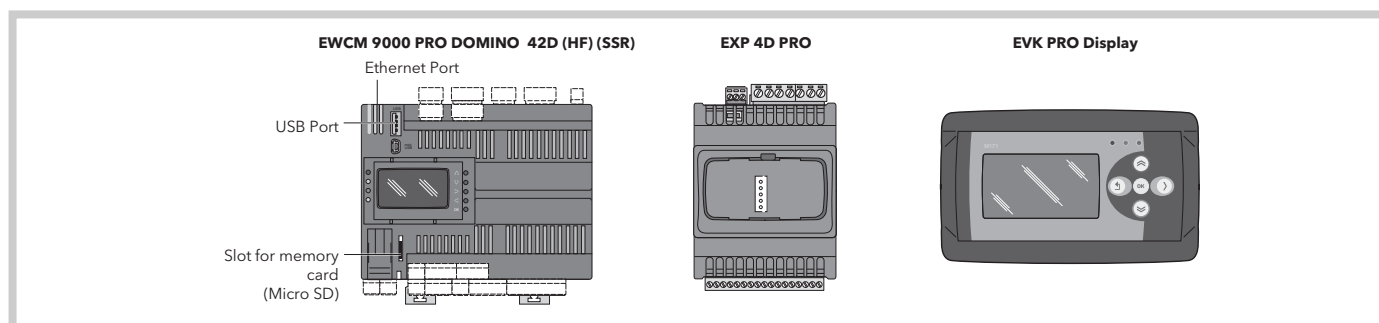
Applications

The new series of controllers for EWCM 9000 PRO DOMINO compressor racks is the solution for the sustainable systems based on natural refrigerants. The EWCM 9000 PRO DOMINO /CO2T model is dedicated to the solutions for transcritical CO2 with booster circuit and allows for the management of up to two circuits for heat recovery. EWCM 9000 PRO is compact and can be expanded with configurable keyboard modules thanks to the software tool provided to rapidly adapt to various plant solutions. The controller can be connected to the Telesis system, Modbus/RTU and Modbus/TCP systems and has a data registration system for diagnosis. In the area reserved for the www.eliwell.com there are language updates available, and the applicative detailed documentation.

Features

Management of 2 circuits up to 8 compressors	Expandable up to 12 EXP 4D PRO modules
Parallel booster/compression management up to 4 compressors	Up to 2 optional remote displays
Management of modulating condensation fans	

Technical data	EWCM 9000 PRO DOMINO	EWCM 9000 PRO DOMINO SSR	EXP 4D PRO	EVK PRO
Dimensions	144 x 110 mm frontal panel, depth 60mm	144 x 110 mm frontal panel, depth 60mm	70.2 x 87 mm frontal panel, depth 61.6 mm	front panel 190 x 96 mm, depth 9.9mm, total depth 35mm
Power supply	24 Vac / 20...38 Vdc	24 Vac / 20...38 Vdc	24 Vac / 24 Vdc not insulated	24 Vac / 24 Vdc
Power consumption	35 VA / 15 W	35 VA / 15 W	16 VA / 7 W	5W
Analogue inputs	12 configurable inputs: NTC -40...+137 °C DI NTC -50...+110 °C PT1000 -200...+850 °C PTC -55...+150 °C 0-20 mA 4-20 mA 0-10 V / 0-5 V 0-5 V ratiometric	12 configurable inputs: NTC -40...+137 °C DI NTC -50...+110 °C PT1000 -200...+850 °C PTC -55...+150 °C 0-20 mA 4-20 mA 0-10 V / 0-5 V 0-5 V ratiometric	4 configurable inputs NTC -40...+137 °C DI NTC -50...+110 °C PT1000 -200...+850 °C PTC -55...+150 °C 4-20 mA 0-10 V / 0-5 V	-
Digital inputs	10 SELV +24 V ac/dc opto isolator inputs 2 rapid opto isolator inputs, up to 2 kHz	10 SELV +24 V ac/dc opto isolator inputs 2 rapid opto isolator inputs, up to 2 kHz	4 safety extra low voltage SELV	-
Analogue outputs	4 outputs 0-10 V 2 configurable outputs 0-10 V 4-20 mA Open Collector	4 outputs 0-10 V 2 configurable outputs 0-10 V 4-20 mA Open Collector	2 x 0-10V	-
Digital outputs	10 3 A SPST +250 V a.c. relays 2 1 A SPDT +250 V a.c. relays	8 3 A SPST +250 V a.c. relays 2 1 A SPDT +250 V a.c. relays 2 SSR x 0.5 A +240 V c.a.	3 3 A SPST +250 V a.c. relays 1 1 A SPDT +250 V a.c. relays	-
Display	128x64px backlit graphic LCD 4 status LEDs	128x64px backlit graphic LCD 4 status LEDs	-	128x64px backlit graphic LCD 3 status LEDs
Connectivity	CAN Bus of expansion 2 RS 485 protocol Modbus RTU serials 1 USB type A (Host) Mass Storage (FAT32) 1 mini USB type B (Device) for PC connection 1 Ethernet port 10 Modbus/TCP protocol	CAN Bus of expansion 2 RS 485 protocol Modbus RTU serials 1 USB type A (Host) Mass Storage (FAT32) 1 mini USB type B (Device) for PC connection 1 Ethernet port 10 Modbus/TCP protocol	CAN Bus of expansion	CAN Bus of expansion
Memory	MicroSD expansion slot for diagrams up to 16GB	MicroSD expansion slot for diagrams up to 16GB	-	-



EWCM 8900 - 9100 EO

DIN controllers for compressor racks



Code	Description	Details
EM32AG2*0GH00	EWCM 8900 EO	13 DIN, traditional refrigerants
EM32AG2*1GH00	EWCM 8900 EO HFO	13 DIN, new set of refrigerants
EM32BH2*0GH00	EWCM 9100 EO	13 DIN, traditional refrigerants
EM32BH2*1GH00	EWCM 9100 EO HFO	13 DIN, new set of refrigerants
EMK0000B0G000	spare keyboard ENG/ITA	
CO000029	3m cable keyboard-base	
CCA0BUI02N000	USB Copy Card	

The letter in this position indicates the languages available for the code:
 A: ITA/ENG; B: ENG/ITA; C: FRA/ENG; D: ESP/ENG; F: GER/ENG; O: RUS/ENG; Q: TUR/ENG
 Keyboard included.

Applications

The new series of controllers for EWCM EO (Environmentally Optimised) compressor racks provides a single solution to temperature control in refrigeration systems. The external keyboard with graphic LCD and the rapid parameter setting menu give greater accessibility and make it easier for the operator to configure parameters and access data. Energy saving is guaranteed thanks to the dedicated control algorithms.

- Sub-critical CO₂ management, glycol, HFC and HFO
- Rooms managed in cascade by plug & play V910 module
- Advanced management of rooms with inverter
- Rapid configuration tool for PC DeviceManager

Updates for glossaries, applications, and the always updated list of compatible refrigerants are available in the reserved area of www.eliwell.com.

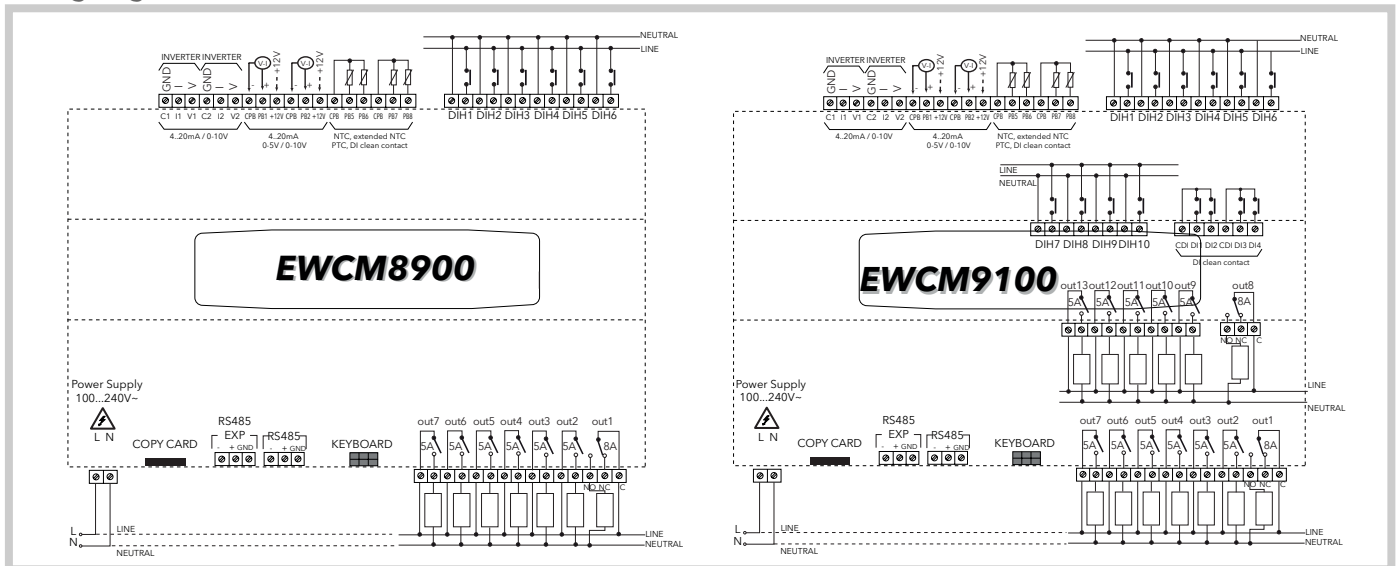
Common features

Insulation Class	2	Traditional refrigerants	R22, R134a, R502, R404A, R407C, R507, R717 (Ammonia), R410A, R417a, R744 (CO ₂), R407A, R407F, R290, R427, R600A, R23
Operating temperature	-5...55°C	New set of refrigerants	R434A, R134a, R448A (N40), R404A, R407C, R427A, R717 (Ammonia), R410A, R452A, R744 (CO ₂), R449A (XP40), R450 (N13), R407A, R513A (XP10), R407F, R23
Storage temperature	-30...85°C		
Ambient humidity for operation and storage	10...90% RH (non-condensing)		

Technical data

	EWCM 8900	EWCM 9100
Container	PC+ABS UL94 V-0 plastic resin casing, 13 DIN modules (227.5x110x60mm)	PC+ABS UL94 V-0 plastic resin casing, 13 DIN modules (227.5x110x60mm)
Installation:	on DIN Omega bar support	on DIN Omega bar support
Analogue inputs:	4 NTC/NTC extended/PTC/D.I.+ 2 high precision current (4...20mA / 0...5V / 0...10V)	4 NTC/NTC extended/PTC/D.I.+ 2 high precision current (4...20mA / 0...5V / 0...10V)
Digital inputs	6 voltage (100...240Vac)	10 voltage (100...240Vac) + 4 configurable voltage-free.
Analogue outputs:	2 voltage/current (0...10V/4...20mA)	2 voltage/current (0...10V/4...20mA)
Digital outputs:	6 SPST 5(2)A 250Vac + 1 SPDT 8(3)A 250Vac	11 SPST 5(2)A 250Vac + 2 SPDT 8(3)A 250Vac
Connections:	<ul style="list-style-type: none"> • TTL port for connection to CopyCard USB • RS-485 for connection to TelevisSystem and systems based on the ModBus protocol • RS-485 EXP for connection to pulse/stepper (V800/V910) driver 	<ul style="list-style-type: none"> • TTL port for connection to CopyCard USB • RS-485 for connection to TelevisSystem and systems based on the ModBus protocol • RS-485 EXP for connection to pulse/stepper (V800/V910) driver
Display:	LCD on external keyboard	LCD on external keyboard
Functions:	inverter control both in suction and discharge	inverter control both in suction and discharge
Clock:	present	present
Power consumption:	20W	20W
Power supply:	100...240Vac ±10% 50/60Hz	100...240Vac ±10% 50/60Hz

Wiring diagrams



EWCM 9900 EO

DIN controllers for compressor racks



Code	Description	Details
EM83CI3*0GH00	EWCM 9900 EO	18 DIN, traditional refrigerants
EM83CI3*1GH00	EWCM 9900 EO HFO	18 DIN, new set of refrigerants
EMK0000B0G000	spare keyboard ENG/ITA	
CO000029	3m cable keyboard-base	
CCA0BUI02N000	USB Copy Card	

The letter in this position indicates the languages available for the code:

A: ITA/ENG; B: ENG/ITA; C: FRA/ENG; D: ESP/ENG; F: GER/ENG; O: RUS/ENG; Q: TUR/ENG

Keyboard included.

Applications

The new series of controllers for EWCM EO (Environmentally Optimised) compressor racks provides a single solution to temperature control in refrigeration systems. The external keyboard with graphic LCD and the rapid parameter setting menu give greater accessibility and make it easier for the operator to configure parameters and access data. Energy saving is guaranteed thanks to the dedicated control algorithms.

- Sub-critical CO₂ management, glycol, HFC and HFO
- Rooms managed in cascade by plug & play V910 module
- Advanced management of rooms with inverter
- Rapid configuration tool for PC DeviceManager

Updates for glossaries, applications, and the always updated list of compatible refrigerants are available in the reserved area of www.eliwell.com.

Common features

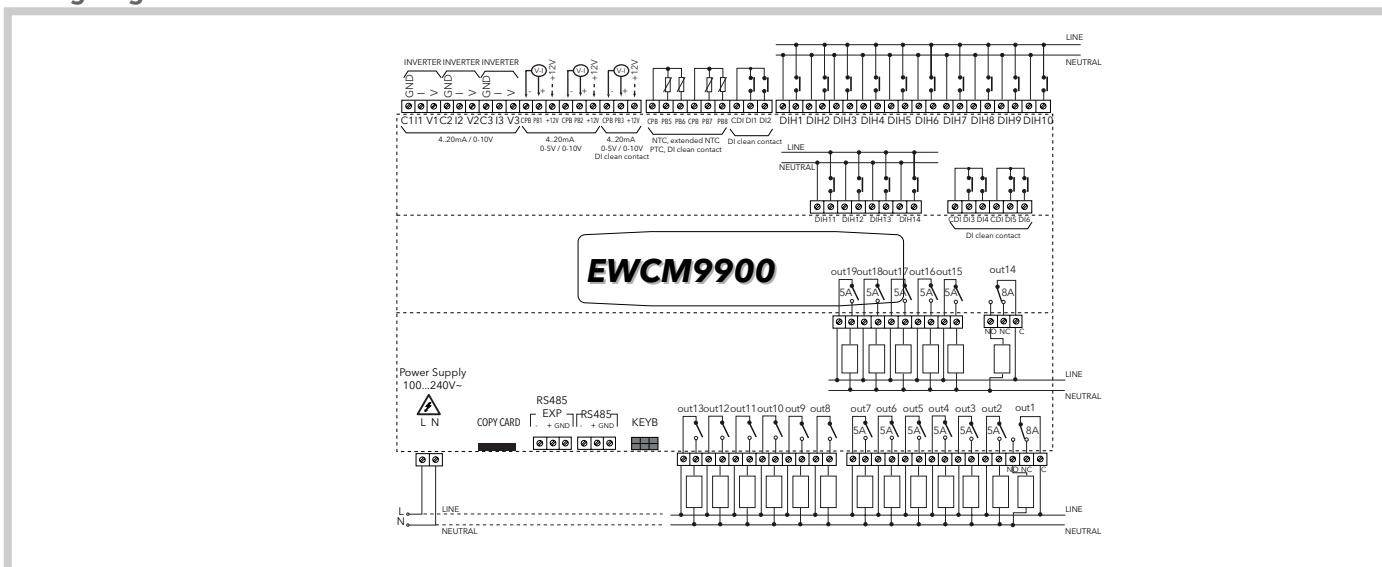
Insulation Class	2	Traditional refrigerants	R22, R134a, R502, R404A, R407C, R507, R717 (Ammonia), R410A, R417a, R744 (CO ₂), R407A, R407F, R290, R427, R600A, R23
Operating temperature	-5...55°C	New set of refrigerants	R434A, R134a, R448A (N40), R404A, R407C, R427A, R717 (Ammonia), R410A, R452A, R744 (CO ₂), R449A (XP40), R450 (N13), R407A, R513A (XP10), R407F, R23
Storage temperature	-30...85°C		
Ambient humidity for operation and storage	10...90% RH (non-condensing)		

Technical data

EWCM 9900

Container	PC+ABS plastic resin casing, UL94 V-0 18 DIN modules (315x110x60mm)
Installation:	on DIN Omega bar support
Analogue inputs:	4 NTC/NTC extended/PTC/DI + 2 high precision current/voltage (4...20mA / 0...5V / 0...10V) + 1 current/voltage (4...20mA / 0...5V / 0...10V)
Digital inputs	14 voltage (100...240Vac) + 6 configurable voltage-free
Analogue outputs:	3 voltage/current (0...10V/4...20mA)
Digital outputs:	17 SPST 5(2)A 250Vac + 2 SPDT 8(3)A 250Vac
Connections:	<ul style="list-style-type: none"> • TTL port for connection to CopyCard USB • RS-485 for connection to TelevisSystem and systems based on the ModBus protocol • RS-485 EXP for connection to pulse/stepper (V800/V910) driver
Display:	LCD on external keyboard
Functions:	inverter control both in suction and discharge
Clock:	present
Power consumption:	20W
Power supply:	100...240Vac ±10% 50/60Hz

Wiring diagrams



FASEC 33 - FASEC 43 (C) - FASEC 53

Speed controllers for single-phase fans



Codes	Description	Power supply	Function
FA53370000	FASEC 33	220Vac	condensation
FA54370000	FASEC 43	220Vac	evaporation
FA55370000	FASEC 53	220Vac	manual
CN111114	Octal baseboard		

* probe not included

Applications

The FASEC 33 and FASEC 43 (C) instruments are designed for speed control and are particularly suited for applications on refrigeration units for the condensation function.

The FASEC 53 is a manual fan regulator suitable for applications on refrigeration units.

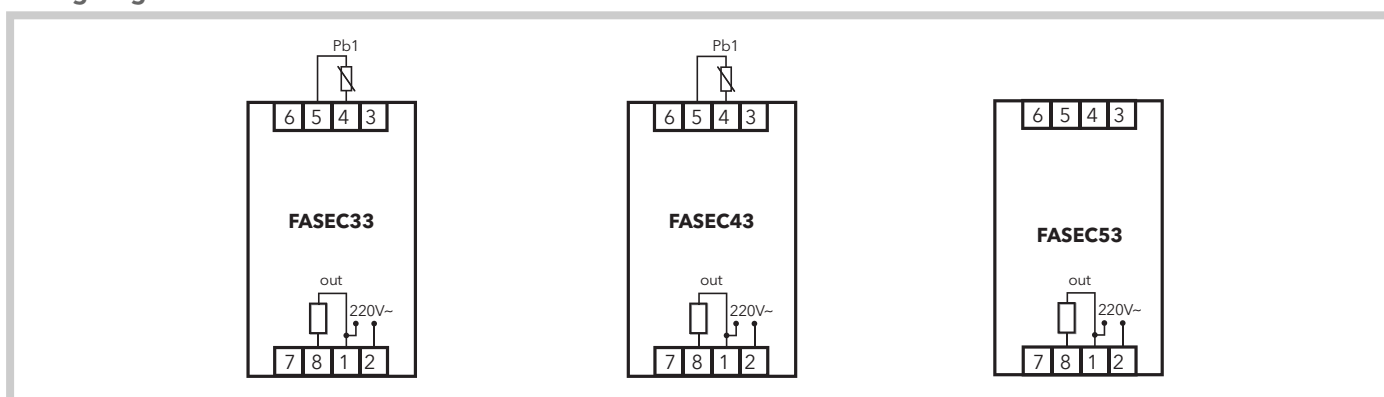
Common features

Front panel protection rating	IP20	Installation	panel-mounted, with 45x92mm hole
Container	plastic body in flame-retardant NORYL	Operating temperature	-5...60°C
Dimensions	front panel 48x96mm, depth 96mm excluding baseboard	Storage temperature	-30...75°C

Technical data

	FASEC 33	FASEC 43 (C)	FASEC 53
Connections:	Octal baseboard	Octal baseboard	Octal baseboard
Regulation:	-	-	from 0 to 100% with knob on front panel
Analogue inputs:	1 PTC	1 PTC	-
Setting output:	1 triac 2,5A, triac 7A (optional)	1 triac 2,5A, triac 7A (optional)	1 triac 2,5A, triac 7A (optional)
Setting range:	0...60°C	<ul style="list-style-type: none"> FASEC 43: -40...30°C FASEC 43C: 0...60°C 	
External filter (for version 7A):	max. load power supply current 7A; cylinder diameter 38mm, height 28mm; M8 fixing bolt.	max. load power supply current 7A; cylinder diameter 38mm, height 28mm; M8 fixing bolt.	max. load power supply current 7A; cylinder diameter 38mm, height 28mm; M8 fixing bolt.
Type of setting:	proportional to phase capacity step	proportional to phase capacity step	manual phase capacity step
Type of function:	for condensation	for evaporation	manual
Power supply:	220Vac ±10% 50/60Hz	220Vac ±10% 50/60Hz	220Vac ±10% 50/60Hz

Wiring diagrams



WM 253

Speed controllers for single-phase wall fans



Codes	Descr.	Probe	Power supply
VM253710	WM 253 Manual	-	230Vac

Applications

The WM 253 units are automatic fan regulators suitable for air conditioning systems.

Common features

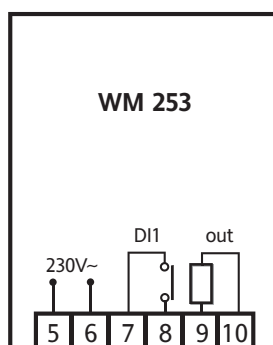
Front panel protection rating	IP50	Operating temperature	-5...55°C
Container	Flame retardant ABS plastic with snap closure	Storage temperature	-30...75°C
Dimensions	front panel 75x108mm, depth 49mm	Ambient operation and storage humidity	10...90% RH (non-condensing)
Installation	wall-mounted, fixing screws provided		

Technical data

WM 253

Connections:	on screw-on terminal block for max 2.5mm wires
Setting:	from 0 to 100% with knob on front panel
Input:	not available
Setting output:	2.5A triac
Type of function:	manual control; speed proportional to position of potentiometer on front panel
Type of setting:	proportional to phase capacity step
Power consumption:	3VA max
Power supply:	230Vac \pm 10% 50Hz

Wiring diagrams



DRM300 - RGM300

Speed controllers for three-phase fans



Codes	Description	Details
ND3124000CS01	DRM300 12A SCR 0-10V 400V IP55	Slave
ND3204000CS01	DRM300 20A SCR 0-10V 400V IP55	Slave
ND3284000CS01	DRM300 28A SCR 0-10V 400V IP55	Slave
AR312400UPPS1	RGM300 12A SCR NTC 400V IP55	Master/Slave
AR360400UPPS1	RGM300 60A SCR NTC 400V IP55	Master/Slave

Applications

Regulators in the DRM300 range are three-phase multi-function power units, managed by a cutting-edge extended range micro processor (-40/85 °C), to control three-phase Vac voltage through an SCR phase capacity step system.

Regulators in the RGM300 range are three-phase multi-function temperature control units, managed by a cutting-edge extended range micro processor (-40/85 °C), to control three-phase Vac voltage through an SCR phase capacity step system.

DRM300 and RGM300 units are used in Air Conditioning, Refrigeration, Heating, Ventilation, De-stratification, Fan-heating, Suction and Air Treatment plants in general.

Common features

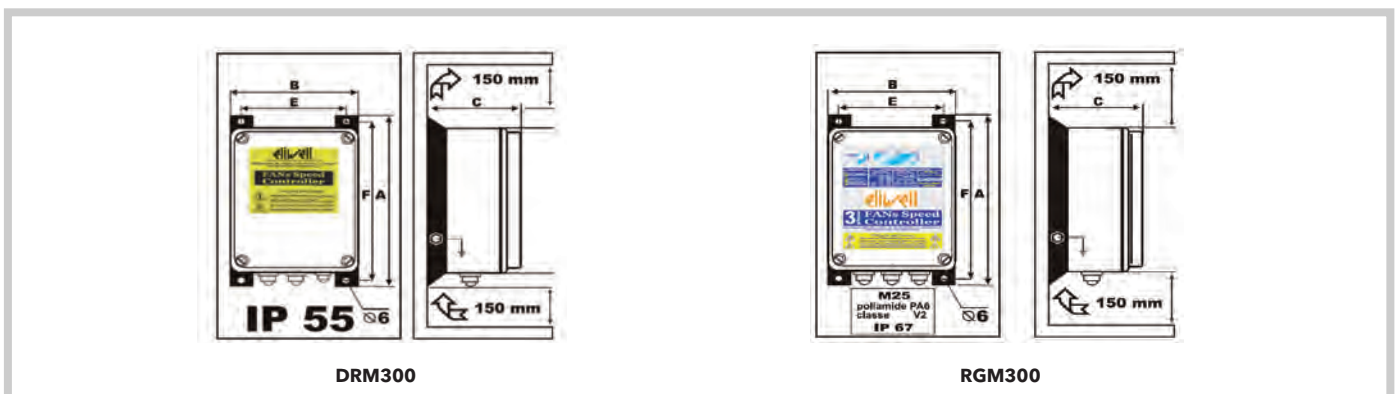
Flexible and can be used straight away	Signals in mA - V _{rms} - PWM
Includes Quick Start mode, with all regulation parameters pre-set	The software supervises regulator and fan operations

Technical data

	DRM300 12A - 20A - 28A	RGM300 12A - 60A
Dimensions:	12A models: 201x285x130mm (BxAxC) 20A models: 235x350x181mm (BxAxC) 28A models: 235x350x204mm (BxAxC)	12A models: 201x285x130mm (BxAxC) 60A models: 315x460x228mm (BxAxC)
Power supply:	400Vac extended range (min 340V - max 480V) -15% / +20% 3-phase	400Vac -15% / +20%
Frequency:	50/60Hz with recognition and automatic selection of network frequency	50/60Hz with automatic selection
Rated current @50°C:	12A - 20A - 28A based on model	12A - 60A based on model
Control circuit power:	5VA	10VA
Power dissipated in the environment:	12A models: 48W 20A models: 80W 28A models: 112W	12A models: 72W 60A models: 360W
Control signal:	0...10V _{rms} 4...20mA PWM	0...10V _{rms} 0...5V _{rms} 4...20mA 0...20mA
Ambient operating temperature:	-20...+50°C*	-20...+50°C**
Ambient storage temperature:	-30...+85°C	-30...+85°C
Use environment humidity and in storage:	RH < 85% (non condensing)	RH < 85% (non condensing)

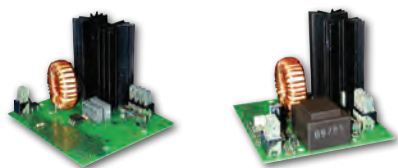
*for temperatures < -10°C use **Start/Stop** **for temperatures < -10°C use **S2**

Dimensions



CFS02- CFS04 - CFS06 - CFS08

Power modules to control fan speed



Codes	Descr.
CF10x11011000	CFS0x
CF10x21011000	CFS0x /V
CF10x31011000	CFS0x /I

x=2,4,6,8

Applications

The instruments in the new CFS range are optional modules which can be connected to the main control systems for regulation of single-phase fan speed at currents between 2 A and 9 A. The power supply is 230Vac max.

Features

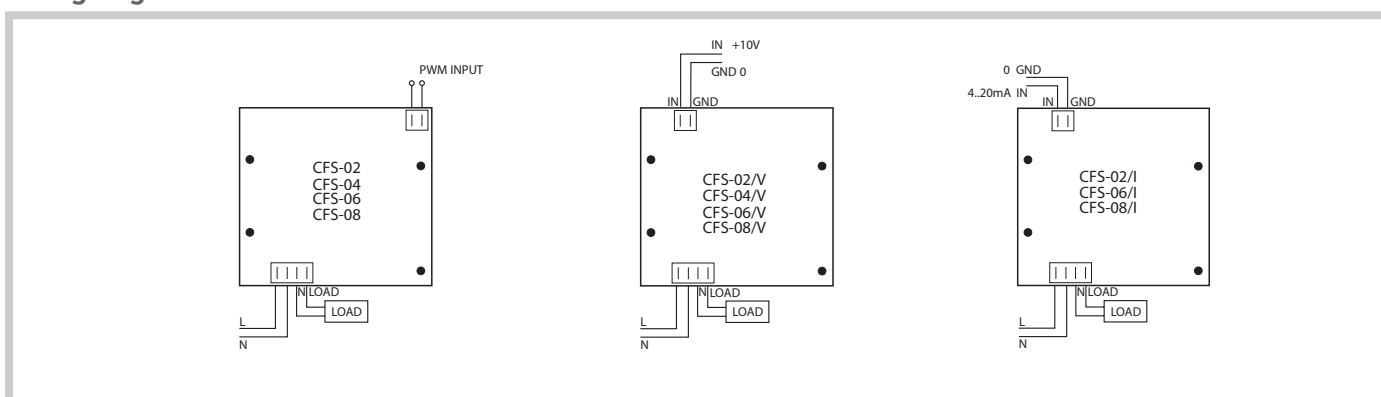
CFS regulators come in an "open board" format and are available in various models (see table).

Models differ in relation to the rated load current applicable and the type of control signal, whether current, voltage or PWM (pulse modulation).

Technical data

	CFS 02-04-06-08	CFS 02-04-06-08/V	CFS 02-06-08/I
Dimensions:	CFS02: 90.0x83.0x38.0mm(LxDxH)+1.6mm(PCB) CFS 04: 90.0x83.0x51.0mm(LxDxH)+1.6mm(PCB) CFS06: 90.0x83.0x63.5mm(LxDxH)+1.6mm(PCB) CFS08: 90.0x83.0x63.5mm(LxDxH)+1.6mm(PCB)	CFS02/V: 90.0x83.0x38.0mm(LxDxH)+1.6mm(PCB) CFS04/V: 90.0x83.0x51.0mm(LxDxH)+1.6mm(PCB) CFS06/V: 90.0x83.0x63.5mm(LxDxH)+1.6mm(PCB) CFS08/V: 90.0x83.0x63.5mm(LxDxH)+1.6mm(PCB)	CFS02/I: 90.0x83.0x38.0mm(LxDxH)+1.6mm(PCB) CFS04/I: 90.0x83.0x51.0mm(LxDxH)+1.6mm(PCB) CFS06/I: 90.0x83.0x63.5mm(LxDxH)+1.6mm(PCB) CFS08/I: 90.0x83.0x63.5mm(LxDxH)+1.6mm(PCB)
Power supply	230Vac ±10% 50Hz	230Vac ±10% 50Hz	230Vac ±10% 50Hz
Rated current at 40°C:	2.5A - CFS02 model 5A - CFS04 model 7A - CFS06 model 9A - CFS08 model	2.5A - CFS 02/V model 5A - CFS 04/V model 7A - CFS 06/V model 9A - CFS 08/V model	2.5A - CFS 02/I model 5A - CFS 04/I model 7A - CFS 06/I model 9A - CFS 08/I model
Rated current @50°C	2A - CFS02 model 4A - CFS04 model 6A - CFS06 model 8A - CFS08 model	2A - CFS 02/V model 4A - CFS 04/V model 6A - CFS 06/V model 8A - CFS 08/V model	2A - CFS 02/I model 5A - CFS 04/I model 6A - CFS 06/I model 8A - CFS 08/I model
Control signal:	PWM	0...10V \approx	4...20mA
Ambient operating temperature:	-10...+50°C	-10...+50°C	-10...+50°C
Ambient storage temperature:	-20...+85°C	-20...+85°C	-20...+85°C
Use environment humidity and in storage:	10...90% RH (non-condensing)	10...90% RH (non-condensing)	10...90% RH (non-condensing)

Wiring diagrams



SOLUTIONS FOR SUPERMARKETS

In the commerce sector, fresh food product sales are definitely where energy is used most. Technologies are now available which can give you substantial power savings - up to 24% of the plant's energy bill.

Energy saving solutions must also satisfy the sector's basic requirements, with special attention for food quality as provided by HACCP regulations and European standards (EN13845- EN12830) governing fresh and frozen food products.

Eliwell, always attentive to the needs of the sector, offers a product range combining energy efficiency with storage quality and excellent presentation of stored products. For Eliwell, eco-sustainability also means offering open solutions capable of integrating a variety of system components, including lighting, air conditioning and domestic water into a single solution, depending on the installation's characteristics and location.

DOMINO CO2 transcritical system

Control solution with transcritical CO2 booster / parallel compression application



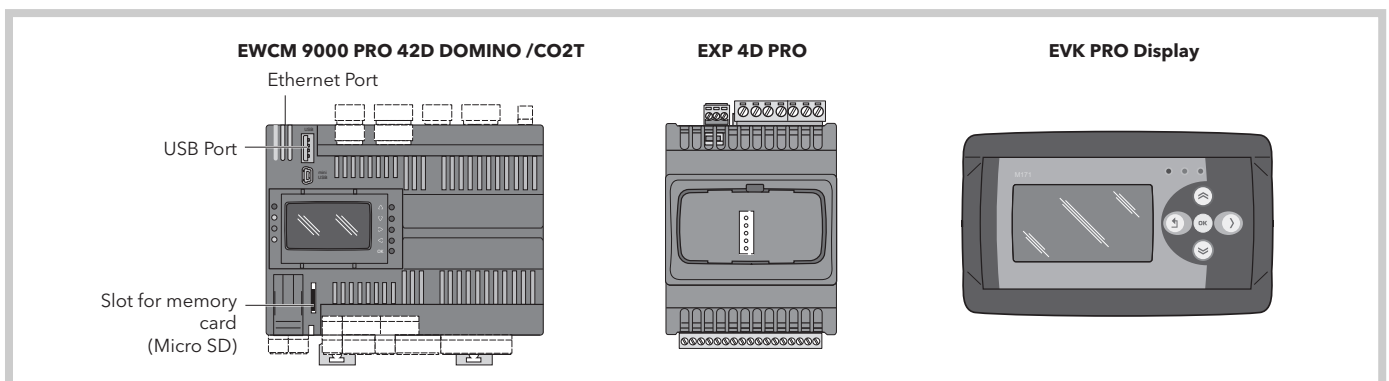
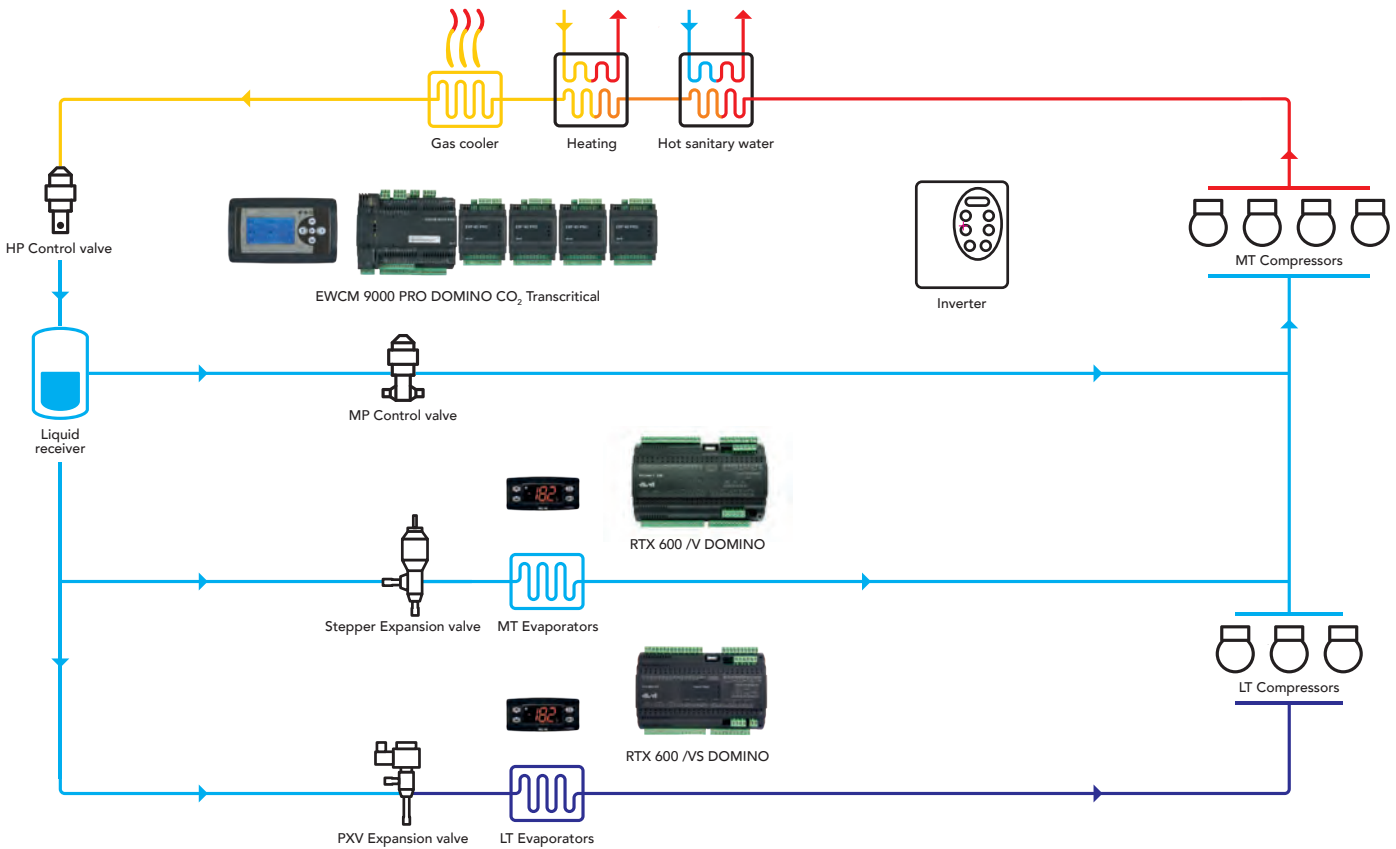
Code	Description	Notes
EPAS1PCTA500	EWCM 9000 PRO 42D SSR /CO2T	With integrated display and SSR output
EPAS0PCTA500	EWCM 9000 PRO 42B SSR /CO2T	SSR Outputs
EP4000000B00	EXP 4D PRO 14 I/O	Expansion module 14/ I/O
EPK01000000	EVK PRO DISPLAY /GR	Remote display

Applications

The new series of controllers for EWCM PRO DOMINO compressor racks is the solution for the sustainable systems based on natural refrigerants. The EWCM 9000 PRO DOMINO /CO2T model is dedicated to solutions for transcritical CO2 with booster circuit and parallel compression, and allows for the management of up to two circuits for heat recovery. EWCM 9000 PRO DOMINO is compact and can be expanded with configurable keyboard modules thanks to the software tool provided to rapidly adapt to various plant solutions. The controller can be connected to the Televis system, Modbus/RTU and Modbus/TCP systems and has a data registration system for diagnosis.

