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by Schneider Electric

REFRIGERATION SOLUTIONS CATALOGUE

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Refrigeration solutions catalogue

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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

IDNext 902 – IDNext 961

The next generation controller for cooling equipment

Art.-Nr.	Beschr.	Relais-Schaltl.	Versorg.
IDN902P6D103000	IDNext 902 P	10A	12 Vac/dc
IDN902P6D107000	IDNext 902 P	10A	230 Vac
IDN961P7D103000	IDNext 961 P	12A	12 Vac/dc
IDN961P7D107000	IDNext 961 P	12A	230 Vac

Zubehör

Art.-Nr.	Beschr.
ADBT4200001000	DONGLE BTLE 4.2 DATALOG AIR

Anwendungen

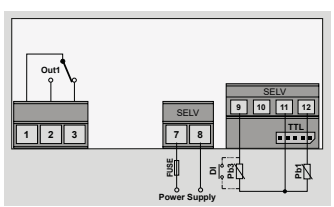
Die Regler der Serie IDNext sind Geräte letzter Generation für statische und belüftete Kühlstellen mit normaler oder tiefer Temperatur.
Die Serie IDNext eignet sich für den Einsatz in Einheiten mit brennbaren Kältemitteln der Kategorie 2L oder 3 wie zum Beispiel R290 oder R600.
IDNext bietet ein innovatives Management des Modular Abtauen an, das, für seine Einmaligkeit, in der Phase der Patentierung ist.
Die Regler IDNext sind mit den Funktionen **Deep Cooling Cycle** (erweiterter Steueralgorithmus für das Schnellkühlen), **Easy Map** (Funktion für mehrere vorinstallierte Gerätekonfigurationen) und **Compressor Over Heating** (Funktion für die Temperaturüberwachung auf Druckseite des Verdichters mit Benachrichtigung des anomalen Betriebes) implementiert.
Die Serie IDNext ist kompatibel mit der Eliwell AIR App und mit der TelevisAir Cloud Lösung.

Common features

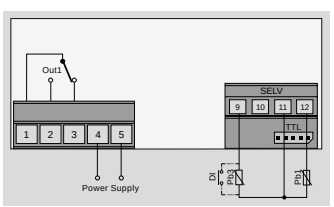
Appearance	UNIBODY front panel with integrated gasket	**Operating Temperature**	-5...55 °C
Dimensions	Front panel 81x35 mm, depth 60 mm	**Storage Temperature**	-30…85 °C
Installation	panel, 71x29mm	**Ambient Humidity**	10…90% RH (non-condensing)
Connectivity	TTL port for connection to Unicard or TelevisSystem ModBus monitoring device	**Accessories**	Unicard USB/TTL Dongle BTLE/TTL

Technical data	IDNext 902	IDNext 961
Display range:	-99,9…+99,9 °C -999…+999 °C	-99,9…+99,9 °C -999…+999 °C
Display:	LED 3 digits + sign	LED 3 digits + sign
Analogue inputs:	1x PTC or NTC or Pt1000	1x PTC or NTC or Pt1000
Digital inputs:	1x SELV	1x SELV
Digital outputs:	1x SPDT 10(6)A 230Vac	1x SPST 2Hp 12(8)A 230Vac
Measurement range:	NTC: -50,0…+110,0 °C PTC: -55,0…+140,0 °C Pt1000: -55,0...+150,0 °C	NTC: -50,0…+110,0 °C PTC: -55,0…+140,0 °C Pt1000: -55,0...+150,0 °C
Accuracy:	• NTC, PTC: better than 0,5% of full scale + 1 digit • Pt1000 [-55,0…+70,0°C]: better than 0,5% of full scale + 1 digit • Pt1000 [+70,0…+150,0°C]: better than 1,0% of full scale + 1 digit	• NTC, PTC: better than 0,5% of full scale + 1 digit • Pt1000 [-55,0…+70,0°C]: better than 0,5% of full scale + 1 digit • Pt1000 [+70,0…+150,0°C]: better than 1,0% of full scale + 1 digit
Resolution:	0,1°C	0,1°C
Power consumption:	3 VA - 1,5W 5 VA	5 VA - 2,5W 5,5 VA
Power supply:	12Vac/dc 230Vac	12Vac/dc 230Vac

Wiring diagrams



IDNext 902 P - 12Vac/dc models



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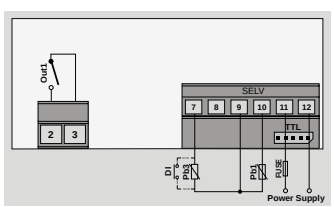
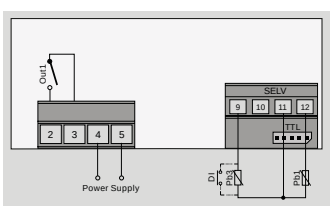


IDNext 961 P - 12Vac/dc models



IDNext 961 P - 230Vac models

IDNext 971 – IDNext 974

The next generation controller for cooling equipment

Codes	Description	Relay capacity	Power supply
IDN971P9D303000	IDNext 971 P/B	12A/8A	12 Vac/dc
IDN971P9D307000	IDNext 971 P/B	12A/8A	230 Vac
IDN974PED303000	IDNext 974 P/B	12A/8A/5A	12 Vac/dc
IDN974PED307000	IDNext 974 P/B	12A/8A/5A	230 Vac
IDN974PED507000	IDNext 974 P/C	12A/8A/5A	230 Vac
IDN974PND527000	IDNext 974 P/CI	VSC/10A/8A	230 Vac

Accessories

Codes	Description
ADBT4200001000	DONGLE BTLE 4.2 DATALOG AIR

Applications

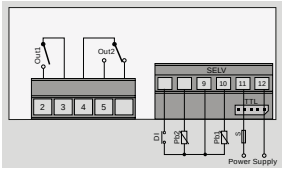
Controllers in the IDNext range are new-generation devices suitable for static and ventilated units at normal and low temperatures.
IDNext range is suitable for use with units which utilize flammable refrigerants in category 2L or 3, such as R290 or R600.
IDNext provides an innovative modular defrost management which is under patent process due to its uniqueness in the refrigeration market.
IDNext features the **Deep Cooling Cycle** function (advanced algorithm allowing rapid temperature decrease). The **Easy Map** function offers multiple preloaded machine configurations and the **Compressor Over Heating** function monitors the compressor discharge temperature, notifying any bad working condition.
IDNext range is compatible with Eliwell AIR APP and TelevisAir Cloud solution.
IDNext 974 P/CI is equipped with frequency output to drive Variable Speed Compressors.

Common features

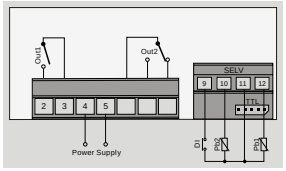
Appearance	UNIBODY front panel with integrated gasket	**Operating Temperature**	-5...55 °C
Dimensions	Front panel 81x35 mm, depth 60 mm	**Storage Temperature**	-30…85 °C
Installation	panel, 71x29mm	**Ambient Humidity**	10…90% RH (non-condensing)
Connectivity	TTL port for connection to Unicard or TelevisSystem ModBus monitoring device	**Accessories**	Unicard USB/TTL Dongle BTLE/TTL

Technical data	IDNext 971	IDNext 974 P/B -IDNext 974 P/C	IDNext 974 P/CI
Display range:	-99,9…+99,9 °C -999…+999 °C	-99,9…+99,9 °C -999…+999 °C	-99,9…+99,9 °C -999…+999 °C
Display:	LED 3 digits + sign	LED 3 digits + sign	LED 3 digits + sign
Analogue inputs:	2x PTC or NTC or Pt1000	2x PTC or NTC or Pt1000	2x PTC or NTC or Pt1000
Digital inputs:	1x SELV	1x SELV	1x SELV
Digital outputs:	1x SPST 2Hp 12(8)A 230Vac 1x SPDT 0,5Hp 8(4)A 230Vac	1x SPST 2Hp 12(8)A 230Vac 1x SPDT 0,5Hp 8(4)A 230Vac 1x SPST 5(2)A 230Vac	1x O.C. VSC: 16Vdc (min. 1500ohm) 1x SPDT 0,5Hp 8(4)A 230Vac 1x SPST 1,5Hp 10(6)A 230Vac
Measurement range:	NTC: -50,0…+110,0 °C PTC: -55,0…+140,0 °C Pt1000: -55,0...+150,0 °C	NTC: -50,0…+110,0 °C PTC: -55,0…+140,0 °C Pt1000: -55,0...+150,0 °C	NTC: -50,0…+110,0 °C PTC: -55,0…+140,0 °C Pt1000: -55,0...+150,0 °C
Accuracy:	• NTC, PTC: better than 0,5% of full scale + 1 digit • Pt1000 [-55,0…+70,0°C]: better than 0,5% of full scale + 1 digit • Pt1000 [+70,0…+150,0°C]: better than 1,0% of full scale + 1 digit	• NTC, PTC: better than 0,5% of full scale + 1 digit • Pt1000 [-55,0…+70,0°C]: better than 0,5% of full scale + 1 digit • Pt1000 [+70,0…+150,0°C]: better than 1,0% of full scale + 1 digit	• NTC, PTC: better than 0,5% of full scale + 1 digit • Pt1000 [-55,0…+70,0°C]: better than 0,5% of full scale + 1 digit • Pt1000 [+70,0…+150,0°C]: better than 1,0% of full scale + 1 digit
Resolution:	0,1°C	0,1°C	0,1°C
Power consumption:	5 VA - 2,5W 5,5 VA	5 VA - 2,5W 5,5 VA	5,5 VA
Power supply:	12Vac/dc 230Vac	12Vac/dc 230Vac	230Vac
Buzzer:	present	Available on IDNext 974 P/B	Not present
Real Time Clock:	Not present	Available on IDNext 974 P/C	Present
Variable Speed Compressor	Not present	Not present	Present