Features

Management of 2 circuits up to 8 compressors	Expandable up to 12 EXP 4D PRO modules
Parallel booster/compression management up to 4 compressors	Up to 2 optional remote displays
Management of modulating condensation fans	



EWCM 9000 PRO-HF

Programmable controller with transcritical CO2 booster / parallel compression application



Code	Description	Notes
EPAS1FCTA500	EWCM 9000 PRO-HF 42D SSR /CO2T	With integrated display and SSR output
EPAS0FCTA500	EWCM 9000 PRO-HF 42B SSR /CO2T	SSR Outputs
EP4000000B00	EXP 4D PRO 14 I/O	Expansion module 14/ I/O
EPK01000000	EVK PRO DISPLAY /GR	Remote display

Applications

EWCM 9000 PRO-HF allows for the controller to be adapted to specific needs thanks to the options of integrating and changing the applicative controller software. The FREE Studio development tool allows for all the controller's maximum performance to be taken advantage of, re-configuring the I/O and making the most of the vast field connectivity and that of the system found on the controller

The basic library provided by Eliwell allows for the development times to be reduced thanks also to the debugging systems, simulation and diagnostics, even remotely, that can be found in the FREE Studio system

Furthermore, Eliwell has a team specialised in supporting the developers and a network of partners capable of assisting clients in devising customised solutions.

Features

Controller freely programmable with FREE Studio	Expandable up to 12 modules and 2 remote keyboards
Basic library for transcritical CO2 booster / parallel compression solution	Modbus/RTU, Modbus/TCP, CAN, Web server/http connectivity
Diagnostic and simulation tools	

Technical data	EWCM 9000 PRO DOMINO EWCM 9000 PRO-HF	EWCM 9000 PRO DOMINO SSR EWCM 9000 PRO-HF SSR	EXP4D PRO	EVK PRO
Dimensions	144 x 110 mm frontal panel, depth 60mm	144 x 110 mm frontal panel, depth 60mm	70.2 x 87 mm frontal panel, depth 61.6 mm	190 x 96 mm frontal panel, depth 9.9mm, total depth 35mm
Power supply	24 Vac / 20...38 Vdc	24 Vac / 20...38 Vdc	24 Vac / 24 Vdc	24 Vac / 24 Vdc
Power consumption	35 VA / 15 W	35 VA / 15 W	16 VA / 7 W	5W
Analogue inputs	12 configurable inputs: NTC -40...+137 °C DI NTC -50...+110 °C PT1000 -200...+850 °C PTC -55...+150 °C 0-20 mA 4-20 mA 0-10 V 0-5 V 0-5 V ratiometric	12 configurable inputs: NTC -40...+137 °C DI NTC -50...+110 °C PT1000 -200...+850 °C PTC -55...+150 °C 0-20 mA 4-20 mA 0-10 V 0-5 V 0-5 V ratiometric	4 configurable inputs NTC -40...+137 °C DI NTC -50...+110 °C PT1000 -200...+850 °C PTC -55...+150 °C 4-20 mA 0-10 V 0-5 V	-
Digital inputs	10 SELV +24 V ac/dc opto isolator inputs 2 rapid opto isolator inputs, up to 2 kHz	10 SELV +24 V ac/dc opto isolator inputs 2 rapid opto isolator inputs, up to 2 kHz	4 safety extra low voltage SELV	-
Analogue outputs	4 outputs 0-10 V 2 configurable outputs 0-10 V 4-20 mA Open Collector	4 outputs 0-10 V 2 configurable outputs 0-10 V 4-20 mA Open Collector	2 x 0-10V	-
Digital outputs	10 3 A SPST +250 V a.c. relays 2 1 A SPDT +250 V a.c. relays	8 3 A SPST +250 V a.c. relays 2 1 A SPDT +250 V a.c. relays 2 SSR x 0.5 A +240 V c.a.	3 3 A SPST +250 V a.c. relays 1 1 A SPDT +250 V a.c. relays	-
Display	128x64px backlit graphic LCD 4 status LEDs	128x64px backlit graphic LCD 4 status LEDs	-	128x64px backlit graphic LCD 3 status LEDs
Connectivity	CAN Bus of expansion 2 RS 485 protocol Modbus RTU serials 1 USB type A (Host) Mass Storage (FAT32) 1 mini USB type B (Device) for PC connection 1 Ethernet port 10 Modbus/TCP protocol	CAN Bus of expansion 2 RS 485 protocol Modbus RTU serials 1 USB type A (Host) Mass Storage (FAT32) 1 mini USB type B (Device) for PC connection 1 Ethernet port 10 Modbus/TCP protocol	CAN Bus of expansion	CAN Bus of expansion
Memory	MicroSD expansion slot for diagrams up to 16GB	MicroSD expansion slot for diagrams up to 16GB	-	-

EWCM 8900 - 9100 EO

DIN controllers for compressor racks



Code	Description	Details
EM32AG2*0GH00	EWCM 8900 EO	13 DIN, traditional refrigerants
EM32AG2*1GH00	EWCM 8900 EO HFO	13 DIN, new set of refrigerants
EM32BH2*0GH00	EWCM 9100 EO	13 DIN, traditional refrigerants
EM32BH2*1GH00	EWCM 9100 EO HFO	13 DIN, new set of refrigerants
EMK0000B0G000	spare keyboard ENG/ITA	
CO000029	3m cable keyboard-base	
CCA0BUI02N000	USB Copy Card	

The letter in this position indicates the languages available for the code:
A: ITA/ENG; B: ENG/ITA; C: FRA/ENG; D: ESP/ENG; F: GER/ENG; O: RUS/ENG; Q: TUR/ENG
Keyboard included.

Applications

The new series of controllers for EWCM EO (Environmentally Optimised) compressor racks provides a single solution to temperature control in refrigeration systems. The external keyboard with graphic LCD and the rapid parameter setting menu give greater accessibility and make it easier for the operator to configure parameters and access data. Energy saving is guaranteed thanks to the dedicated control algorithms.

- Sub-critical CO₂ management, glycol, HFC and HFO
- Rooms managed in cascade by plug & play V910 module
- Advanced management of rooms with inverter
- Rapid configuration tool for PC DeviceManager

Updates for glossaries, applications, and the always updated list of compatible refrigerants are available in the reserved area of www.eliwell.com.

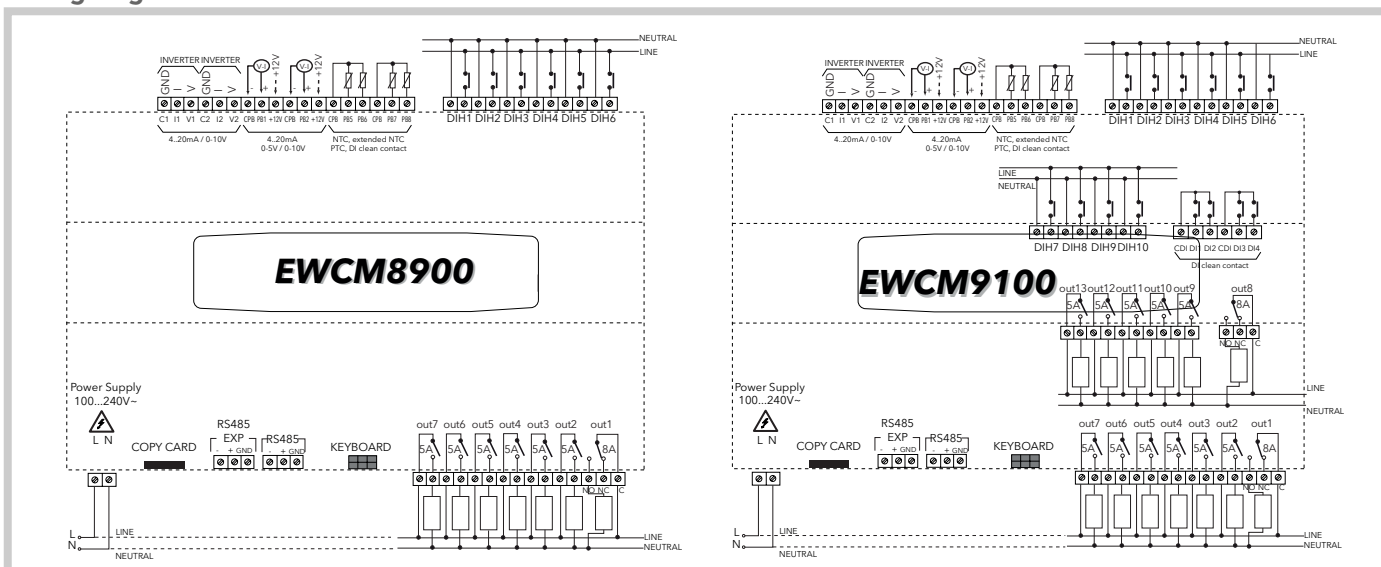
Common features

Insulation Class	2	Traditional refrigerants	R22, R134a, R502, R404A, R407C, R507, R717 (Ammonia), R410A, R417a, R744 (CO ₂), R407A, R407F, R290, R427, R600A, R23
Operating temperature	-5...55°C	New set of refrigerants	R434A, R134a, R448A (N40), R404A, R407C, R427A, R717 (Ammonia), R410A, R452A, R744 (CO ₂), R449A (XP40), R450 (N13), R407A, R513A (XP10), R407F, R23
Storage temperature	-30...85°C		
Ambient humidity for operation and storage	10...90% RH (non-condensing)		

Technical data

	EWCM 8900	EWCM 9100
Container	PC+ABS plastic resin casing, UL94 V-0 13 DIN modules (227.5x110x60mm)	PC+ABS plastic resin casing, UL94 V-0 13 DIN modules (227.5x110x60mm)
Installation:	on DIN Omega bar support	on DIN Omega bar support
Analogue inputs:	4 NTC/NTC extended/PTC/D.I.+ 2 high precision current (4...20mA / 0...5V / 0...10V)	4 NTC/NTC extended/PTC/D.I.+ 2 high precision current (4...20mA / 0...5V / 0...10V)
Digital inputs	6 voltage (100...240Vac)	10 voltage (100...240Vac) + 4 configurable voltage-free
Analogue outputs:	2 voltage/current (0...10V/4...20mA)	2 voltage/current (0...10V/4...20mA)
Digital outputs:	6 SPST 5(2)A 250Vac + 1 SPDT 8(3)A 250Vac	11 SPST 5(2)A 250Vac + 2 SPDT 8(3)A 250Vac
Connections:	<ul style="list-style-type: none"> • TTL port for connection to CopyCard USB • RS-485 for connection to TelevisSystem and systems based on the ModBus protocol • RS-485 EXP for connection to pulse/stepper (V800/V910) driver 	<ul style="list-style-type: none"> • TTL port for connection to CopyCard USB • RS-485 for connection to TelevisSystem and systems based on the ModBus protocol • RS-485 EXP for connection to pulse/stepper (V800/V910) driver
Display:	LCD on external keyboard	LCD on external keyboard
Functions:	inverter control both in suction and discharge	inverter control both in suction and discharge
Clock:	present	present
Power consumption:	20W	20W
Power supply:	100...240Vac ±10% 50/60Hz	100...240Vac ±10% 50/60Hz

Wiring diagrams



EWCM 9900 EO

DIN controllers for compressor racks



Code	Description	Details
EM83CI3*0GH00	EWCM 9900 EO	18 DIN, traditional refrigerants
EM83CI3*1GH00	EWCM 9900 EO HFO	18 DIN, new set of refrigerants
EMK0000B0G000	spare keyboard ENG/ITA	
CO000029	3m cable keyboard-base	
CCA0BUI02N000	USB Copy Card	

The letter in this position indicates the languages available for the code:

A: ITA/ENG; B: ENG/ITA; C: FRA/ENG; D: ESP/ENG; F: GER/ENG; O: RUS/ENG; Q: TUR/ENG

Keyboard included.

Applications

The new series of controllers for EWCM EO (Environmentally Optimised) compressor racks provides a single solution to temperature control in refrigeration systems. The external keyboard with graphic LCD and the rapid parameter setting menu give greater accessibility and make it easier for the operator to configure parameters and access data. Energy saving is guaranteed thanks to the dedicated control algorithms.

- Sub-critical CO₂ management, glycol, HFC and HFO
- Rooms managed in cascade by plug & play V910 module
- Advanced management of rooms with inverter
- Rapid configuration tool for PC DeviceManager

Updates for glossaries, applications, and the always updated list of compatible refrigerants are available in the reserved area of www.eliwell.com.

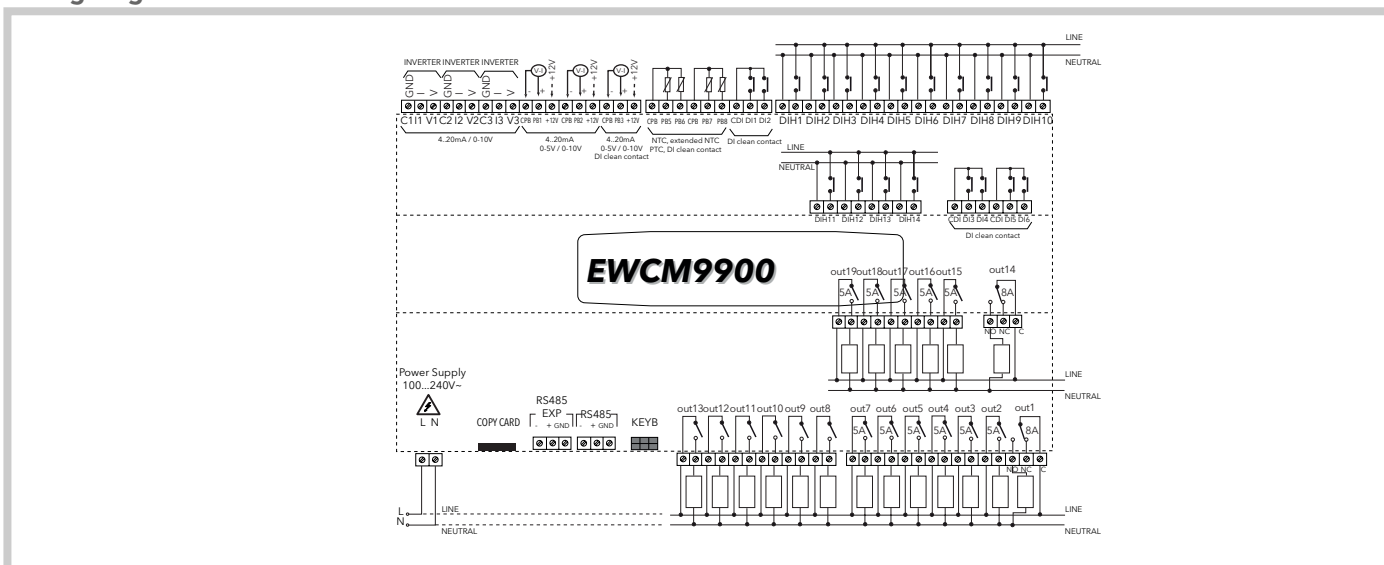
Common features

Insulation Class	2	Traditional refrigerants	R22, R134a, R502, R404A, R407C, R507, R717 (Ammonia), R410A, R417a, R744 (CO ₂), R407A, R407F, R290, R427, R600A, R23
Operating temperature	-5...55°C	New set of refrigerants	R434A, R134a, R448A (N40), R404A, R407C, R427A, R717 (Ammonia), R410A, R452A, R744 (CO ₂), R449A (XP40), R450 (N13), R407A, R513A (XP10), R407F, R23
Storage temperature	-30...85°C		
Ambient humidity for operation and storage	10...90% RH (non-condensing)		

Technical data

	EWCM 9900
Container	PC+ABS plastic resin casing, UL94 V-0 18 DIN modules (315x110x60mm)
Installation:	on DIN Omega bar support
Analogue inputs:	4 NTC/NTC extended/PTC/DI + 2 high precision current/voltage (4...20mA / 0...5V / 0...10V) + 1 current/voltage (4...20mA / 0...5V / 0...10V)
Digital inputs	14 voltage (100...240Vac) + 6 configurable voltage-free
Analogue outputs:	3 voltage/current (0...10V/4...20mA)
Digital outputs:	17 SPST 5(2)A 250Vac + 2 SPDT 8(3)A 250Vac
Connections:	<ul style="list-style-type: none"> • TTL port for connection to CopyCard USB • RS-485 for connection to TelevisSystem and systems based on the ModBus protocol • RS-485 EXP for connection to pulse/stepper (V800/V910) driver
Display:	LCD on external keyboard
Functions:	inverter control both in suction and discharge
Clock:	present
Power consumption:	20W
Power supply:	100...240Vac ±10% 50/60Hz

Wiring diagrams



Subcritical CO₂ cascade system

Motorised electronic valve control

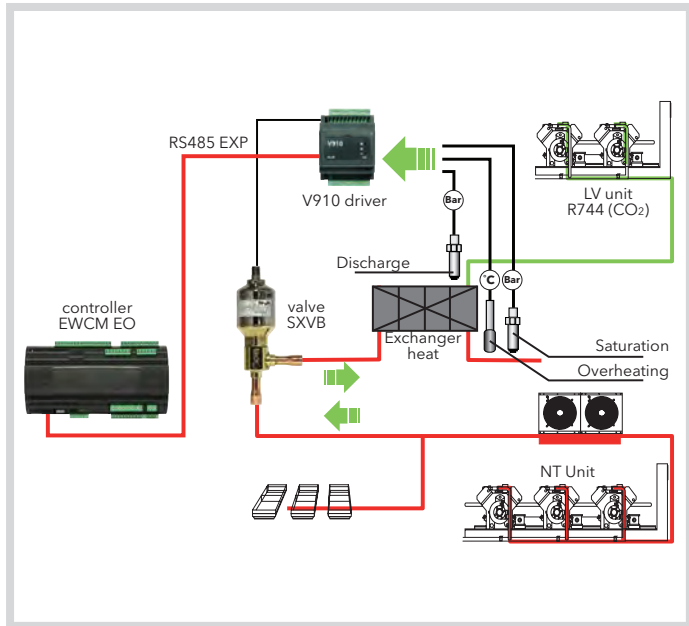


Codes	Descr.	Details
EVD4A31BS2100	V910 V3 EEVD step valve 24V RS485	EEV driver module with dual PID controller
SKP1000000000	SKP10 - Configuration keyboard	Keyboard for configuration
DMI100x002000*	Device Manager Interface	

*x=1: End User; x=2: Service; x=3: Manufacturer

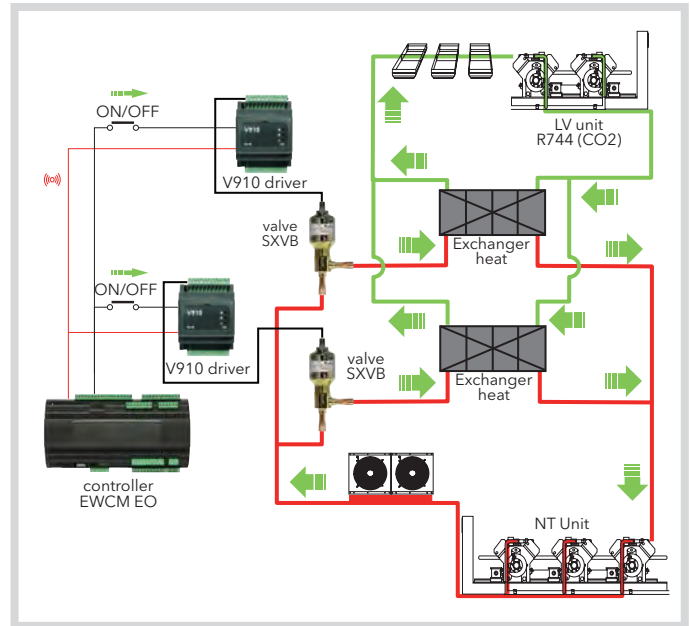
Applications

The V910 driver for motorised electronic valve control is designed for excellent control of heat exchangers in CO₂ subcritical cascade systems in combination with HFC and HFO refrigerants. Its flexibility makes it ideal for the control of hot gas bypass systems, compressor discharge temperature / pressure and liquid subcooling.



Solution integrated with EWCM 8/9000 EO

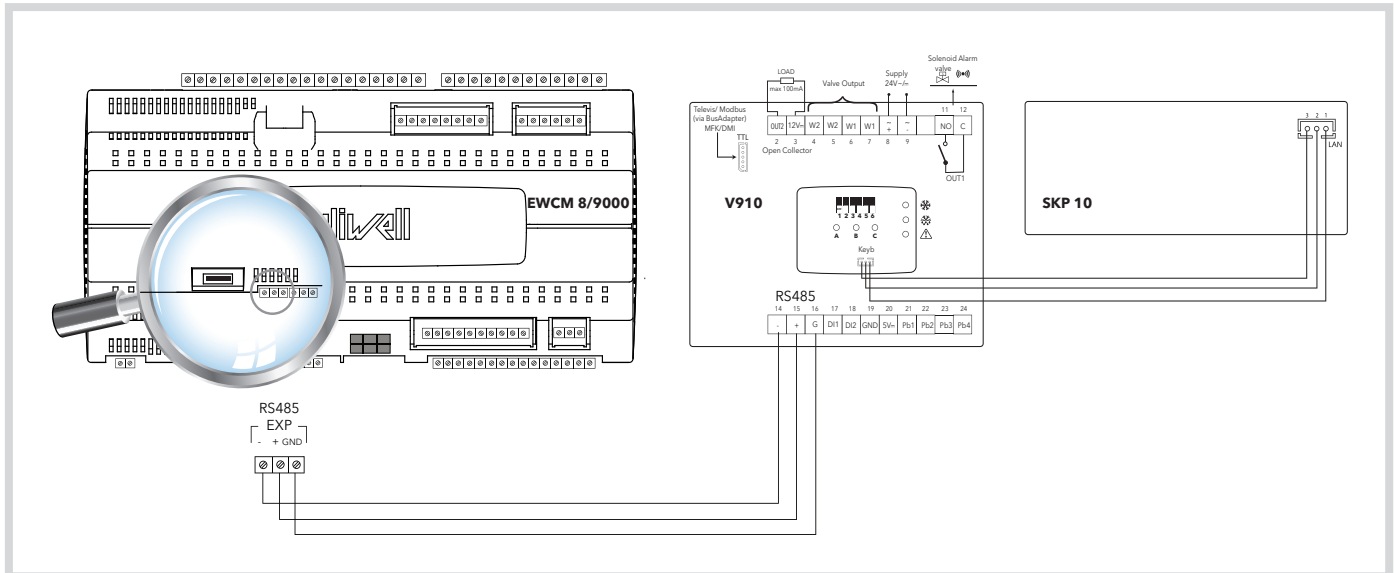
The high-precision PID control of the V910 module is integrated with the EWCM 8/9000 EO series controllers through the serial port dedicated to share real-time configuration and the heat exchanger control status, also through the Televis supervision system.



Solution for dual heat exchanger

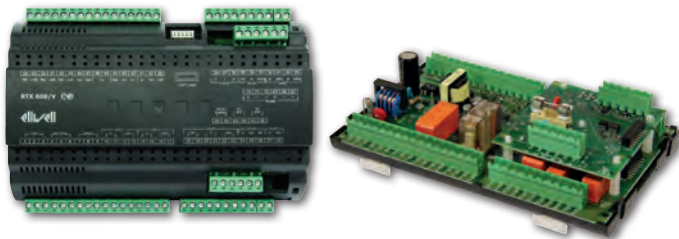
V910 is designed also for operation independent from the central controller, thus providing the option for configurations with multiple heat exchangers in series or parallel to provide better power modulation and greater safety thanks to a redundant configuration.

Wiring diagram



RTX600/V DOMINO - RTD600/V DOMINO

DIN controllers for remote EEV systems



Codes	Descr.
EWK RTP0000000	RTX 600 /V DOMINO + KDEPlus KIT
RTPNVBM0S3H00	RTX 600 /V DOMINO
RTQNVBM4S3H00	RTD 600 /V DOMINO
KDE400E004000	KDEPlus
EH000050V4000	ECPlus

Applications

RTX600/V and **RTD600/V DOMINO** are electronic devices used to control remote counters, with electronic expansion valve, used singly or together in islands or can be remote. The innovative DOMINO adaptive control algorithm can work with overheating values of 4 K with R744 and less than 3 K for HFC and HFO, increasing the level of system efficiency simply by increasing the suction pressure.

The RTX600/V DOMINO and RTD600 /V DOMINO controllers can be interfaced with the KDEPlus keyboard, the ECPlus display module and the new KDTPPlus keyboards with touch technology.

Features

Adaptive overheating control for values below 3 K

Valve control configuration **with only 2 parameters**

Intelligent defrosting (with clock) to **save energy** and preserve food better

Control of heating elements of frames / demisting heaters

Rapid synchronisation of remote counters and island cabinets with **Link² plug-n-play**

Compatible with NTC, Pt1000, PTC probes

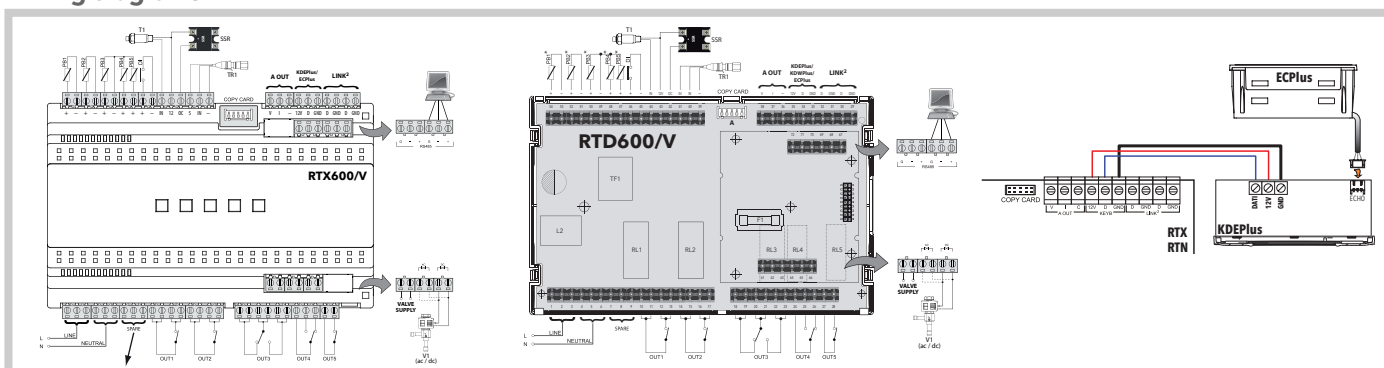
Technical data

RTX 600

Casing:	PC+ABS resin casing, UL94 V-0 RTX600/V: with box RTD600/V: without box
Dimensions:	10 DIN modules
Installation:	on DIN Omega bar support
Display:	-
Display range:	<ul style="list-style-type: none"> • NTC: -50,0°C...+110°C; • PTC: -55,0°C...+150°C; • Pt1000: -60°C...+150°C
Analogue/digital inputs:	5 NTC/PTC/Pt1000/D.I.* 1 4...20mA/D.I.* 1 ratiometric/D.I.* + 1 voltage-free D.I.
Connections:	<ul style="list-style-type: none"> • 1 voltage serial for keypad • 1 voltage serial for LAN • 1 RS-485 for connection to TelevisSystem or ModBus monitoring system • 1 TTL port for connection to Unicard and DeviceManager (via DMI)
Digital outputs:	2 SPST 16(8)A max 250Vac 2 SPDT 16(8)A + 8(4)A max 250Vac 1 SPST 8(4)A max 250Vac 1 O.C. multifunction: 12V= 20mA 1 SSR 100...240Vac/≐; I _{max} =300mA
Analogue outputs:	1 D.A.C. multifunction: 0...10V - 4...20mA
Accuracy:	better by 1.0%
Resolution:	1 or 0.1°C
Power supply:	SMPS 100...240Vac ±10% 50/60 Hz
Power consumption:	7.5W max
Ambient operating temperature:	-5...+50°C
Ambient storage temperature:	-30...+85°C
Ambient operation and storage humidity:	10...90% RH (non-condensing)

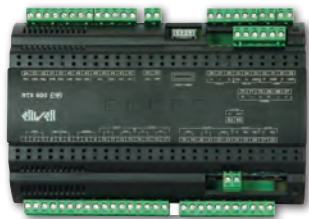
* selectable by parameter ° selectable by parameter (from power board)

Wiring diagrams



RTX600

DIN controllers for counters and cold rooms



Codes	Descr.
RTX5HBM0S2H00	RTX600
KDE400E004000	KDEPlus
KDW6004004080	KDWPlus
EH000050V4000	ECPlus

Applications

RTX600 (Environmentally Optimised, optimised for the environment) is an electronic device specifically designed for plug-in applications, with thermostatic valve. The RTX600 controller can be interfaced with the KDEPlus, KDWPlus keyboards and the ECPlus display module.

Features

Relay of up to **2HP** for direct control of loads

Removable terminals and customised quick connections

Intelligent defrosting (with clock) to **save energy** and preserve food better

Control of heating elements of frames / demisting heaters

Rapid synchronisation of remote counters and island cabinets with **Link²** plug-n-play

Compatible with NTC, Pt1000, PTC probes

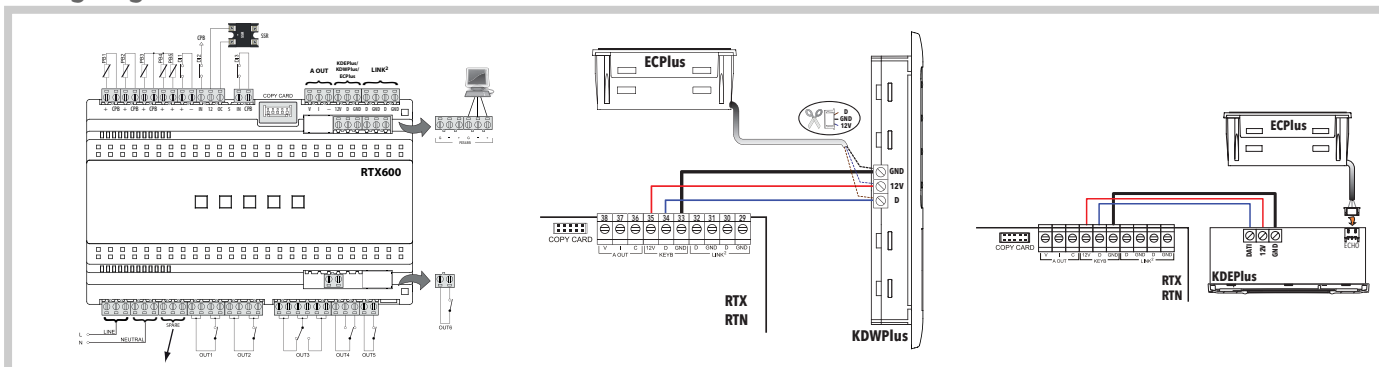
Technical data

RTX 600

Casing:	PC+ABS resin casing, UL94 V-0
Dimensions:	10 DIN modules
Installation:	on DIN Omega bar support
Display:	-
Display range:	<ul style="list-style-type: none"> • NTC: -50,0°C...+110°C; • PTC: -55,0°C...+150°C; • Pt1000: -60°C...+150°C
Analogue/digital inputs:	5 NTC/PTC/Pt1000/D.I.* 3 D.I.* voltage-free
Connections:	<ul style="list-style-type: none"> • 1 voltage serial for keypad • 1 voltage serial for LAN • 1 RS-485 for connection to TelevisSystem or Modbus • 1 TTL for connection to Unicard/ DeviceManager (via DMI)
Digital outputs:	1 SPST 2HP max 240Vac 1 SPST + 1 SPDT 1HP max 250Vac 1 SPDT 8(4)A max 250Vac 2 SPST 8(4)A max 250Vac 1 O.C. 12VC 20mA
Analogue outputs:	1 D.A.C. 0...10V - 4...20mA
Accuracy:	better by 1.0%
Resolution:	1 or 0.1°C
Power supply:	SMPS 100...240Vac ±10% 50/60 Hz
Power consumption:	7.5W max
Ambient operating temperature:	-5...+50°C
Ambient storage temperature:	-30...+85°C
Ambient operation and storage humidity:	10...90% RH (non-condensing)

* selectable by parameter ° selectable by parameter (from power board)

Wiring diagrams



KDEPlus - KDWPlus - ECPlus - KDTPlus

User interface for RTX, RTD, RTN series controllers



ECPlus

KDEPlus



KDWPlus



KDTPlus STD WHITE



KDTPlus

Codes	Descr.
KDE400E004000	KDEPlus
KDW6004004080	KDWPlus
EH000050V4000	ECPlus
KDT6HB0F17080	KDTPlus STD WHITE 6 BN 30x149 /BUZ /JST MC
KDT6VBWF17080	KDTPlus WHITE 6 BN WHITE 87x135 /BUZ /JST MC

Applications

A wide range of user interfaces makes it possible to adapt to several applications and allows you to customise the appearance of counters and cold rooms. The KDT keyboards, with capacitive touch technology, combine easy access to all functions with the element of design.

Features

Standard dimensions 32x74 and minimal depth

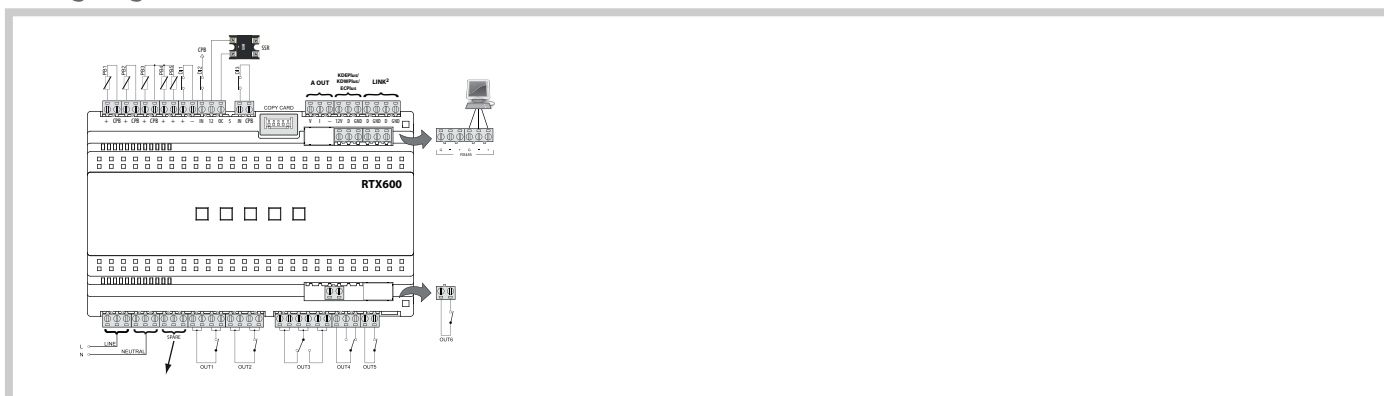
Second ECPlus display can be used in conjunction with KDEPlus and KDWPlus

Touch keyboards with 6 buttons offer direct access to the most frequently used functions

Technical data	KDEPlus	KDWPlus	ECPlus	KDTPlus STD	KDTPlus
Casing:	PC+ABS UL94 V-0 resin casing, polycarbonate window, thermoplastic resin keys			Polymethylmethacrylate (PMMA) front panel	
Dimensions:	front panel 74x32 mm, depth 30 mm	front panel 180x37 mm, depth 23mm	front panel 48x28.6 mm, depth 15 mm	front panel 180x40mm, depth 1.5mm	front panel 87x135mm, depth 1.5mm
Installation:	panel-mounting, with 71x29mm (+0.2/-0.1 mm) drilling template	panel-mounting, with 150x31 mm (+0.2/-0.1 mm) drilling template	panel mounting, with 45.9x26.4 mm (+0.2/-0.1 mm) drilling template	panel mounting, can be set for a distance of up to 100mm, with 150x31mm drilling template	panel mounting, can be set for a distance of up to 100mm, with 67x120mm drilling template
Keys:	4 mechanical	6 mechanical	-	6 capacitive touch keys	6 capacitive touch keys
Display:	with decimal point ° 3 digits + sign, 8 icons				
Power supply:	from power board				
Ambient operating temperature:	-5...+55°C				
Ambient storage temperature:	-30...+85°C			-20...+60°C	
Ambient operation and storage humidity:	10...90% RH (non-condensing)				

* selectable by parameter ° selectable by parameter (from power board)

Wiring diagrams



EEV Pulse SYSTEM

EEV system for retrofit



Codes	Descr.	Details
EVD2A43BSC000	V800/P1	see model table
EVD2A53BSC000	V800/P3	see model table
ID34DR4SCDH00	ID985 /V	see model table
WK1400100N000	IWK /V	see model table
EVK2A43BXC010	Standard kit	see kit table
EVK2A43BXC020	Starter kit	see kit table
DMI100x002000	Device Manage Interface	see accessories table

Applications

The Electronic Expansion Valve (EEV) is designed to maximise the energy saving and performance potential of refrigerated cabinets in retail applications. The complete Eliwell solution consists of the EEV V800 driver, which can be connected to the IWK/V remote display device, and the ID 985/V electronic controller.

Features

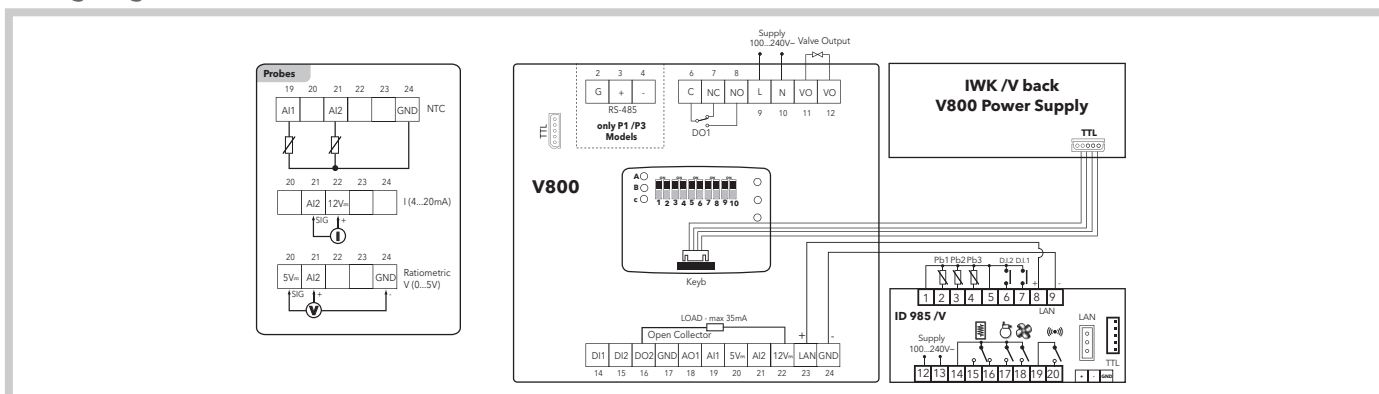
Container	PC+ABS UL94 V-0 plastic resin casing	Ambient operation and storage humidity	10...90% RH (non-condensing)
Operating temperature	-5...55°C		
Storage temperature	-20...85°C		

Technical data

	V800	ID 985/V	IWK/V
Dimensions:	front panel 70.2x87mm, depth 61.6mm	front panel 74x32mm, depth 60mm	front panel 74x32mm, depth 30mm
Installation:	on DIN Omega bar support	panel mounting with 71x29mm drilling template	panel mounting with 71x29mm drilling template
Display:	-	no decimal point * 3 and a half digits + sign	no decimal point * 4 and a half digits + sign
Display range:	-	-55...140°C	-55...140°C
Analogue inputs:	1 NTC/4-20mA/0-5V* 1 NTC/4-20mA*	3 NTC/PTC*	-
Digital inputs:	2 voltage free	2 voltage free	-
Connections:	<ul style="list-style-type: none"> TTL port for connection to CopyCard and TelevisSystem TTL port for connection to USB Copy Card and IWK/V LAN port for connection to ID 985/V RS-485 serial port: Models/P1/P3 1 SPDT N.O. 5A 250Vac, N.C. 2A 	<ul style="list-style-type: none"> TTL port for connection to CopyCard and TelevisSystem - LAN port for connection to V800 RS-485 serial port 	<ul style="list-style-type: none"> TTL port for connection to V800 - - -
Digital outputs:	250Vac 1 open collector max current 35mA	1 SPDT 5(2)A 1/4 HP 250Vac 3 SPST 3A 250Vac	-
Analogue outputs:	1 0...10V max current 20mA	-	-
Accuracy:	better than 0.5% of integral-scale + 1 digit	better than 0.5% of integral-scale + 1 digit	better than 0.5% of integral-scale + 1 digit
Resolution:	1 or 0.1°C	1 or 0.1°C	1 or 0.1°C
Power supply:	100...240Vac ±10% 50/60Hz	100...240Vac ±10% 50/60Hz	from V800
Power consumption:	3W max	2.5W max	<1W
User interface:	10-way DipSwitch	LED display	LED display

*(selectable by parameter)

Wiring diagrams



EEV Pulse SYSTEM

EEV system for retrofit



Models

Code	Description	Details
EVD2A43BSC000	V800 - P1	230Vac valve control. on-board RS485
EVD2A53BSC000	V800 - P3	230V valve control ∞. on-board RS485
ID34DR4SCDH00	ID985 /V	Electronic controller with V800 driver control via LAN serial port
WK1400100N000	IWK /V	Remote terminal for parameter config., displ. I/O, alarms, etc.

Kit

Code	Description	Details
EVK2A43BXC010	Standard Kit	Includes: <ul style="list-style-type: none"> • 1 x ID 985 /V • 1 x V800/P2 • 1 x 'FAST' NTC probe (SN8P0X3002) • 1 x ratiometric probe (TD420030B)
EVK2A43BXC020	Starter Kit	Includes: <ul style="list-style-type: none"> • 1 x ID 985 /V • 1 x V800/P2 • 1 x 'FAST' NTC probe (SN8P0X3002) • 1 x ratiometric probe (TD420030B) • 1 USB Copy Card (CCA0BUI02N000) • 1 x Device Manager CD (DMP1000002000) • 1 x Device Manager Interface - DMI

Accessories

Code	Description	Details
DMI100x002000	Device Manager Interface	Hardware interface x=1: End User x=2: Service x=3: Manufacturer

Refrigerant compatibility

R404A - R22 - R410A - R134A - R744 (CO₂) - R507A - R717 (NH₃) - R290 - R407a - R448a - R449a - R450a - R513A

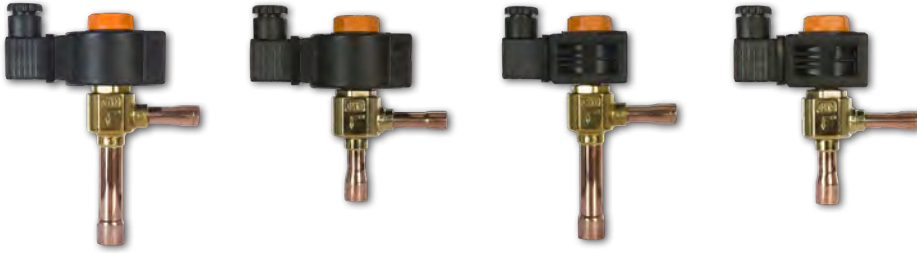
PULSE valve compatibility*

Model	Brand
PXV	Eliwell
AKV10	Danfoss
AKV15	Danfoss
AKV20	Danfoss
AKVA (NH ₃)	Danfoss
EX2	Alco
HP130	Parker
DS1120	Parker

*if using other valves, contact Eliwell Technical Support

PXV

Electronic pulse expansion valve



Applications

The PXV solenoid operated expansion valve controls the flow of refrigerant to the evaporator by modulating the opening time of the valve element, allowing a wide range of power variation. Highly precise and reliable control of refrigerant flow increases the efficiency of the entire system. There are 9 interchangeable orifices (10 for CO₂) available, with power ratings from 1 kW to 24 kW. This valve must be piloted by an electronic driver. The typical application is in refrigeration systems, especially refrigerated counter displays of the kind used in supermarkets.

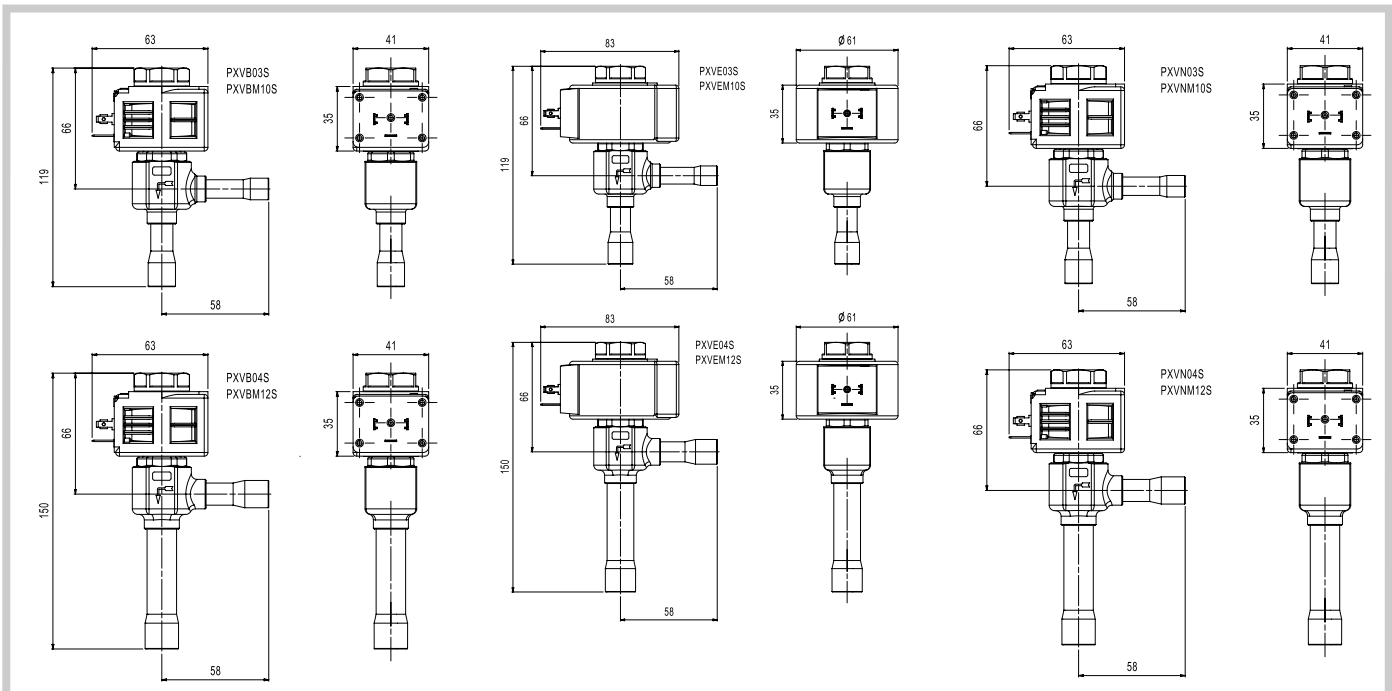
Technical data

Technical data	Models	
Temperature (TS)	PXVB PXVN PXVE	-40 °C ... 100 °C (-40 °F ... 212 °F) -40 °C ... 100 °C (-40 °F ... 212 °F) -50 °C ... 100 °C (-40 °F ... 212 °F)
Ambient temperature (TA)	PXVB PXVN PXVE	-20 °C ... 50 °C (-4 °F ... -58 °F) -20 °C ... 50 °C (-4 °F ... -58 °F) 0 °C ... 50 °C (-40 °F ... -58 °F)
Open pressure differential (minimum OPD)	All Models	0 bar / 0 psi
Maximum open pressure differential (MOPD)	PXVB / PXVN	PXVB/N..... from orif. 1 to orif. 5 : 37 MOPD PXVB/N..... orif. 6: 27 MOPD PXVB/N..... from orif. 7 to orif. 9 : 18 MOPD
Maximum open pressure differential (MOPD)	PXVE	PXVE.....from orif. 0 to orif. 6 : 37 MOPD PXVE.....orif. 7 : 35 MOPD PXVE.....orif. 8 : 30 MOPD PXVE.....orif. 9 : 25 MOPD
Maximum operating pressure	PXVB PXVN PXVE	45 bar / 652.7 psi 45 bar / 652.7 psi 80 bar / 1160.3 psi (CO ₂ models)
Burst Pressure	PXVB PXVN PXVE	225 bar / 3262 psi (PS x 5) 225 bar / 3262 psi (PS x 5) 240 bar / 3480 psi (PS x 3)
PED	All Models	ART. 4.3 of 2014/68/EU
Operating principles	All Models	PWM
Minimum working time	All Models	1 sec.

Technical data coils

Technical data coils	Models	
Voltage tolerance (Vac)	24Vac model	+10 / -10%
Voltage tolerance (Vac)	All 220/230Vac models	+6 / -10%

Dimensions



PXV

Electronic pulse expansion valve

General specifications and cooling capacities of valves (HFO-HFC-HC refrigerants)

Code	Type of orifice	Orifice hole (mm)	ODS connections				Flow factor Kv (m ³ /h)	Cooling capacity (kW)				
			(inches)		(mm)			R134a	R507	R407C	R410A	R290
			IN	OUT	IN	OUT						
PXVN03S010100	1	0.5	3/8"	1/2"	-	-	0.010	0.8	0.77	1.03	1.47	1.1
PXVNM10S01100			-	-	10	12						
PXVN03S020100	2	0.7	3/8"	1/2"	-	-	0.017	1.5	1.6	1.9	2.7	2.2
PXVNM10S02100			-	-	10	12						
PXVN03S030100	3	0.8	3/8"	1/2"	-	-	0.023	1.8	2.0	2.2	3.4	2.7
PXVNM10S03100			-	-	10	12						
PXVN03S040100	4	1.1	3/8"	1/2"	-	-	0.043	2.9	3.0	3.5	5.5	4.2
PXVNM10S04100			-	-	10	12						
PXVN03S050100	5	1.3	3/8"	1/2"	-	-	0.065	4.9	5.3	6.2	9.5	7.4
PXVNM10S05100			-	-	10	12						
PXVN03S060100	6	1.7	3/8"	1/2"	-	-	0.113	6.8	7.2	8.4	12.9	10.1
PXVNM10S06100			-	-	10	12						
PXVN03S070100	7	2.3	3/8"	1/2"	-	-	0.200	10.7	11.6	14.2	20.6	16.1
PXVNM10S07100			-	-	10	12						
PXVN04S070100	7	2.3	1/2"	5/8"	-	-	0.200	10.7	11.6	14.2	20.6	16.1
PXVNM12S07100			-	-	12	16						
PXVN04S080100	8	2.5	1/2"	5/8"	-	-	0.230	12.9	13.8	16.4	24.5	19.4
PXVNM12S08100			-	-	12	16						
PXVN04S090100	9	2.7	1/2"	5/8"	-	-	0.250	14.4	15.4	18.1	27.3	21.6
PXVNM12S09100			-	-	12	16						

Code	Type of orifice	Orifice hole (mm)	ODS connections				Flow factor Kv (m ³ /h)	Cooling capacity (kW)	
			(inches)		(mm)			R22	R404A
			IN	OUT	IN	OUT			
PXVB03S010100	1	0.5	3/8"	1/2"	-	-	0.010	0.93	0.77
PXVBM10S01100			-	-	10	12			
PXVB03S020100	2	0.7	3/8"	1/2"	-	-	0.017	1.7	1.6
PXVBM10S02100			-	-	10	12			
PXVB03S030100	3	0.8	3/8"	1/2"	-	-	0.023	2.0	1.9
PXVBM10S03100			-	-	10	12			
PXVB03S040100	4	1.1	3/8"	1/2"	-	-	0.043	3.2	3.0
PXVBM10S04100			-	-	10	12			
PXVB03S050100	5	1.3	3/8"	1/2"	-	-	0.065	5.6	5.2
PXVBM10S05100			-	-	10	12			
PXVB03S060100	6	1.7	3/8"	1/2"	-	-	0.113	7.6	7.1
PXVBM10S06100			-	-	10	12			
PXVB03S070100	7	2.3	3/8"	1/2"	-	-	0.200	12.8	11.4
PXVBM10S07100			-	-	10	12			
PXVB04S070100	7	2.3	1/2"	5/8"	-	-	0.200	12.8	11.4
PXVBM12S07100			-	-	12	16			
PXVB04S080100	8	2.5	1/2"	5/8"	-	-	0.230	14.8	13.7
PXVBM12S08100			-	-	12	16			
PXVB04S090100	9	2.7	1/2"	5/8"	-	-	0.250	16.3	15.2
PXVBM12S09100			-	-	12	16			

Rated cooling capacities refer to: Evaporation temp. T_{evap} = +5°C • Condensation temp. T_{cond} = +32°C • Temp. of valve input liquid T_{liq} = +28°C

PXV

Electronic pulse expansion valve

General specifications and cooling capacities of CO₂ valves (R744)

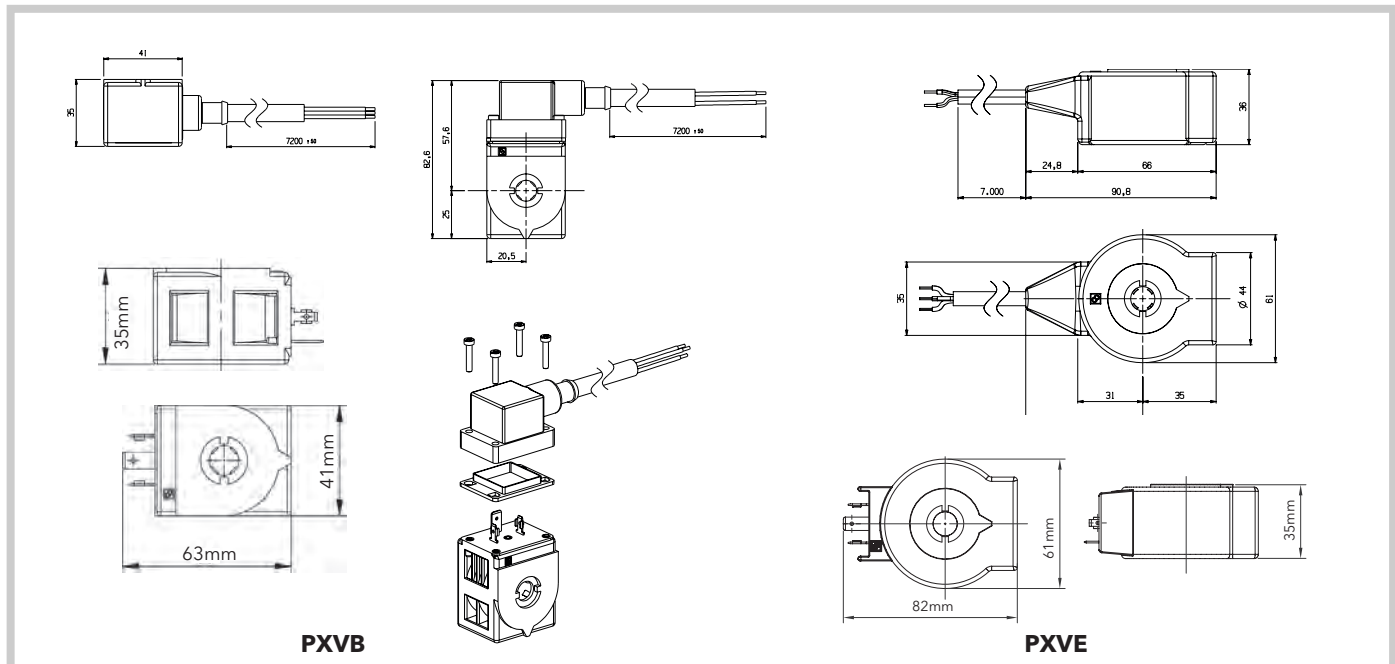
Code	Type of orifice	Orifice hole (mm)	ODS connections				Flow factor Kv (m ³ /h)	R744 (CO ₂)
			(inches)		(mm)			
			IN	OUT	IN	OUT		
PXVE03S000100	0	0.3	3/8"	1/2"	-	-	0.003	1.04
PXVEM10S00100			-	-	10	12		
PXVE03S010100	1	0.5	3/8"	1/2"	-	-	0.010	2.6
PXVEM10S01100			-	-	10	12		
PXVE03S020100	2	0.7	3/8"	1/2"	-	-	0.017	4.4
PXVEM10S02100			-	-	10	12		
PXVE03S030100	3	0.8	3/8"	1/2"	-	-	0.023	5.8
PXVEM10S03100			-	-	10	12		
PXVE03S040100	4	1.1	3/8"	1/2"	-	-	0.043	9.1
PXVEM10S04100			-	-	10	12		
PXVE03S050100	5	1.3	3/8"	1/2"	-	-	0.065	15.7
PXVEM10S05100			-	-	10	12		
PXVE03S060100	6	1.7	3/8"	1/2"	-	-	0.113	21.4
PXVEM10S06100			-	-	10	12		
PXVE03S070100	7	2.3	3/8"	1/2"	-	-	0.200	34.3
PXVEM10S07100			-	-	10	12		
PXVE04S070100	7	2.3	1/2"	5/8"	-	-	0.200	34.3
PXVEM12S07100			-	-	12	16		
PXVE04S080100	8	2.5	1/2"	5/8"	-	-	0.230	41.5
PXVEM12S08100			-	-	12	16		
PXVE04S090100	9	2.7	1/2"	5/8"	-	-	0.250	46.3
PXVEM12S09100			-	-	12	16		

Rated cooling capacities refer to: Evaporation temp. T_{evap} = -25°C • Condensation temp. T_{cond} = 0°C • Temp. of valve input liquid T_{liq} = -4°C

model	code	voltage (Vac) (1)	tolerance (% Vac)	frequency (Hz)	power (W)	insulation class	TA °C (F)	electrical connections
PXVB	PXVB0ARA20100	24	+10/-10	50/60	8	F	-20...50 (-4...58)	connector IP65 PXVB0AR020100 connector IP68 PXVB0AR030100
	PXVB0ARA60100	220/230	+6/-10	50/60	8	F	-20...50 (-4...58)	
PXVE	PXVE0ARA60100	220/230	+6/-10	50/60	12	F	-20...50 (-4...58)	connector IP65 PXVB0AR020100
PXVB	PXVB0ARA6A172	220/230	+6/-10	50/60	8	F	-20...50 (-4...58)	cable&connector 7.2m assembled
PXVE	PXVE0ARA6M170	220/230	+6/-10	50/60	12	F	-20...50 (-4...58)	moulded style with cable 7.0m

(1) contact sales department for other power supply

Dimensions and specifications

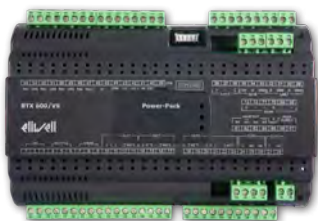


PXVB

PXVE

RTX 600 /VS DOMINO

DIN controllers for remote systems with Stepper EEV



Code	Description
EWKRTS0300000	RTX 600 /VS DOMINO + POWER-PACK KIT KDEPlus
RTSNOBM0S3H00	RTX 600 /VS DOMINO POWER-PACK
EWKRTS0400000	RTX 600 /VS DOMINO KIT KDEPlus
RTSNOBM0S2H00	RTX 600 /VS DOMINO
KS000051	VS POWER-PACK
KDE400E004000	KDEPlus
EH000050V4000	ECPlus
TF111205	TF TRANSF 230/24 35VA PROT. DIN

Applications

The RTX600 /VS DOMINO is an electronic device for controlling remote counters and cold rooms, with Stepper type electronic expansion valve that can be used singly or together in islands or remote counters with more evaporators. The innovative DOMINO adaptive control algorithm can work with overheating values of 4 K with R744 and less than 3 K for HFC and HFO, increasing the level of system efficiency simply by increasing the suction pressure. The RTX600/Vs DOMINO controllers can be interfaced with the KDEPlus keyboard, the ECPlus display module and the new KDTPPlus keyboards with touch technology.

Features

Adaptive overheating control for values below 3 K

Valve control configuration with only 2 parameters

Single model for Eliwell SXVB valves and third parties

Smart defrost control designed to save energy and ensure better preservation of food

Control of heating elements of frames / demisting heaters

Fast synchronisation of remote counters and cold islands

Technical data	RTX 600 /VS DOMINO	KDEPlus	ECPlus
Dimensions:	10 DIN modules	front panel 74x32 mm, depth 30 mm	front panel 48x28.6 mm - depth 15 mm
Installation:	on DIN Omega bar support	panel-mounting, with 71x29mm (+0.2/-0.1 mm) drilling template	panel mounting with 45.9x26.4 mm (+0.2/-0.1 mm) drilling template
Display:	-	with decimal point ° 3 digits + sign	with decimal point ° 3 digits + sign
Display range:	<ul style="list-style-type: none"> • NTC: -50,0°C...+110°C; • PTC: -55,0°C...+150°C; • Pt1000: -60°C...+150°C 	see power board	see power board
Analogue/digital inputs:	5 NTC/PTC/Pt1000/D.I.* 1 4...20mA/D.I.* 1 ratiometric/D.I.* + 1 voltage-free D.I.	-	-
Connections:	<ul style="list-style-type: none"> • 1 RS-485 serial isolated for monitoring • 1 keyboard serial • 1 serial per local Link² on-site • 1 TTL for Unicard/Copycard connection 	-	-
Digital outputs:	<ul style="list-style-type: none"> • 3 16(8) A - 250 Vac relays • 2 8(4) A - 250 Vac relays • 1 Open Collector output (12 Vdc - 20 mA) 	-	-
Analogue outputs:	1 D.A.C. multifunction: 0...10V - 4...20mA	-	-
Valve driver output:	<ul style="list-style-type: none"> • 4 way connector for bipolar command 	-	-
Auxiliary power supply	<ul style="list-style-type: none"> • Auxiliary input for 24Vac 35VA max driver valve 	-	-
Accuracy:	better by 1.0%	-	-
Resolution:	1 or 0.1°C	-	-
Power supply:	SMPS 100...240Vac ±10% 50/60 Hz	from power board	from power board
Power consumption:	12.5W max	-	-
Ambient operating temperature:	-5...+50°C	-5...+55°C	-5...+55°C
Ambient storage temperature:	-30...+85°C	-30...+85°C	-30...+85°C
Ambient operation and storage humidity:	10...90% RH (non-condensing)	10...90% RH (non-condensing)	10...90% RH (non-condensing)

Power-Pack

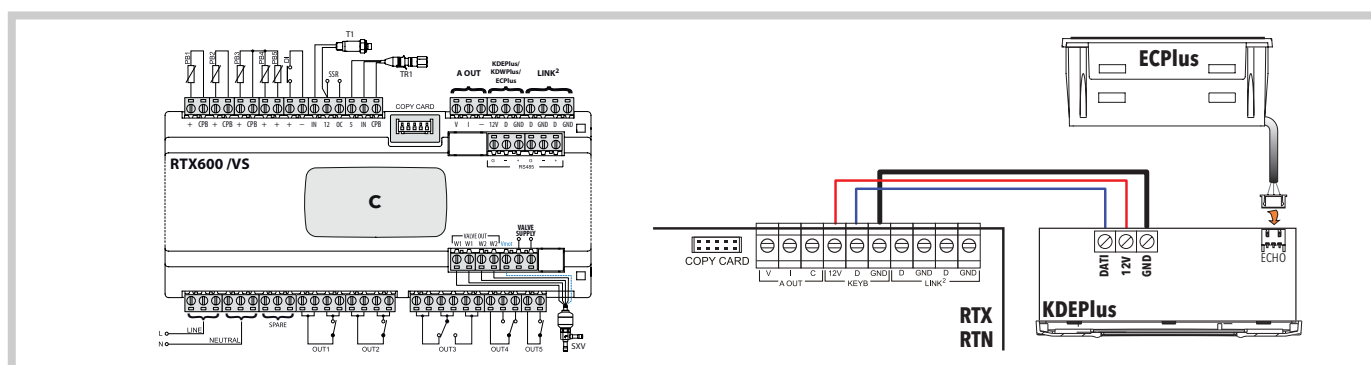
Sliding assembly in the RTX 600 /VS front compartment

Power supply from power board

Ambient operating temperature: -5...+50°C

Ambient storage temperature: -30...+85°C

Ambient operation and storage humidity: 10...90% RH (non-condensing)



EEV Stepper system

EEV stepper system



Code	Description
XVD420H485030	XVD 420H RS-485
SKP1000000000	SKP10 Configuration Keyboard
DMI100x002000	Device Manager Interface (Hardware interface)
TF111205	230Vac/24Vac 35VA transformer

*x=1: End User; x=2: Service; x=3: Manufacturer

Applications

The driver for the proportional motorised valve XVD is designed to optimize energy efficiency and the refrigerated utilities performance. Its wide compatibility with the refrigerants and unipolar and bipolar valves on the market makes this product particularly flexible. Moreover, the service keyboard SKP10 and the USB interface ensures quick-and-easy system set-up.

Features

Container	PC+ABS UL94 V-0 plastic resin casing	Ambient operation and storage humidity	10...90% RH (non-condensing)
Usage time	-5...+55°C		
Storage temperature	-20...+85°C		

Technical data

	XVD 420H 485	SKP10
Dimensions:	70.2x87 mm frontal panel, depth 61.6 mm	front panel 74x32mm, depth 60mm
Installation:	on DIN Omega bar support	panel mounting (71x29mm drilling template)
Display:	-	3 and a half digits + sign
Display range:	-	-55...140°C
Analogue inputs:	2x NTC/Pt1000/4...20mA/0-5V $\bar{=}$ /0-10V $\bar{=}$ * 2x NTC/Pt1000	-
Digital inputs:	2 voltage free	-
Connections:	<ul style="list-style-type: none"> TTL (Keyb) for connection to Unicard/MFK/DMI TTL for Televis/Modbus connection RS485 for connection of Televis/Modbus 	Lan port for connection to XVD
Digital outputs:	1 SPST: N.O. 5A 250Vac 1 Open Collector 12V $\bar{=}$ max 100mA	-
Accuracy:	better than 0.5% of end of scale	better than 0.5% of end of scale
Resolution:	0.1°C	1 or 0.1°C
Power supply:	24Vac $\bar{=}$ \pm 10% 50/60 Hz	100...240Vac \pm 10% 50/60Hz
Power consumption:	30VA / 25W	<1W
Interface:	-	LED display

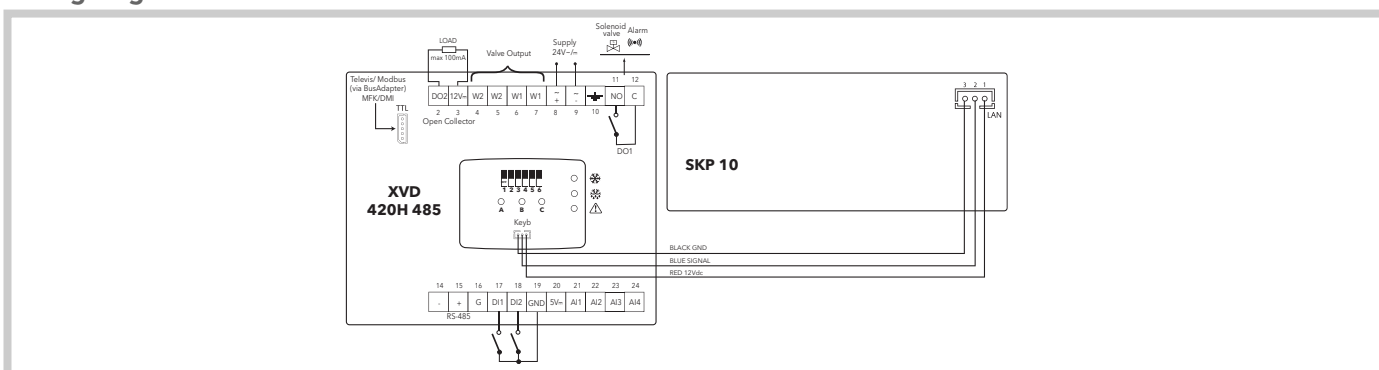
* selectable by parameter

STEPPER valve compatibility*

Models	Brand
SXVB 24V Bipolar	Eliwell
ETS50 12V Bipolar, ETS100 12V Bipolar	Danfoss
EX5 24V Bipolar, EX6 24V Bipolar, EX7 24V Bipolar, EX8 24V Bipolar	Alco
SER(I) G, J, K, B, C, D 12V Bipolar	Sporlan
SER 1.5 TO 20 12V Bipolar	Sporlan
SEI-30 12V Bipolar, SEI-50 12V Bipolar	Sporlan
SEH 12V Only bipolar model	Sporlan

*if using other valves, contact Eliwell Technical Support

Wiring diagrams



SXVB

Bipolar stepper expansion valves



Applications

The bipolar expansion valve series SXVB regulates the flow of refrigerant to the evaporator by proportionally modulating its opening and closing, allowing a wide range of power variation.

Highly precise and reliable control of refrigerant flow increases the efficiency of the entire system.

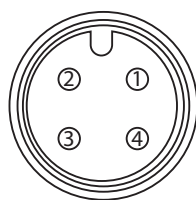
There are four valve bodies and ten orifices to meet power ratings ranging from 10 kW (R404) to 239 kW (R410).

Technical data

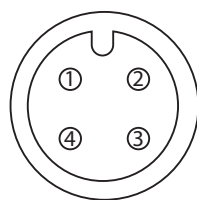
	BODY1	BODY2	BODY3	BODY4
Actuator type	Bipolar stepper motor			
Stroke Steps for complete closure	10,5 mm \ 415 steps	8,2 mm \ 197 steps	8,2 mm \ 197 steps	12,5 mm \ 985 steps
Rated cooling capacity (1)	16...31 kW	42...56 kW	78...113 kW	162...239 kW
Adjustment range	10...95%			
Permitted refrigerant gases	R22 HFC : R407C, R410A, R404A, R134a. blend : R448A, R449A, R450A, R452A.. Check with Eliwell technical Support whether the use of gases other than those specified is possible			
MOPD	35 bar / 507.6 psi	40 bar / 580.2 psi	orifice 3.6 35 bar / 807.6 psi orifice 4.0 30 bar / 435,1 psi orifice 4.4 25 bar / 362.6 psi	30 bar / 435,1 psi
Maximum operating pressure	45 bar / 652.7 psi			
Temperature TS	-40 ... 80 °C / -40 ... 176 °F			
Ambient temperature (TA)	-40 ... 50 °C / -40 ... 122 °F			
Protection	IP 67 (with mounted connector)			
Compatible Eliwell driver	XVD, V900, V910, RTX /VS (body 1, 2)			
Connections and geometry	brazed welded tube, angle			
Operation	Bidirectional			
Sight glass	not available			
Possible operating angles	any direction			
N° of cycles tested between 10% and 95% of effective stroke	~5 million cycles			
Maximum overstroke steps	100 steps	60 steps		150 steps
Rated voltage	24 Vdc			
Connection	4-way M12 4G 3 m / 9.84 ft. standard (15 m / 49 ft. length also available)			

(1) refrigerant = R410A, evaporating temperature = 5 °C / 41 °F condensing temperature = 38 °C / 104 °F sub-cooling = 0°K superheating = 0°K

Connector



Connector
valve



Connector
Cable

- 1 Brown
- 2 White
- 3 Blue
- 4 Black

SXVB

Bipolar stepper expansion valves

General specifications and cooling capacities of valves

Code	Body	Orifice hole (mm)	ODS connections	Gas entry side		MOPD	Rated cooling capacity (kW)							
							R134a	R407C	R404A	R507A	R410A			
SXVB261150030	1	1.5	3/8"	→	Radial	35	13.2	13.6	10.7	10.7	17.5			
↑				Axial	12.6		12.6	10.2	9.7	16.5				
SXVB261150040			1/2"	→	Radial		13.2	13.6	10.7	10.7	17.5			
↑				Axial	12.6		12.6	10.2	9.7	16.5				
SXVB26115M100			10mm	→	Radial		13.2	13.6	10.7	10.7	17.5			
↑				Axial	12.6		12.6	10.2	9.7	16.5				
SXVB26115M120		12mm	→	Radial	13.2		13.6	10.7	10.7	17.5				
↑			Axial	12.6	12.6		10.2	9.7	16.5					
SXVB261200030		2.0	3/8"	→	Radial		19.4	21.3	16.5	16.5	27.2			
↑				Axial	18.4		19.4	15.0	14.6	24.7				
SXVB261200040			1/2"	→	Radial		19.4	21.3	16.5	16.5	27.2			
↑				Axial	18.4		19.4	15.0	14.6	24.7				
SXVB26120M100			10mm	→	Radial		19.4	21.3	16.5	16.5	27.2			
↑				Axial	18.4		19.4	15.0	14.6	24.7				
SXVB26120M120			12mm	→	Radial		19.4	21.3	16.5	16.5	27.2			
↑				Axial	18.4		19.4	15.0	14.6	24.7				
SXVB261270030			2.7	3/8"	→		Radial	24.7	27.2	21.3	21.3	34.4		
↑					Axial		23.3	24.7	19.4	18.4	31.0			
SXVB261270040				1/2"	→		Radial	24.7	27.2	21.3	21.3	34.4		
↑					Axial		23.3	24.7	19.4	18.4	31.0			
SXVB26127M100	10mm	→		Radial	24.7	27.2	21.3	21.3	34.4					
↑		Axial		23.3	24.7	19.4	18.4	31.0						
SXVB26127M120	12mm	→		Radial	24.7	27.2	21.3	21.3	34.4					
↑		Axial		23.3	24.7	19.4	18.4	31.0						
SXVB262270040	2	2.7		1/2"	↑	Axial	40	27.2	36.9	26.0	25.8	44.6		
→					Radial	23.3		35.9	24.1	24.6	42.7			
SXVB262270050				5/8"	↑	Axial		27.2	36.9	26.0	25.8	44.6		
→					Radial	23.3		35.9	24.1	24.6	42.7			
SXVB262270070			7/8"	↑	Axial	27.2		36.9	26.0	25.8	44.6			
→				Radial	23.3	35.9		24.1	24.6	42.7				
SXVB26227M120		12mm	↑	Axial	27.2	36.9		26.0	25.8	44.6				
→			Radial	23.3	35.9	24.1		24.6	42.7					
SXVB262320040		3.2	1/2"	↑	Axial	34.0		50.4	35.5	34.8	60.1			
→				Radial	32.0	47.5		33.5	32.7	56.3				
SXVB262320050			5/8"	↑	Axial	34.0		50.4	35.5	34.8	60.1			
→				Radial	32.0	47.5		33.5	32.7	56.3				
SXVB262320070			7/8"	↑	Axial	34.0		50.4	35.5	34.8	60.1			
→				Radial	32.0	47.5		33.5	32.7	56.3				
SXVB26232M120			12mm	↑	Axial	34.0		50.4	35.5	34.8	60.1			
→				Radial	32.0	47.5		33.5	32.7	56.3				
SXVB263360070			3	3.6	7/8"	↑		Axial	35	48.5	70.3	49.5	49.5	84.2
→						Radial		36.6		66.3	46.3	46.1	78.2	
SXVB263360090	1 1/8				↑	Axial	48.5	70.3		49.5	49.5	84.2		
→					Radial	36.6	66.3	46.3		46.1	78.2			
SXVB263400070	4.0	7/8"		↑	Axial	35	58.4	85.1		59.5	58.8	102.0		
→				Radial	30	45.5	80.2	55.4		54.7	95.0			
SXVB263400090		1 1/8		↑	Axial	35	58.4	85.1		59.5	58.8	102.0		
→				Radial	30	45.5	80.2	55.4		54.7	95.0			
SXVB263440070	4.4	7/8"		↑	Axial	35	71.3	103.0		72.3	72.0	122.8		
→				Radial	25	54.5	96.0	67.3		66.5	113.9			
SXVB263440090		1 1/8		↑	Axial	35	71.3	103.0		72.3	72.0	122.8		
→				Radial	25	54.5	96.0	67.3		66.5	113.9			

Rated cooling capacities refer to: Evaporation temp. T_{evap} = +5°C • Condensation temp. T_{cond} = +38°C • Sub-cooling 0°K • Overheating 0°K