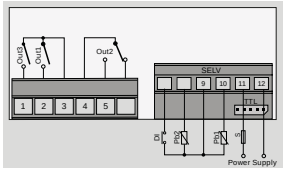
Wiring diagrams



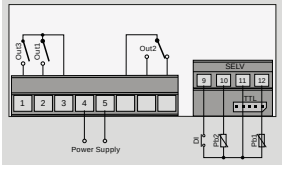
IDNext 971 P/B - 12Vac/dc models



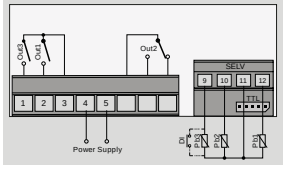
IDNext 971 P/B - 230Vac models



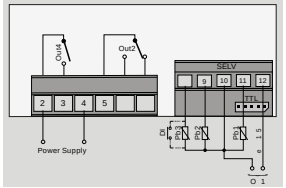
IDNext 974 P/B - 12Vac/dc models



IDNext 974 P/B - 230Vac models



IDNext 974 P/C - 230Vac models



IDNext 974 P/CI - 230Vac models

IDNext 978

The next generation controller for cooling equipment

Codes	Description	Relay capacity	Power supply
IDN978P4D307000	IDNext 978 P/B	10A/8A/5A/5A	230 Vac
IDN978P4D507000	IDNext 978 P/C	10A/8A/5A/5A	230 Vac
IDN978P3D527000	IDNext 978 P/CI	VSC/10A/8A/5A	230 Vac

Accessories

Codes	Description
ADBT4200001000	DONGLE BTLE 4.2 DATALOG AIR

Applications

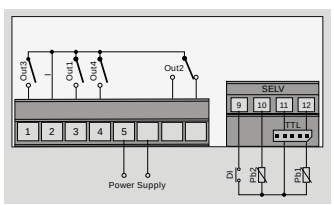
Controllers in the IDNext range are new-generation devices suitable for static and ventilated units at normal and low temperatures.
IDNext range is suitable for use with units which utilize flammable refrigerants in category 2L or 3, such as R290 or R600.
IDNext provides an innovative modular defrost management which is under patent process due to its uniqueness in the refrigeration market.
IDNext features the **Deep Cooling Cycle** function (advanced algorithm allowing rapid temperature decrease). The **Easy Map** function offers multiple preloaded machine configurations and the **Compressor Over Heating** function monitors the compressor discharge temperature, notifying any bad working condition.
IDNext range is compatible with Eliwell AIR APP and TelevisAir Cloud solution.
IDNext 978 P/CI is equipped with frequency output to drive Variable Speed Compressors.

Common features

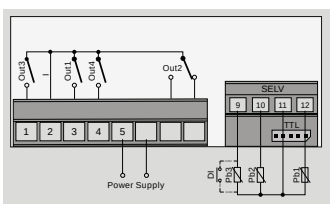
Appearance	UNIBODY front panel with integrated gasket	**Operating Temperature**	-5...55 °C
Dimensions	Front panel 81x35 mm, depth 60 mm	**Storage Temperature**	-30…85 °C
Installation	panel, 71x29mm	**Ambient Humidity**	10…90% RH (non-condensing)
Connectivity	TTL port for connection to Unicard or TelevisSystem ModBus monitoring device	**Accessories**	Unicard USB/TTL Dongle BTLE/TTL

Technical data	IDNext 978 P/B - IDNext 978 P/C	IDNext 978 P/CI
Display range:	-99,9…+99,9 °C -999…+999 °C	-99,9…+99,9 °C -999…+999 °C
Display:	LED 3 digits + sign	LED 3 digits + sign
Analogue inputs:	2x PTC or NTC or Pt1000	2x PTC or NTC or Pt1000
Digital inputs:	1x SELV	1x SELV
Digital outputs:	1x SPST 1,5Hp 10(6)A 230Vac 1x SPDT 0,5Hp 8(4)A 230Vac 2x SPST 5(2)A 230Vac	1x O.C. VSC: 16Vdc (min. 1500ohm) 1x SPDT 0,5Hp 8(4)A 230Vac 1x SPST 1,5Hp 10(6)A 230Vac 1x SPST 5(2)A 230Vac
Measurement range:	NTC: -50,0…+110,0 °C PTC: -55,0…+140,0 °C Pt1000: -55,0...+150,0 °C	NTC: -50,0…+110,0 °C PTC: -55,0…+140,0 °C Pt1000: -55,0...+150,0 °C
Accuracy:	• NTC, PTC: better than 0,5% of full scale + 1 digit • Pt1000 [-55,0…+70,0°C]: better than 0,5% of full scale + 1 digit • Pt1000 [+70,0…+150,0°C]: better than 1,0% of full scale + 1 digit	• NTC, PTC: better than 0,5% of full scale + 1 digit • Pt1000 [-55,0…+70,0°C]: better than 0,5% of full scale + 1 digit • Pt1000 [+70,0…+150,0°C]: better than 1,0% of full scale + 1 digit
Resolution:	0,1°C	0,1°C
Power consumption:	5,5 VA	5,5 VA
Power supply:	230Vac	230Vac
Buzzer:	Available on IDNext 978 P/B	Not present
Real Time Clock:	Available on IDNext 978 P/CI	Present
Variable Speed Compressor:	Not present	Present

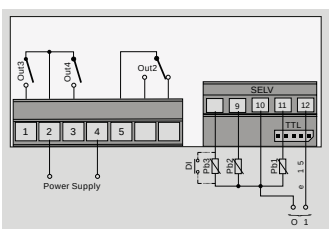
Wiring diagrams



IDNext 978 P/B - 230Vac models



IDNext 978 P/C - 230Vac models



IDNext 978 P/CI - 230Vac models

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

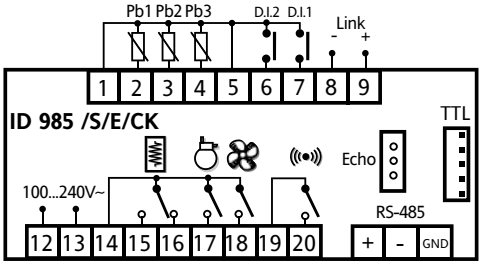
ID 985 controllers are suitable for any application on ventilated refrigeration units at normal or low temperature. The Echo is a remote signal repeater which can be connected to ID 985/S/E/CK controllers.
ID 985 /S/E/CK compact electronic controllers, specifically designed for supermarket refrigeration 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:	• NTC probe: -50.0...110.0°C • PTC probe: -50.0...140.0°C	• 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

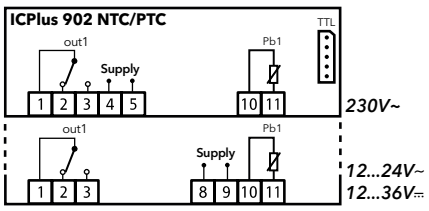
Container	PC+ABS UL94 V-0 plastic resin casing, polycarbonate display window, thermoplastic resin buttons	**Operating temperature**	0...55°C
Dimensions	front panel 79x37 mm, depth 59 mm	**Storage temperature**	-30...85°C
Installation	panel mounting with 71x29 mm (+0.2/-0.1 mm) drilling template	**Ambient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

Technical data

Technical data	ICPlus 902 NTC/PTC
Display range:	• 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:	• 3 W for 12...24 Vac model • 3 W for 230 Vac model
Power supply:	• 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⎓
ICP22I0750000	ICPlus 915 V/I 230 V	V/I	230 Vac
ICP22I0450000	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 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
Dimensions	front panel 79x37 mm, depth 59 mm
Installation	panel mounting with 71x29 mm (+0.2/-0.1 mm) drilling template

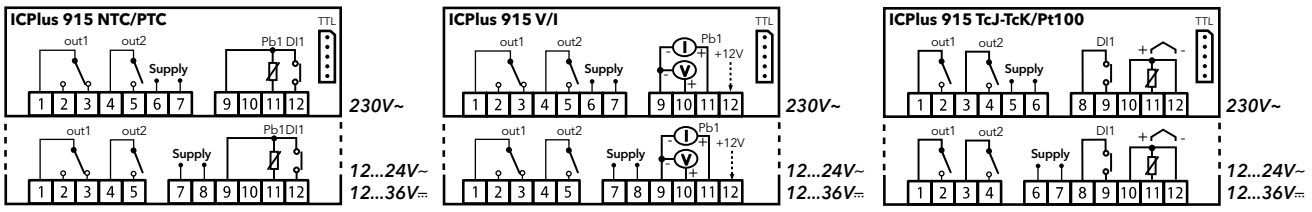
Operating temperature	0...55°C
Storage temperature	-30...85°C
Ambient humidity for operation and storage	10...90% RH (non-condensing)

Technical data

	ICPlus 915 NTC/PTC	ICPlus 915 V/I	ICPlus 915 TC/Pt100
Display range:	• NTC probe: -50.0...110.0°C • PTC probe: -50.0...140.0°C	• -199...199 * • -199.9...199.9 * • -1999...1999 *	• 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
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, Televis**System** and systems with ModBus protocol	TTL port for connection to USB Unicard, Televis**System** and systems with ModBus protocol	TTL port for connection to USB Unicard, Televis**System** 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:	• 3 W for 12...24 Vac model • 3 W for 230 Vac model	• 3 W for 12...24 Vac model • 3 W for 230 Vac model	• 3 W for 12...24 Vac model • 3 W for 230 Vac model
Power supply:	• 12Vac, 24Vac, 12...24Vac/12...36V⎓ (°) ±10% 50/60 Hz • 115 Vac/230 Vac ±10% 50/60 Hz	• 12Vac, 24Vac, 12...24Vac/12...36V⎓ (°) ±10% 50/60 Hz • 115Vac/230 Vac ±10% 50/60 Hz	• 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:	• NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C	• 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:	• 1.5 W for 12 Vac model • 3 W for 230 Vac model	• 1.5 W for 12 Vac model • 3 W for 230 Vac model
Power supply:	• 12 Vac/⎓ ±10% 50/60 Hz • 230 Vac ±10% 50/60 Hz	• 12 Vac/⎓ ±10% 50/60 Hz • 230 Vac ±10% 50/60 Hz
Alarm:	optional	optional