SXVB

Bipolar stepper expansion valves

General specifications and cooling capacities of valves

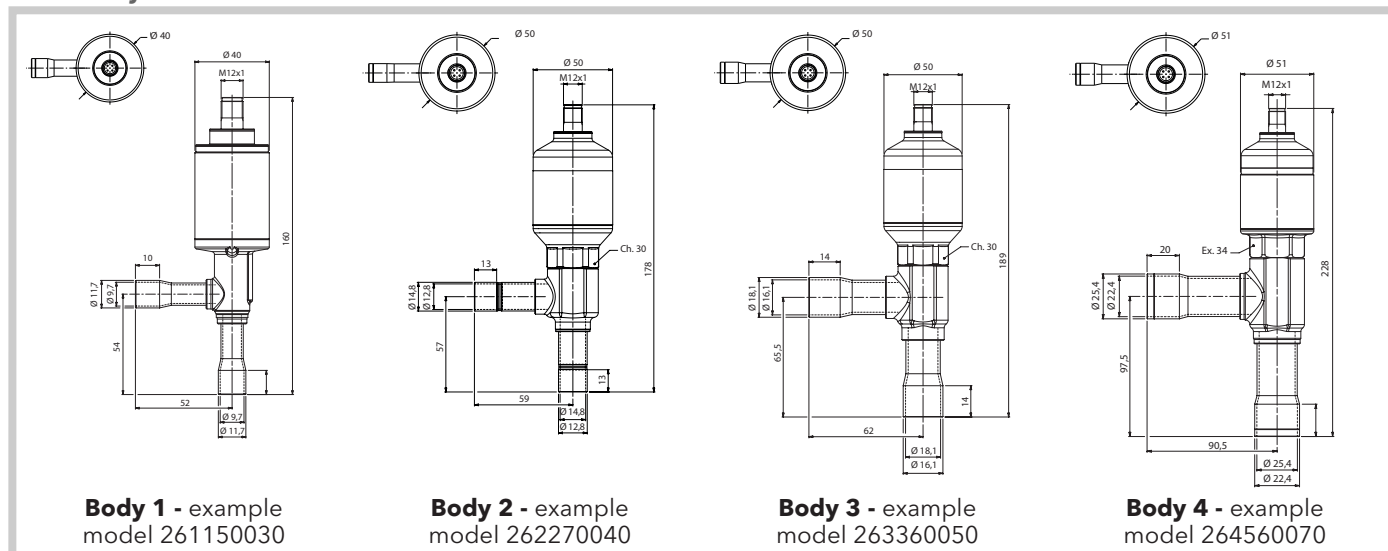
Code	Body	Orifice hole (mm)	ODS connections	Gas entry side	MOPD	Rated cooling capacity (kW)							
						R134a	R407C	R404A	R507A	R410A			
SXVB264560070	4	5.6	7/8"	→	Radial	30	104.1	133	95.5	93.7	162.4		
				↑	Axial		104.1	133	95.5	93.7	162.4		
SXVB264560090			1 1/8	→	Radial		104.1	133	95.5	93.7	162.4		
				↑	Axial		104.1	133	95.5	93.7	162.4		
SXVB264560110			1 3/8	→	Radial		104.1	133	95.5	93.7	162.4		
				↑	Axial		104.1	133	95.5	93.7	162.4		
SXVB26456M280		28mm	→	Radial	104.1		133	95.5	93.7	162.4			
			↑	Axial	104.1		133	95.5	93.7	162.4			
SXVB264650070		4	6.5	7/8"	→		Radial	30	128.7	165.7	118.7	116.5	202.5
					↑		Axial		128.7	165.7	118.7	116.5	202.5
SXVB264650090				1 1/8	→		Radial		128.7	165.7	118.7	116.5	202.5
					↑		Axial		128.7	165.7	118.7	116.5	202.5
SXVB264650110	1 3/8			→	Radial	128.7	165.7		118.7	116.5	202.5		
				↑	Axial	128.7	165.7		118.7	116.5	202.5		
SXVB26465M280	28mm		→	Radial	128.7	165.7	118.7		116.5	202.5			
			↑	Axial	128.7	165.7	118.7		116.5	202.5			
SXVB264750070	4		7.5	7/8"	→	Radial	30		151.9	195.8	140	137.5	238.9
					↑	Axial			151.9	195.8	140	137.5	238.9
SXVB264750090				1 1/8	→	Radial			151.9	195.8	140	137.5	238.9
					↑	Axial			151.9	195.8	140	137.5	238.9
SXVB264750110		1 3/8		→	Radial	151.9		195.8	140	137.5	238.9		
				↑	Axial	151.9		195.8	140	137.5	238.9		
SXVB26475M280		28mm	→	Radial	151.9	195.8		140	137.5	238.9			
			↑	Axial	151.9	195.8		140	137.5	238.9			

Rated cooling capacities refer to: Evaporation temp. $T_{evap} = +5^{\circ}\text{C}$ • Condensation temp. $T_{cond} = +38^{\circ}\text{C}$ • Sub-cooling 0°K • Overheating 0°K

Cable

Code	Description
SXVB2624VC300	3m cable
SXVB2624VC015	15m cable

Valve body dimensions



TelevisGo

Monitoring and maintenance systems via web



Codes	Descr.	Applications
TGOCSE101E00K	KIT TelevisGo SSD 10*	up to 10 controllers
TGOCSE301E00K	KIT TelevisGo SSD 30*	up to 30 controllers
TGOCSE601E00K	KIT TelevisGo SSD 60*	up to 60 controllers
TGOCSE2H1E00K	KIT TelevisGo SSD 224*	up to 224 controllers

*contains No.1 SerialAdapter + 1.5m serial cable

Codes	Descr.	Applications
TGOCSE101ER0K	KIT TelevisGo SSD LE 10*	up to 10 controllers
TGOCSE301ER0K	KIT TelevisGo SSD LE 30*	up to 30 controllers
TGOCSE601ER0K	KIT TelevisGo SSD LE 60*	up to 60 controllers

LE versions do not include the Algorithms function

*contains No.1 SerialAdapter + 1.5m serial cable

Applications

TelevisGo is a system for the remote monitoring, control and management of supermarkets and refrigeration systems.

The product is available in a LE variant for small-scale and low-automation installations, and in a full version for systems with up to 224 loads.

The system allows automatic recognition of connected controllers and offers full system configuration and operation via a network connection.



Data recording and alarm management

- Recording temperature / pressure / humidity / digital inputs and outputs / functional statuses
- Recording temporary data for detailed system diagnostics and fine-tuning
- Recording alarm conditions and sending a signal by email and SMS



Energy reports

- Connection to energy meters with MODBUS protocol
- Dashboards dedicated to the real time and historic display of energy consumption
- Graphic display of energy consumption combined with the functional parameters of the system



Graphic display of the system

- Display and access to data and parameters of the controllers by means of a freely configurable graphic interface
- HTML interface accessible by most browsers for PC, tablet and smartphone (Internet Explorer, Mozilla, Firefox)
- The graphic interface can be planned off-line with the tools freely available for download from the site www.eliwell.com



Connectivity and security

- Web-based user interface with HTTPS protocol and SSL security
- It is possible to access all the historic and real time information and to interact with each controller connected to the system to change its parameters and activate the functions
- The complete management of TelevisGo is included (configuration, updating, restarting of the device)
- TelevisGo can be connected to the Internet with ADSL, 3G or 4G connections, or by configuring the LAN/WAN network to which the device is connected



Activity automation

- Automation of recurrent activities such as switching the lights on and off for energy saving
- Periodic sending by e-mail of detailed reports in PDF format
- Periodic transfer of data to centralised systems for performance analysis



Algorithms and Expandability with IEC 61131*

- System extensions with new Plug & Play algorithms installable from the web interface
- Algorithms for management of floating evaporation, faulty pressure probe backup and distribution of the dewpoint for energy saving functions with RTX600 /V and EWCM 9000 EO
- System for the development of new algorithms for distributed management of the installation based on FREE Studio with standard languages IEC 61131

*functions not available in LE versions

TelevisGo

Monitoring and maintenance systems via web

Features

For the end user

- recording of HACCP temperatures
- information on energy consumption
- complete, easy to use system
- open, expandable system

For supermarket chains and system integrators

- solution can be scaled to suit the size of the installation
- instruments for off line configuration, plant cloning and configuration modification in series
- compatibility with third-party Modbus devices: energy measurement and HVAC controls
- XML protocol open:
 - data sent periodically (push function)
 - transmission of data and alarms as they occur
 - real-time data acquisition
 - querying of data and alarm history
 - execution of commands / modification of controller parameters in remote mode
 - SOCKS protocol integrated for routing of TCP and UDP communications

For the maintenance technician

- compact, reliable, ready-to-use system
- intuitive user interface easy to learn
- alarm signalling via email and SMS, with priority configuration
- remote web access for diagnostics and control
- dedicated devices for maintenance: device parameters, controls, detailed diagnostics and recording of all functional statuses
- complete remote system updating via web: software, languages, controller drivers
- devices for offline configuration and quick modification of settings

Technical Data

TelevisGo 10 / 30 / 60 / 224

User interface:	from web browser
Browsers supported:	<ul style="list-style-type: none"> • Internet Explorer 7 or later • Mozilla Firefox 3.5 or later • Google Chrome 16.0.x or later
User language interfaces pre-loaded:	IT - EN - FR - DE - ES - PT - PL - NL - RU - CN
Operating System:	MS Windows 7 Embedded
Power supply:	12V $\overline{\text{=}}$ with external power supply 100...240Vac \pm 10%
Power consumption:	10W max
Connections:	4 USB ports 2 RS-232 ports (for analogue modem or GSM) 2 RS-232 ports (for Serial Adapter) 1 Ethernet port (LANRJ45) VGA monitor connection PS2 keyboard connector

Management & monitoring



Compressor racks



Cold rooms



Leak detection



EEV cabinets



Energy metering



Temperature monitoring



Enterprise BMS

Centralized energy management & maintenance



EcoStruxure for Supermarkets

TelevisBlue

Remote monitoring and maintenance for small systems



Codes	Description	Notes
TBR2S**1E0000	TelevisBlue Starter 1Y 2G	12 months of service included. Monitoring, Reports and Alarms and Centralised data access
TBR2P**1E0000	TelevisBlue Plus 1Y 2G	12 months of service included. Monitoring, Reports and Alarms, Centralised data access and Remote controller maintenance*
SAMANT3B30300	ANTENNA 3B 3m CABLE MCX90/M	Optional external antenna
TBR2X0000GW00	TelevisGate 2G	Only replacement device

** The two digits indicate the maximum number of resources managed: 01=5; 05=25; 10=50; 30=150; 50=250; 1H=500 resources

TelevisBlue Starter: cloud monitoring with built-in connectivity

TelevisBlue is the innovative monitoring system based entirely on cloud dedicated to small and medium sized plants using their own protected M2M mobile data connection to transfer information between the plant and the cloud without the need for any configuration by the user.

TelevisBlue offers the power of cloud data collection service, accessible via the web, with simple, speedy installation via a pre-activated kit.

TelevisBlue Plus: smartphone-managed maintenance

The Plus option can be used to adjust the equipment functions in real time by means of the parameters, and by sending commands to the controllers connected to the system.

The system offers an initial set of 5000 built-in processes (1000 for systems up to 25 resources), which can also be topped up using a self-service method*.

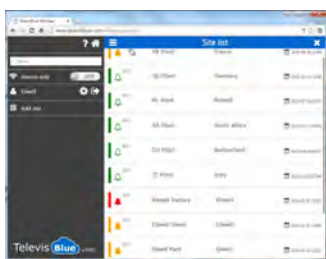
Annual service renewal

TelevisBlue includes 12 months of services from initial switch-on for basic functions and the activated options, and can be renewed annually also using the self-service mode with Credit Card*.

System and features always up to date

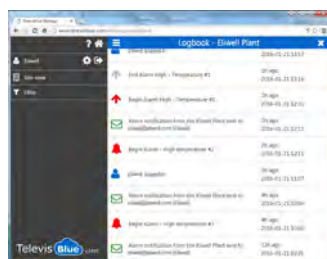
No application to download or update is required. Simply log into the www.televisblue.com site to use its functions. Eliwell takes care software updates, new feature releases, and updates to the online manual.

*service available in a limited number of Countries. See on-line manual for the updated list



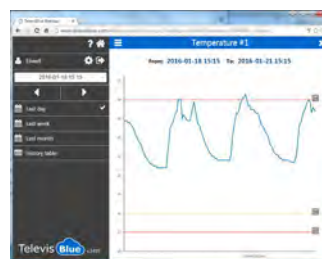
Remote maintenance, accessible anytime, anywhere

Activate a defrost or modify the temperature set of a controller after a notification, just a click away from the main view of any plant.



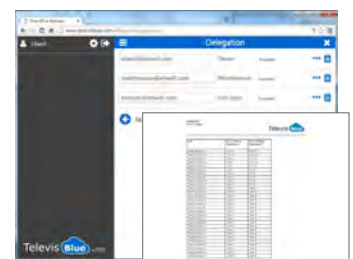
Food quality constantly under control

The system constantly monitors temperatures and other data and notifies users when alert thresholds are exceeded. Alert thresholds can be easily set up via the web portal. TelevisBlue also offers immediate notification of all alarms detected by controllers in the field for speedy intervention in case of anomalies.



Information easily accessible, anytime and anywhere

TelevisBlue collects temperature and other operating data from equipment and stores it in the cloud, making them easily accessible with a web browser from your smartphone, tablet, or PC.



Information Sharing and Collaboration

Centralized installations management allows owners and maintenance personnel to share information, meaning you can quickly modify the assignment directly from the TelevisBlue portal. The Reports function also enables periodic reports to be automatically sent to email recipients, keeping an archive of documents sent.



Online documentation:

www.televisblue.com/help

to be constantly up to date with new available functions.

TelevisBlue

Remote monitoring and maintenance for small systems

Technical data	TelevisGate 2G
Dimensions (WxHxD)	128 x 227 x 50 mm
Installation	Wall or panel
Power supply	100-240Vac
Connectivity	GSM/GPRS modem 850/900/1800/1900 MHz with built-in antenna
Field bus	Isolated RS-485
Memory	Buffer memory for 12 hours of data
Device status display	3 status LEDs
Alarm signalling	SPDT 8A relay 30Vac-dc 30V max for communication status
	1 status LED
	SPDT 8A relay 30Vac-dc 30V max

	TelevisBlue Starter License
Maximum No. of resources	from 5 to 500 monitorable resources according to model
Length of service	12 months of connectivity and data recording service
Recording interval	Configurable from 5 minutes to 1 day
Cloud synchronization interval	Configurable from 15 minutes to 1 day
Operations on controllers	Plus Option: reading/writing of parameters and commands Maximum 1000 operations per license up to 25 resources, 5000 for higher licenses
Data display	From the HTML5 website www.televisblue.com . <ul style="list-style-type: none"> Time line of system events Data history for resources in table and graph format
Managing alarms	2 predefined alarm categories Thresholds configurable on the cloud for all registered resources Mode for immediate notification when instrument alarms go off
Alarm notifications	Via e-mail, multiple recipients for each category
PDF report sent	Standard reports. HACCP report in PDF, data export via e-mail, configurable on a daily, weekly or monthly basis
Systems centralization	Access page with summary statement for all managed systems
Users and security	Administration of access proxies for each system

CAUTION: the use of the TelevisBlue product and service is subject to acceptance of the terms of service posted on the site www.televisblue.com/terms.
For more information on system characteristics, countries where the service is available, and connectible controllers, see the online manual and appendices at www.televisblue.com/help.

Cloud service





Refrigerant leak detection



LKD

Temperature monitoring



EWSense

Energy monitoring



Power Meter

Monitoring & remote maintenance



EWRC 500 NT IDPlus BusAdapter

TelevisGate



TelevisGate

EWSense

Wireless system for temperature measuring



Codes	Description	Notes
ESG0010700	EWSense Gate ZBRN12	ZigBee receiver with RS-485 Modbus/RTU serial port
ESARJC200	EWSense 2 x RJ45 serial cable 1m	Kit with 2 cables with RJ45 connector for RS-485 serial connection
ESST010B00	EWSense Temp	ZigBee Green Power wireless temperature sensor
ESR0012700	EWSense Repeater ZBRA12	5 metres cable
ESR0013700	EWSense Repeater ZBRA13	5 metres cable with EU two-pin plug
ESST010B0400	4 x EWSense Temp	Kit of 4 EWSense Temp sensors
ESAMPL000	EWSense Metal Plate KIT x4	Kit for panel fixing with metal plates for 4 EWSense Temp
ESATIE000	EWSense 100 Ties KIT	Fixing kit with clamps for EWSense Temp (100 clamps 180 x 4.8 mm)

Applications

EWSense is a wireless system for measuring the temperature of food storage and processing equipment and rooms. The wireless and battery-operated sensors make the system extremely easy to install; they can also be replaced, avoiding the need to periodically re-calibrate the system.

The EWSense Temp sensor is made from plastic, suited to food-grade environments with protection rating IP65 and measures the ambient temperature where it is installed between -30°C and +55°C for over 2 years, thanks to the integrated battery and the ZigBee 3.0 Green Power wireless communication.

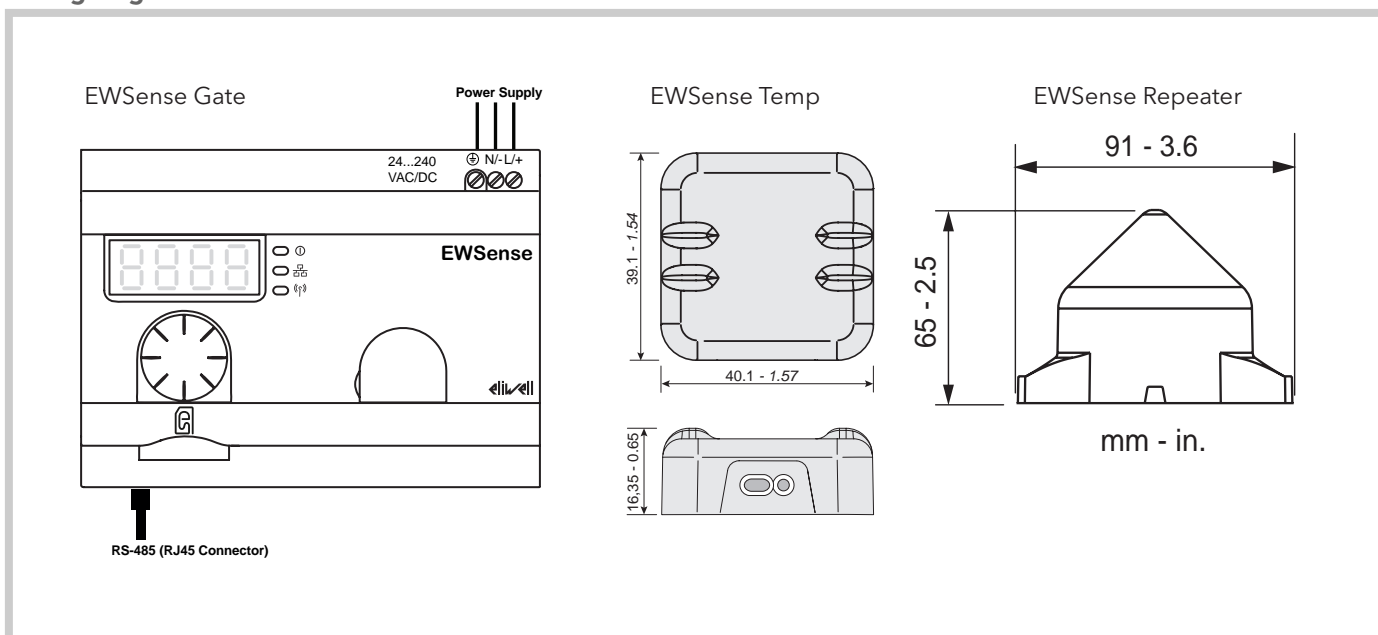
The EWSense Gate receiver manages up to 60 sensors positioned in a radius of 100m in free field, indicatively 10 metres in standard installations. The RS-485 Modbus/RTU line allows monitoring systems to acquire temperature data, signal level and battery level, for full system diagnostics.

Common features

Low-consumption ZigBee Green Power wireless communication	Temperature measurement from -30°C to +55°C
Up to 60 EWSense Temp sensors for each EWSense Gate receiver	Compatible with third-party Televis and Modbus/RTU systems

Technical data	EWSense Gate	EWSense Temp	EWSense Gate
Dimensions (mm)	121 x 89 x 69.6 (LxHxD)	40.1 x 39.1 x 16.4 (LxHxD)	91.0 x 67.0 x 67.0 (LxHxD)
Installation	on DIN Omega bar support	Gluing on flat surface with double sided tape (supplied)	wall
Power supply	24V...240Vac/dc	Integrated battery, not replaceable. Duration more than 2 years of operation.	24V...240Vac/dc
Connectivity	RS-485 for connection to TelevisSystem monitoring and systems based on ModBus protocol ZigBee 3.0 receiver	ZigBee 3.0 Green Power Standard IEEE 802.15.4 transmitter Frequency: 2,405 GHz Distance: 100m (in free field)	ZigBee 3.0 Green Power Standard IEEE 802.15.4 repeater Frequency: 2,405 GHz Distance: 100m (in free field)
Protection rating	IP 20	IP 65	IP 65
Measurement range	-	-30°C ... +55°C	-
Measurement accuracy	-	±1 °C	-

Wiring diagrams



TelevisIn / TelevisOut

Data acquisition modules and actuators



Codes	Descr.	Power supply
TAMID152RS700	TelevisIn	100...240Vac
TAMOD602RS700	TelevisOut	100...240Vac

Applications

TelevisIn and TelevisOut are data acquisition, alarm signalling and user control modules which can be connected to Televis systems or third-party systems, thanks to the ModBus protocol that can be selected from the relevant parameter. The TelevisIn controller, connected to specific probes, enables the acquisition of temperature, humidity and pressure data, and digital signals. It will also calculate dew points. TelevisOut provides alarm signalling and utility monitoring functions. It can be used to connect warning devices or telephone diallers and, in combination with the supervisor, to deliver energy savings, manage lights and other utilities.

Common features

Compatible with third-party and ModBus systems

Two models to cover all applications

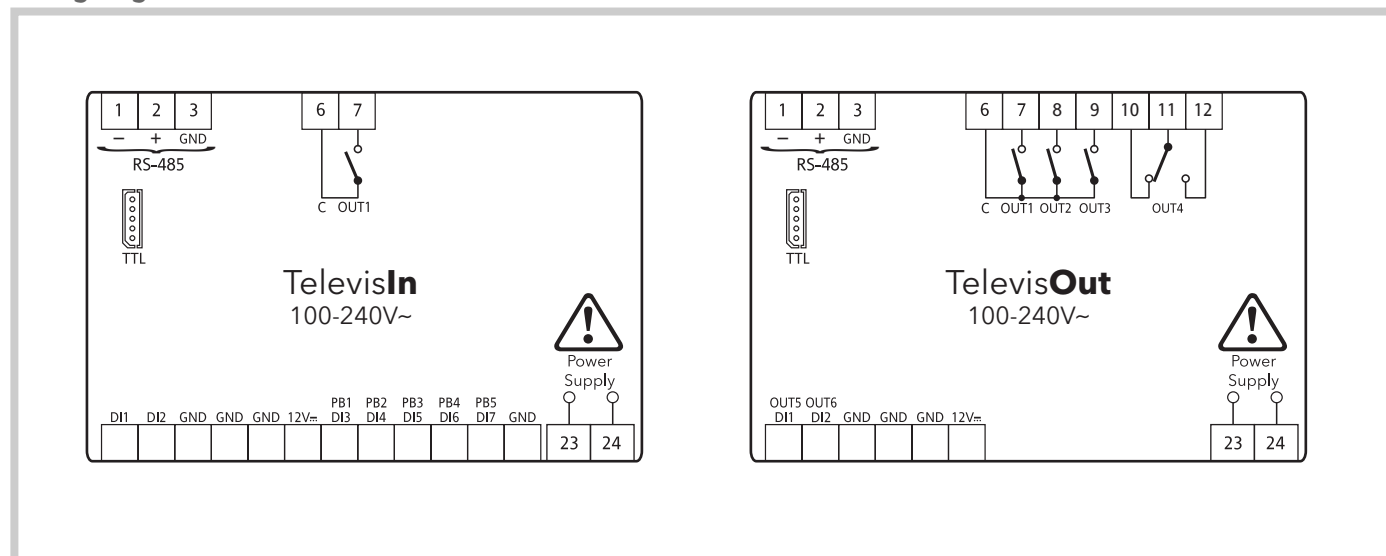
Up to 8 configurations for fast installation

Removable "T" connector for fast installation of the RS-485 line

Technical data

	TelevisIn	TelevisOut
Dimensions	4 DIN modules	4 DIN modules
Installation:	on DIN Omega bar support	on DIN Omega bar support
Display range:	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C • Pt1000 probe: -55.0...400.0°C • Vin probe: 0-1V, 0-5V and 0-10V • Ain probe: 0..20mA and 4...20mA 	<ul style="list-style-type: none"> • NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C • Pt1000 probe: -55.0...400.0°C • Vin probe: 0-1V, 0-5V and 0-10V • Ain probe: 0..20V and 4...20mA
Analogue inputs:	3 NTC/PTC/Pt1000/DI inputs + 1 V (0-1V / 0-5V / 0-10V) input + 1 I (0...20mA / 4...20mA) input	-
Digital inputs:	2 digital inputs (DI1 / DI2)	2 clean contact digital inputs (DI1 / DI2) also configurable as analogue outputs with no dangerous voltage
Digital outputs:	1 SPST 2A 250Vac	2 (SELV) Open Collector: PWM 3 SPST 2A 250Vac 1 SPDT 2A 250Vac
Connections:	<ul style="list-style-type: none"> • 1 RS-485 for connection to TelevisSystem monitoring and systems based on ModBus protocol • 1 TTL to connect to Eliwell Unicard USB, Copycard and DMI interface for DeviceManager 	<ul style="list-style-type: none"> • 1 RS-485 for connection to TelevisSystem monitoring and systems based on ModBus protocol • 1 TTL to connect to Eliwell Unicard USB, Copycard and DMI interface for DeviceManager
Connectors:	Removable screw terminals	Removable screw terminals
Applications:	AP1 =Temperature; AP2 =Analogue Inputs AP3 =Digital Inputs; AP4 =Dew Point AP5...8 =Free	AP1 =Alarm signalling AP2...8 =Free
Power consumption:	5W	5W
Power supply:	SMPS 100...240Vac ±10% 50/60Hz	SMPS 100...240Vac ±10% 50/60Hz

Wiring diagrams



LKD

Detection and indication of refrigerant leaks



Codes	Description	Power supply
LKD41CO2XR400	LKD 100 mod110 CO ₂	12/24V
LKD41xxxxR400	LKD 100	12/24V
LKD66CO2XR400	LKD 200 mod210 CO ₂	12/24V
LKD66xxxxR400	LKD 200	12/24V
LKDR4CO2XR400	LKD 100 mod110 5m remote CO ₂	
LKDR4xxxxR400	LKD 100 5m remote	
LKDSG00000000	LKD Splash Guard	-

xxxx = R220 / R134 / R290 / R404 / R4A7 / R4F7 / R410 / R448 / R449 / R450 / R507 / R513 / R600 / NH3X depending on compatible refrigerant type.

Applications

The state-of-the-art **LKD** series gas sensors can detect a wide range of gases and refrigerants depending on the model: NH₃, HFO, HC, HFC and CO₂.

LKD gas sensors can be used alone to control a buzzer, siren, etc., or integrated with Eliwell or third party remote management systems, through an on-board RS485 ModBus.

The main applications are: LT or NT cold rooms, refrigerated cabinets and compressor units.

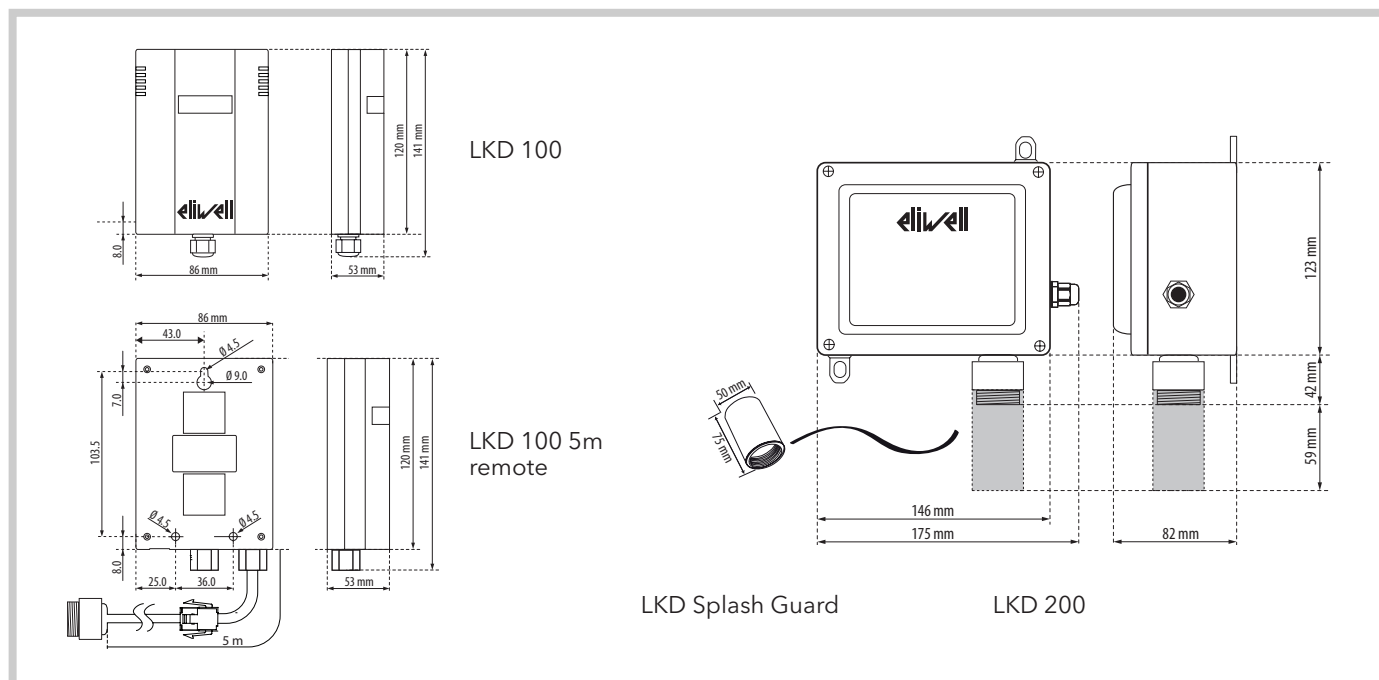
Common features

Compatible with Televis and third-party systems	Suitable for refrigerants:	NH ₃ , HFO, HC, HFC and CO ₂
Available versions SC (semiconductor) and IR (infra-red)		

Technical data

	LKD 100/110	LKD 200/210
Dimensions	86x142x53mm	175x165x82mm
Enclosure rating	IP41 (NT applications)	IP66 (LT applications)
Installation	wall-mounted, height suitable to the type of refrigerant	wall-mounted, height suitable to the type of refrigerant
Analogue outputs	0-5V, 1-5V, 0-10V, 2-10V, 4-20mA	0-5V, 1-5V, 0-10V, 2-10V, 4-20mA
Digital outputs	1 relay 1A - 24V~/~ Settable delay: 0, 1, 5, 10 minutes	1 relay 1A - 24V~/~ Settable delay: 0, 1, 5, 10 minutes
Connectivity	1 RS485 for connection to supervisor Modbus (depending on model)	1 RS485 for connection to supervisor Modbus (depending on model)
Measurement range	SC: 10-1.000ppm - IR: ppm - %	SC: 10-1.000ppm - IR: ppm - %
Temperature range	-20...+50°C	-40...+50°C
Humidity range	0...95% (non-condensing)	0...95% (non-condensing)
Sensor service life	SC: 5-8 years - IR: 8-10 years	SC: 5-8 years - IR: 8-10 years
T50 alarm threshold	SC: 76 sec (filtered) - IR: 25 sec	SC: 76 sec (filtered) - IR: 25 sec
T90 alarm threshold	SC: 215 sec (filtered) - IR: 90 sec	SC: 215 sec (filtered) - IR: 90 sec
Recovery time	SC: 600 sec - IR: 210 sec	SC: 600 sec - IR: 210 sec
On-site alarm	light (red LED) / acoustic (buzzer)	light (red LED) / acoustic (buzzer)
Consumption (at 12V)	SC: 153mA - IR: 136mA	SC: 153mA - IR: 136mA
Power supply	12-24V~/~ ±20% 50/60Hz	12-24V~/~ ±20% 50/60Hz

Dimensions



Memory 1000

Recording and printing temperature



Codes	Description	Temperature input
M1K04N03D1X00	MEMORY 1040 F*	4
M1K04N03D0X00	MEMORY 1045 F	4
M1K08N03D1X00	MEMORY 1080 F*	8
M1K08N03D0X00	MEMORY 1085 F	8
M1K26N03D1X00	MEMORY 1080 F 2AI*	8
M1K26N03D0X00	MEMORY 1085 F 2AI	8
M1K26N03D1X00	MEMORY 1180/15 F 2AI*	8
M1K26N03D0X00	MEMORY 1185/15 F 2AI	8
RC444444	Thermal paper roll	

* models with printer

Applications

Memory1000 is available in a wide range of models, combining the capabilities of a monitoring system with the ease-of-use of a data logger to satisfy a range of customer requirements.

Common features

Powerful and easy to use thanks to:	Manages all aspects of network controller alarms
• fast data download on SD CARD, without using the PC	12 months+ data logging capacity
• soft key to enter the report printing menu directly	A wide range of models to fit all application requirements
Compatible with RadioAdapter wireless networks	Up to 10 digital and analogue inputs

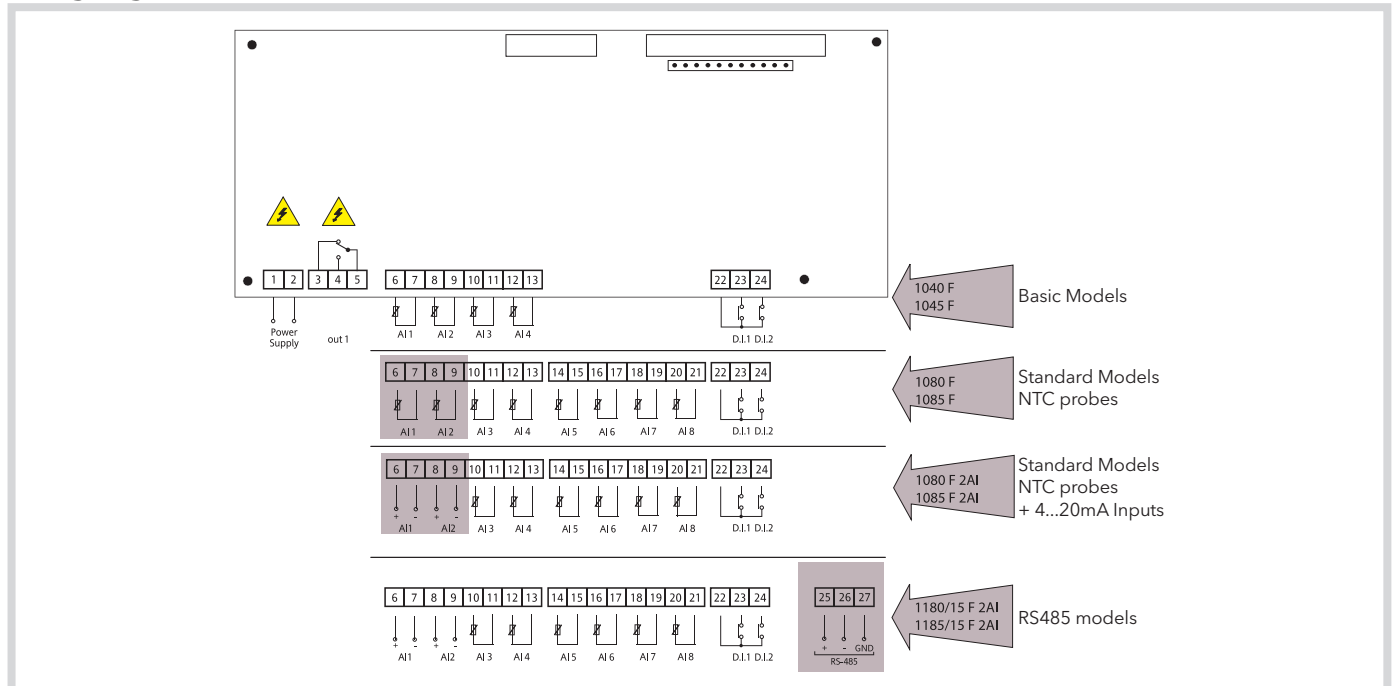
Technical data

	Memory 1000 with printer	Memory 1000 without printer
User interface	Backlit graphic LCD 8 polycarbonate keys	Backlit graphic LCD 7 polycarbonate keys
Analogue inputs	• max 8 NTC / 4 NTC based on model • max 2 4...20 mA (only for 2AI models)	• max 8 NTC / 4 NTC based on model • max 2 4...20 mA (only for 2AI models)
Digital inputs	2 fixed D.I. Max 8 / 4 configurable based on model	2 fixed D.I. Max 8 / 4 configurable based on model
Digital outputs	1 SPDT 5(2)A 250V~	1 SPDT 5(2)A 250V~
Connectivity	RS-485 port for input expansion via compatible Eliwell Televis controllers RS-232 port for exporting data using Microsoft Windows® software (supplied) SD memory card slot for downloading data	RS-485 port for input expansion via compatible Eliwell Televis controllers RS-232 port for exporting data using Microsoft Windows® software (supplied) SD memory card slot for downloading data
Clock	present	present
Buzzer	present	present
Power consumption	20W max (printer in use)	5W max
Power supply	230V~ ±10% 50/60Hz	230V~ ±10% 50/60Hz
Printer	Integrated thermal printer	-

Accessories

Codes	Description
RC444444	Thermal paper roll

Wiring diagrams



SerialAdapter - LanAdapter

Connectivity modules for systems



Codes	Description
SAT1AMM100000	SerialAdapter 232
LA0ET00X700	Ethernet LanAdapter
LA1WF00X300	LanAdapter WiFi 802.11n

Applications

SerialAdapter is a galvanically isolated RS-232/RS-485 adapter to be used on networks with **TelevisGo**.

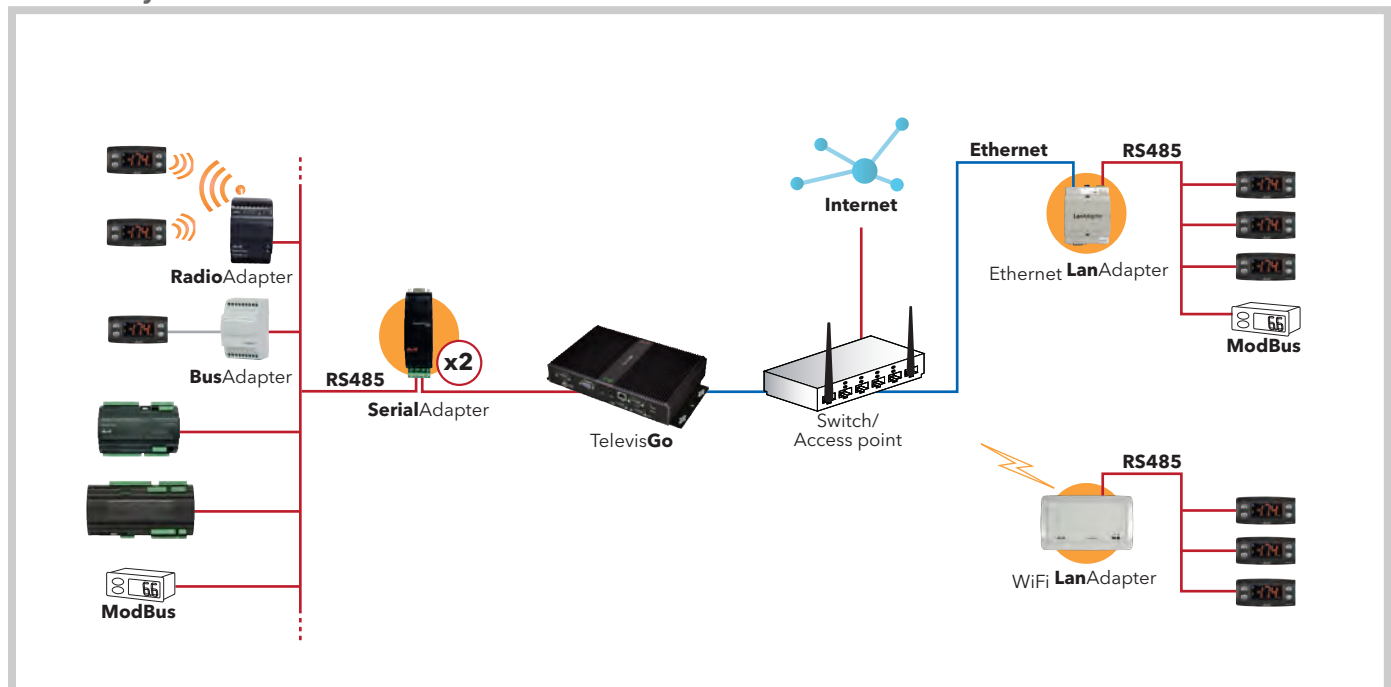
LanAdapter is an Ethernet/RS-485 (or TTL) interface module enabling communication between a LAN and a network of instruments compatible with the **Televis** protocol. In this way, the LAN network monitoring system can manage data, alarms and connected instrument network functions. The **LanAdapter** can be configured via web pages accessible from any PC belonging to the LAN the **LanAdapter** is connected to.

Features

RS-232, Ethernet and WiFi connectivity	Multiple networks using existing LAN infrastructures
Up to 2 SerialAdapter networks with TelevisGo	Televis and ModBus protocol compatibility

General technical specifications	SerialAdapter	Ethernet LanAdapter	WiFi LanAdapter
Casing:	plastic, 2 DIN modules	plastic, 4 DIN modules	plastic
Installation:	on DIN Omega bar support	on DIN Omega bar support	wall
Power supply:	12V $\overline{=}$ through TelevisGo serial port	100-240Vac \pm 10% 50/60Hz	12 Vac \pm 10 % 50/60 Hz
Power consumption:	-	4W max	4W max
Insulation class:	-	II	II
Ambient operating temperature:	-5...+55°C	0...+55°C	0...+55°C
Storage ambient temperature:	-30...+75°C	-20...+85°C	-20...+85°C
Ambient humidity operation and storage humidity:	10...90% RH (non-condensing)	10...90% RH (non-condensing)	10...90% RH (non-condensing)
Terminals:	screw terminals to connect electric cables with a section of max. 2.5 mm2 (one connector per terminal).	screw terminal to connect electric cables with a section of max. 2.5 mm2 (one wire per terminal). RJ-45 connector for connection to Ethernet network	<ul style="list-style-type: none"> screw terminal block for conductors \leq 2.5 mm2 (14 AWG) disconnectable terminals for conductors \leq 1.5mm2 (16 AWG)
Connections:	<ul style="list-style-type: none"> RS-485 port for connection to TelevisSystem 	<ul style="list-style-type: none"> RS-485 port for connection to TelevisSystem TTL port for connection to instruments LAN 10/100 MBps 	<ul style="list-style-type: none"> RS-485 serial port for ModBus connection WiFi: IEEE 802.11b/g/n

Connectivity



RadioAdapter (/S) - RadioKey

Wireless connectivity modules



Codes	Description
BARF0TT00NH00	RadioAdapter V2.0
BARF0DT00NH00	RadioAdapter/S V2.0
CCA0B0T01T000	RadioKey (Televis)
CCA0B0T01Mx00	RadioKey (ModBus RTU)

x = based on setting of ModBus RTU serial:

0: 9600, 8, N, 1 - **1:** 9600, 8, O, 1 - **2:** 9600, 8, E, 1 - **3:** 19200, 8, N, 1

4: 19200, 8, O, 1 - **5:** 19200, 8, E, 1

Applications

RadioAdapter provides a cost-effective, reliable way of building communication networks between monitoring systems and controllers by replacing cables or extending existing networks.

RadioKey is a device needed to configure the network.

Common features

Frequency band: ISM 2.400 GHz...2.485 GHz

Ability to act as a repeater for adjacent nodes

MESH communication technology with automatic directory selection

EC certification for European market

Extensive surface coverage

FCC certification for American market

General technical specifications	RadioAdapter RadioAdapter/S	RadioKey
Casing:	3 DIN modules	-
Installation:	on DIN Omega bar support	-
Power supply:	100...240Vac ±10% 50/60Hz	-
Power consumption:	2W	-
Insulation class:	II	-
Ambient operating temperature:	-5...+60°C	-
Storage ambient temperature:	-20...+85°C	-
Ambient humidity operation and storage humidity:	10...90% RH (non-condensing)	10...90% RH (non-condensing)
Operating class:	Class 4, ISA classification SP100.11 (not to be used for safety equipment)	-
Type of network:	MESH	-
Protocol supported:	Televis or ModBus RTU	-
Number of nodes per network:	100 max.	-
Number of controllers per node:	240 max.	-
Radio response time:	800msec max.	-
Connections:	TTL port for connection to RS-485 serial port devices - just models /S	-
Antenna:	2.4GHz integrated, multi-directional	-
Accessories/notes:	-	needed for network configuration. Available for Televis or ModBus RTU networks

Wiring diagrams



BusAdapter 130 - 150

RS-485 opto isolator connectivity modules



Codes	Description	Details
BA11250N3700	BusAdapter 130	1.5 m cable
BA10000R3700	BusAdapter 150	1.5 m cable
BA00000XD000	BusAdapter 150 DONGLE	30 cm cable

Applications

BusAdapter 130 and 150 is a family of devices used to connect Eliwell controllers to wired supervision and monitoring networks in RS-485 mode.

Features

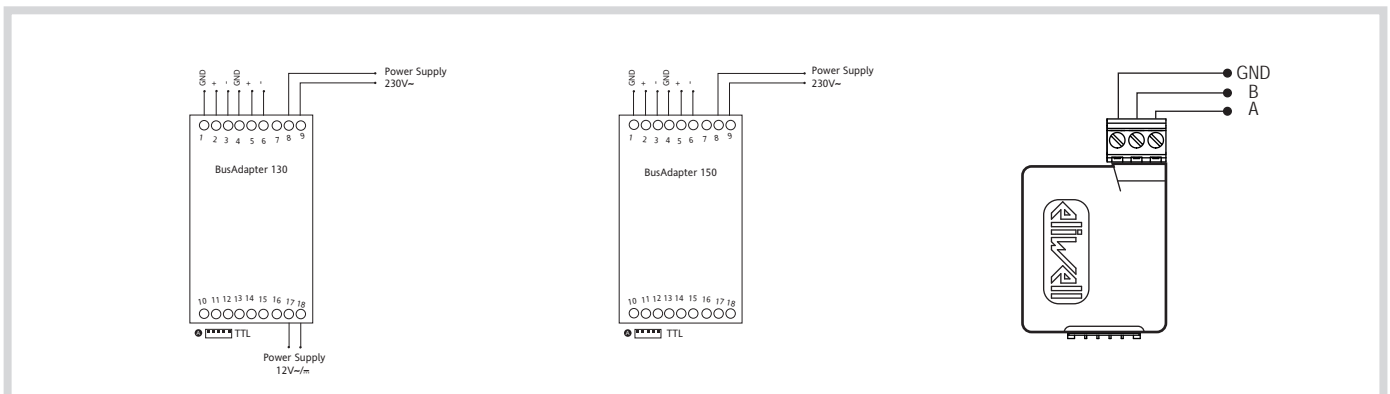
130 models have an auxiliary 12V (5 VA) output to power the instrument.

150 models are equipped with reinforced electric insulation

The **150 DONGLE models** are powered directly from the controller and are not isolated. Check the list of compatible controllers on the website www.eliwell.com

Technical data	BusAdapter 130	BusAdapter 150	BusAdapter 150 DONGLE
Container	3 DIN modules	3 DIN modules	47x31x22 mm (LxHxD)
Installation	on DIN Omega bar support	on DIN Omega bar support	free
Power supply	230Vac / 115Vac \pm 10% 50/60Hz	230Vac / 115Vac \pm 10% 50/60Hz	/
Power consumption	6W	1.5W	/
Insulation class	II	II	/
Ambient operating temperature	-5...+55°C	-5...+60°C	-20...60 °C
Storage ambient temperature	-30...+75°C	-30...+75°C	-30...85 °C
Ambient operation and storage humidity	10...90% RH (non-condensing)	10...90% RH (non-condensing)	10...90% RH (non-condensing)
Terminals	screw-on terminal block to connect electric cables with a section of max. 2.5 mm ² (one wire per terminal for power connections)	screw-on terminal block to connect electric cables with a section of max. 2.5 mm ² (one wire per terminal for power connections)	screw terminals to connect electric cables with a section of max. 2.5 mm ²
Connectivity	<ul style="list-style-type: none"> double RS-485 port for connection to TelevisSystem TTL port for connection to instruments 	<ul style="list-style-type: none"> double RS-485 port for connection to TelevisSystem TTL port for connection to instruments 	<ul style="list-style-type: none"> RS-485 for connection to TelevisSystem TTL port for connection to instruments
Baud rate	2400...9600 Baud	2400...9600 Baud	2400...9600 Baud
Auxiliary output	12Vac/ \pm 10% 50/60Hz	/	/

Wiring diagrams



Modem GSM/GPRS

Modems



Codes

SAMGPRS35AL00

Description

GSM/GPRS W/ANT PSU MODEM KIT
Includes: power supply unit (European 10A plug) + antenna with 1.5m cable

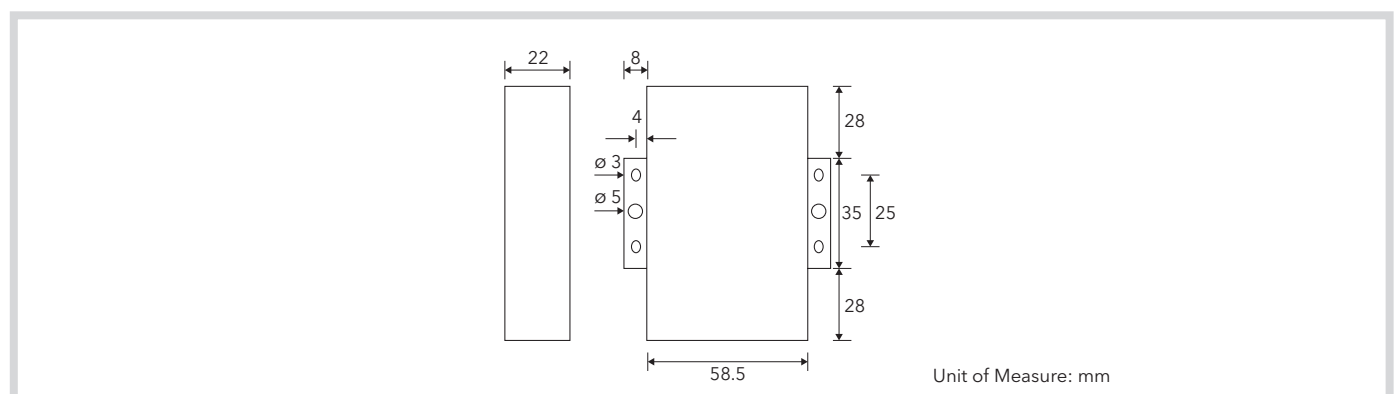
Applications

The GSM/GPRS modem can be used to send text messages and for backup connectivity.

Technical Data

	Modem GSM/GPRS
Case:	Metal
Dimensions:	91x58.5x22 mm (BxHxD)
Weight:	195g
Frequency bands:	EGSM900/GSM1800MHz, GSM850/900/1800
GSM standard:	GSM phase 2/2+
GPRS standard:	class 10 - 85.6Kbps
Transmission power:	GSM850/900: <33dBm; GSM1800: <30dBm
Reception sensitivity:	<-107dBm
Connections:	<ul style="list-style-type: none"> • DB9 port RS-232 serial port, with 15KV ESD protection • SMA 50 Ohm antenna connection, female connector • connector powering 3-pole jack with protection for overvoltages and inverted polarity • SIM/USIM 3V/1.8V slot with 15KV ESD protection
Power supply:	5...35V $\bar{=}$ 12V
Power consumption:	<200mA (12V)
Serial configuration:	Speed 110 ... 230400 bps 5, 6, 7, 8 data bits 1, 1.5, 2 stop bit Parity none, even, odd, space, mark
Operating temperature:	-25...+65°C (-13...+149°F)
Storage temperature:	-40...+85°C (-40...+185°F)
Operation and storage humidity:	10...95% RH (non-condensing)

Dimensions



ELECTROMECHANICAL COMPONENTS

Eliwell is expanding its range of high quality and extremely reliable electromechanical products.

Pressure switches, thermostats, reversing valves, plus temperature, humidity and pressure probes: devices designed to allow increasingly high levels of productivity in terms of the user's work.

D16P

Adjustable single pressure controllers



Applications

D16P are electromechanical pressure controllers for high and low pressure, equipped with an SPDT switch that closes and opens as the pressure increases or decreases.

Technical data	D16P	
Compatible refrigerants	R22, R407A, R407C, R134a, R404A, R410A, **	
Maximum Temperature System (TS)	120 °C (248 °F)	
Working ambient temperature	-40 ...65 °C (-40 ... 149 °F)	
Storage and transport conditions	-40 ...70 °C (-40 ... 158 °F) 10...90 %RH (no condensing)	
Contact configuration	SPDT	
Electrical load and rated current	ENEC 16 (16) A resistive inductive 240 Vac 1(1) A resistive inductive 240 Vac	UL 16 FLA - 96 LRA 240 Vac 3 HP 240 Vac 2 HP 120 Vac
Degree of protection provided by enclosure	IP44 automatic reset with top cover IP30 manual reset with top cover IP20 without top cover	
Maximum Pressure System (PS)	RANGE -0.3 ... 7 bar (-4.35 ... 101 psi) 7 ... 20 bar (101 ... 290 psi) 7 ... 31 bar (101 ... 449 psi) 10 ... 45 bar (145 ... 652 psi)	PS 17 bar (246 psi) 25 bar (362 psi) 35 bar (507 psi) 50 bar (725 psi)
Burst Pressure	RANGE -0.3 ... 7 bar (-4.35 ... 101 psi) 7 ... 20 bar (101 ... 290 psi) 7 ... 31 bar (101 ... 449 psi) 10 ... 45 bar (145 ... 652 psi)	BURST PRESSURE 80 bar (1160 psi) 100 bar (1450 psi) 140 bar (2030 psi) 200 bar (2900 psi)
Mounting	Threaded holes on back of the case for M4x5 screws	
Adjustment	hexagonal headshape and cross profile screws, for range and differential	

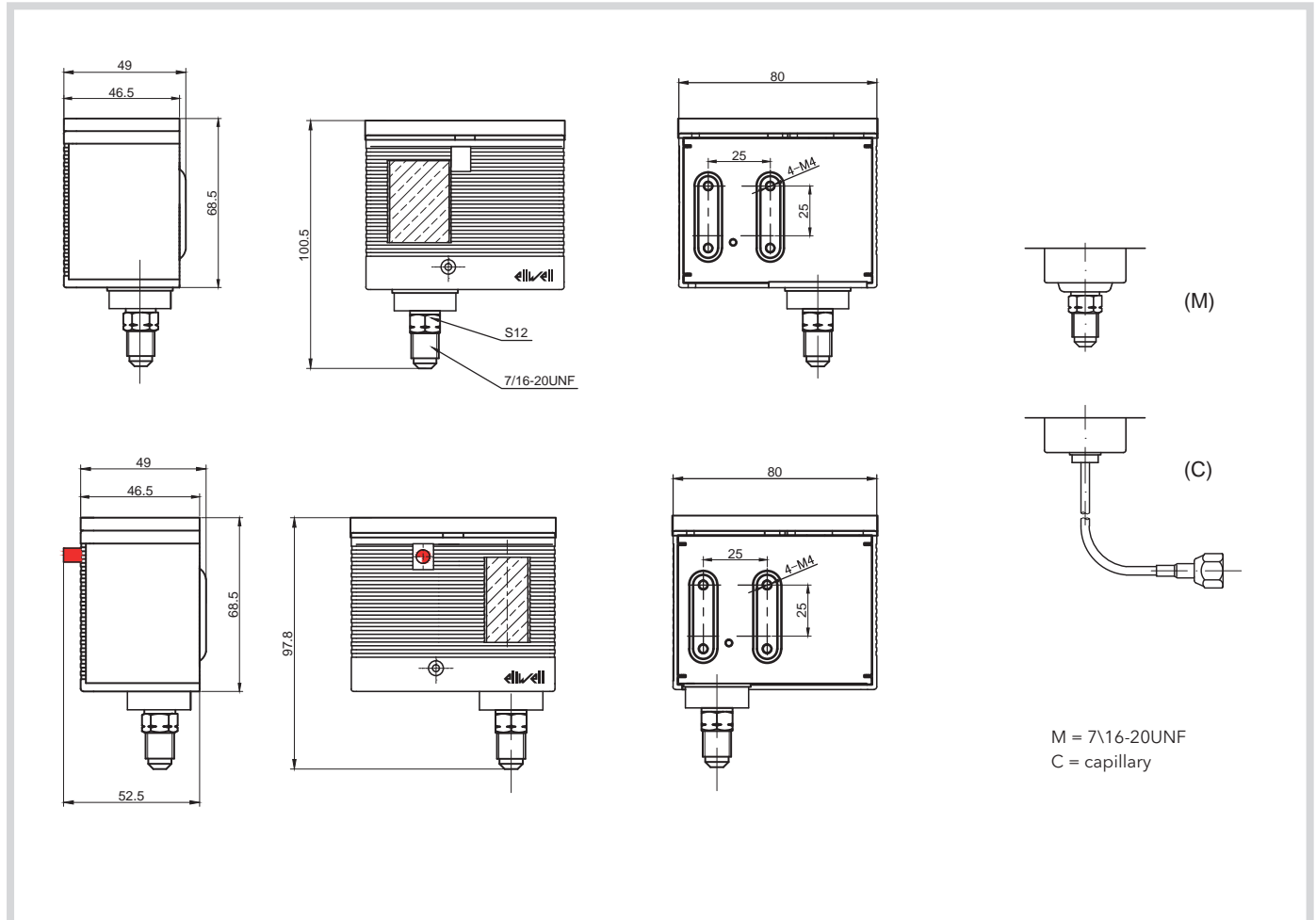
** please contact Eliwell sales dept. for not listed refrigerants.

D16P

Adjustable single pressure controllers

code	type	pressure range bar (psi)	differential bar (psi)	reset	fitting	accessories included in standard individual packing
D16P07A01MS200	Low press control auto reset	-0.3...7 (-0.4...100)	Adjustable 0.6...4 (9...58)	Automatic	Male 7/16-20UNF	top cover, knob, Instruction Sheet
D16P07A01CS200	Low press control auto reset	-0.3...7 (-0.4...100)	Adjustable 0.6...4 (9...58)	Automatic	Capillary & Flare Nut 1mt	top cover, knob, Instruction Sheet
D16P07M01MS200	Low press control manual reset	-0.3...7 (-0.4...100)	fixed ≥ 0.6 (9)	Manual	Male 7/16-20UNF	top cover, knob, Instruction Sheet
D16P07M01CS200	Low press control manual reset	-0.3...7 (-0.4...100)	fixed ≥ 0.6 (9)	Manual	Capillary & Flare Nut 1mt	top cover, knob, Instruction Sheet
D16P20A01MS200	Fan press control auto reset	7...20 (100...290)	Adjustable 1.5...6 (21...87)	Automatic	Male 7/16-20UNF	top cover, knob, Instruction Sheet
D16P20A01CS200	Fan press control auto reset	7...20 (100...290)	Adjustable 1.5...6 (21...87)	Automatic	Capillary & Flare Nut 1mt	top cover, knob, Instruction Sheet
D16P30A01MS200	high press control auto reset	7...31 (100...450)	Adjustable 2...8 (35...115)	Automatic	Male 7/16-20UNF	top cover, knob, Instruction Sheet
D16P30A01CS200	high press control auto reset	7...31 (100...450)	Adjustable 2...8 (35...115)	Automatic	Capillary & Flare Nut 1mt	top cover, knob, Instruction Sheet
D16P30M01MS200	high press control man. reset	7...31 (100...450)	fixed ≥ 3.0 (45)	Manual	Male 7/16-20UNF	top cover, knob, Instruction Sheet
D16P30M01CS200	high press control manual reset	7...31 (100...450)	fixed ≥ 3.0 (45)	Manual	Capillary & Flare Nut 1mt	top cover, knob, Instruction Sheet
D16P45A01MS200	high press control auto reset	10...45 (145...650)	Adjustable 5...15 (70...215)	Automatic	Male 7/16-20UNF	top cover, knob, Instruction Sheet
D16P45M01MS200	high press control manual reset	10...45 (145...650)	fixed ≥ 4.0 (58)	Manual	Male 7/16-20UNF	top cover, knob, Instruction Sheet

Dimensions



D17P

Adjustable dual pressure controllers



Applications

D17P are electromechanical dual pressure controllers for high and low pressure, equipped with 2 independent SPDT switches that closes and opens as the pressure increases or decreases.

Technical data

D17P

Compatible refrigerants	R22, R407A, R407C, R134a, R404A, R410A **	
Maximum Temperature System (TS)	120 °C (248 °F)	
Working ambient temperature	-40 ...65 °C (-40 ... 149 °F)	
Storage and transport conditions	-40 ...70 °C (-40 ... 158 °F) 10...90 %RH (no condensing)	
Contact configuration	2 x SPDT	
Electrical load and rated current	ENEC 16 (16) A resistive inductive 240 Vac 1(1) A resistive inductive 240 Vac	UL 16 FLA - 96 LRA 240 Vac 3 HP 240 Vac 2 HP 120 Vac
Degree of protection provided by enclosure	IP44 automatic reset with top cover IP30 manual reset with top cover IP20 without top cover	
Maximum Pressure System (PS)	RANGE -0.3 ... 7 bar (-4.35 ... 101 psi) 7 ... 31 bar (101 ... 449 psi) 10 ... 45 bar (145 ... 652 psi)	PS 17 bar (246 psi) 35 bar (507 psi) 50 bar (725 psi)
Burst Pressure	RANGE -0.3 ... 7 bar (-4.35 ... 101 psi) 7 ... 31 bar (101 ... 449 psi) 10 ... 45 bar (145 ... 652 psi)	BURST PRESSURE 80 bar (1160 psi) 140 bar (2030 psi) 200 bar (2900 psi)
Mounting	Threaded holes on back of the case for M4x5 screws	
Adjustment	hexagonal headshape and cross profile screws, for range and differential	

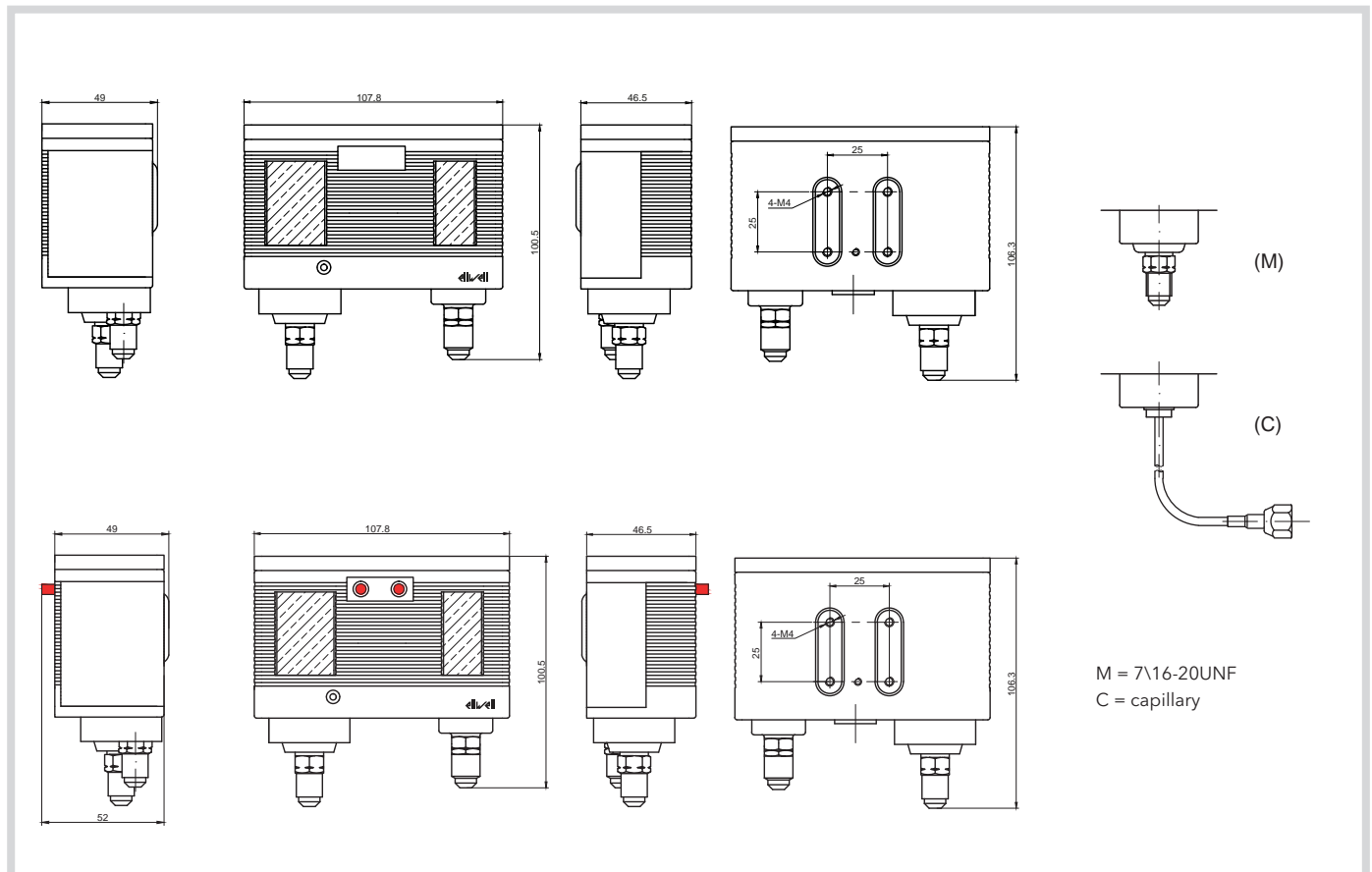
** please contact Eliwell sales dept. for not listed refrigerants.

D17P

Adjustable dual pressure controllers

code	type	pressure range bar (psi)	differential bar (psi)	reset	fitting	accessories included in standard individual packing
D17P30AA1MS200	Dual press control auto-auto reset	-0.3...7; 7...31 (-0.4...100; 100...450)	LP Adjustable 0.6...4 (9...58); HP fixed ≥ 3.0 (45)	Automatic - Automatic	Male 7/16-20UNF	top cover, knob, Instruction Sheet
D17P30AA1CS200	Dual press control auto-auto reset	-0.3...7; 7...31 (-0.4...100; 100...450)	LP Adjustable 0.6...4 (9...58); HP fixed ≥ 3.0 (45)	Automatic - Automatic	Capillary & Flare Nut 1mt	top cover, knob, Instruction Sheet
D17P30AM1MS200	Dual press control auto-manual reset	-0.3...7; 7...31 (-0.4...100; 100...450)	LP Adjustable 0.6...4 (9...58); HP fixed ≥ 3.0 (45)	Automatic - Manual HP	Male 7/16-20UNF	top cover, knob, Instruction Sheet
D17P30AM1CS200	Dual press control auto-manual reset	-0.3...7; 7...31 (-0.4...100; 100...450)	LP Adjustable 0.6...4 (9...58); HP fixed ≥ 3.0 (45)	Automatic - Manual HP	Capillary & Flare Nut 1mt	top cover, knob, Instruction Sheet
D17P30MM1MS200	Dual press control manual-manual reset	-0.3...7; 7...31 (-0.4...100; 100...450)	LP fixed 0.6 (9); HP fixed ≥ 3.0 (45)	Manual - Manual	Male 7/16-20UNF	top cover, knob, Instruction Sheet
D17P30MM1CS200	Dual press control manual-manual reset	-0.3...7; 7...31 (-0.4...100; 100...450)	LP fixed 0.6 (9); HP fixed ≥ 3.0 (45)	Manual - Manual	Capillary & Flare Nut 1mt	top cover, knob, Instruction Sheet
D17P45AA1MS200	Dual press control auto-auto reset	-0.3...7; 10...45 (-0.4...100; 145...650)	LP Adjustable 0.6...4 (9...58); HP fixed ≥ 4.0 (58)	Automatic - Automatic	Male 7/16-20UNF	top cover, knob, Instruction Sheet
D17P45AM1MS200	Dual press control auto-manual reset	-0.3...7; 10...45 (-0.4...100; 145...650)	LP Adjustable 0.6...4 (9...58); HP fixed ≥ 4.0 (58)	Automatic - Manual HP	Male 7/16-20UNF	top cover, knob, Instruction Sheet

Dimensions



D16T

Adjustable temperature controllers



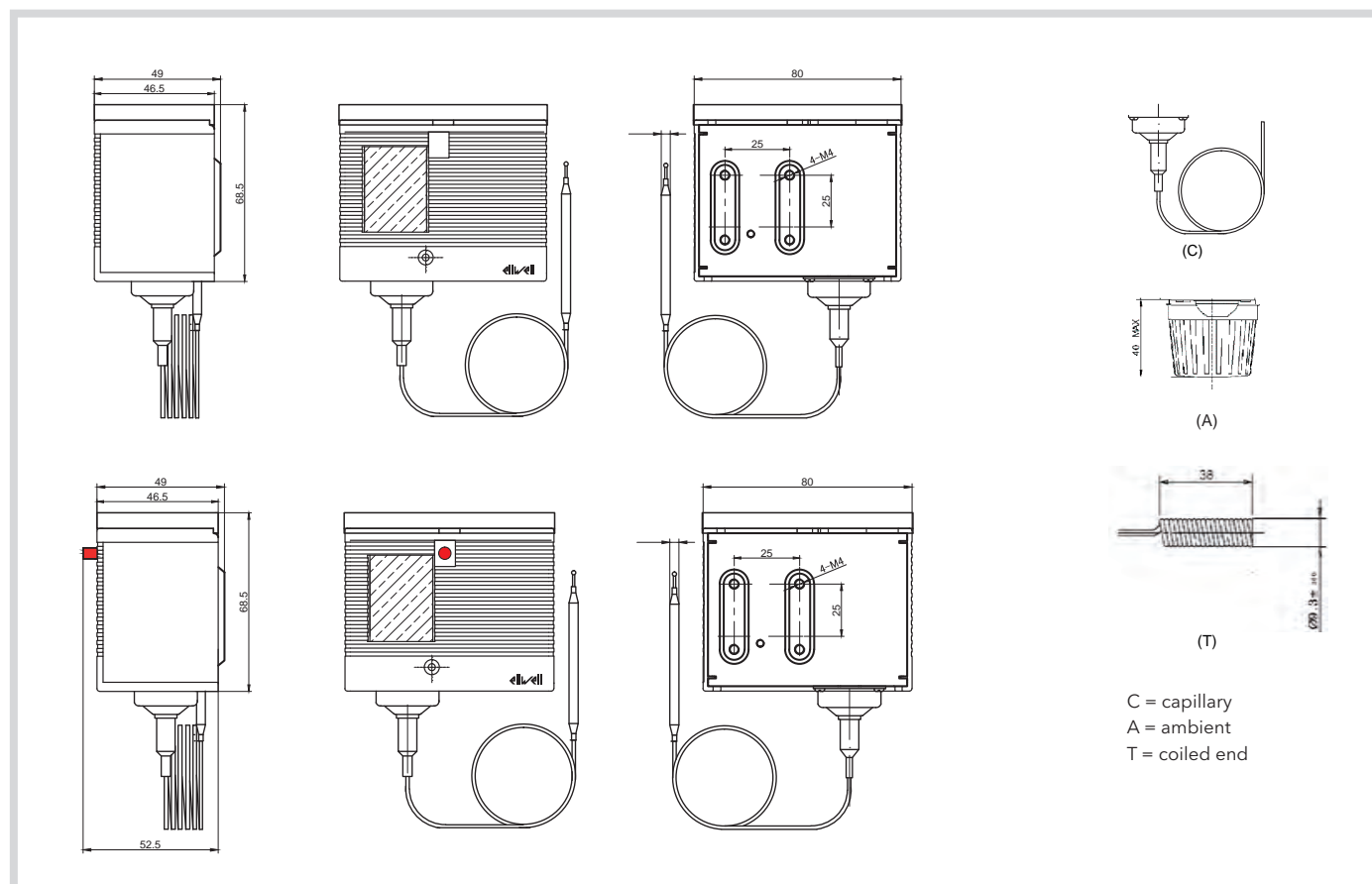
Applications

D16T are electromechanical temperature controllers equipped with an SPDT switch that closes and opens as the temperature increases or decreases.