* selectable by parameter

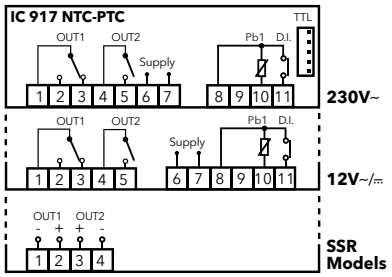
Wiring diagrams

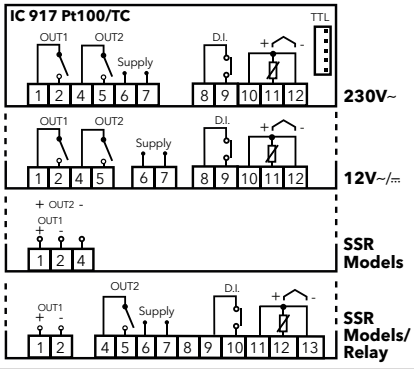
SSR Outputs

Version HV 230V~
1 SSR (500Ω) V_{OUT}= 11.3 V; I_{OUT}= 22.6 mA
(3kΩ) V_{OUT}= 16.2 V; I_{OUT}= 5.4 mA
2 SSR (2x500Ω) V_{OUT}= 10.6 V; I_{OUT}= 21.2 mA
(2x3kΩ) V_{OUT}= 15.8 V; I_{OUT}= 5.3 mA

Version LV 12V⎓
1 or 2 SSR (500Ω) V_{OUT}= 7.7 V; I_{OUT}= 15.4 mA
1 or 2 SSR (3kΩ) V_{OUT}= 9.9 V; I_{OUT}= 3.3 mA

Version LV 12V~
1 or 2 SSR (500Ω) V_{OUT}= 10.7 V; I_{OUT}= 21.4 mA
1 or 2 SSR (3kΩ) V_{OUT}= 13.9 V; I_{OUT}= 4.6 mA





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
Dimensions	front panel 79x37mm, depth 59mm
Installation	panel mounting with 71x29mm (+0.2/–0.1mm) drilling template

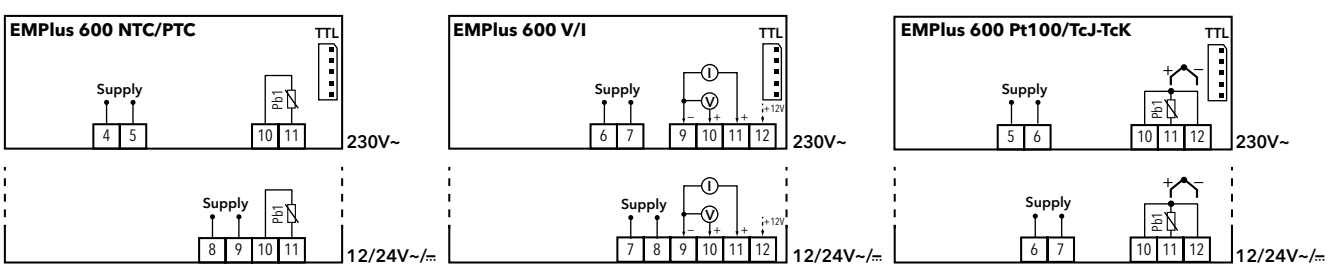
Operating temperature	-5...55°C
Storage temperature	-30...85°C
Ambient humidity for operation and storage	10...90% RH (non-condensing)

Technical data

	EMPlus 600 NTC/PTC	EMPlus 600 V/I	EMPlus 600 TC/Pt100
Display range:	• NTC probe: -50.0...110.0°C • PTC probe: -50.0...140.0°C	• -199...199 * • -199.9...199.9 * • -1999...1999 *	• 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, Televis**System** and systems with ModBus protocol	TTL port for connection to USB Unicard, Televis**System** and systems with ModBus protocol	TTL port for connection to USB Unicard, Televis**System** 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 to199.9°C, 1°C (1°F) beyond TcJ: 0.1°C (0.1°F) up to199.9°C, 1°C (1°F) beyond TcK: 0.1°C (0.1°F)
Power consumption:	• 3W for 12...24Vac model • 3W for 230Vac model	• 3W for 12...24Vac model • 3W for 230Vac model	• 3W for 12...24Vac model • 3W for 230Vac model
Power supply:	• 12Vac, 24Vac, 12...24Vac/12...36V⎓ (°) ±10% 50/60Hz • 115Vac/230Vac ±10% 50/60Hz	• 12Vac, 24Vac, 12...24Vac/12...36V⎓ (°) ±10% 50/60Hz • 115Vac/230Vac ±10% 50/60Hz	• 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

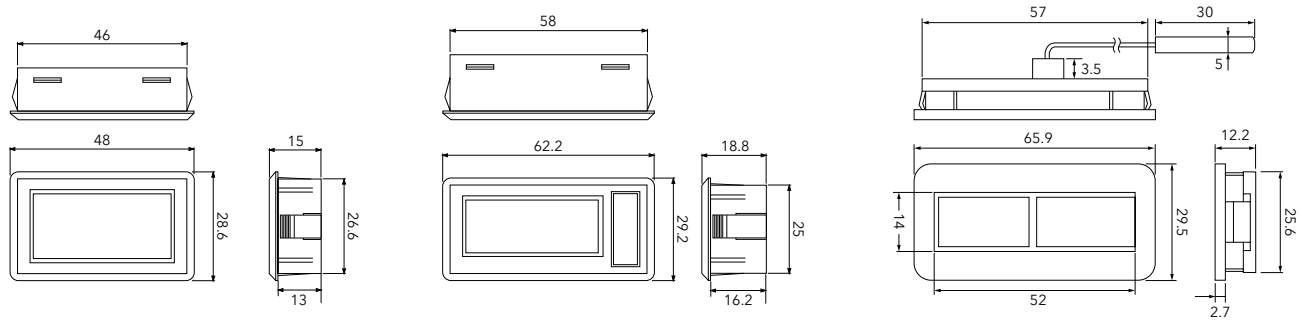
The EWTL 300/310 is a range of LCD digital temperature gauges with temperature probes connected to the instrument via a cable of length 1.5, 2 or 3 metres.
AN adapter that allows to replace 32x64 mm front tools (with 24.5x58 template hole mm) with the EWTL 300 thermometer is available.
DST-30 is a solar-cell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



EWTL 300 EWTL 310 DST-30

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

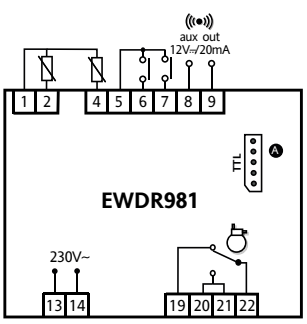
Container	plastic casing with 4 DIN modules	**Ambient humidity for operation and storage**	10...90% RH (non-condensing)
Dimensions	front panel 70x85mm, depth 61mm	**Connections**	on screw-on terminal block for ≤ 2.5 mm² wires (just one wire per terminal for power connections)
Installation	on DIN rail (Omega) or wall mounted		
Operating temperature	-5...55°C		
Storage temperature	-30...85°C		

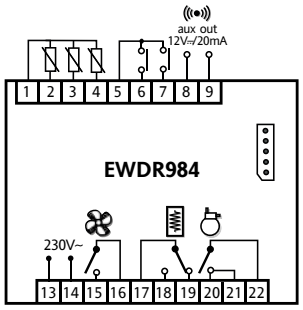
Technical data

	EWDR 981	EWDR 984
Display range:	• NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C	• 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⎓/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 ±10% 50/60Hz	230Vac ±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 Televis**System**.

Common features

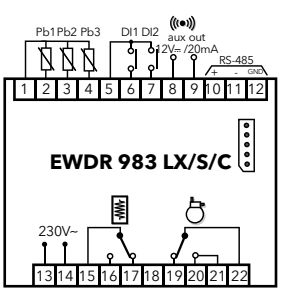
Container	plastic casing with 4 DIN modules	**Ambient humidity for operation and storage**	10...90% RH (non-condensing)
Dimensions	front panel 70x85mm, depth 61mm	**Connections**	on screw-on terminal block for ≤ 2.5 mm² wires (just one wire per terminal for power connections)
Installation	on DIN rail (Omega) or wall mounted		
Operating temperature	-5...55°C		
Storage temperature	-30...85°C		

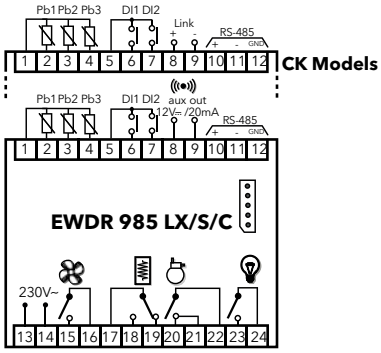
Technical data

Technical data	EWDR 983 LX/S	EWDR 985 LX/S/C/K
Display range:	• NTC probe: -50.0...110.0°C • PTC probe: -55.0...140.0°C	• 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 Televis**System**	TTL port for connection to Copy Card **LX only**: RS -485 for connection to Televis**System**
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 ±10% 50/60Hz	230Vac ±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

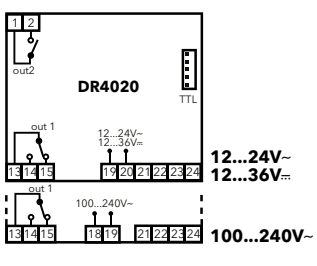
Container	plastic casing with 4 DIN modules	**Operating temperature**	-5...55°C
Dimensions	front panel 70x85mm, depth 61mm	**Storage temperature**	-20...85°C
Installation	on DIN rail (Omega) or panel mounting, with 70x45mm (+0.2/-0.1mm) drilling template	**Ambient humidity for operation and storage**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

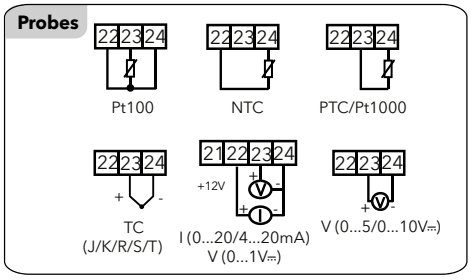
Technical data

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:	• 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

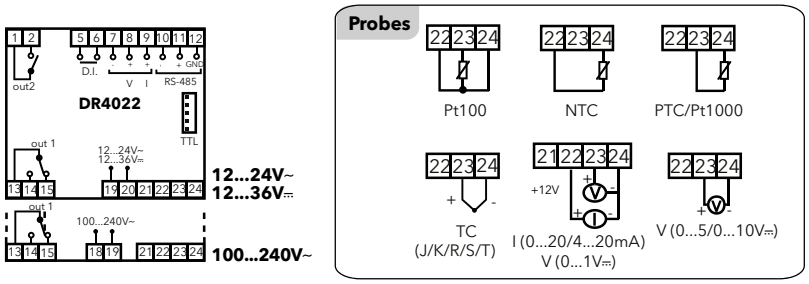
Container	plastic casing with 4 DIN modules	**Operating temperature**	-5...55°C
Dimensions	front panel 70x85mm, depth 61mm	**Storage temperature**	-20...85°C
Installation	on DIN rail (Omega) or panel mounting, with 70x45 mm (+0.2/-0.1 mm) drilling template	**Ambient humidity for operation and storage**	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, Televis**System** 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:	• 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
E481BI0XBH700	EW4820	V/I/Pt100	100...240Vac
E481SI0XBN700	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...24Vac/⎓
E481SP0PMH400	EW4820 SSR output	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

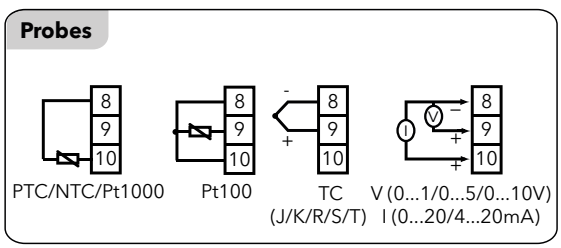
Container	PC+ABS UL94 V-0 resin plastic casing, switch keys with adhesive polycarbonate film	**Operating temperature**	-5...55°C
Dimensions	front panel 48x48mm, depth 113mm	**Storage temperature**	-20...85°C
Installation	panel-mounting, with 45x45mm (+0.2/-0.1mm) drilling template	**Ambient humidity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

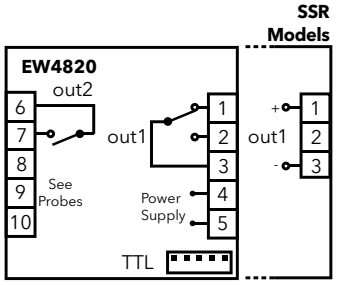
Technical data

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 Televis**System**
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:	not available
Measurement range:	according to probe used
Accuracy:	according to probe used
Resolution:	according to probe used
Power consumption:	• 2.45W for 12...24Vac/12...36V⎓ model • 2.40W for 100...240Vacmodel
Power supply:	• 12...24Vac/12...36V⎓ ±10% 50/60Hz • 100...240Vac ±10% 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/I/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.

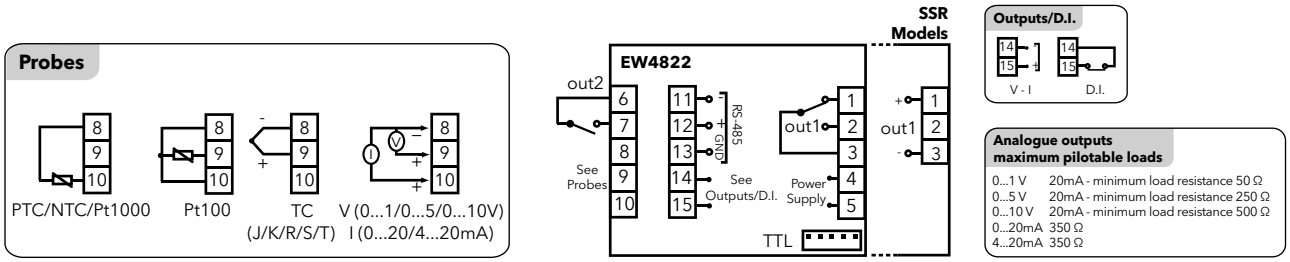
Common features

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 Televis**System** + 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:	• 2.80W for 12...24Vac/12...36V⎓model • 2.60W for 100...240Vacmodel
Power supply:	• 12...24Vac/12...36V⎓ ±10% 50/60Hz • 100...240Vac ±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.

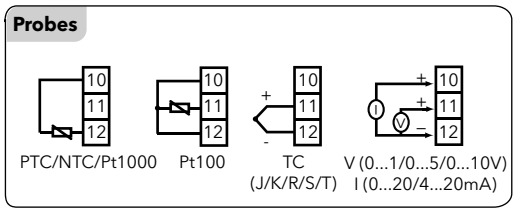
Common features

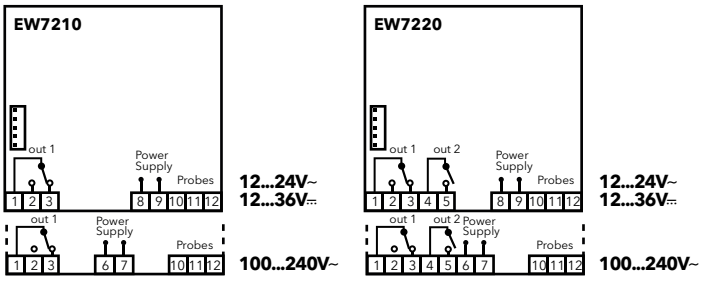
Container	PC+ABS UL94 V-0 resin plastic casing, switch keys with adhesive polycarbonate film	**Operating temperature**	-5...55°C
Dimensions	front panel 72x72mm, depth 80mm	**Storage temperature**	-20...85°C
Installation	panel-mounting, with 67x67mm (+0.2/-0.1mm) drilling template	**Ambient humidity for 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, Televis**System** or systems with ModBus protocol	TTL port for connection to Copy Card, Televis**System** 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:	• 12...24Vac/12...36V⎓ ±10% 50/60Hz • 100...240Vac ±10% 50/60Hz	• 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
E7213PAXBD700	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.

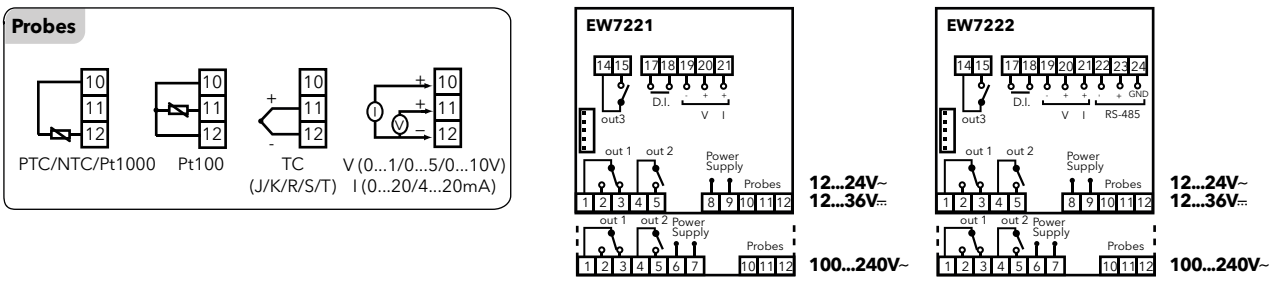
Common features

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:	• 12...24Vac/12...36V⎓ ±10% 50/60Hz • 100...240Vac ±10% 50/60Hz	• 12...24Vac/12...36V⎓ ±10% 50/60Hz • 100...240Vac ±10% 50/60Hz

*(selectable by parameter)

Wiring diagrams



EWTSPlus 990

32x74 timers and counters

Codes	Descr.	Power supply
ET020I0XTG700	EWTSPlus 990	230Vac
ET020I0XTG500	EWTSPlus 990	24Vac
ET020I0XTG300	EWTSPlus 990	12Vac/⎓

Applications

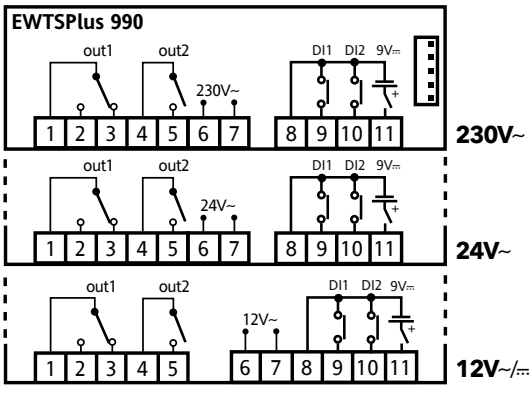
The Eliwell series of digital timers is the ideal measuring solution for all measurable quantities in commercial refrigeration and light industry. The range is used in all applications requiring precision control of processing stages and the management of functions linked to pre-set time intervals.