Technical data

D16T									
Working ambient temperature	-40 ...65 °C (-40 ... 149 °F)								
Storage and transport conditions	-40 ...70 °C (-40 ... 158 °F) 10...90 %RH (no condensing)								
Contact configuration	SPDT								
Electrical load and rated current	<table border="1"> <thead> <tr> <th>ENEC</th> <th>UL</th> </tr> </thead> <tbody> <tr> <td>16 (16) A resistive inductive 240 Vac</td> <td>16 FLA - 96 LRA 240 Vac</td> </tr> <tr> <td>1(1) A resistive inductive 240 Vac</td> <td>3 HP 240 Vac</td> </tr> <tr> <td></td> <td>2 HP 120 Vac</td> </tr> </tbody> </table>	ENEC	UL	16 (16) A resistive inductive 240 Vac	16 FLA - 96 LRA 240 Vac	1(1) A resistive inductive 240 Vac	3 HP 240 Vac		2 HP 120 Vac
ENEC	UL								
16 (16) A resistive inductive 240 Vac	16 FLA - 96 LRA 240 Vac								
1(1) A resistive inductive 240 Vac	3 HP 240 Vac								
	2 HP 120 Vac								
Degree of protection provided by enclosure	IP44 automatic reset with top cover IP30 manual reset with top cover IP20 without top cover								
Mounting	Threaded holes on back of the case for M4x5 screws								
Adjustment	hexagonal headshape and cross profile screws, for range and differential								

Dimensions



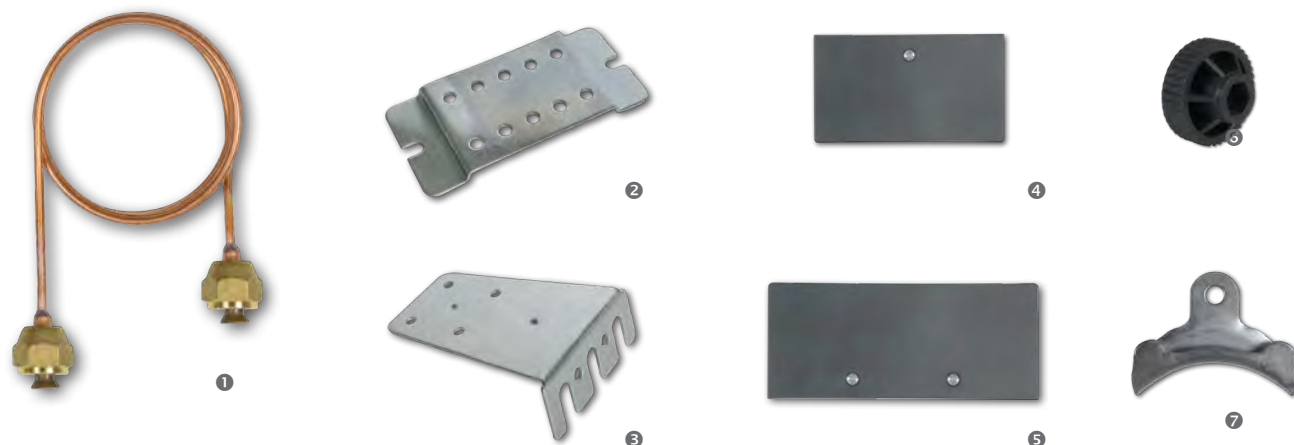
D16T

Adjustable temperature controllers

code	type	temperature range °C (°F)	differential °C (°F)	reset	sensor type	sensor length	accessories included in standard individual packing
D16T15AAC2S200	Temperature control auto-reset	-20\+15 (-4\+59)	adjustable 2...10 (3.6...18)	automatic	straight capillary	2m	top cover, knob, Instruction Sheet
D16T15AAC3S200	Temperature control auto-reset	-20\+15 (-4\+59)	adjustable 2...10 (3.6...18)	automatic	straight capillary	3m	top cover, knob, Instruction Sheet
D16T15AAC6S200	Temperature control auto-reset	-20\+15 (-4\+59)	adjustable 2...10 (3.6...18)	automatic	straight capillary	6m	top cover, knob, Instruction Sheet
D16T15AAC1S200	Temperature control auto-reset	-20\+15 (-4\+59)	adjustable 2...10 (3.6...18)	automatic	straight capillary	12m	top cover, knob, Instruction Sheet
D16T15AFC2S200	Temperature control auto-reset	-20\+15 (-4\+59)	fixed 2 (3.6)	automatic	straight capillary	2m	top cover, knob, Instruction Sheet
D16T15AFC3S200	Temperature control auto-reset	-20\+15 (-4\+59)	fixed 2 (3.6)	automatic	straight capillary	3m	top cover, knob, Instruction Sheet
D16T15AFC6S200	Temperature control auto-reset	-20\+15 (-4\+59)	fixed 2 (3.6)	automatic	straight capillary	6m	top cover, knob, Instruction Sheet
D16T15AFC1S200	Temperature control auto-reset	-20\+15 (-4\+59)	fixed 2 (3.6)	automatic	straight capillary	12m	top cover, knob, Instruction Sheet
D16T15MFC2S200	Temperature control manual-reset	-20\+15 (-4\+59)	fixed 2 (3.6)	manual	straight capillary	2m	top cover, knob, Instruction Sheet
D16T15MFC3S200	Temperature control manual-reset	-20\+15 (-4\+59)	fixed 2 (3.6)	manual	straight capillary	3m	top cover, knob, Instruction Sheet
D16T15MFC6S200	Temperature control manual-reset	-20\+15 (-4\+59)	fixed 2 (3.6)	manual	straight capillary	6m	top cover, knob, Instruction Sheet
D16T15MFC1S200	Temperature control manual-reset	-20\+15 (-4\+59)	fixed 2 (3.6)	manual	straight capillary	12m	top cover, knob, Instruction Sheet
D16T15AAT2S200	Temperature control manual-reset	-20\+15 (-4\+59)	adjustable 2...10 (3.6...18)	automatic	coiled end Ø 9.3x40mm	2mt overall	top cover, knob, Instruction Sheet
D16T15MFT2S200	Temperature control manual-reset	-20\+15 (-4\+59)	fixed 2 (3.6)	manual	coiled end Ø 9.3x40mm	2mt overall	top cover, knob, Instruction Sheet
D16T15AAB2S200	Temperature control auto-reset	-20\+15 (-4\+59)	adjustable 2...10 (3.6...18)	automatic	bulb Ø 6 x 70mm	2mt overall	top cover, knob, Instruction Sheet
D16T15AAA0S200	Temperature control auto-reset	-20\+15 (-4\+59)	adjustable 2...10 (3.6...18)	automatic	cage Ø 40mm	40mm	top cover, knob, Instruction Sheet
D16T15AFA0S200	Temperature control auto-reset	-20\+15 (-4\+59)	fixed 2 (3.6)	automatic	cage Ø 40mm	40mm	top cover, knob, Instruction Sheet
D16T25AAC2S200	Temperature control auto-reset	-10\+25 (+14\+77)	adjustable 5...10 (9...18)	automatic	straight capillary	2m	top cover, knob, Instruction Sheet
D16T25AAC3S200	Temperature control auto-reset	-10\+25 (+14\+77)	adjustable 5...10 (9...18)	automatic	straight capillary	3m	top cover, knob, Instruction Sheet
D16T25AAT2S200	Temperature control auto-reset	-10\+25 (+14\+77)	adjustable 5...10 (9...18)	automatic	coiled end Ø 9.3x40mm	2mt overall	top cover, knob, Instruction Sheet
D16T25AAB2S200	Temperature control auto-reset	-10\+25 (+14\+77)	adjustable 5...10 (9...18)	automatic	bulb Ø 6 x 70mm	2mt overall	top cover, knob, Instruction Sheet
D16T25AAA0S200	Temperature control auto-reset	-10\+25 (+14\+77)	adjustable 5...10 (9...18)	automatic	cage Ø 40mm	40mm	top cover, knob, Instruction Sheet
D16T25AFA0S200	Temperature control auto-reset	-10\+25 (+14\+77)	fixed 2 (3.6)	automatic	cage Ø 40mm	40mm	top cover, knob, Instruction Sheet
D16T40AAA0S200	Temperature control auto-reset	+5\+40 (+41\+104)	adjustable 2...10 (3.6...18)	automatic	cage Ø 40mm	40mm	top cover, knob, Instruction Sheet
D16T40AAB2S200	Temperature control auto-reset	+5\+40 (+41\+104)	adjustable 2...10 (3.6...18)	automatic	bulb Ø 10 x 80mm	2mt overall	top cover, knob, Instruction Sheet
D16T05AAT2S200	Temperature control auto-reset	-40\+5 (-40\+23)	adjustable 2...10 (3.6...18)	automatic	coiled end Ø 9.3x40mm	2mt overall	top cover, knob, Instruction Sheet

Accessories D Controls

Accessories for D pressure and temperature controllers



Code	Description	Note
D00P00FN110200	① D controls coupling 1.0mt w/o valve	D16P-D17P only
D00P00FN115200	D controls coupling 1.5mt w/o valve	D16P-D17P only
D00A00BF100200	② D controls flat mounting bracket	
D00A00BA100200	③ D controls angle mounting bracket	
D00A00TC116200	④ D16 top cover	
D00A00TC117200	⑤ D17 top cover	
D00A00KN100200	⑥ D controls adjusting knob	
D00T0MCC100200	⑦ D controls capillary clip metal	D16T only

NSD

Fixed setting pressure switches



Applications

The NSD range of electromechanical pressure switches with fixed setting are compact, lightweight and easy to install.

They are products designed to protect refrigeration systems against critical conditions by setting high or low pressure limits. The stainless steel control element is designed so as to ensure a better life of the product with high performance.

Thanks to the modern construction technology, NSD pressure switches offer the best solutions for applications in refrigeration systems, residential and commercial air conditioning, automotive, ice machines, etc.

They can also be used to control the pressure in hydraulic or steam systems, in air compressors and in industrial equipment.

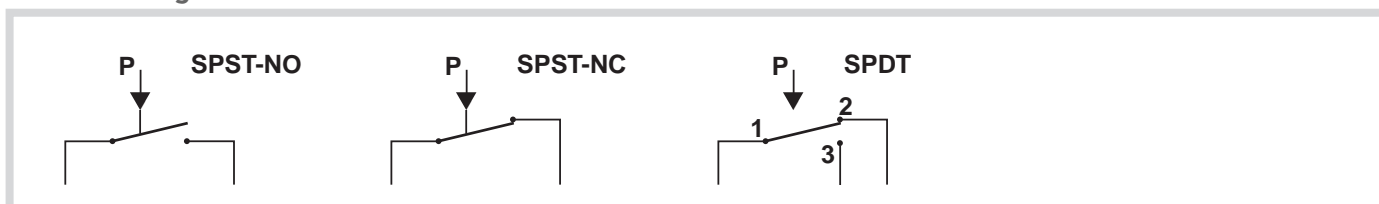
Technical data

	NSD
Compatible refrigerants:	HCFC, HFC, HFO, HC and respective lubricant oils, CO ₂
Contacts configuration:	SPST-NO, SPST-NC, SPDT
Reset:	Automatic or manual
Standard electrical connections:	Fast-on 1/4" (6.35 mm) 1.0 m cable UL1015 (0.82 mm ² / 18 AWG) Other types of electrical connections upon request
Standard pressure fitting:	7/16-20 UNF with depressor Other types of fittings upon request
Contact resistance:	< 50 mΩ
Dispersion current:	< 0.75 mA
Resistance to flame:	94V-0
Protection rating:	IP67 (versions with cable)
Ambient operating temperature:	-30°C...+80°C
Fluid temperature:	-54°C...+135°C
Storage and transport temperature:	-60°C...+105°C
Pressure range:	Automatic reset: -1 ... +55 bar (-14.50 ... 797.70 psi) Manual reset: 10 ... 55 bar (145.03 ... 797.70 psi) CO₂ applications: 90 ... 180 bar (1305.33 ... 2610.67 psi)
Max system pressure	0 ... 1.5 bar: 28 bar 1.5 ... 31 bar: 45 bar >31 bar: 1.43xWork Pressure
Available approvals:	VDE; UL; PED classification cat. IV

Load features

Models	Reset	Load type	Voltage	Load	Piloting service [VA]
NSDHM	Manual Reset - SPST	Motor	120 / 240 Vac	6 FLA - 36 LRA	---
		Motor	120 Vac	6 FLA - 36 LRA	375
NSDHA NSDHF NSDLA NSDCA	Automatic Reset - SPST	---	240 Vac	3 FLA - 18 LRA	---
		---	36 Vdc	3 A	---
		Motor	24 Vac	---	125
		Motor	120 Vac	6 FLA - 36 RLA	375
NSDHA NSDLA	Automatic Reset - SPDT	Resistive or inductive	240 Vac	6 FLA - 36 RLA	---
		---	250 Vac	6 A	---
		---	36 Vdc	3 A	---
		---	24 Vac	---	125
		Motor	120 Vac	6 FLA - 36 RLA	---
		Motor	240 Vac	3 FLA - 18 RLA	375
Inductive	250 Vac	3 A	---		

Contacts configuration



NSD

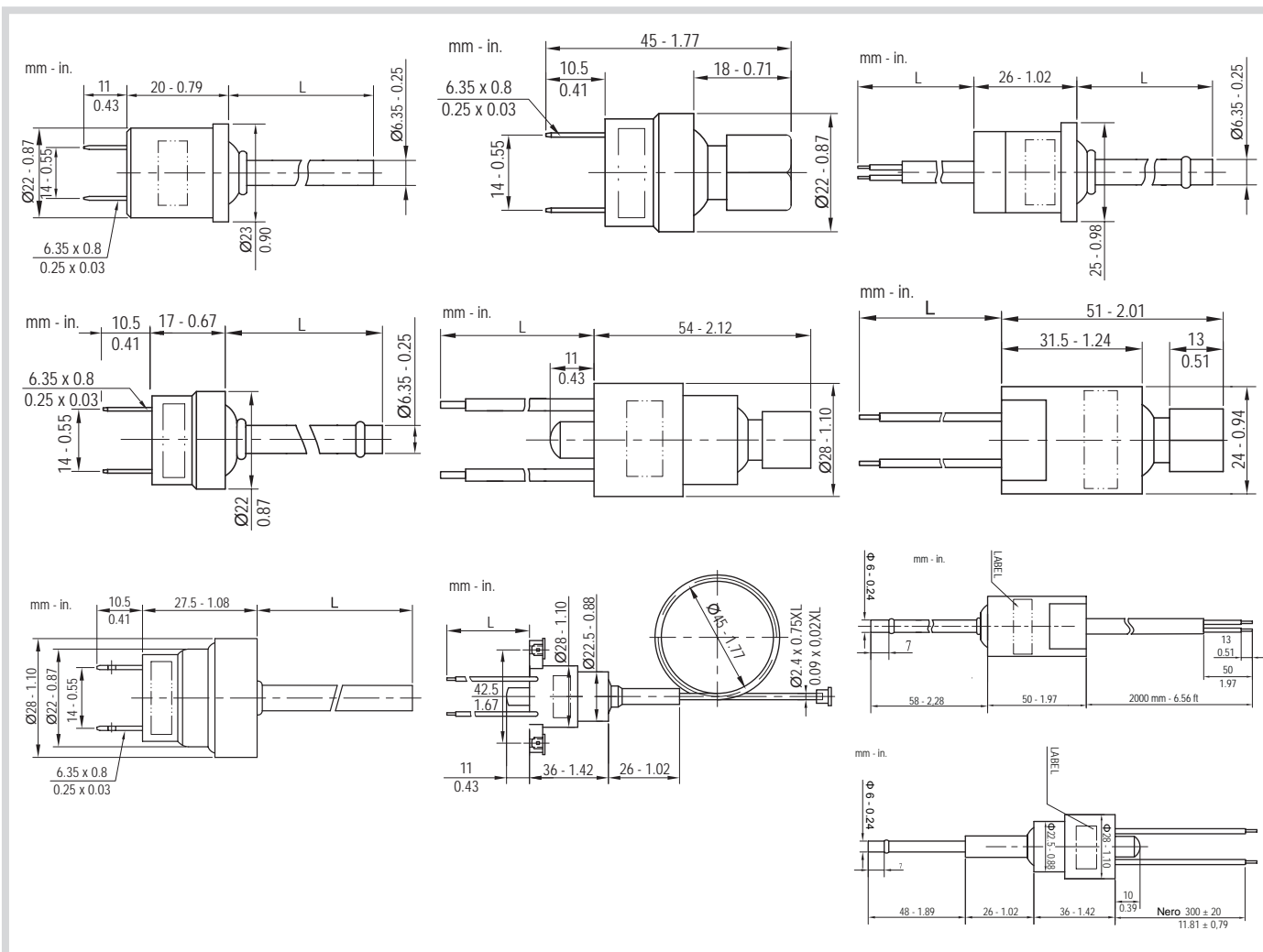
Fixed setting pressure switches



Code*	Application	Reset	Cut out (bar)	Cut in (bar)	Contact configuration	UL models family
NSDHA00B39101	High Pressure	automatic	18	13	SPST - NC	NSD03H
NSDHM00C39006		manual	18	13	SPST - NC	NSDM
NSDHA00B39107		automatic	24	18	SPST - NC	NSD03H
NSDHA00B39102		automatic	26	20	SPST - NC	NSD03H
NSDHA00B39103		automatic	28	21	SPST - NC	NSD03H
NSDHM00C39007		manual	28	21	SPST - NC	NSDM
NSDHA00B39104		automatic	42	33	SPST - NC	NSD03H
NSDHM00C39008		manual	42	33	SPST - NC	NSDM
NSDLA00A39112	Low Pressure	automatic	0.7	1.7	SPST - NO	NSD03L
NSDLA00A39100		automatic	1.7	2.7	SPST - NO	NSD03L
NSDLA00A39114		automatic	2.5	4.2	SPST - NO	NSD03L
NSDHF00A39103	Fan control	automatic	8.5	11	SPST - NO	NSD03H
NSDHF00A39104		automatic	13	16	SPST - NO	NSD03H
NSDCA11B32300	High pressure CO ₂	automatic	125	90	SPST - NC	//

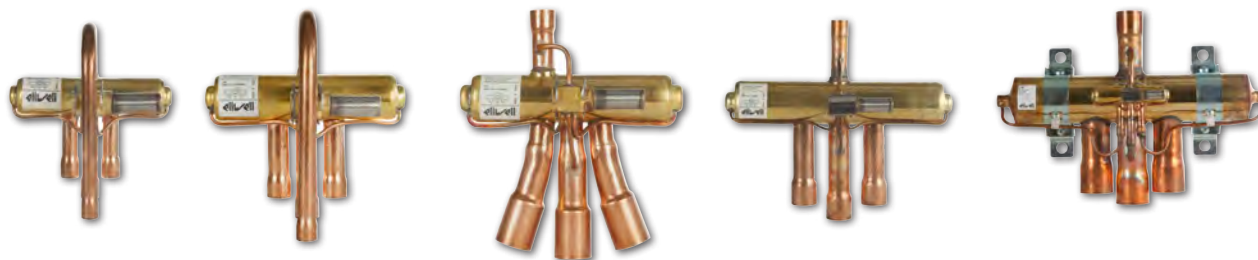
* Standard codes with 1 m cable length, and 1/4 SAE female connection with depressor

Dimensions



RV

4 ways reversing valves



Applications

The RV 4-way reversing valves are the key component to provide heating and cooling in a climate controlled space by reversing the refrigerant. They are used for air conditioning individual rooms, centralized air conditioning plants, monobloc air conditioners and CR units for defrosting applications.

Reversing valves are designed for systems with capacities from 1 kW up to 560 kW.

The valves are suitable for use with HCFC, HFC and HFO. RV00 to RV10 valves are suitable for use with HC refrigerants as well. **

The design of the valve also guarantees minimum pressure drop and very low leakage. The available models offer a wide range of connections, configurations and capacities for specific applications.

All models are individually packaged to ensure maximum flexibility for purchasing and usage.

** please contact Eliwell sales dept. for not listed refrigerants .

Direct action models

Code	Description	CAPACITY MIN - MAX (condions 1)									
		evaporating 7,2°C ; subcooling 5,0°C ; condensing 55°C ; superheat 5°C ; pressure drop 0,014MPa									
		R407C		R410A		R404A		R134A		R290	
		kW		kW		kW		kW		kW	
		min	max	min	max	min	max	min	max	min	max
RV00BD06050000	REV VALVE 0,5 UST 3/8 - 5/16 U DISCH	1,32	3,10	1,53	3,86	1,13	2,38	1,13	2,38	1,29	3,33
RV01AD06060000	REV VALVE 1 UST 3/8 - 3/8	1,39	4,62	1,73	6,01	1,48	4,22	1,39	3,91	1,48	5,17
RV01AD06050000	REV VALVE 1 UST 3/8 - 5/16	1,39	4,62	1,73	6,01	1,48	4,22	1,39	3,91	1,48	5,17
RV01AD08050000	REV VALVE 1 UST 1/2 - 5/16	1,39	4,62	1,73	6,01	1,48	4,22	1,39	3,91	1,48	5,17
RV01BD06050000	REV VALVE 1 UST 3/8 - 5/16 U DISCH	1,39	4,62	1,73	6,01	1,48	4,22	1,39	3,91	1,48	5,17
RV01BD06060000	REV VALVE 1 UST 3/8 - 3/8 U DISCH	1,39	4,62	1,73	6,01	1,48	4,22	1,39	3,91	1,48	5,17
RV01AD08060000	REV VALVE 1 UST 1/2 - 3/8	1,39	4,62	1,73	6,01	1,48	4,22	1,39	3,91	1,48	5,17
RV01BD08060000	REV VALVE 1 UST 1/2 - 3/8 U DISCH	1,39	4,62	1,73	6,01	1,48	4,22	1,39	3,91	1,48	5,17
RV02AD08060000	REV VALVE 2 UST 1/2 - 3/8	2,79	6,35	3,17	7,70	2,46	5,28	2,44	4,95	2,76	6,65
RV02BD08060000	REV VALVE 2 UST 1/2 - 3/8 U DISCH	2,79	6,35	3,17	7,70	2,46	5,28	2,44	4,95	2,76	6,65
RV02CD10060000	REV VALVE 2 UST 5/8 - 3/8	3,85	7,10	4,54	8,81	3,17	5,98	3,14	5,63	3,69	7,76
RV02DD10060000	REV VALVE 2 UST 5/8 - 3/8 U DISCH	3,85	7,10	4,54	8,81	3,17	5,98	3,14	5,63	3,70	7,76
RV03ED10080000	REV VALVE 3 UST 5/8 - 1/2	3,85	9,55	4,54	11,98	3,17	8,09	3,14	7,42	3,70	10,34
RV03ED12080000	REV VALVE 3 UST 3/4 - 1/2	3,85	9,90	4,54	12,35	3,17	8,44	3,14	7,78	3,70	11,08
RV03CD10080000	REV VALVE 3 UST 5/8 - 1/2 CENT DISCH	3,85	9,55	4,54	11,98	3,17	8,09	3,14	7,42	3,70	10,34
RV03DD10080000	REV VALVE 3 UST 5/8 - 1/2 U DISCH	3,85	9,55	4,54	11,98	3,17	8,09	3,14	7,42	3,70	10,34
RV06AD12080000	REV VALVE 6 UST 3/4 - 1/2	3,85	19,02	4,54	23,95	3,17	14,81	3,14	14,81	3,70	20,69
RV06AD14080000	REV VALVE 6 UST 7/8 - 1/2	3,85	19,02	4,54	23,95	3,17	14,81	3,14	14,81	3,70	20,69
RV06AD14100000	REV VALVE 6 UST 7/8 - 5/8	3,85	19,02	4,54	23,95	3,17	14,81	3,14	14,81	3,70	20,69
RV06AD14120000	REV VALVE 6 UST 7/8 - 3/4	3,85	19,02	4,54	23,95	3,17	14,81	3,14	14,81	3,70	20,69
RV10AD14080000	REV VALVE 10 UST 7/8 - 1/2	11,22	33,11	13,01	41,88	9,50	26,05	9,82	26,05	11,08	36,56
RV10AD14120000	REV VALVE 10 UST 7/8 - 3/4	11,22	33,11	13,01	41,88	9,50	26,05	9,82	26,05	11,08	36,56
RV10AD141200S0	REV VALVE 10 UST 7/8 - 3/5	11,22	33,11	13,01	41,88	9,50	26,05	9,82	26,05	11,08	36,56
RV10AD14140X00	REV VALVE 10 UST 7/8 - 7/8 FREE	11,22	33,11	13,01	41,88	9,50	26,05	9,82	26,05	11,08	36,56
RV10AD180M0000	REV VALVE 10 UST 1-1/8 - METRIC	17,21	37,67	19,71	47,51	14,41	32,36	14,41	32,36	16,62	41,36
RV10AD18120000	REV VALVE 10 UST 1-1/8 - 3/4	17,21	37,67	19,71	47,51	14,41	32,36	14,41	32,36	16,62	41,36
RV10AD18140000	REV VALVE 10 UST 1-1/8 - 7/8	17,21	37,67	19,71	47,51	14,41	32,36	14,41	32,36	16,62	41,36
RV10AD181400S0	REV VALVE 10 UST 1-1/8 - 7/9	17,21	37,67	19,71	47,51	14,41	32,36	14,41	32,36	16,62	41,36
RV12FD220T0000	REV VALVE 12 UST 1-3/8	22,83	46,82	26,35	58,94	19,34	40,09	18,97	36,96		
RV15AD18140000	REV VALVE 15 UST 1-1/8 - 7/8	15,81	54,54	15,81	61,58	12,31	40,80	12,28	40,83		

RV

4 ways reversing valves

Direct action models

Code	Description	CAPACITY MIN - MAX (condtions 2)									
		evaporating 4,4°C ; subcooling 0°C ; condensing 38°C ; superheat 5°C ; pressure drop 0,01MPa									
		R407C		R410A		R404A		R134A		R290	
		kW		kW		kW		kW		kW	
		min	max	min	max	min	max	min	max	min	max
RV00BD06050000	REV VALVE 0,5 UST 3/8 - 5/16 U DISCH	1,43	3,37	1,66	4,20	1,23	2,59	1,23	2,59	1,40	3,62
RV01AD06060000	REV VALVE 1 UST 3/8 - 3/8	1,51	5,02	1,88	6,53	1,61	4,59	1,51	4,25	1,61	5,62
RV01AD06050000	REV VALVE 1 UST 3/8 - 5/16	1,51	5,02	1,88	6,53	1,61	4,59	1,51	4,25	1,61	5,62
RV01AD08050000	REV VALVE 1 UST 1/2 - 5/16	1,51	5,02	1,88	6,53	1,61	4,59	1,51	4,25	1,61	5,62
RV01BD06050000	REV VALVE 1 UST 3/8 - 5/16 U DISCH	1,51	5,02	1,88	6,53	1,61	4,59	1,51	4,25	1,61	5,62
RV01BD06060000	REV VALVE 1 UST 3/8 - 3/8 U DISCH	1,51	5,02	1,88	6,53	1,61	4,59	1,51	4,25	1,61	5,62
RV01AD08060000	REV VALVE 1 UST 1/2 - 3/8	1,51	5,02	1,88	6,53	1,61	4,59	1,51	4,25	1,61	5,62
RV01BD08060000	REV VALVE 1 UST 1/2 - 3/8 U DISCH	1,51	5,02	1,88	6,53	1,61	4,59	1,51	4,25	1,61	5,62
RV02AD08060000	REV VALVE 2 UST 1/2 - 3/8	3,03	6,90	3,45	8,37	2,67	5,74	2,65	5,38	3,00	7,22
RV02BD08060000	REV VALVE 2 UST 1/2 - 3/8 U DISCH	3,03	6,90	3,45	8,37	2,67	5,74	2,65	5,38	3,00	7,22
RV02CD10060000	REV VALVE 2 UST 5/8 - 3/8	4,18	7,72	4,93	9,58	3,45	6,50	3,41	6,12	4,01	8,43
RV02DD10060000	REV VALVE 2 UST 5/8 - 3/8 U DISCH	4,18	7,72	4,93	9,58	3,45	6,50	3,41	6,12	4,02	8,43
RV03ED10080000	REV VALVE 3 UST 5/8 - 1/2	4,18	10,38	4,93	13,02	3,45	8,79	3,41	8,07	4,02	11,24
RV03ED12080000	REV VALVE 3 UST 3/4 - 1/2	4,18	10,76	4,93	13,42	3,45	9,17	3,41	8,46	4,02	12,04
RV03CD10080000	REV VALVE 3 UST 5/8 - 1/2 CENT DISCH	4,18	10,38	4,93	13,02	3,45	8,79	3,41	8,07	4,02	11,24
RV03DD10080000	REV VALVE 3 UST 5/8 - 1/2 U DISCH	4,18	10,38	4,93	13,02	3,45	8,79	3,41	8,07	4,02	11,24
RV06AD12080000	REV VALVE 6 UST 3/4 - 1/2	4,18	20,67	4,93	26,03	3,45	17,59	3,41	17,59	4,02	22,48
RV06AD14080000	REV VALVE 6 UST 7/8 - 1/2	4,18	20,67	4,93	26,03	3,45	17,59	3,41	17,59	4,02	22,48
RV06AD14100000	REV VALVE 6 UST 7/8 - 5/8	4,18	20,67	4,93	26,03	3,45	17,59	3,41	17,59	4,02	22,48
RV06AD14120000	REV VALVE 6 UST 7/8 - 3/4	4,18	20,67	4,93	26,03	3,45	17,59	3,41	17,59	4,02	22,48
RV10AD14080000	REV VALVE 10 UST 7/8 - 1/2	12,20	35,99	14,14	45,52	10,33	28,32	10,67	28,32	12,04	39,74
RV10AD14120000	REV VALVE 10 UST 7/8 - 3/4	12,20	35,99	14,14	45,52	10,33	28,32	10,67	28,32	12,04	39,74
RV10AD141200S0	REV VALVE 10 UST 7/8 - 3/5	12,20	35,99	14,14	45,52	10,33	28,32	10,67	28,32	12,04	39,74
RV10AD14140X00	REV VALVE 10 UST 7/8 - 7/8 FREE	12,20	35,99	14,14	45,52	10,33	28,32	10,67	28,32	12,04	39,74
RV10AD180M0000	REV VALVE 10 UST 1-1/8 - METRIC	18,71	40,95	21,42	51,64	15,66	35,17	15,66	35,17	18,07	44,96
RV10AD18120000	REV VALVE 10 UST 1-1/8 - 3/4	18,71	40,95	21,42	51,64	15,66	35,17	15,66	35,17	18,07	44,96
RV10AD18140000	REV VALVE 10 UST 1-1/8 - 7/8	18,71	40,95	21,42	51,64	15,66	35,17	15,66	35,17	18,07	44,96
RV10AD181400S0	REV VALVE 10 UST 1-1/8 - 7/9	18,71	40,95	21,42	51,64	15,66	35,17	15,66	35,17	18,07	44,96
RV12FD220T0000	REV VALVE 12 UST 1-3/8	24,82	50,89	28,64	64,07	21,02	43,58	20,62	40,17		
RV15AD18140000	REV VALVE 15 UST 1-1/8 - 7/8	17,18	59,28	17,18	66,93	13,38	44,35	13,35	44,38		

Models with pilot

Code	Description	CAPACITY MIN - MAX (condtions 1)									
		evaporating 7,2°C ; subcooling 5,0°C ; condensing 55°C ; superheat 5°C ; pressure drop 0,014MPa									
		R407C		R410A		R404A		R134A		R290	
		kW		kW		kW		kW		kW	
		min	max	min	max	min	max	min	max	min	max
RV20AP20160000	REV VALVE 20 UST 1-1/4 - 1	17,56	72,48	17,59	81,64	13,72	54,16	13,69	54,19		
RV20AP22180000	REV VALVE 20 UST 1-3/8 - 1-1/8	17,56	72,48	17,59	81,64	13,72	54,16	13,69	54,19		
RV30AP24200000	REV VALVE 30 UST 1-1/2 - 1-1/4	26,35	108,72	26,36	122,44	20,40	81,24	20,36	81,28		
RV40AP28240000	REV VALVE 40 UST 1-3/4 - 1-1/2	35,14	144,95	35,16	163,25	27,08	108,32	27,03	108,36		
RV40AP26240000	REV VALVE 40 UST 1-5/8 - 1-1/2	35,14	144,95	35,16	163,25	27,08	108,32	27,03	108,36		
RV50AP34240000	REV VALVE 50 UST 2-1/8 - 1-1/2	35,14	181,13	35,21	203,99	27,08	135,40	27,03	135,40		
RV60AP42260000	REV VALVE 60 UST 2-5/8 - 1-5/8	38,30	197,43	38,38	222,35	29,52	147,59	29,46	147,59		

Code	Description	CAPACITY MIN - MAX (condtions 2)									
		evaporating 4,4°C ; subcooling 0°C ; condensing 38°C ; superheat 5°C ; pressure drop 0,01MPa									
		R407C		R410A		R404A		R134A		R290	
		kW		kW		kW		kW		kW	
		min	max	min	max	min	max	min	max	min	max
RV20AP20160000	REV VALVE 20 UST 1-1/4 - 1	19,09	78,78	19,12	88,74	14,91	58,87	14,88	58,90		
RV20AP22180000	REV VALVE 20 UST 1-3/8 - 1-1/8	19,09	78,78	19,12	88,74	14,91	58,87	14,88	58,90		
RV30AP24200000	REV VALVE 30 UST 1-1/2 - 1-1/4	28,64	118,17	28,65	133,09	22,17	88,30	22,13	88,35		
RV40AP28240000	REV VALVE 40 UST 1-3/4 - 1-1/2	38,20	157,55	38,22	177,45	29,43	117,74	29,38	117,78		
RV40AP26240000	REV VALVE 40 UST 1-5/8 - 1-1/2	38,20	157,55	38,22	177,45	29,43	117,74	29,38	117,78		
RV50AP34240000	REV VALVE 50 UST 2-1/8 - 1-1/2	38,20	196,88	38,27	221,73	29,43	147,17	29,38	147,17		
RV60AP42260000	REV VALVE 60 UST 2-5/8 - 1-5/8	41,63	214,60	41,72	241,68	32,09	160,42	32,02	160,42		

RV

4 ways reversing valves

Multi-valve models

Code	Description	CAPACITY MIN - MAX (conditions 1)									
		evaporating 7,2°C ; subcooling 5,0°C ; condensing 55°C ; superheat 5°C ; pressure drop 0,014MPa									
		R407C		R410A		R404A		R134A		R290	
		kW		kW		kW		kW		kW	
		min	max	min	max	min	max	min	max	min	max
RVH0AP2N400100	REV VALVE 80 UST MULTI	70,28	289,84			54,12	216,68	54,12	216,68		
RVH0AP2N400200	REV VALVE 80 UST MULTI WITH VLV	70,31	289,84			54,12	216,68	54,12	216,68		
RVN0AP3N400000	REV VALVE 120 UST MULTI	105,28	434,85			81,24	324,96	81,09	325,20		
RVR0AP4N400000	REV VALVE 160 UST MULTI	140,50	579,60			108,32	433,28	108,12	433,32		

Code	Description	CAPACITY MIN - MAX (conditions 2)									
		evaporating 4,4°C ; subcooling 0°C ; condensing 38°C ; superheat 5°C ; pressure drop 0,01MPa									
		R407C		R410A		R404A		R134A		R290	
		kW		kW		kW		kW		kW	
		min	max	min	max	min	max	min	max	min	max
RVH0AP2N400100	REV VALVE 80 UST MULTI	76,39	315,04			58,83	235,52	58,83	235,52		
RVH0AP2N400200	REV VALVE 80 UST MULTI WITH VLV	76,42	315,04			58,83	235,52	58,83	235,52		
RVN0AP3N400000	REV VALVE 120 UST MULTI	114,43	472,66			88,30	353,22	88,14	353,48		
RVR0AP4N400000	REV VALVE 160 UST MULTI	152,72	630,00			117,74	470,96	117,52	471,00		

Coils



Code	Description	Power supply	Frequency	Power at 50/60 Hz (W)	Cable length	
					mm	inches
RVCKA702400000	COIL 24 Vac without cable	24 Vac	50/60 Hz	5.5 / 3.5	-	-
RVCKA612000000	COIL 120 Vac without cable	120 Vac	50/60 Hz	5.5 / 3.5	-	-
RVCKA723000000	COIL 230 Vac without cable	230 Vac	50/60 Hz	5.5 / 3.5	-	-
RVCKD001200000	COIL 12 Vdc without cable	12 Vdc	-	10	-	-
RVCKD002400000	COIL 24 Vdc without cable	24 Vdc	-	10	-	-
RVCLA702404800	COIL 24 Vdc with 48" cable	24 Vac	50/60 Hz	5.5 / 3.5	1200	48
RVCLA612004800	COIL 120 Vac with 48" cable	120 Vac	50/60 Hz	5.5 / 3.5	1200	48
RVCLA723004800	COIL 230 Vac with 48" cable	230 Vac	50/60 Hz	5.5 / 3.5	1200	48
RVCLD001204800	COIL 12 Vdc with 48" cable	12 Vdc	-	10	1200	48
RVCLD002404800	COIL 24 Vdc with 48" cable	24 Vdc	-	10	1200	48

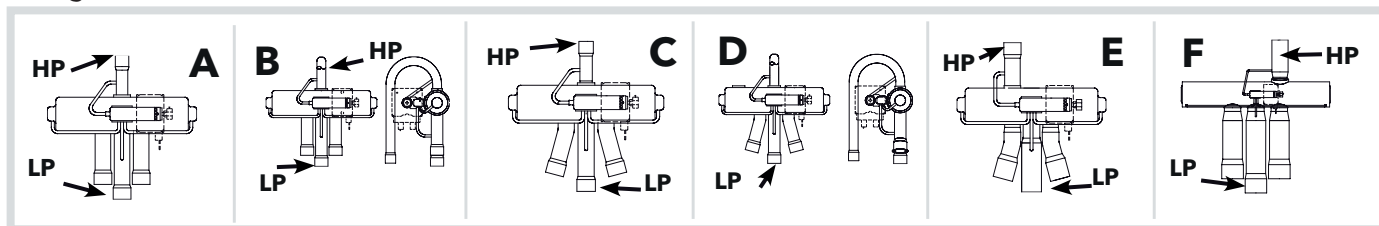
other cable lengths are available on request

Accessories

Code	Description	Cable length	
		mm	inches
RVCC0W29048000	48" cable for RVCK coil	1200	48
RV00H7-60A0000	coil screw	-	-

other cable lengths are available on request

Configuration



CONDITIONS 1

the capacities indicated are based on the following conditions:

- evaporation temperature: 7.2 °C;
- condensation temperature: 55 °C;
- sub cooling: 5.0 °C;
- superheat: 5.0 °C;
- pressure drop: 0.014 MPa

CONDITIONS 2

the capacities indicated are based on the following conditions:

- evaporation temperature: 4.4 °C;
- condensation temperature: 38 °C;
- sub cooling: 0 °C;
- superheat: 5.0 °C;
- pressure drop: 0.01 MPa

NTC Probes

NTC semi-conductor temperature probes



NTC co-moulded with double insulation

Codes	Description	Capsule material	Capsule dimensions (mm) (ØxL)	Cable type	Level of protection	Dielectric strength	Operating range	Probe length
SN8SAA1502	NTC with double insulation	AISI304	6X40	silicone	IP67	4000V	-50...+120°C	1.5m
SN8PAA1500	NTC with double insulation	AISI304	6X40	PVC	IP67	4000V	-30...+105°C	1.5m

NTC co-moulded with double insulated cable

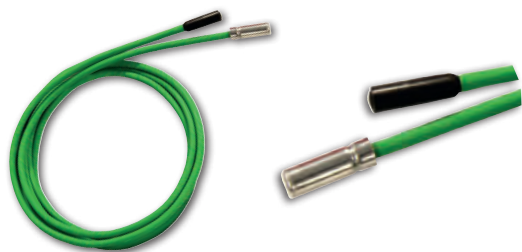
Codes	Description	Capsule material	Capsule dimensions (mm) (ØxL)	Cable type	Level of protection	Dielectric strength	Operating range	Probe length
SN8T6H0005	NTC co-moulded with double insulated cable	Thermoplastic rubber	5X20	Thermoplastic rubber, screened	IP68	2000V	-50...+110°C	10.0m
SN8T6H1505	NTC co-moulded with double insulated cable shielded	Thermoplastic rubber	5X20	Thermoplastic rubber	IP68	2000V	-50...+110°C	1.5m
SN8DED11502C0	NTC co-moulded with double insulated cable	Thermoplastic rubber	5X20	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP68	2000V	-50...+110°C	1.5m
SN8DED13002C0	NTC co-moulded with double insulated cable	Thermoplastic rubber	5X20	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP68	2000V	-50...+110°C	3.0m
SN8DAE11502C0	NTC co-moulded with double insulated cable	AISI304	6X20	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP68	2000V	-50...+110°C	1.5m
SN8DAE13002C0	NTC co-moulded with double insulated cable	AISI304	6X20	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP68	2000V	-50...+110°C	3.0m
SN8T6N1502	NTC co-moulded with double insulated cable	AISI304	6X50	Thermoplastic rubber	IP68	2000V	-50...+110°C	1.5m

NTC special versions

Codes	Description	Capsule material	Capsule dimensions (mm) (ØxL)	Cable type	Level of protection	Dielectric strength	Operating range	Probe length
SN8DEB21502C0	NTC clamp-on	Thermoplastic rubber	6X20	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP68	2000V	-50...+110°C	1.5m
SN8DEB23002C0	NTC clamp-on	Thermoplastic rubber	6X20	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP68	2000V	-50...+110°C	3.0m
SN8DNB11502A0	NTC clamp-on probe IP67 Fast response NTC probe	Copper	4X16	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP67	1500V	-50...+110°C	1.5m
SN8DAC11502AV	Fast response NTC probe	AISI304	4X40	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP67	2000V	-50...+110°C	1.5m
SN8DAC13002AV	Fast response NTC Probe product	AISI304	4X40	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP67	2000V	-50...+110°C	3.0m
SN8DEP15002C0	simulation	Thermoplastic rubber	Ø 110	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP68	2000V	-50...+110°C	5.0m

Pt100 - Pt1000 probes

Pt100 - Pt1000 thermo-resistive temperature probes



Pt100

Codes	Description	Capsule material	Capsule dimensions (mm) (ØxL)	Cable type	Level of protection	Operating range	Probe length
SN200009	Pt100, 3 wires with steel tube	AISI 316	6x100	Vetrotex	IP44	0...+600°C	3 mm
SN206000	Pt100, 3 wires with steel tube	AISI 316	6x100	silicone	IP67	-40...200°C	3 mm
SN2TAE51502C0	P100 with steel tube	AISI 304	6x50	thermoplastic rubber	IP68	-50...+110°C	1.5 mm

Pt1000

Codes	Description	Capsule material	Capsule dimensions (mm) (ØxL)	Cable type	Level of protection	Dielectric strength	Operating range	Probe length
SN9S0A2500	Pt1000 with two wires	AISI304	6X40	Silicone	IP67	2000V	-50...+200°C	2.5m
SN9DAE11502C6	Pt1000 co-moulded with double insulated cable	AISI304	6X20	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP68	2000V	-50...+110°C	1.5m
SN9DAE13002C6	Pt1000 co-moulded with double insulated cable	AISI304	6X20	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP68	2000V	-50...+110°C	3.0m
SN9DED11502C6	Pt1000 co-moulded with double insulated cable	Thermoplastic rubber	5X20	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP68	2000V	-50...+110°C	1.5m
SN9DED13002C6	Pt1000 co-moulded with double insulated cable	Thermoplastic rubber	5X20	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP68	2000V	-50...+110°C	3.0m

PTC - TC probes

PTC semi-conductor temperature probes, TC thermocouples



Applications

Temperature probes, available in various models, are devices that provide the instruments to which they are connected with a temperature measurement by way of a physical process.