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	EWTSPlus 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 Televis**System**
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:	• 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
RCA3PDRX2*700	EWRC 500 NT 2HP BUZ 4D W\B	2 2HP outputs\Buzzer\ Circuit Breaker
KP00Q1S0	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		

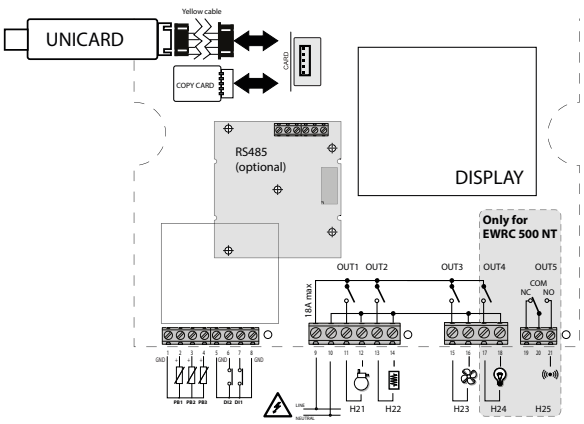
Technical data

	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: Nominal current Pulse voltage	-	-	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 **OUT3 common-line 2HP 8(4)A 250 V only for RCA3PDRX2*700** 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

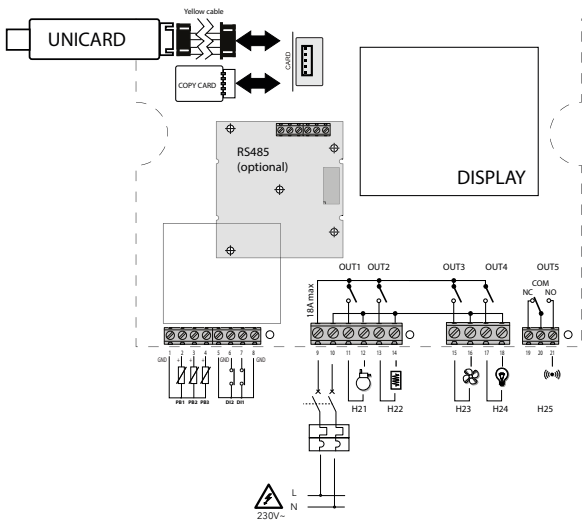
* selectable from parameter **with optional module

Wiring diagrams

EWRC 300-500 NT



EWRC 500 NT BREAKER



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

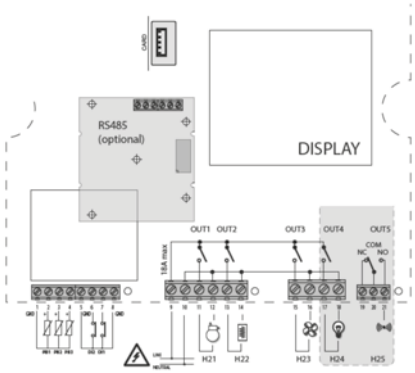
Container	PC + ABS	**Operating temperature**	-5...40°C
Display	2 displays: 3 digits + sign and 4 digits	**Storage temperature**	-20..+70°C
Installation	wall-mounted	**Ambient operation and storage humidity**	10...90% RH (non-condensing)

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

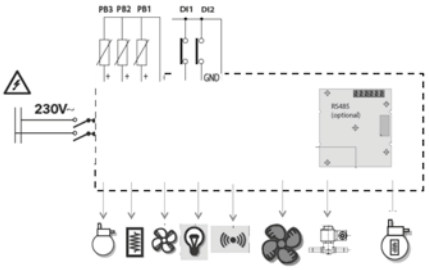
* selectable from parameter - **with optional module

Functional diagram

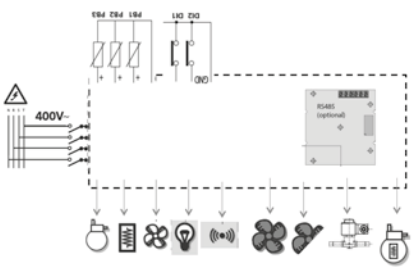
EWRC 5000 NT



EWRC 5010 NT



EWRC 5030 NT



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

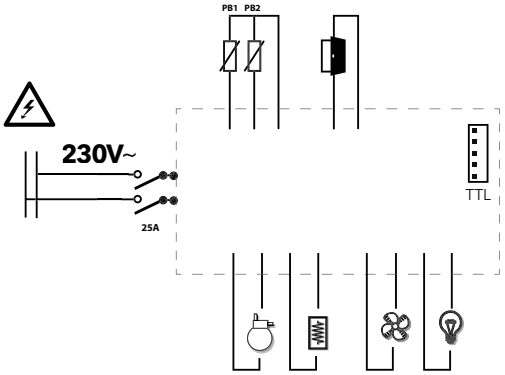
Front panel protection rating	IP54	**Operating temperature**	-5...50°C
Container	PC + ABS	**Storage temperature**	-20..+70°C
Control	IDPlus 978 Thermoregulator	**Ambient operation and storage humidity**	10...90% RH (non-condensing)
Installation	wall-mounted		

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

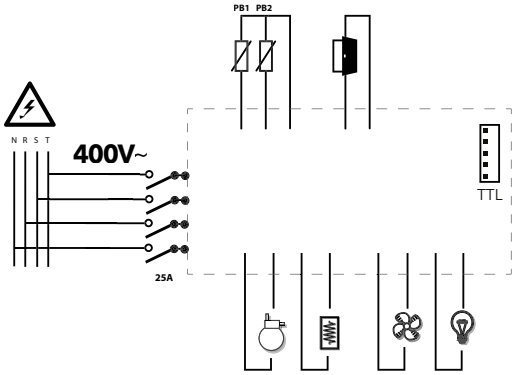
* selectable by parameter

Functional diagram

Single phase models



3-phase models



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. Expandable with EXP 455D PRO
EPD01PSTD400A	EWCM 455D PRO /A-STD W/CABLES [1]	
EPE01PSTD400A	EWCM 455P PRO /A-STD W/CABLES [1]	
EP5500000400A	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
Container	plastic casing, flame retardant grade UL94-V0
Dimensions	front panel 32x74mm, depth 70mm
Installation	panel-mounted, with 71x29mm hole

Operating temperature	-5...60°C
Storage temperature	-20...85°C
Ambient humidity for operation and storage	10...90% RH (non-condensing)

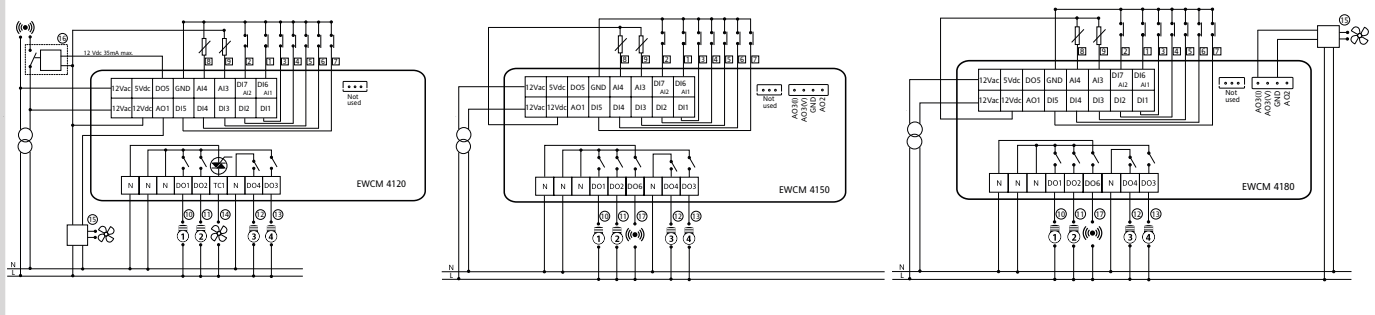
Technical data	EWCM 4120	EWCM 4150	EWCM 4180
Analogue inputs:	2 4...20mA / ratiometric 0...5V / 0...10V / NTC / D.I.*	2 4...20mA / ratiometric 0...5V / 0...10V / NTC / D.I.*	2 4...20mA / ratiometric 0...5V / 0...10V / NTC / D.I.*
Digital inputs:	7 SELV contacts	7 SELV contacts	7 SELV contacts
Analogue outputs:	• TRIAC • PWM - Open Collector -	- • 2 PWM - Open Collector • 0...10V / 4...20mA / 0...20mA*	- • 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 Televis**System** via optional module	TTL port for connection to Copy Card and Televis**System** via optional module	TTL port for connection to Copy Card and Televis**System** 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
EPK010000000	EVK PRO DISPLAY /GR	Remote display

Applications

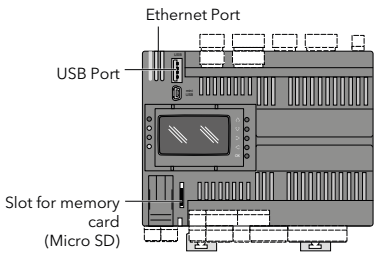
The new series of controllers for EWCM 9000 PRO DOMINO compressor racks is the solution for the sustainable systems based on natural refrigerants. The EWCM 9000 PRO DOMINO /CO2T model is dedicated to the solutions for transcritical CO2 with booster circuit and allows for the management of up to two circuits 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 Televis 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

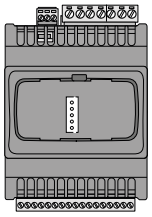
- Management of 2 circuits up to 8 compressors
- Parallel booster/compression management up to 4 compressors
- Management of modulating condensation fans
- Expandable up to 12 EXP 4D PRO modules
- Up to 2 optional remote displays

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	-	-

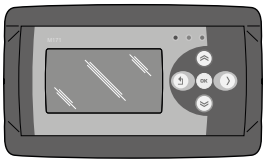
EWCM 9000 PRO DOMINO 42D (HF) (SSR)



EXP 4D PRO



EVK PRO Display



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 CO_2 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.

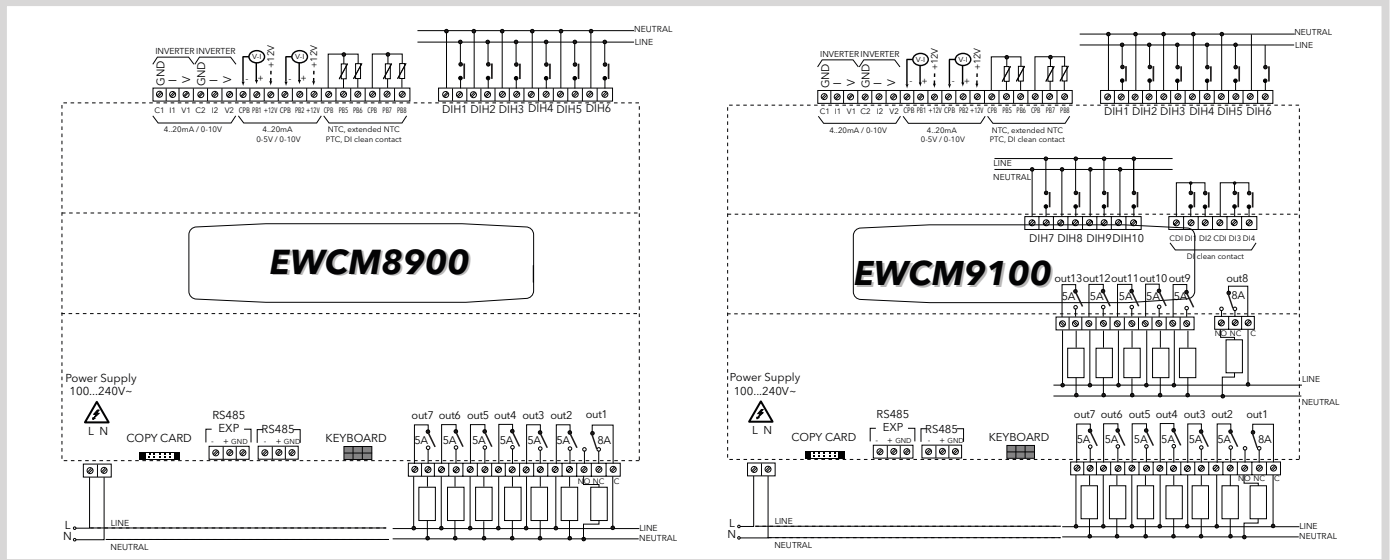
Common features

Insulation Class	2
Operating temperature	-5...55°C
Storage temperature	-30...85°C
Ambient humidity for operation and storage	10...90% RH (non-condensing)

Traditional refrigerants	R22, R134a, R502, R404A, R407C, R507, R717 (Ammonia), R410A, R417a, R744 (CO2), R407A, R407F, R290, R427, R600A, R23
New set of refrigerants	R434A, R134a, R448A (N40), R404A, R407C, R427A, R717 (Ammonia), R410A, R452A, R744 (CO2), R449A (XP40), R450 (N13), R407A, R513A (XP10), R407F, R23

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:	• TTL port for connection to CopyCard USB • RS-485 for connection to Televis**System** and systems based on the ModBus protocol • RS-485 EXP for connection to pulse/stepper (V800/V910) driver	• TTL port for connection to CopyCard USB • RS-485 for connection to Televis**System** 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 CO_2 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

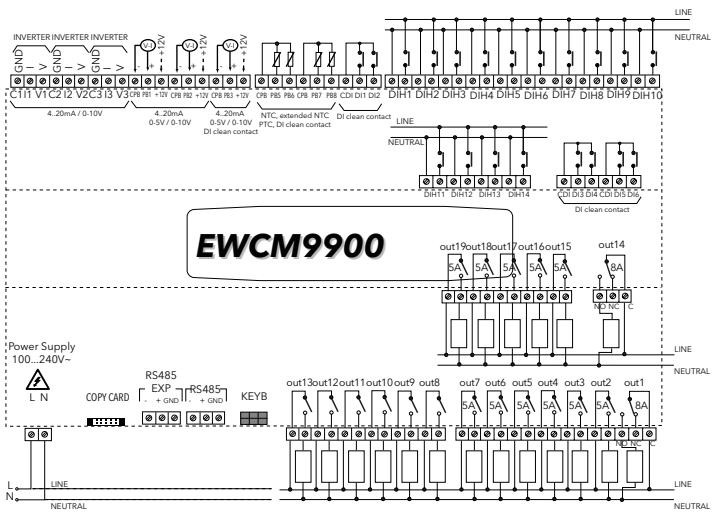
Insulation Class	2
Operating temperature	-5...55°C
Storage temperature	-30...85°C
Ambient humidity for operation and storage	10...90% RH (non-condensing)

Traditional refrigerants	R22, R134a, R502, R404A, R407C, R507, R717 (Ammonia), R410A, R417a, R744 (CO2), R407A, R407F, R290, R427, R600A, R23
New set of refrigerants	R434A, R134a, R448A (N40), R404A, R407C, R427A, R717 (Ammonia), R410A, R452A, R744 (CO2), R449A (XP40), R450 (N13), R407A, R513A (XP10), R407F, R23

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:	• TTL port for connection to CopyCard USB • RS-485 for connection to Televis**System** 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

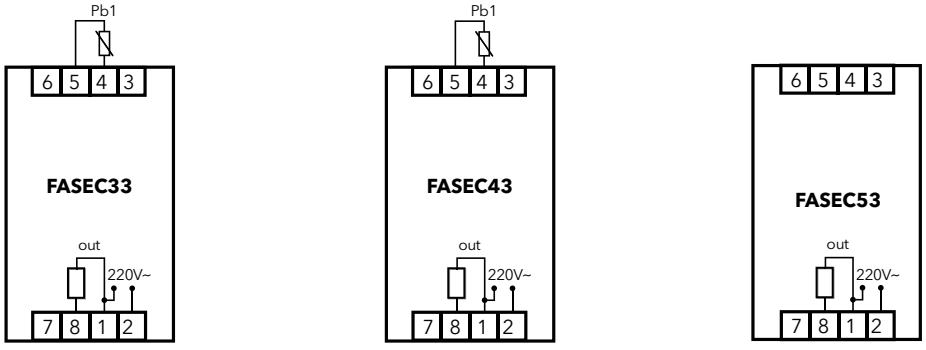
The FASEC 33 and FASEC 43 (C) instruments are designed for speed control and are particularly suited for applications on refrigeration units for the condensation function.
The FASEC 53 is a manual fan regulator suitable for applications on refrigeration units.

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	• 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.

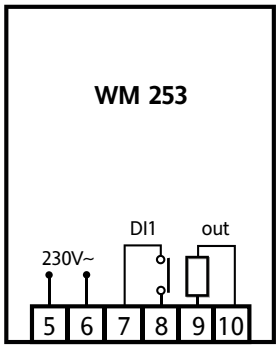
Common features

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

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 ±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.

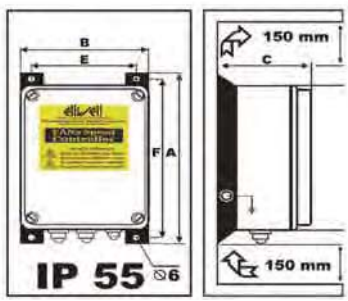
Common features

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

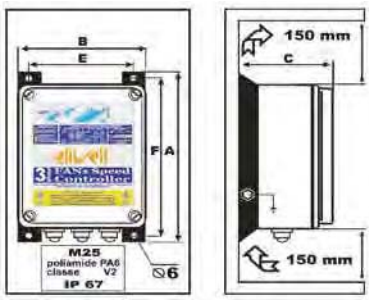
Technical data	DRM300 12A - 20A - 28A	RGM300 12A - 60A
Dimensions:	**12A models:** 201x285x130mm (BxAxC) **20A models:** 235x350x181mm (BxAxC) **28A models:** 235x350x204mm (BxAxC)	**12A models:** 201x285x130mm (BxAxC) **60A models:** 315x460x228mm (BxAxC)
Power supply:	400Vac extended range (min 340V - 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 dispelled in the environment:	**12A models:** 48W **20A models:** 80W **28A models:** 112W	**12A models:** 72W **60A models:** 360W
Control signal:	0...10V⎓ 4...20mA PWM	0...10V⎓ 0...5V⎓ 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



DRM300



RGM300

CFS02- CFS04 - CFS06 - CFS08

Power modules to control fan speed

Codes	Descr.
CF10x11011000	CFS0**x**
CF10x21011000	CFS0**x** /V
CF10x31011000	CFS0**x** /I

x=2,4,6,8

Applications

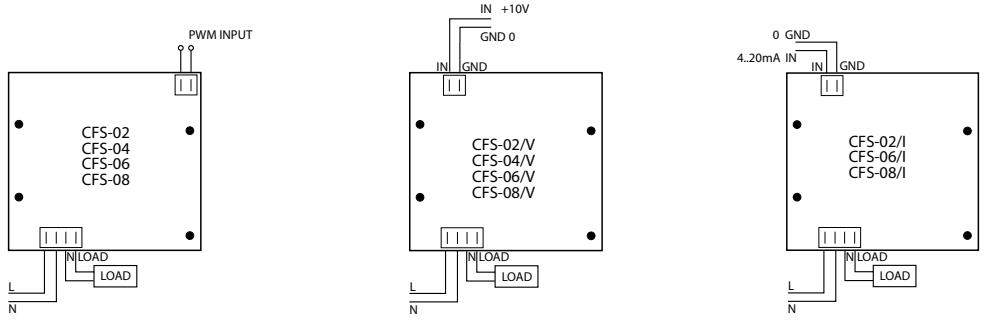
The instruments in the new CFS range are optional modules which can be connected to the main control systems for regulation of single-phase fan speed at currents between 2 A and 9 A. The power supply is 230Vac max.