Common features

Accuracy of temperature measurement: +/- 1%

PTC

Codes	Description	Capsule material	Capsule dimensions (mm) (ØxL)	Cable type	Level of protection	Dielectric strength	Operating range	Probe length
SN7T6A1502	PTC co-moulded with double insulated cable	AISI 304	6X40	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP68	2000	-50...+110°C	1.5m
SN7DAE11502C0	PTC co-moulded with double insulated cable	AISI 304	6X20	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP68	2000	-50...+110°C	1.5m
SN7DAE13002C0	PTC co-moulded with double insulated cable	AISI 304	6X20	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP68	2000	-50...+110°C	3.0m
SN7DED11502C0	PTC co-moulded with double insulated cable	Thermoplastic rubber	5X20	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP68	2000	-50...+110°C	1.5m
SN7DED13002C0	PTC co-moulded with double insulated cable	AISI 304	5X20	Thermoplastic rubber (Outer) Polypropylene (Inner)	IP68	2000	-50...+110°C	3.0m
SN6070000	PTC for ambient temperature	Plastic	15X70	-	IP54	-	-40...+120°C	-
SN603008	PTC for piercing, with PVC grip	AISI316	3X150	Silicone	IP65	-	-20...+110°C	3.0m
SN/FAF12702A4	PTC for piercing with 90° curved thermoplastic rubber grip	AISI 304	Conical (3.5 up to 5.5) x 100	Thermoplastic rubber (Outer) and polypropylene (Inner)	IP67	-	-50 +110°C	2.7m

TCK

Codes	Description	Material capsule	Capsule dimensions (mm) (ØxL)	Cable type	Level of protection	Dielectric strength	Operating range	Probe length
SN400000	Tck	AISI 304	6X100	TTS	IP45	-	0...400°C	3.0m
SN400004	Tck	Inconel 600	6X200	TTS	IP45	-	-40...1150°C	1.0m

TCJ

Codes	Description	Capsule material	Capsule dimensions (mm) (ØxL)	Cable type	Level of protection	Dielectric strength	Operating range	Probe length
SN300000	Tcj	AISI 316	6X100	vetrorex	IP44	-	0...350°C	3.0m
SN300008	Tcj	AISI 316	6X100	vetrorex	IP44	-	0...350°C	1.5m
SN300042	Tcj	AISI 304	6X100	TTS	IP45	-	0...350°C	3.0m

EWPA 007 - 030 - 050

Pressure transducers



Applications

EWPA pressure transducers are sensors capable of transmitting a signal by way of a current output to the measuring instruments to which they are connected.

Technical data	EWPA 007	EWPA 010	EWPA 030	EWPA 050	EWPA 150
Operating range (relative)	-0.5..7 bar	0..10 bar	0..30 bar	0..50 bar	0..150 bar
Output signal	2 wires 4...20 mA				
Overload	6 times pressure range				
Power supply	7..33 Vdc				
Accuracy	± 0.5% FS max (linearity, hysteresis, repeatability)				
Compensated temperature	0...50°C				
Electrical connection	2m integrated cable 2m cable with M12 connector				
Mechanical connection	male connector / female connector ¼ SAE (7/16"-20UNF)				
Operating temperature	Ambient temperature: -30..85°C Storage temperature: -50..100°C Refrigerant temperature -40..135°C				
Response time	<2 ms				
Material exposed to environment	AiSi 316L				
Enclosure rating	IP67				

Codes	Description	Connection	Electrical connection	IP
TD220007B	EWPA 007	7/16 20 UNF (1/4 SAE) MALE	2m cable	IP67
TD220030B	EWPA 030	7/16 20 UNF (1/4 SAE) MALE	2m cable	IP67
TD220050B	EWPA 050	7/16 20 UNF (1/4 SAE) MALE	2m cable	IP67
TD240007B	EWPA 007	7/16 20 UNF (1/4 SAE) MALE	2 m cable with M12 connector	IP67
TD240030B	EWPA 030	7/16 20 UNF (1/4 SAE) MALE	2 m cable with M12 connector	IP67
TD240050B	EWPA 050	7/16 20 UNF (1/4 SAE) MALE	2 m cable with M12 connector	IP67
TD320007B	EWPA 007	7/16 20 UNF (1/4 SAE) FEMALE	2m cable	IP67
TD320009B	EWPA 010	7/16 20 UNF (1/4 SAE) FEMALE	2m cable	IP67
TD320030B	EWPA 030	7/16 20 UNF (1/4 SAE) FEMALE	2m cable	IP67
TD320050B	EWPA 050	7/16 20 UNF (1/4 SAE) FEMALE	2m cable	IP67
TD340007B	EWPA 007	7/16 20 UNF (1/4 SAE) FEMALE	2 m cable with M12 connector	IP67
TD340010B	EWPA 010	7/16 20 UNF (1/4 SAE) FEMALE	2 m cable with M12 connector	IP67
TD340030B	EWPA 030	7/16 20 UNF (1/4 SAE) FEMALE	2 m cable with M12 connector	IP67
TD340050B	EWPA 050	7/16 20 UNF (1/4 SAE) FEMALE	2 m cable with M12 connector	IP67
TD240150B	EWPA 150	G 1/4 MALE	2 m cable with M12 connector	IP67

EWPA 010 - 030 - 050

Ratiometric pressure transducers



Applications

EWPA pressure transducers are sensors capable of transmitting a signal by way of a current output to the measuring instruments to which they are connected.

Technical data	EWPA 010	EWPA 030	EWPA 050
Operating range (Relative)	0..10 bar	0..30 bar	0..50 bar
Output signal	3 wires 0.5..4.5 Vdc		
Overload	6 times pressure range		
Power supply	5 Vdc +/- 10%		
Accuracy	± 0.5% FS max (linearity, hysteresis, repeatability)		
Electrical connection	2 m cable with M12 connector		
Mechanical connection	female connection 1/4 SAE (7/16"-20UNF)		
Operating temperature	Ambient temperature: -30..85°C Storage temperature: -50..100°C Refrigerant temperature: -40..135°C		
Response time	<2 ms		
Material exposed to environment	AiSi 316L		
Enclosure rating	IP67		

Codes	Description	Connection	Electrical connection	IP
TD420010B	EWPA 010	7/16 20 UNF (1/4 SAE) FEMALE	2 m cable with M12 connector	IP67
TD420030B	EWPA 030	7/16 20 UNF (1/4 SAE) FEMALE	2 m cable with M12 connector	IP67
TD420050B	EWPA 050	7/16 20 UNF (1/4 SAE) FEMALE	2 m cable with M12 connector	IP67

EWHS 2840 - 3040 -3140 - 3140/S

Humidity probes



Codes	Description	Notes
SH5NPM100I400	EWHS 2840	RH%
SH3NPM100Y400	EWHS 3040	RH% + NTC
SH0NPM100I400	EWHS 3140	RH% + TEMP
SH0NPM100S400	EWHS 3140/S	RH% + TEMP, MODBUS
SH0NPMI00S000	SPARE PART	Vent.

Applications

Humidity probes in the EWHS2840-3040-3140-3140/S series are intended for connection to humidity and humidity/temperature measuring instruments or Televis or Modbus RTU monitoring systems featuring superior dependability.

Common features

Ambient humidity:	0..100% Rh
Air maximum speed	20m/s
Polarity inversion protection:	diode

Technical data	EWHS 2840	EWHS 3040	EWHS 3140	EWHS 3140/S
Protection rating	IP65			
Installation	Wall-mounted via 2 external slots			
Electrical connections	Screw terminals			
Dimensions	80x80x52 mm			
Power supply	9...28 Vdc	9...28 Vac or 9...40 Vdc		
Power consumption	20 mA max	50 mA max	35 mA max	
Ambient temperature	-40...60°C			
Humidity sensor	Digital			
Humidity measurement range	0..100 RH%			
Output current of humidity measurement	4...20 mA			-
Response time in steady conditions (68%) at 23°C	Typically 10 s			
Recovery time from saturation	depends on the air flow rate			
Storage temperature	-40...70°C			
Accuracy of humidity measurement (at 23°C)	5%	3%	3%	2%
Number of wires per connection	2	4	5	5
Air filter	PTFE			
Temperature sensor	-	NTC 10k 25°C	Digital	
Temperature range	-40...60°C			
Temperature measurement output	'-	Passive	4...20mA	Serial
Accuracy of temperature measurement (at 0 °C and 23 °C)	'-	1%	+/-0.6°C	+/-0.3°C
Dewpoint calculation	'-	'-	'-	Present
Maximum load	150 Ohm	150 Ohm	350 Ohm	'-
RS-485 serial connection	'-	'-	'-	Modbus-RTU

ACCESSORIES

Eliwell supplies a number of accessories to complete its line of instruments.

A wide range of transformers, to memory devices like Copy Card and Unicard, for transferring parameters quickly and updating controller firmware.

Devices designed to give the user all those instruments enabling greater work quality and productivity.

DeviceManager

Controller configuration software



Codes	Description
DMP100002000	CD DeviceManager
DMI1001002000	DMI 100-1 End User
DMI1002002000	DMI 100-2 Service
DMI1003002000	DMI 100-3 Manufacturer
CO111127	TTL Cable
COLV000016200	USB-A/A extension cable

Applications

DeviceManager is a Windows software used to manage and for the first installation of Eliwell devices. The software can be used to create and save parameter maps and transfer them to and from the controller in just a few clicks.

DeviceManager needs the USB communication interface **DeviceManager Interface (DMI)** to communicate with controllers directly and is compatible with Unicard USB and Multi Function Key to transfer maps, parameters and controller firmware updating. For information on compatibility and functions available with each controller family, please check the compatibility table in the restricted area of www.eliwell.com

Features

Graphic interface	Device alarm log management
Eliwell instrument parameter management	Firmware updating
Real-time variable monitoring and management	

System requirements

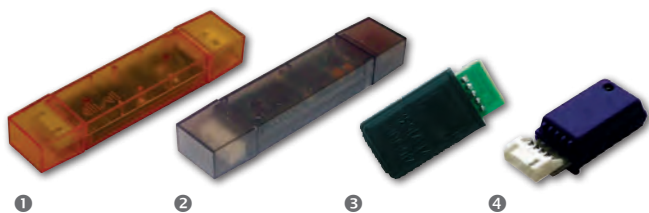
	DeviceManager
Operating system:	<ul style="list-style-type: none"> • Windows XP Pro SP2, Italian and English. • Windows XP Home SP2, Italian and English. • Windows 2000 Professional SP4, Italian and English. • Windows 7 Premium, Windows 7 Professional, Windows 7 Ultimate, versions 32bit, Italian-English • Windows 10
Software components required besides operating system:	<ul style="list-style-type: none"> • .NET Framework 2.0
Minimum hardware:	<ul style="list-style-type: none"> • graphics resolution 1024x768 • 700MHz CPU • RAM 256MB • HD 1GB • Mouse or equivalent navigation system
Space required on disk:	Approx. 500 MB for normal installation (2 languages, 50 models)

Accessories

Code	Description	Details
CO111127	TTL cable	1m reinforced cable
COLV000016200	USB-A/A 2MT extension lead	Length 2m

Unicard - USB Copy Card - Copy Card - Multi Function Key

Memory for fast configuration and updating of controllers



Codes	Notes
CCA0BHT00UU00	① UNICARD USB/TTL
CCA0BUI02N000	② USB Copy Card
COLV000016200	Extension cable for USB Copy Card
CC0S00A00M000	③ Standard Copy Card
MFK100T000000	④ Multi Function Key 100

Applications

The new USB/TTL Unicard is a memory device for rapid parameter configuration/duplication, specifically designed for controllers in the IDPlus family. By downloading the **DeviceManager** software from the www.eliwell.com website, maps for instruments in the ID and IDPlus families can be read and written on the Unicard device without having to use other interfaces/licences. Copy Card and USB Copy Card are memory devices for rapid Eliwell controller parameter configuration/duplication. Multi Function Key is used with **DeviceManager** to transfer maps, parameters and controller firmware updating.

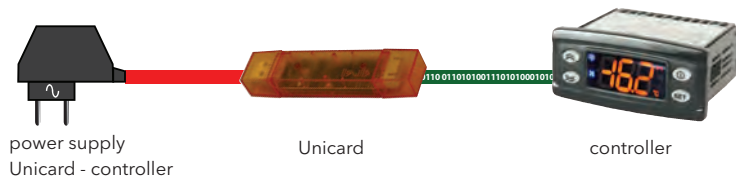
Common features

Unicard has a standard USB port for connection to the most widely-used power supply units and adapters on the market (mains-powered, machine-powered, battery-powered, etc.).	Updating device firmware/applications
Updating device parameter values	Downloading parameter values from the instrument
	Downloading alarm log from the instrument

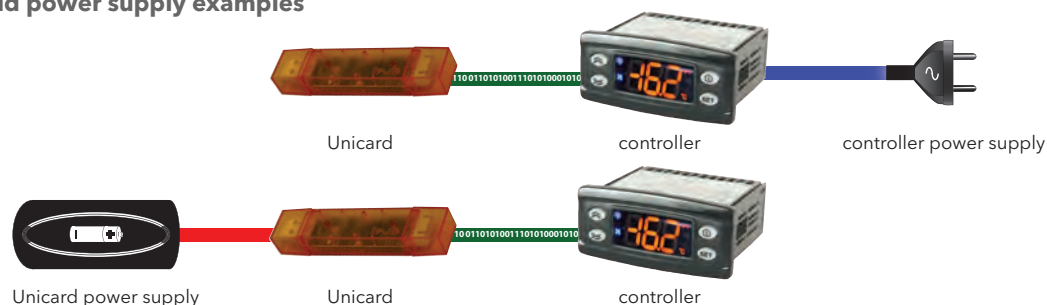
Use	Copy Card	Multi Function key	Unicard	USB Copy Card
IDPlus and ICPlus series	•	-	•	-
EW - EWPlus (EO LVD) series	•	-	•	-
IC series	•	-	-	-
ID series	•	-	-	-
EM300 Series	•	-	-	-
DR 4020 - DR4022	•	-	•	-
EW4820 - EW4822	•	-	-	-
EW7220 - EW7222	•	-	-	-
EWTSPPlus 990	•	-	-	-
EWRC 300 - EWRC 500 NT series	•	-	•	-
EWDR series	•	-	-	-
EWRC 5000 - 5010 - 5030 NT	•	-	•	-
IWC series	•	-	-	-
IWP 750	•	-	•	-
TelevisIn TelevisOut	•	-	• / F	-
RTN series	-	•	• / F	-
RTX - RTD series	-	•	• / F	-
ID 985/V	•	-	•	-
V800 Pulse EEV driver	-	-	-	•
V910 - XVD Step EEV Driver	-	•	• / F	-
EWCM 8000...9000 EO	-	-	-	• / F / L / D
EWCM 4000	•	•	-	-
EMPlus 600	-	-	•	-
EWBC 800 series	-	-	•	-
EWBC 1400	•	-	-	-

KEY •: Reading/writing maps parameters **F**: Updating Firmware **L**: Updating Interface Languages **D**: Download Data/Alarms

Counter power supply examples



Field power supply examples



Drip protection - Plexiglass protection

Protections for 32x74 controllers



Applications

These accessories can be used with devices in the ID, IC, IDPlus, EW, EWPlus series.

The drip protection, applied to the rear of the instrument, are a valid support in protecting electrical connectors against dripping liquid.

The plexiglass accessory, equipped with a surface easy to clean, is particularly suitable for use in outdoor environments or characterized by a high degree of dirt.

Code	Description	Details
ZZ000270	Drip protection	Pack of 20
ZZ000272	Plexiglass protection for controllers 32x74	Pack of 10

EW BOX - INOX BOX - EWBOX NT

EW BOX - INOX BOX - EWBOX NT



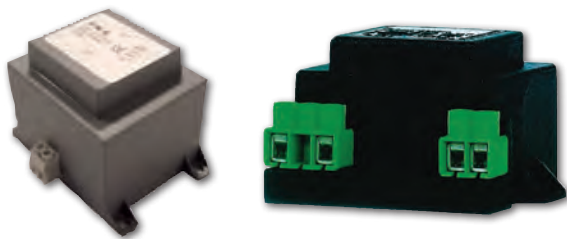
Applications

EW Boxes and INOX Boxes are a range of plastic and stainless steel containers for the wall mounting of instruments designed for panel mounting.

Code	Description
SM000000	EW box without front panel
SM000005	Front panel without holes in ABS for EW box
SM000010	Front panel in ABS for EW vertical box with one hole for standard instrument 32x74 and two holes for switch
SM000013	Front panel in ABS for EW horizontal box with one hole for standard instrument 32x74 and one hole for switch
SM000020	Front panel in ABS for EW vertical box with two holes for standard instrument 32x74 and two holes for switch
SM000030	Front panel in ABS for EW horizontal box with two holes for standard instrument 32x74 and two holes for switch
SM111111	INOX Box with one hole for standard instrument 32x74
SM111112	INOX Box with two holes for standard instruments 32x74
RCX101B001000	PC-ABS box without holes
RCX1A1B001000	PC-ABS box with one hole for standard instrument 32x74
RCX1F1B001000	PC-ABS box with one hole for keyboards 68x138 (EWK1000 \ EVP3000)
RCX1M1B001000	PC-ABS box with one hole for vertical KDT keyboards with rounded corners

TF Transformers

Transformers



Applications

TF transformers are resin-coated in plastic containers, equipped with fixing tabs and screw terminals for wires $\leq 2.5\text{mm}^2$. Models with different power supply voltages are available.

Code	Models	Details
TF511113	TF 100...115...120V	115/12V 3VA - cert. UL
TF111145	TF 100...115...120V	115/12V 3VA
TF11115A	TF 100...115...120V	110-230/12-12-12 or 12 15VA
TF111115	TF 12...24...48V	24/12V 3VA
TF111162	TF 12...24...48V	24/12V 5,6VA
TF111173	TF 200...250V	230/12V 3VA
TF411200	TF 200...250V	230/12V - 5VA protected
TF411173	TF 200...250V	230/12V 3VA - approved VDE
TF411117	TF 200...250V	240/12V 3VA approved VDE
TF411205	TF 200...250V	230/12V - 6VA protected
TF411210	TF 200...250V	230/12V - 11VA protected
TF111202	TF 200...250V	230/24V 25VA
TF111205	TF 200...250V	230/24V 35VA

OEM PRODUCTS

Eliwell supplies a wide range of products and solutions that stand out for high quality and reliability. This is the result of 25 years experience and know how acquired collaborating with the main commercial refrigeration equipment manufacturers.

For manufacturers (OEM) Eliwell supplies a series of standard and customisable products. These are based on consolidated, easy-to-adapt platforms.

Controllers for OEM are only supplied in industrial packaging, with electronic documentation and in minimum lots depending on product type.

OEM controller customisation may go from definition of a customised parameter map, to including a logo or creation of specific functions.

The following pages list the main controller families for OEM where standard solutions are available for manufacturers. Would you kindly contact an Eliwell agent to assess the specific solution for your needs.

RB 200 series

Entry level solutions for connectible refrigerated counters with compressor on board



- + Installation compatible with K standard electromechanical thermostats
- + Optional control knob
- + Sealed relays
- + Optional connectivity to BTLE AIR Dongles

Applications

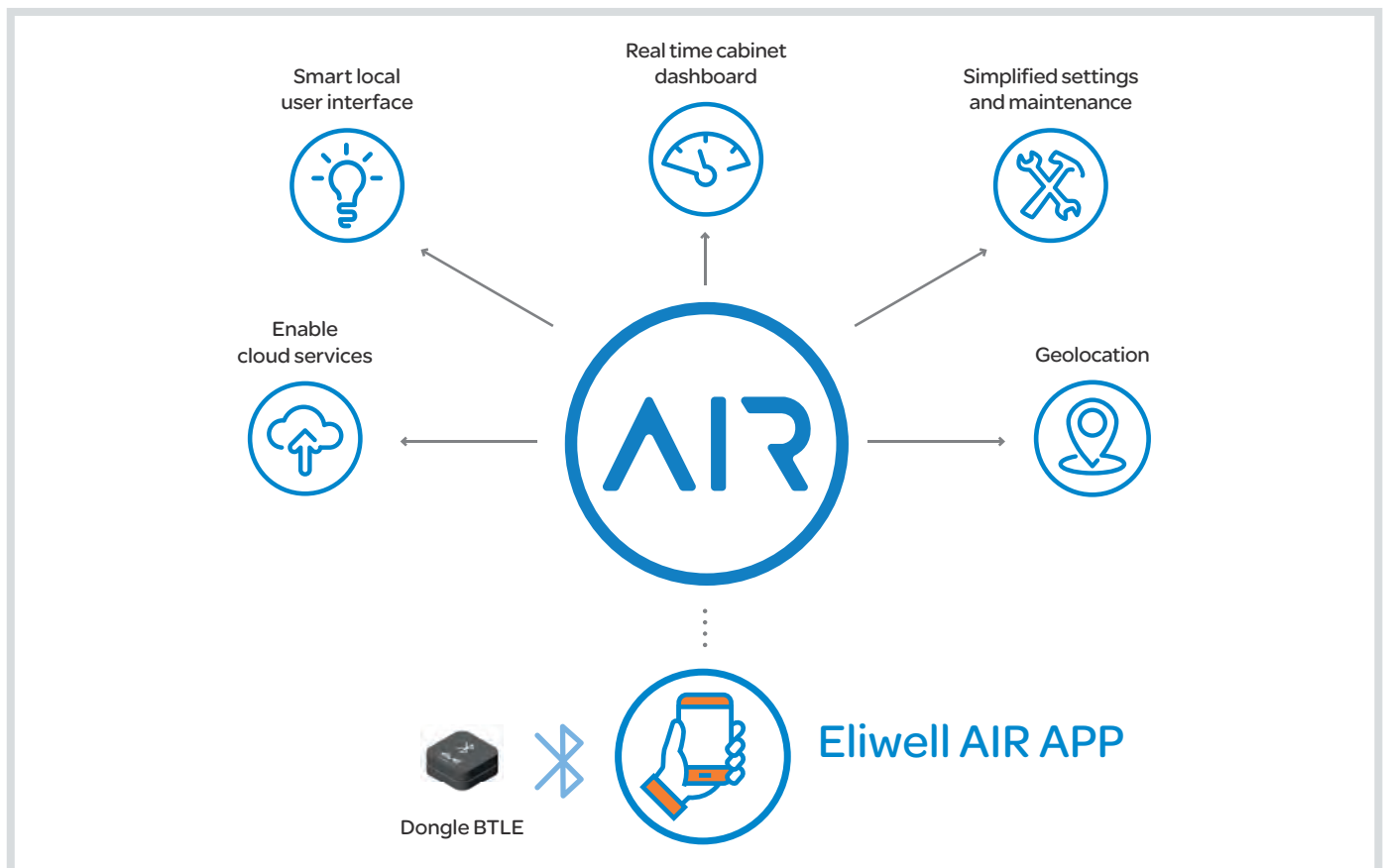
The **RB 200** series is the Eliwell standard solution for entry level applications which do not require a display.

Thanks to its installation flexibility, **RB 200** is the best solution for manufacturers who are looking for an alternative solution to an electromechanical thermostat, with the advantages of electronic control and at the same time easy to install and use.

Common features

Direct control of loads up to 10A	Use of faston/rapid connectors
230Vac 50Hz non isolated power supply	Docking Station for fast on-line programming
Assembly with central M10 screw or 55mm/68mm bracket	

Model	Application	Notes
RB 261	Static units	10A SPST compressor relay
RB 261 AIR	Static units	10A SPST compressor relay, can be connected to BTLE AIR Dongles
RB 271	Static units with defrost/alarm management	10A SPST compressor relay 8A SPDT defrost/alarm relay
RB 271 AIR	Static units with defrost/alarm management	10A SPST compressor relay 8A SPDT defrost/alarm relay, can be connected to BTLE AIR Dongles



Model	Application	Notes
BTLE Dongle Basic	User interface on smart device	
BTLE Dongle Datalog	User interface on smart device and datalogging	Allows downloading of data stored on the smart device and, if required, sending it to the cloud after the service is activated

EWPlus series

Solutions with icon display



- + The display features large digits and coloured icons, for at-a-glance operating status monitoring
- + Simple, intuitive menus for fast learning
- + Suited to applications with hydrocarbons
- + ENEC, UL, NSF certifications (check on the device label)

Applications

The **EWPlus** series of flexible controllers has a modern design for plug-in refrigerated counters.

Thanks to platform versatility and a library of available functions, Eliwell is the best answer for manufacturers seeking custom solutions for energy saving requirements and simplification of production processes.

Common features

Direct load management up to 2Hp and power supply of 230V~ or 115V~
Use of removable/faston/screw connectors for quick, versatile hookup

Unicard USB for customizing even small lots
Industrial packaging 60 pieces

Model	Application	Notes
EWPlus 400	Static units	1.5Hp Relay - back dimensions 36mm
EWPlus 902	Positive temperatures	Change-over contact relay
EWPlus 961	Static units	2Hp power relay
EWPlus 971	Ventilated units	2Hp relays, 1 configurable output (defrost/fans/lights/alarm/stand-by)
EWPlus 974	Ventilated units	2Hp relays, 2 configurable outputs (defrost/fans/lights/alarm/stand-by)

EWPlus 961 - 971 EO Dispenser

Solutions for connectible refrigerated dispensers / beer taps



- + Electronic temperature control
- + Electronic ice level control with single and double sensor
- + Ice sensor sensitivity configured via parameter
- + Compatible with hydrocarbon applications (R290, R600a)
- + Optional connectivity to BTLE AIR Dongles

Applications

EWPlus EO Dispenser is a controller designed to offer a compact, efficient solution to control the refrigeration of drink dispensers, such as beer and soft drinks.

Thanks to platform versatility and a library of available functions, Eliwell has integrated control of temperature and ice level into a single controller that can be parametrized from the keyboard to adapt to the various application configurations easily.

Common features

Configurable inputs for temperature and single or double ice level sensor
230V~ power supply

Unicard USB for customizing even small lots
Industrial packaging 60 pieces

Model	Application	Notes
EWPlus 961 EO Dispenser	Dispenser	Ice level control
EWPlus 961 EO Dispenser AIR	Dispenser	Ice level control can be connected to the BTLE AIR Dongle
EWPlus 971 EO Dispenser	Dispenser	Water pump control

EWPlus EO series

High energy saving & connectible solutions



- + Advanced control algorithms contribute to an **energy saving of up to 39%*** with no counter structure modification required
- + Self-adaptation of the energy saving functions based on the conditions of use of the refrigerator
- + The product is **compatible with the new ecological refrigerants R290, R600**, in compliance with IEC 60079-15-2005
- + Optimised temperature management when switching from night to day mode
- + No supplementary sensors needed thanks to the **virtual door switch**
- + Management of a 2nd compressor on the basis of a differentiated temperature threshold and a delay
- + Advanced algorithms for defrost management on the 2nd evaporator
- + Voluntary certification: ENEC/UL (check on device label)
- + **4 easy-to-select configurations** pre-loaded in a single controller
- + Internal **RTC** (depending on model)
- + Optional connectivity to BTLE AIR Dongles

Applications

The **EWPlus EO** series controllers are designed to combine high energy savings with maximum ease of installation and use, easily applicable also replacing prior series controllers.

Thanks to platform versatility and a library of available functions, Eliwell can design custom solutions for energy saving requirements and simplification of production processes.

Common features

Direct load management up to 2 Hp and power supply of 230Vac, 115Vac or SMPS 100-240 Vac	Use of removable/faston/screw connectors for quick, versatile hookup
Integrated protection of loads against voltage fluctuations controllable by parameter	Unicard USB for customizing even small lots
	Industrial packaging 60 pieces

Model	Application	Notes
EWPlus 961 EO	Static units	2Hp relay, 1 analogue input, 1 digital input
EWPlus 961 EO AIR	Static units	2Hp relay, 1 analogue input, 1 digital input Can be connected to the BTLE AIR Dongle
EWPlus 971 EO	Ventilated units	2Hp relay, 2 configurable outputs (defrost/fans/lights/alarm/stand-by), 2 analogue inputs, 1 digital input
EWPlus 971 EO AIR	Ventilated units	2Hp relay, 2 configurable outputs (defrost/fans/lights/alarm/stand-by), 2 analogue inputs, 1 digital input Can be connected to the BTLE AIR Dongle
EWPlus 974 EO	Ventilated units	2Hp relay, 3 configurable outputs (defrost/fans/lights/alarm/stand-by), 2 analogue inputs, 1 digital input
EWPlus 974 EO AIR	Ventilated units	2Hp relay, 3 configurable outputs (defrost/fans/lights/alarm/stand-by), 2 analogue inputs, 1 digital input Can be connected to the BTLE AIR Dongle
EWPlus 978 EO	Ventilated units	2Hp relay, 4 configurable outputs (defrost/fans/lights/alarm/stand-by), 2 analogue inputs, 1 digital input
EWPlus 974 EO Smart Control	Ventilated units	2Hp relay, 3 configurable outputs (defrost/fans/lights/alarm/stand-by), 2 analogue inputs, 1 digital input
EWPlus 978 EO Smart Control	Ventilated units	2Hp relay, 4 configurable outputs (defrost/fans/lights/alarm/stand-by), 2 analogue inputs, 1 digital input
EWPlus 978 EO Smart Control AIR	Ventilated units	2Hp relay, 4 configurable outputs (defrost/fans/lights/alarm/stand-by), 2 analogue inputs, 1 digital input Can be connected to the BTLE AIR Dongle

EWPlus 978

Solutions for double evaporator and double compressor



- + Solution for combined counters, double evaporator or double compressor
- + Compact solution for control of small-sized monoblocs
- + Suited to applications with hydrocarbons

Applications

The **EWPlus 978** series controllers are designed to combine high energy savings with maximum ease of installation and use, easily applicable also replacing prior series controllers.

Thanks to platform versatility and a library of available functions, Eliwell can design custom solutions for energy saving requirements and simplification of production processes.

Common features

4 configurable output relays for double compressor control and single or double defrost

Power supply 12V

Unicard USB for customizing even small lots

Model	Application	Notes
EWPlus 978	Combined counters	Single or double compressor
	Monoblocs	Single or double evaporator

Application examples

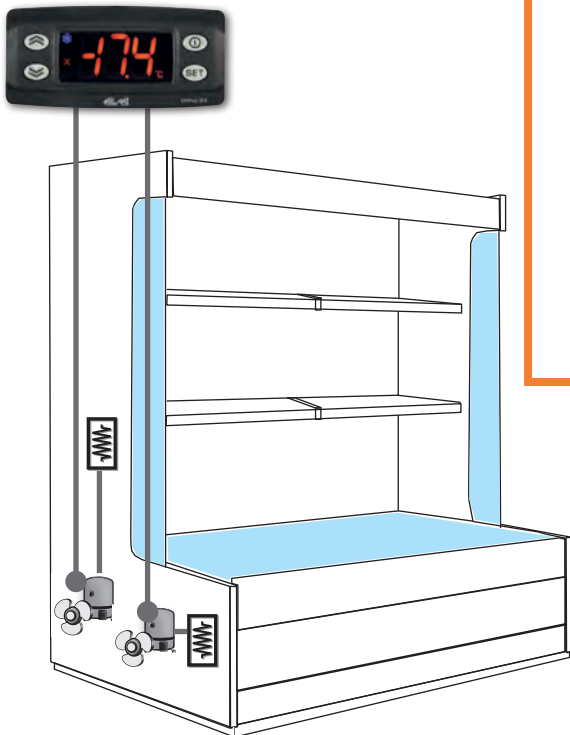
In a combined refrigerated cabinet, **EWPlus 978** can manage the double compressor with:

- delayed ignition
 - ignition based on differentiated temperature threshold and delay
- In this case, the controller can manage the set sequence or rotation between two compressors.

It can also manage double defrosting:

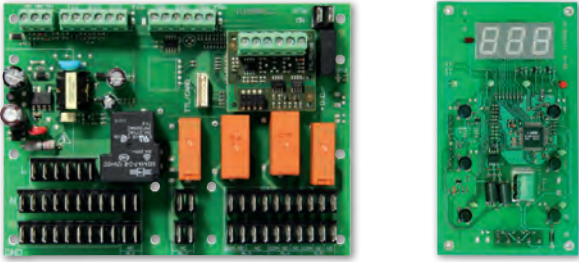
- delayed
- with independent defrost end temperatures
- with common defrost time-out

EWPlus 978



IWP 750

Solutions for mono-blocks



- + Specific customisable solution for monoblocs with keyboard for panel mounting with polycarbonate
- + Faston type connection for all loads and screw connection for all signals
- + Keyboard can be set for a distance of up to 100m
- + Board for RS-485 connectivity optional plug-in

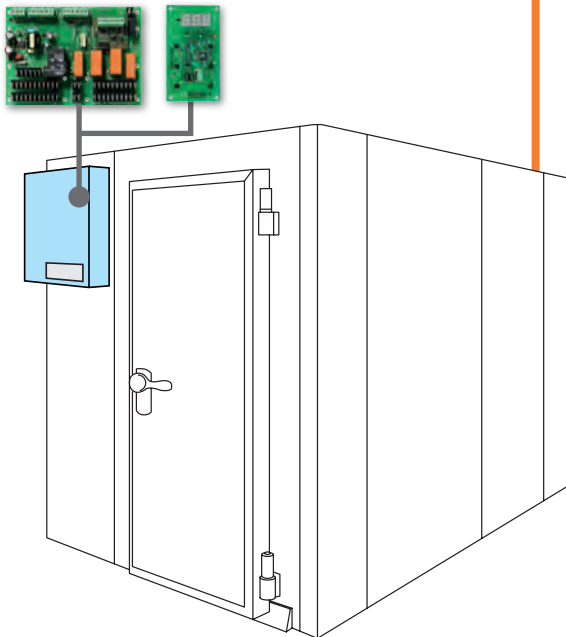
Applications

IWP 750 controllers are designed to combine high energy savings with maximum ease of installation and use, easily applicable also replacing prior series controllers. Thanks to platform versatility the product can be configured in various relay combinations to adapt better to the monobloc features.

Common features

Power boards and bare keyboard, for panel mounting	Compressor control up to 2Hp
3 temperature probes and 3 configurable digital inputs	SMPS 100...240V~ power supply
5 configurable relay outputs	

Model	Application	Notes
IWP 750	Monoblocs	Power boards with 5 relays
IWK Open		Bare keyboard from panel
		Can be set for a distance of up to 100m



Environmental sustainability

The IWP devices offer a wide range of machine configuration options, predominantly thanks to the vast array of relays, available with power levels of up to 2Hp and used to control two separate compressors directly.

Easy to use

The minimised wiring with on-board power relay, quick connections, simple, intuitive remote user interface and support tools allow for straightforward customisation, even on the production line. The IWK remote keypad is available in reduced depth format so that its can even be used in areas where installation conditions are particularly limited.

IWP 750 - IWK

IWC 700 series

Controllers for professional applications / catering



- + Solutions for professional counters, normally used to store fresh and frozen foods
- + Can be connected to remote ECHO display depending on the model
- + Models managing double temperature Set points available

Applications

IWC 720-730 controllers are suitable for applications on ventilated refrigeration units for normal or low temperatures

IWC750 Twin is designed specifically to control dual independent temperature refrigeration systems, normally used for the preservation of fresh and frozen foods.

IWC730/E Twin with two set points is ideal for catering applications, and can be connected to the Echo remote display.

Common features

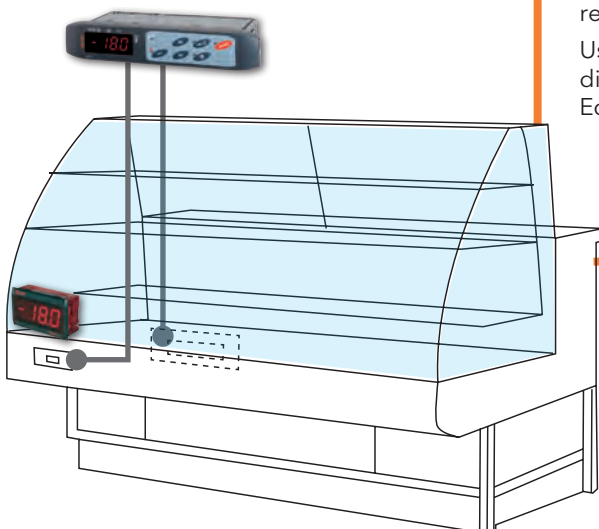
Container	PC+ABS UL94 V-0 resin plastic casing, polycarbonate display window, switch keys with adhesive polycarbonate film	Dimensions	front panel 180x37mm, depth 69mm
		Installation	panel mounting with 150x31mm (+0.2/-0.1mm) drilling template

Model	Application	Notes
IWC 720	ventilated refrigeration unit (medium or low temperature)	2 configurable relays
IWC 730	ventilated refrigeration unit (medium or low temperature)	3 configurable relays
IWC 730/E TWIN	catering applications	3 configurable relays can be connected to Echo display
IWC 740	ventilated refrigeration unit (medium or low temperature)	4 configurable relays can be connected to Televis monitoring system
IWC 740 COMMON LINE	refrigerators for the preservation and processing of foods/pastry	4 configurable relays
IWC 750	ventilated refrigeration unit (medium or low temperature)	5 configurable relays can be connected to Televis monitoring system
IWC 750 COMMON LINE	refrigerators for the preservation and processing of foods/pastry	5 configurable relays
IWC 750 TWIN	dual independent temperature refrigerators	5 configurable relays management of double temperature set points

Application examples

In a catering counter, the **IWC 750 TWIN** controller can be set with two separate preservation temperatures, thanks to its double integrated regulator.

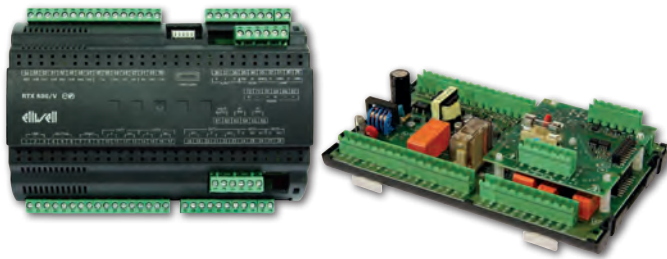
Using the **IWC 730/E TWIN** model, temperatures can also be displayed on the front of the refrigerated cabinet, thanks to the remote Echo display.



IWC 700 series

RTX 600 /V DOMINO - RTD 600 /V DOMINO

Controllers for supermarket counters



- + Specific solutions for high efficiency remote counters
- + Integrated control of all refrigeration counter functions
- + Energy saving with electronic valve control
- + Plug-n-play LINK2 synchronisation for island and remote counters

Applications

RTX600/V and **RTD600/V DOMINO** are electronic controllers for high efficiency remote and multi-evaporator refrigerated cabinets with pulse electronic valve control.

They combine optimised defrost cycle management, dewpoint-based heating and anti-condensation element modulation and cold room Set point modulation, with automatic identification of open/closed operational time bands.

Configuration has been simplified by introducing preset profiles for 8 separate applications, which can easily be selected via the **KDEPlus** and **KDWPlus** user terminals.

Features

Power boards in plastic boxes (RTX), or mounted on DIN Rail (RTD)

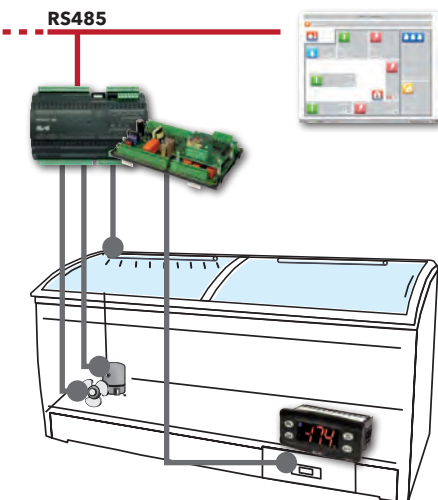
AC and DC pulse electronic valve control

3 temperature probes and 3 configurable digital inputs

SMPS 100...240V~ power supply

6 configurable relay outputs

Model	Application	Notes
RTX600/V DOMINO	Supermarket counters	Version in plastic box
RTD600/V DOMINO	Supermarket counters	Open version mounted on DIN bar and vertical removable terminals



Application examples

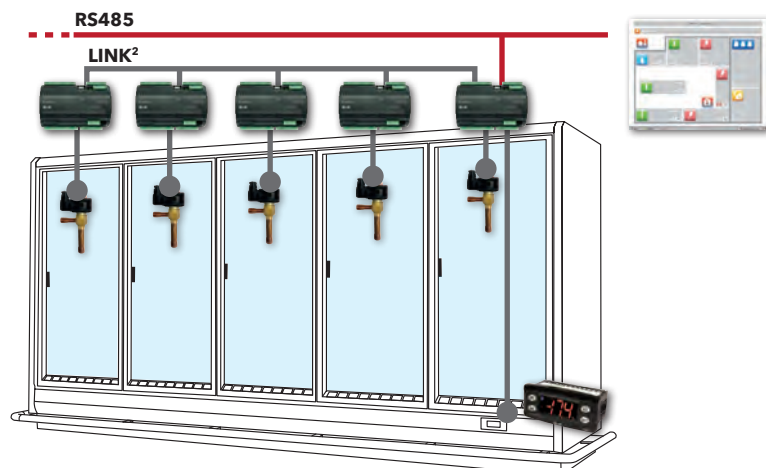
RTX600/V and RTD600/V can be used for different applications.

In a **plug-in counter**, for example, RTX600/V or RTD600/V DOMINO are used to control compressor, lights and fan connected to the monitoring system via RS-485 network.

In a **remote cabinet**, RTX600/V or RTD600/V DOMINO can be used for high efficiency control of the electronic pulse expansion valve; several instruments connected via LINK² network for efficient synchronisation of defrosting and lights.

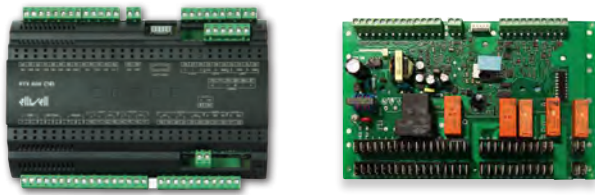
The system can be monitored via RS-485 network.

RTX600/V - RTD600/V DOMINO



RTX600 - RTN600 series

Controllers for supermarket counters



- + Compact (10 DIN) unit and direct load control up to 2HP.
- + Compressor and fan load protection.
- + Optimization of defrost (smart electrical defrost, advanced clock and temperature management)
- + Quick and easy to install and configure.

Applications

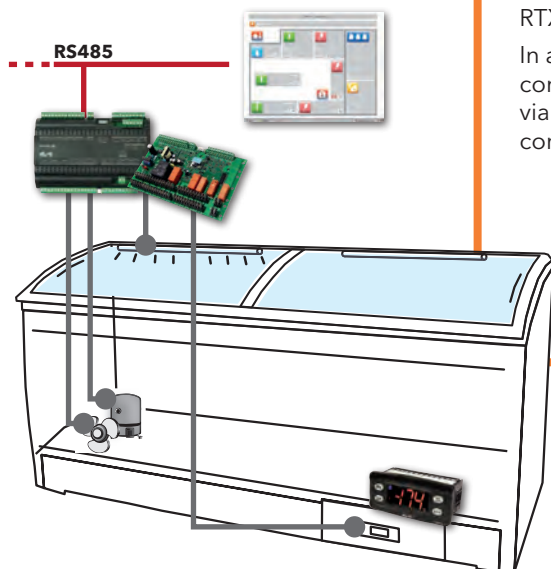
Electronic controllers **RTX600** and **RTN600** have energy saving functions for use in supermarkets and commercial food distribution and storage applications. RTX600 and RTN600 combine optimised defrost cycle management, dewpoint-based heating and anti-condensation element modulation and cold room set point modulation, with automatic identification of open/closed operational time bands. Configuration has been simplified by introducing preset profiles for 8 separate applications, which can easily be selected via the **KDEPlus** and **KDWPlus** user terminals. The **ECPlus** remote display is used to view displayed data at a distance of up to 100 m, differentiating it from the data displayed on KDEPlus and KDWPlus terminals.

Features

Power boards in plastic boxes (RTX), or bare board (RTN)
3 temperature probes and 3 configurable digital inputs

6 configurable outputs with direct control of loads up to 2HP
SMPS 100...240V~ power supply

Model	Application	Notes
RTX600	Supermarket counters	Version in plastic box
RTN600	Supermarket counters	Bare board for panel-mounting



Application examples

RTX600 and RTN600 can be used for different applications. In a **plug-in counter**, for example, RTX600 or RTN600 are used to control compressor, lights and fan connected to the monitoring system via RS-485 network. With RTN600 you need the optional RS-485 connectivity board.

RTX600 - RTN600

RTN400 - RTN400 SM series

Controllers for plug-in supermarket counters



- + Single or dual compressor control.
- + Advanced electrical heater defrost.
- + Evaporator fan control in Night&Day mode.
- + Fixed duty cycle frame heater control.
- + Pre-programmed, easy-to-select configurations.
- + Adaptive control for variable speed compressors

Applications

The **RTN400** controller is designed for plug-in and multi-evaporator remote cabinets with thermostatic valve control.

RTN400 controllers are compact and stand out for their high performance and flexibility, with energy saving algorithms and direct control of compressor and fans.

RTN400 SM provides energy savings in supermarkets and commercial food distribution and storage applications; it is suitable for controlling EMBRACO VNEU and SECOP CCD variable speed compressors, exploiting their full potential through an operating parameter self-learning algorithm. It also combines optimised defrost cycle management, dewpoint-based heating and anti-condensation element modulation and cold room set point modulation, with automatic identification of open/closed operational time bands.

RTN400 controllers can be interfaced with **KDEPlus** and **KDWPlus** keyboards and with the **ECPlus** display module.

Features

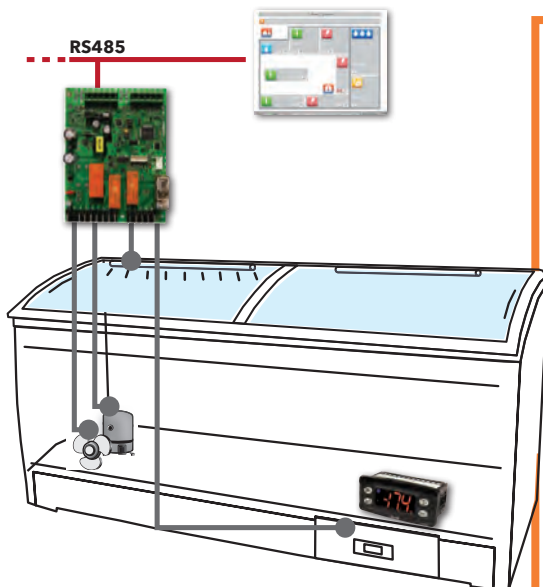
Power boards in compact bare box (121x92mm)

4 configurable output relays with direct control of loads up to 2HP

5 temperature probes and 1 configurable digital input

SMPS 100...240V~ power supply

Model	Application	Notes
RTN400	Supermarket counters	Bare board with fast power connections, faston type
RTN400 SM	Supermarket counters with variable speed compressor	Bare board with fast power connections, faston type



Application examples

In a **plug-in counter**, RTN400 is used to control compressor, lights and fans connected to a monitoring system via RS-485 network (the optional board is needed for RS-485 connectivity).

RTN400

Plug-in R290 tank with variable speed compressor

RTN 400 SM can control all aspects of the application, including compressor, fans, lights and defrosting.

The innovative self-learning algorithm for control of variable speed compressors significantly reduces the time required for commissioning, ensuring maximum energy efficiency in all conditions and a longer motor life.

The advantages of this type of application are:

- Smaller compressor
- Reduced refrigerant charge
- Continuous control of cooling capacity
- Fewer compressor start-ups and consequently longer compressor life

RTN400 SM

KD - ECPlus series user interfaces

User interfaces for RT family



ECPlus



KDEPlus



KDWPlus



KDTPlus STD



KDTPlus

- + ECPlus, KDEPlus, KDWPlus: compatible with controllers in the RT series (RTX, RTD, RTN)
- + KDTPlus: keyboard with touch technology, compatible with controllers in the RT series (RTX, RTD, RTN)
- + KDTPlus: customisable for OEM solutions

Applications

KDEPlus and **KDWPlus** are user terminals for integral display and programming of controllers for multi-evaporator remote and plug-in refrigerated cabinets. Each power board can be connected to a single KDWPlus keyboard and, if required, to an ECPlus module for remote display. The **ECPlus** remote display is used to view displayed data at a distance of up to 100 m, differentiating it from the data displayed on KDEPlus and KDWPlus terminals. The **KDTPlus** keyboards, made from backlit screen-printed plexiglass, are used for all operations currently available with membrane and standard 32x74 keyboards, but with a perfectly smooth and easy to clean surface, combined with a modern design and the natural feeling of touch-sensitive keys with light and sound feedback. The special construction of the keyboards, with its glued-on installation option, offers reduced installation times, precise positioning and a protection rating of IP65. The simplicity of the KDTPlus keyboards is the result of Eliwell's experience in designing solutions for easy design and installation.

Technical data	KDTPlus STD	KDTPlus	KDEPlus	KDWPlus	ECPlus
Casing:	Polymethylmethacrylate (PMMA) front panel	Polymethylmethacrylate (PMMA) front panel	PC+ABS UL94 V-0 resin casing, polycarbonate window, thermoplastic resin keys	PC+ABS UL94 V-0 resin casing, polycarbonate window, thermoplastic resin keys	Body and window in polycarbonate
Dimensions:	front panel 180x40mm, depth 1.5mm	front panel 87x135mm, depth 1.5mm	front panel 74x32 mm, depth 30 mm	front panel 180x37 mm, depth 23mm	front panel 48x28.6 mm, depth 15mm
Installation:	panel mounting, can be set for a distance of up to 100m, with 150x31mm drilling template	panel mounting, can be set for a distance of up to 100m, with 67x120mm drilling template	panel-mounting, with 71x29mm (+0.2/-0.1 mm) drilling template	panel-mounting, with 150x31 mm (+0.2/-0.1 mm) drilling template	panel mounting with 45.9x26.4 mm (+0.2/-0.1 mm) drilling template
Display:	3 digits+sign, 8 coloured icons colours can selected from: amber/red/blue/white 6 capacitive touch keys	3 digits+sign, 8 coloured icons colours can selected from: amber/red/blue/white 6 capacitive touch keys	with decimal point ° 3 digits + sign	with decimal point ° 3 digits + sign	with decimal point ° 3 digits + sign
Display range:			see power board	see power board	see power board
Connections:			<ul style="list-style-type: none"> • screw terminals for low voltage connection • JST for ECPlus display connection 	<ul style="list-style-type: none"> • screw terminals for low voltage connection • JST for ECPlus display connection 	<ul style="list-style-type: none"> • screw terminals for low voltage connection • JST for KDWPlus or KDEPlus user terminal connection
Power supply:			from power board	from power board	from power board
Power consumption:			-	-	-
Ambient operating temperature:			-5...+55°C	-5...+55°C	-5...+55°C
Ambient storage temperature:			-30...+85°C	-30...+85°C	-30...+85°C
Ambient operation and storage humidity:			10...90% RH (non-condensing)	10...90% RH (non-condensing)	10...90% RH (non-condensing)

EWBC 800 series - KDT BC

Solutions for blast chillers



- + Display with LEDs and icons and 8 self-explanatory easy-to-use capacitive touch keys (KDT BC) or integral touch colour graphic interface (TGI)

- + Main blast chilling functions selected directly via touch key

- + 3-wire base-keypad connection suitable also for mounting to blast chiller doors

- + Positive/negative, timer/core probe and hard/soft chill control

- + UV management (sterilisation with germicidal lamp), core probe extraction and door frame heater

- + Removable terminals and quick connections

- + Device Manager configuration tool

- + Controlled temperature food defrosting management (EWBC 875 only)

- + Low temperature cooking management (EWBC 875 only)

- + HACCP with recording of the 10 most recent events (EWBC 875 only)

Applications

Blast chillers are used for rapid cooling of hot foods from their cooking temperature to a core temperature of +3°C in less than 90 minutes, so that the product can then be stored in a freezer or refrigerator.

This treatment extends the average shelf-life of the food product, because cold inhibits the growth of bacteria (bacteria multiply more quickly between +8°C and +68°C).

The **EWBC 800** controllers, developed by Eliwell specifically for blast chillers, are designed in a split format to ensure maximum installation flexibility.

EWBC 800s are used in conjunction with the **KDT BC** user interface, consisting of 8 touch capacitive keys and a LED display, and are particularly suited to stylistic customisation.

Technical data	EWBC 854	EWBC 875
Format:	121 x 92 mm	195 x 124 mm
Display:	<ul style="list-style-type: none"> • Via LINK²: with KDT BC touch keypad (3-digit LED-type with 8 icons) • Via RS485: via TGI full touch graphic interface (3.5", 4.3" or 7") 	<ul style="list-style-type: none"> • Via LINK²: with KDT BC touch keypad (3-digit LED-type with 8 icons) • Via RS485: via TGI full touch graphic interface (3.5", 4.3" or 7")
Power supply:	SMPS 100-240Vac ±10% 50/60Hz	SMPS 100-240Vac ±10% 50/60Hz
Digital outputs:	4 outputs: 1x 2HP, 1x 1HP, 2x 8(4)A	6 outputs: 1x 2HP, 2x 1HP, 3x 8(4)A
Analogue outputs:	1x Open Collector	1x Open Collector + 1x DAC
Digital inputs:	1 x multi-function, voltage-free D.I.	3 x multi-function, voltage-free D.I.
Analogue inputs:	4x configurable NTC/PTC/PT1000/D.I.	5x configurable NTC/PTC/PT1000/D.I.
Connections:	TTL for connection to Copy Card and Unicard	TTL for connection to Copy Card and Unicard

EWBC 1400

Solutions for blast chillers



- + Compact and economical controller for entry level applications, with LED display and 4 buttons
- + Positive/negative, timer/core probe chill control
- + UV management (sterilisation with germicidal lamp), core probe extraction and defrost on shutdown
- + Removable terminals and quick connections
- + Device Manager configuration tool

Applications

Blast chillers are used for rapid cooling of hot foods from their cooking temperature to a core temperature of +3°C in less than 90 minutes, so that the product can then be stored in a freezer or refrigerator.

This treatment extends the average shelf-life of food as the cold inhibits bacterial growth (bacteria multiply more quickly between +8°C and +68°C).

The **EWBC 1400** blast chiller controller consists of an open frame circuit board, designed to ensure cost-effective machine control. On request, Eliwell can supply a standard version of the external polycarbonate, which is easy to customise to individual requirements.

Technical data

EWBC 1400

Format:	95 x 105 mm
Display:	3-digit LED
Power supply:	230Vac ±15% 50/60Hz
Digital outputs:	4 configurable outputs: 4x 5A 250V
Digital inputs:	1 x voltage-free digital input with contact closure to ground
Analogue inputs:	4 inputs:
	1 x non-configurable input set as core probe needle
	2 x configurable input, NTC 103AT / PTC KTY 83-121
	1 x configurable input, NTC 103AT / PTC KTY 83-121 / D.I.
Connections:	TTL for connection to Copy Card

FREE Way

Programmable platform



FREE Smart



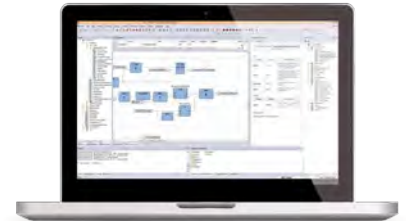
FREE Panel



FREE Advance



FREE Evolution



FREE Studio Plus

Applications

FREE Way is the range of logic controllers developed by Eliwell, which consists of the **FREE Smart**, **FREE Panel**, **FREE Advance** and **FREE Evolution**.

FREE Studio Plus is the universal programming software for machines automated by the **Free Way** logic controllers. It simplifies each of the steps in machine design and commissioning:

- 1 Unique, simple and flexible software suite for the entire **Free Way** range
- Compatible with the 5 standard programming languages (IEC 61131-3) to cover all needs with graphic or test based languages.
- Advanced debug and simulation options plus complete and effective online Help.
- Tools for easy commissioning
- Advanced communication features such as remote control and download
- Webpage creation from the software

FREE Smart

Programmable platform



It is the smallest programmable controller on the market, combining high performance and efficiency in very compact dimensions.

In the 32x74 mm dual format for panel mounting and DIN rail mount version, Smart allows easy programming, significant savings in wiring time and reduction of the cabinets dimensions up to 50%.

Thanks to the complete autonomy and configurability of all inputs and outputs, Smart is perfectly adaptable to any system.



FREE Smart features

- User interface with configurable keys.
- Available in three formats, in 100...240Vac and 12...24Vac/ 24VC versions:
 - **FREE Smart SMP** for panel mounting (32x74mm) with LED display
 - **FREE Smart SMD** 4 DIN with led display, **FREE Smart SMC** 4 DIN without display
- Can be connected via RS-485, Modbus RTU or via standard Eliwell peripherals and user interfaces
- Scalable solution with a wide range of start / end points: from 7 to 42 I/Os for FREE Advance
- For free Smart we go from 14 to 22 I/Os + 22 I/Os with I/O expansion (not sure if it is needed)

FREE Panel

Programmable platform



It combines in a single device comprising a programmable user terminal with graphics and a controller with advanced connectivity, for remote resource and distributed control management. Used in combination with other FREE Smart, FREE Evolution and FREE Advance controllers, it ensures high performance in terms of memory, connectivity and user interface, easy programmability, maintenance and service.



FREE Panel Features

- **FREE Panel EVP** system controller, with gateway functions and backlit LCD graphic display, for panel or wall mounting
- **FREE Panel AVP** zone controller with backlit colour graphic touch display, for wall or panel mounting, with built-in temperature, humidity and presence sensors
- High connectivity: can be integrated in industrial systems and micro BMS
- Connects to standard Eliwell and third-party peripheral devices

FREE Advance

Programmable platform



FREE Advance models (**AVD** with display, **AVC** without display) are available in the 4 or 8 DIN rail-mounted version, with removable screw terminals to make installation easier and faster. Free Advance is equipped with two RS 485 for Modbus SL (master/slave) or BACnet MS/TP (B-AAC profile, BACnet BTL certified) One for CAN expansion bus to connect to other controllers, remote display EVK and I/O expansions. One RJ45 for Modbus TCP, BACnet IP (B-AAC profile, BACnet BTL certified) and Ethernet to allow the user to browse the embedded webpages.



FREE Advance features

- Fully customizable graphic user interface
- Available in the 4 DIN and 8 DIN formats **FREE Advance AVD** with backlit graphic LCD and **FREE Advance AVC** without display
- Superior connectivity as standard for integration in industrial systems and BMS without optional modules
- Connects to standard Eliwell peripheral devices (including FREE Smart) to any network whatever it is a Modbus SL, BACnet MS/TP, Modbus TCP, BACnet IP or LonWorks network.
- A slot for a micro SD memory card that can be used for data logging or Webserver storage
- USB programming ports:
 - The USB-A port used to transfer programs with a memory stick.
 - USB mini B used to connect to a PC for programming

FREE Evolution

Programmable platform



It represents the top range of programmable controllers, designed to handle the most demanding applications in the HVAC/R field; available in format suitable for 8 DIN rail mounting, with removable screw terminals for quick and easy installation.



FREE Evolution features

- Fully customizable graphic user interface
- Available in the 8 DIN formats **FREE Evolution EVD** with backlit graphic LCD, **FREE Evolution EVC** without display
- High connectivity: integrates into industrial systems and BMS using dedicated plug-in modules which allows to connect to BACnet MS/TP, Modbus TCP and BACnet IP networks
- Connects to standard Eliwell peripheral devices (including FREE Smart) and third party devices
- USB programming ports:
 - The USB-A port used to transfer programs with a memory stick.
 - USB mini B used to connect to a PC for programming

APPENDIX

Temperature Probe Tables

Appendix

NTC probe table

Ambient temperature (°C)	Resistance (kOhm) 103AT
-50	329.50
-45	247.70
-40	188.50
-35	144.10
-30	111.30
-25	86.43
-20	47.77
-15	53.41
-10	42.47
-5	33.90
0	27.28
5	22.05
10	17.96
15	14.69
20	12.09
25	10.00
30	8.313
35	6.940
40	5.827
45	4.911
50	4.160
55	3.536
60	3.020
65	2.588
70	2.228
75	1.924
80	1.668
85	1.451
90	1.266
95	1.108
100	0.9731
105	0.8572
110	0.7576

NTC probe table - Extended range

Ambient temperature (°C)	Resistance (kOhm)		
	Minimum	Standard	Maximum
-40	321.654	333.562	345.877
-35	233.032	241.072	249.364
-30	170.611	176.082	181.710
-25	126.176	129.925	133.773
-20	94.221	96.807	99.454
-15	71.015	72.809	74.640
-10	54.004	55.253	56.525
-5	41.419	42.292	43.179
0	32.028	32.640	33.260
5	24.962	25.391	25.824
10	19.601	19.902	20.205
15	15.504	15.713	15.924
20	12.348	12.493	12.639
25	9.900	10,000	10.100
30	7.962	8.055	8.150
35	6.444	6.530	6.616
40	5.247	5.325	5.403
45	4.296	4.367	4.438
50	3.537	3.601	3.665
55	2.928	2.985	3.042
60	2.436	2.487	2.538
65	2.037	2.082	2.127
70	1.711	1.751	1.792
75	1.444	1.480	1.516
80	1.224	1.256	1.288
85	1.042	1.070	1.099
90	0.890	0.916	0.941
95	0.764	0.786	0.810
100	0.658	0.678	0.699
105	0.569	0.587	0.605
110	0.493	0.510	0.526
115	0.429	0.444	0.459
120	0.375	0.388	0.402
125	0.328	0.340	0.353
130	0.289	0.299	0.310
135	0.254	0.264	0.274
140	0.224	0.234	0.243
145	0.199	0.207	0.215
150	0.177	0.184	0.192

PTC probe table

Ambient temperature			Temperature coefficient	KTY81-121 / KTY82-121			
(°C)	(°F)	(%/K)		Resistance (Ohm)			Error - temperature
				Minimum	Standard	Maximum	
-55	-67	0.99		471	485	500	±3.02
-50	-58	0.98		495	510	524	±2.92
-40	-40	0.96		547	562	576	±2.74
-30	-22	0.93		603	617	632	±2.55
-20	-4	0.91		662	677	691	±2.35
-10	14	0.88		726	740	754	±2.14
0	32	0.85		794	807	820	±1.91
10	50	0.83		865	877	889	±1.67
20	68	0.80		941	951	962	±1.41
25	77	0.79		980	990	1000	±1.27
30	86	0.78		1018	1029	1041	±1.39
40	104	0.75		1097	1111	1125	±1.64
50	122	0.73		1180	1196	1213	±1.91
60	140	0.71		1266	1286	1305	±2.19
70	158	0.69		1355	1378	1402	±2.49
80	176	0.67		1447	1475	1502	±2.80
90	194	0.65		1543	1575	1607	±3.12
100	212	0.63		1642	1679	1716	±3.46
110	230	0.61		1745	1786	1828	±3.83
120	248	0.58		1849	1896	1943	±4.33
125	257	0.55		1900	1950	2000	±4.66
130	266	0.52		1950	2003	2056	±5.07
140	284	0.45		2044	2103	1462	±6.28
150	302	0.35		2124	2189	2254	±8.55

Temperature Probe Tables

Appendix

Pt100 probe table

Ambient Temp.	Resistance	Ambient Temp.	Resistance	Ambient Temp.	Resistance	Ambient Temp.	Resistance	Ambient Temp.	Resistance
(°C)	(Ohm)	(°C)	(Ohm)	(°C)	(Ohm)	(°C)	(Ohm)	(°C)	(Ohm)
-200	18.52	20	107.79	230	186.84	440	260.78	650	329.64
-190	22.83	30	111.67	240	190.47	450	264.18	660	332.79
-180	27.10	40	115.54	250	194.10	460	267.56	670	335.93
-170	31.34	50	119.40	260	197.71	470	270.93	680	339.06
-160	35.54	60	123.24	270	201.31	480	274.29	690	342.18
-150	39.72	70	127.08	280	204.90	490	277.64	700	345.28
-140	43.88	80	130.90	290	208.48	500	280.98	710	348.38
-130	48.00	90	134.71	300	212.05	510	284.30	720	351.46
-120	52.11	100	138.51	310	215.61	520	287.62	730	354.53
-110	56.19	110	142.29	320	219.15	530	290.92	740	357.59
-100	60.26	120	146.07	330	222.68	540	294.21	750	360.64
-90	64.30	130	149.83	340	226.21	550	297.49	760	353.67
-80	68.33	140	153.58	350	229.72	560	300.75	770	366.70
-70	72.33	150	157.33	360	233.21	570	304.01	780	369.71
-60	76.33	160	161.05	370	236.70	580	307.25	790	372.71
-50	80.31	170	164.77	380	240.18	590	310.49	800	375.70
-40	84.27	180	168.48	390	243.64	600	313.71	810	378.68
-30	88.22	190	172.17	400	247.09	610	316.92	820	381.65
-20	92.16	200	175.86	410	250.53	620	320.12	830	384.60
-10	96.09	210	179.53	420	253.96	630	323.30	840	387.55
0	100.00	220	183.19	430	257.38	640	326.48	850	390.48
10	103.90								

Pt1000 probe table

Ambient Temp.	Resistance	Ambient Temp.	Resistance	Ambient Temp.	Resistance	Ambient Temp.	Resistance	Ambient Temp.	Resistance
(°C)	(Ohm)	(°C)	(Ohm)	(°C)	(Ohm)	(°C)	(Ohm)	(°C)	(Ohm)
-200	185.281	20	1077.936	230	1868.465	440	2608.235	650	3297.246
-190	228.327	30	1116.731	240	1904.843	450	2642.196	660	3328.790
-180	271.029	40	1155.411	250	1941.106	460	2676.042	670	3360.219
-170	313.408	50	1193.976	260	1977.254	470	2709.773	680	3391.533
-160	355.484	60	1232.426	270	2013.287	480	2743.389	690	3422.731
-150	397.277	70	1270.961	280	2049.205	490	2776.889	700	3453.815
-140	432.903	80	1308.981	290	2085.007	500	2810.275	710	3484.783
-130	480.081	90	1347.085	300	2120.695	510	2843.545	720	3515.637
-120	521.127	100	1385.075	310	2156.267	520	2876.701	730	3546.375
-110	561.954	110	1422.949	320	2191.725	530	2909.741	740	3576.998
-100	602.578	120	1460.709	330	2227.067	540	2942.666	750	3607.506
-90	643.012	130	1498.353	340	2262.294	550	2975.476	760	3637.899
-80	683.267	140	1535.882	350	2297.406	560	3008.171	770	3668.177
-70	723.355	150	1573.296	360	2332.403	570	3040.751	780	3698.340
-60	763.286	160	1610.595	370	2367.285	580	3073.216	790	3728.387
-50	903.068	170	1647.779	380	2402.052	590	3105.565	800	3758.320
-40	842.71	180	1684.848	390	2436.703	600	3137.800	810	3788.137
-30	882.218	190	1721.801	400	2471.240	610	3169.919	820	3917.840
-20	921.6	200	1758.640	410	2505.661	620	3201.924	830	3847.427
-10	960.859	210	1795.363	420	2539.968	630	3233.813	840	3876.899
0	1000	220	1831.972	430	2574.159	640	3265.587	850	3906.256
10	1039.025								

Temperature Probe Tables

Appendix

TCJ probe table

Temp.	0°C	-10°C	-20°C	-30°C	-40°C	-50°C	-60°C	-70°C	-80°C	-90°C
-200°C	-7.890	-8.095	-	-	-	-	-	-	-	-
-100°C	-4.633	-5.037	-5.426	-5.801	-6.159	-6.500	-6.821	-7.123	-7.403	-7.659
0°C	0.000	-0.501	-0.995	-1.482	-1.961	-2.431	-2.893	-3.344	-3.786	-4.215
	10°C	20°C	30°C	40°C	50°C	60°C	70°C	80°C	90°C	100°C
0°C	0.000	0.507	1.019	1.537	2.059	2.585	3.116	3.650	4.187	4.726
100°C	5.269	5.814	6.360	6.909	7.459	8.010	8.562	9.115	9.669	10.224
200°C	10.779	11.334	11.889	12.445	13.000	13.555	14.110	14.665	15.219	15.773
300°C	16.327	16.881	17.434	17.986	18.538	19.090	19.642	20.194	20.745	21.297
400°C	21.848	22.400	22.952	23.504	24.059	24.610	25.164	25.720	26.276	26.834
500°C	27.393	27.953	28.516	29.080	29.647	30.216	30.788	31.362	31.939	32.519
600°C	33.102	33.689	34.279	34.873	35.470	36.071	36.675	37.284	37.896	38.512
700°C	39.132	39.755	40.382	41.012	41.645	42.281	42.919	43.559	44.203	44.848
800°C	45.494	46.141	46.786	47.431	48.074	48.715	49.353	49.989	50.622	51.251
900°C	51.877	52.500	53.119	53.735	54.347	54.956	55.561	56.164	56.763	57.360
1000°C	57.953	58.545	59.134	59.721	60.307	60.890	61.473	62.054	62.634	63.214
1100°C	63.792	64.370	64.948	65.525	66.102	66.679	67.255	67.831	68.406	68.980
1200°C	69.553	-	-	-	-	-	-	-	-	-

TCK probe table

Temp.	0°C	-10°C	-20°C	-30°C	-40°C	-50°C	-60°C	-70°C	-80°C	-90°C
-200°C	-5.730	-6.035	-6.158	-6.262	-6.344	-6.404	-6.441	-6.458	-	-
-100°C	-3.554	-3.852	-4.138	-4.411	-4.669	-4.913	-5.141	-5.354	-5.550	-5.730
0°C	0.000	-0.392	-0.778	-1.156	-1.527	-1.889	-2.243	-2.587	-2.920	-3.243
	10°C	20°C	30°C	40°C	50°C	60°C	70°C	80°C	90°C	100°C
0°C	0.000	0.397	0.798	1.203	1.612	2.023	2.436	2.851	3.267	3.682
100°C	4.096	4.509	4.920	5.328	5.735	6.138	6.540	6.941	7.340	7.739
200°C	8.138	8.539	8.940	9.343	9.747	10.153	10.561	10.971	11.382	11.795
300°C	12.209	12.624	13.040	13.457	13.874	14.293	14.713	15.133	15.554	15.975
400°C	16.397	16.820	17.243	17.667	18.091	18.516	18.941	19.366	19.792	20.218
500°C	20.644	21.071	21.497	21.924	22.350	22.776	23.203	23.629	24.055	24.480
600°C	24.905	25.330	25.755	26.179	26.602	27.025	27.447	27.869	28.289	28.710
700°C	29.129	29.548	29.965	30.382	30.798	31.213	31.628	32.041	32.453	32.865
800°C	33.275	33.685	34.093	34.501	34.908	35.313	35.718	36.121	36.524	36.925
900°C	37.326	37.725	38.124	38.522	38.918	39.314	39.708	10.101	40.490	40.885
1000°C	41.276	41.665	42.053	42.440	42.826	43.211	43.595	43.978	44.359	44.740
1100°C	45.119	45.497	45.873	46.249	26.623	46.995	47.367	47.737	48.105	48.473
1200°C	48.838	49.202	49.565	49.926	50.286	50.644	51.000	51.355	51.708	52.060
1300°C	52.410	52.759	53.106	53.451	53.795	54.138	54.479	54.819	-	-

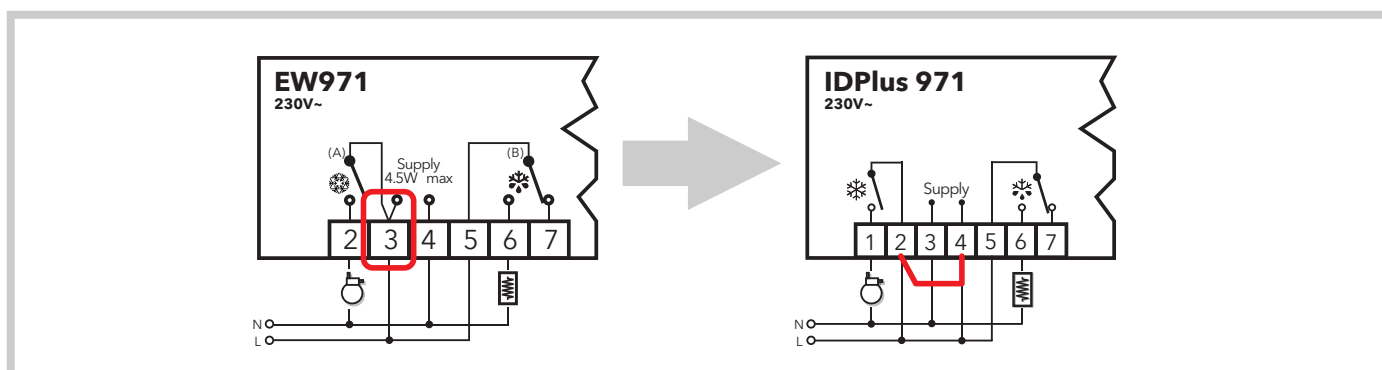
IDPlus vs EW and ID, ICPlus vs IC compatibility

Compatibility tables

IDPlus models	IC - ID	EWPC - EWTC - EWPX	EW - EWPlus*
IDPlus 902 Outputs: 8A SPDT	IC 901 IC 902 ID 961 ID 961LX	EWPC 901 EWPC 902 EWPC 961 EWTC 101 EWPX 161	EW 902 EWPlus 902
IDPlus 961 Outputs: 2Hp SPST	IC 901 IC 902 ID 961 ID 961LX	EWPC 901 EWPC 902 EWPC 961 EWTC 101 EWPX 161	EW 961 EWPlus 961
IDPlus 971 Outputs: 2Hp + 8A	ID 961/A ID 970 ID 970LX ID 971 ID 971LX	EWPC 970 EWPC 971 EWPX 161AR EWPX 170 EWPX 171	EW 971 EWPlus 971
IDPlus 974 Outputs: 2Hp + 8A + 5A	ID 974 ID 974 LX	EWPC 974 EWPX 174	EW 974 EWPlus 974
IDPlus 978 Outputs: 1.5Hp + 8A + 5A	ID 975LX ID 983 ID 985 ID 983LX (no C/K/S) ID 985LX (no C/K/S)	EWPX 174AR EWPX 174AX EWPX 185 EWPX 190	EWPlus 978

ICPlus models	IC	EWPC - EWTC
ICPlus 902/A	IC 901/A	-
ICPlus 902	IC 901 IC 902 IC 912 (no LX) IC 912LX V/I	EWPC 901 EWPC 902 EWTC 101
ICPlus 915	IC 912LX (no V/I) IC 915 IC 915LX	EWPC 905

*NB - Controllers in the series for OEM EW / EWPlus include a connection between power supply and loads that is not found in the IDPlus series. IT IS therefore necessary to jumper the load line and the controller power supply, see example below:



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