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⎓	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

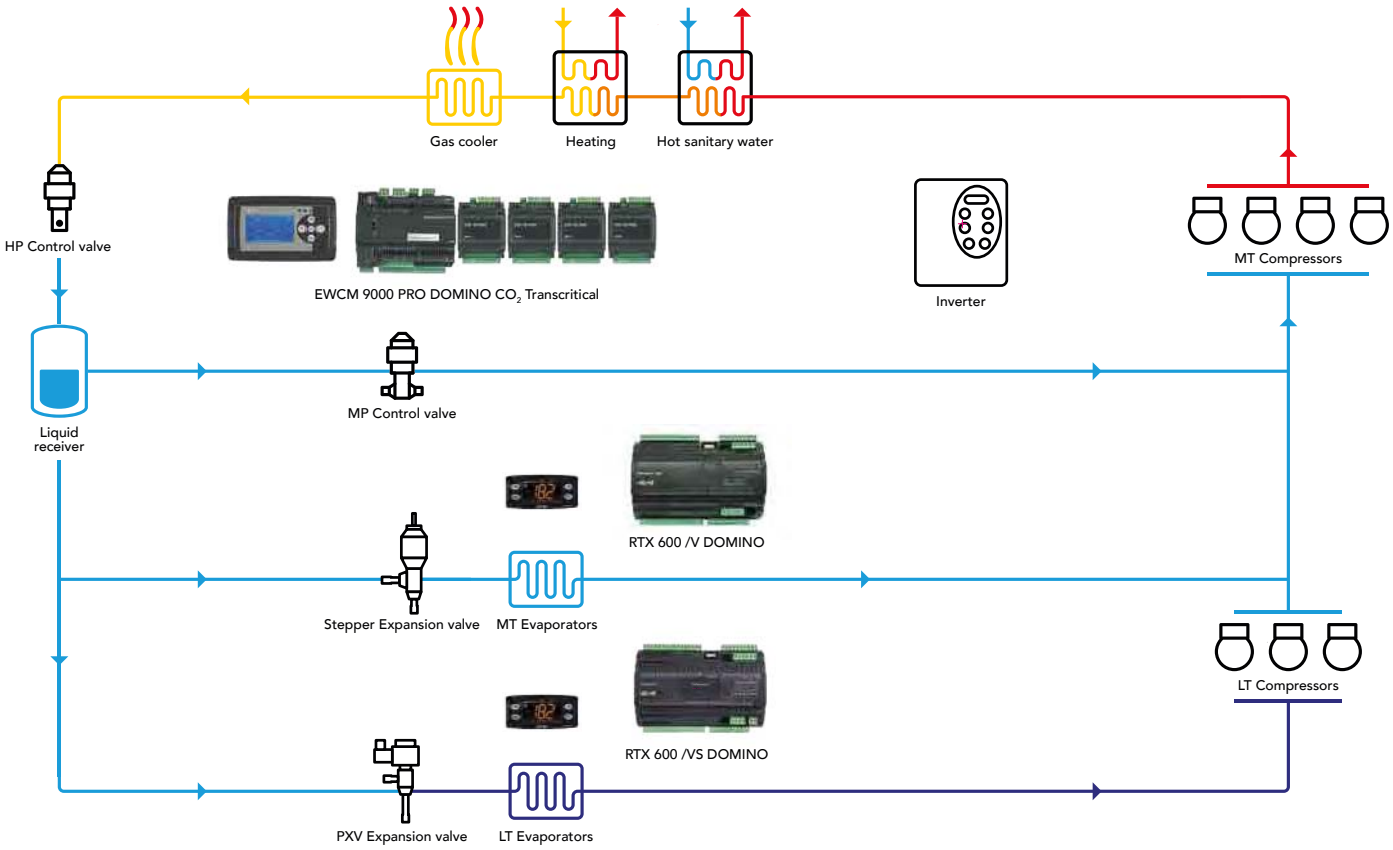
Code	Description	Notes
EPAS1PCTA500	EWCM 9000 PRO 42D SSR /CO2T	With integrated display and SSR output
EPAS0PCTA500	EWCM 9000 PRO 42B SSR /CO2T	SSR Outputs
EP4000000B00	EXP 4D PRO 14 I/O	Expansion module 14/ I/O
EPK010000000	EVK PRO DISPLAY /GR	Remote display

Applications

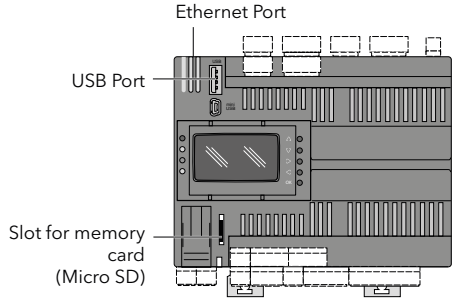
The new series of controllers for EWCM PRO DOMINO compressor racks is the solution for the sustainable systems based on natural refrigerants.
The EWCM 9000 PRO DOMINO /CO2T model is dedicated to solutions for transcritical CO2 with booster circuit and parallel compression, and allows for the management 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

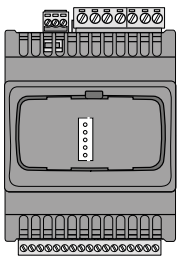
Management of 2 circuits up to 8 compressors	Expandable up to 12 EXP 4D PRO modules
Parallel booster/compression management up to 4 compressors	Up to 2 optional remote displays
Management of modulating condensation fans	



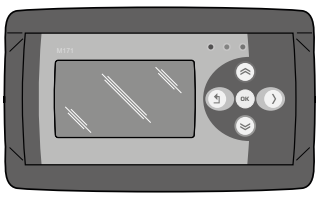
EWCM 9000 PRO 42D DOMINO /CO2T



EXP 4D PRO



EVK PRO Display



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
EPK010000000	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
- Basic library for transcritical CO2 booster / parallel compression solution
- Diagnostic and simulation tools
- Expandable up to 12 modules and 2 remote keyboards
- Modbus/RTU, Modbus/TCP, CAN, Web server/http connectivity

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 CO_2 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

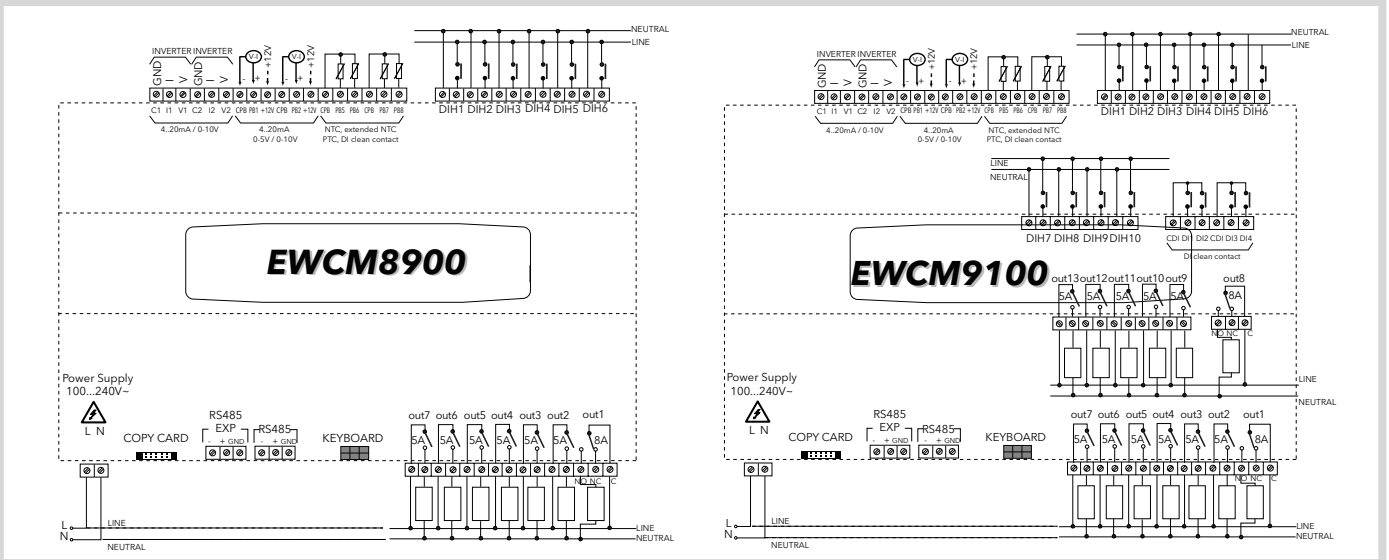
Insulation Class	2
Operating temperature	-5...55°C
Storage temperature	-30...85°C
Ambient humidity for operation and storage	10...90% RH (non-condensing)

Traditional refrigerants	R22, R134a, R502, R404A, R407C, R507, R717 (Ammonia), R410A, R417a, R744 (CO2), R407A, R407F, R290, R427, R600A, R23
New set of refrigerants	R434A, R134a, R448A (N40), R404A, R407C, R427A, R717 (Ammonia), R410A, R452A, R744 (CO2), R449A (XP40), R450 (N13), R407A, R513A (XP10), R407F, R23

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:	• TTL port for connection to CopyCard USB • RS-485 for connection to Televis**System** and systems based on the ModBus protocol • RS-485 EXP for connection to pulse/stepper (V800/V910) driver	• TTL port for connection to CopyCard USB • RS-485 for connection to Televis**System** 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 CO_2 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

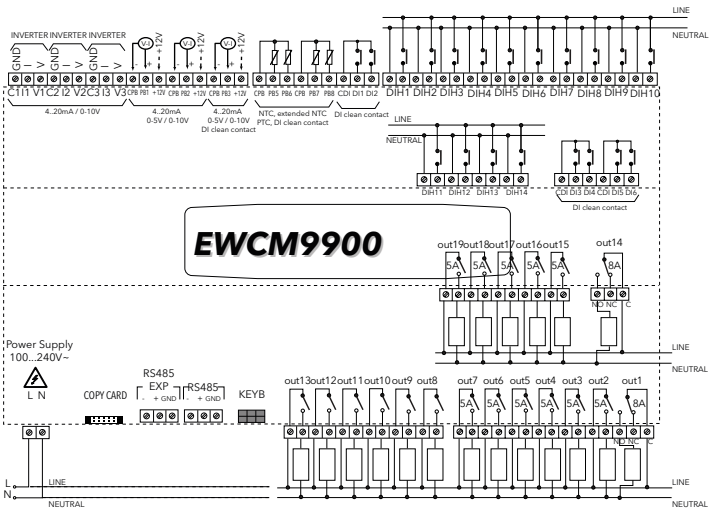
Insulation Class	2
Operating temperature	-5...55°C
Storage temperature	-30...85°C
Ambient humidity for operation and storage	10...90% RH (non-condensing)

Traditional refrigerants	R22, R134a, R502, R404A, R407C, R507, R717 (Ammonia), R410A, R417a, R744 (CO2), R407A, R407F, R290, R427, R600A, R23
New set of refrigerants	R434A, R134a, R448A (N40), R404A, R407C, R427A, R717 (Ammonia), R410A, R452A, R744 (CO2), R449A (XP40), R450 (N13), R407A, R513A (XP10), R407F, R23

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:	• TTL port for connection to CopyCard USB • RS-485 for connection to Televis**System** 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 CO_2 cascade system

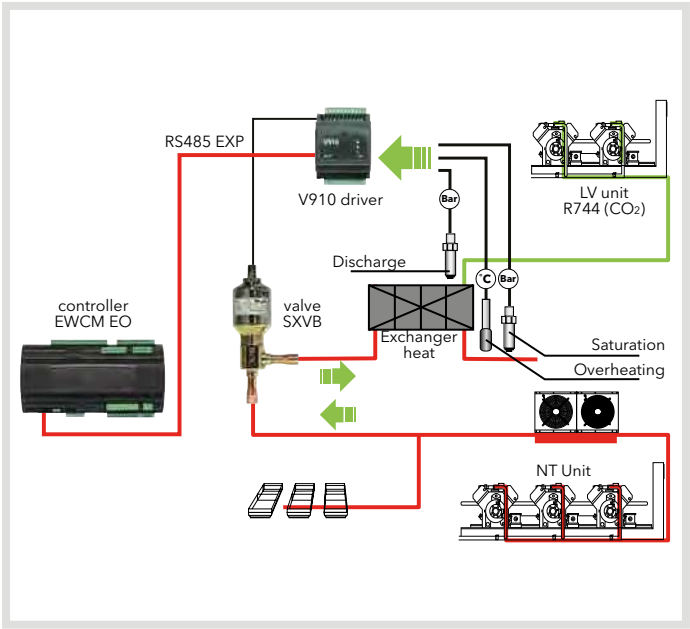
Motorised electronic valve control

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

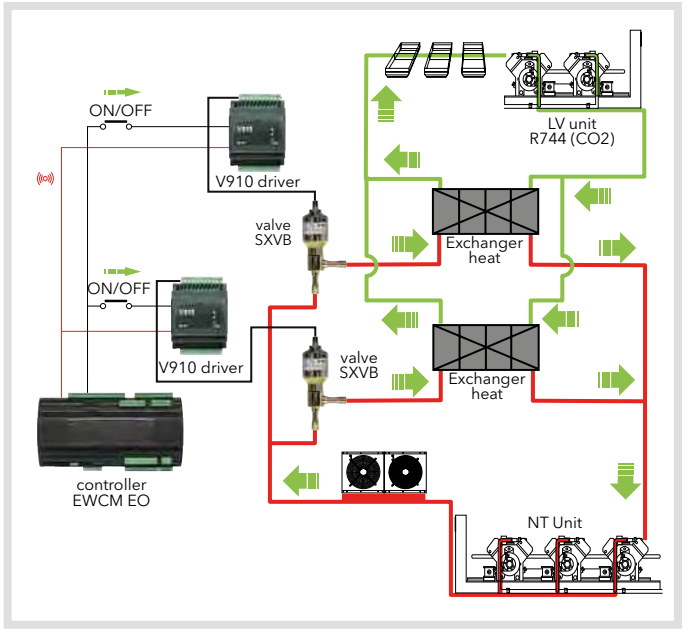
Applications

The V910 driver for motorised electronic valve control is designed for excellent control of heat exchangers in CO_2 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

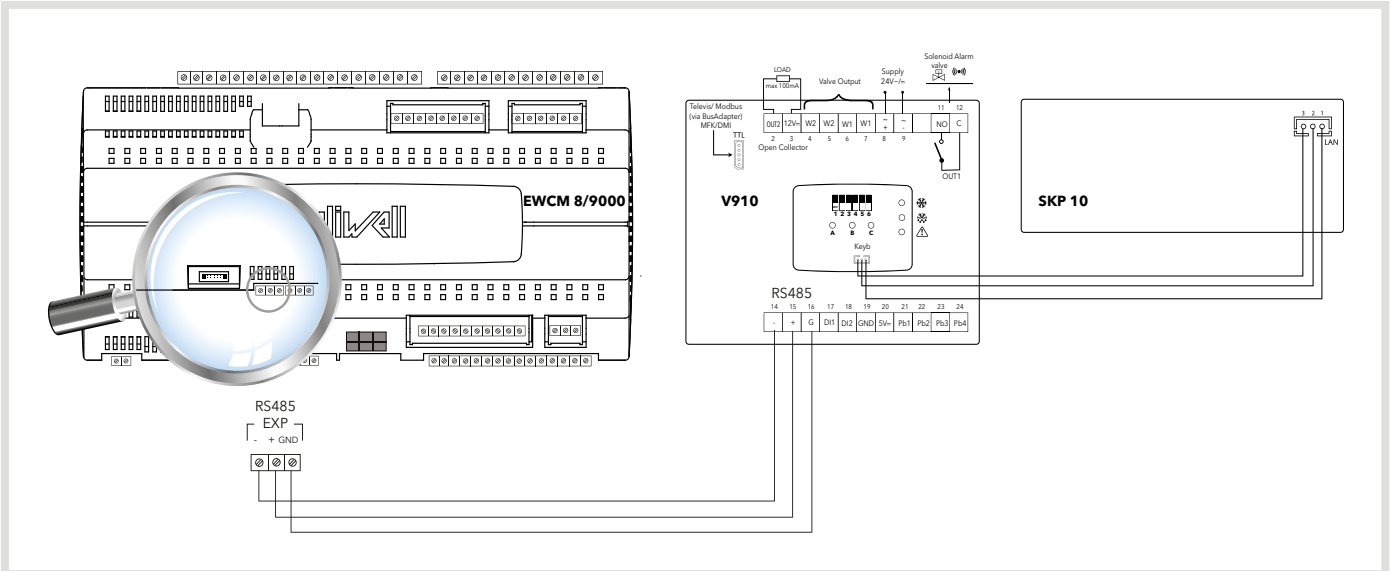
The high-precision PID control of the V910 module is integrated with the EWCM 8/9000 EO series controllers through the serial port dedicated to share real-time configuration and the heat exchanger control status, also through the Televis supervision system.



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 ZERO - RTD600/V DOMINO ZERO

DIN controller for remote EEV cabinets and cold rooms

Codes	Descr.
RTZX0S1H00	RTX 600 /V DOMINO ZERO
RTZD1S1H00	RTD 600 /V DOMINO ZERO VERT CONN
EWKRTZX1E00	RTX 600 /V DOMINO ZERO KIT KDEPlus
EWKRTZX1X00	RTX 600 /V COLD ROOM PANEL KIT 100-240V
KDE400E004000	KDEPlus 32x74 AMBER SCREW/JST
EH000050V4000	ECHO PLUS AMBRER 5m CABLE
KDX5H0R0000	KDX 500 100-240V
KDX5HDR0000	KDX 500 4 DIN 100-240V

Applications

RTX600/V DOMINO ZERO and **RTD600/V DOMINO ZERO** are designed to control remote cabinets and cold rooms with electronic expansion valve in single or multiple evaporators configuration. The innovative DOMINO ZERO adaptive control algorithm works at low stable superheat values with all refrigerants and flooded evaporator management for high efficiency CO2 systems.
The RTX600/V DOMINO ZERO and RTD600 /V DOMINO ZERO controllers is the perfect companion to Eliwell PXV EEVs and can be interfaced with the KDEPlus and KDTPlus keyboards, the ECHO Plus display module and the new KDX specifically designed as a cold room control panel.

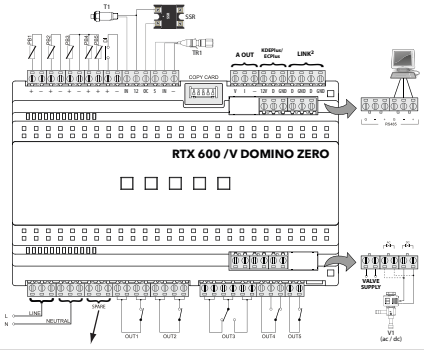
Features

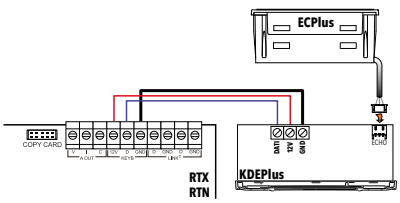
- **High efficiency** systems with adaptive low superheat
- Superheat configuration **with only 2 parameters**
- Intelligent defrost for **energy saving** and optimal food preservation
- Control of all cabinet and cold room functionalities from one controller
- Quick setup of multiple evaporator systems with **Link²** plug-n-play
- Compatible with NTC, Pt1000, PTC probes

Technical data	RTX - RTD 600 /V DOMINO ZERO
Casing:	PC+ABS resin casing, UL94 V-0 **RTX 600 /V DOMINO ZERO**: with box **RTD 600 /V DOMINO ZERO**: without box
Dimensions:	10 DIN modules
Installation:	on DIN Omega bar support
Display:	-
Display range:	• 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:	• 1 voltage serial for keypad • 1 voltage serial for LAN • 1 RS-485 for connection to Televis**System** or ModBus monitoring system • 1 TTL port for connection to Unicard and DeviceManager (via DMI)
Digital outputs:	2 SPST 12(5)A max 230Vac 2 SPDT 12(5)A + 8(4)A max 230Vac 1 SPST 8(4) max 230Vac 1 O.C. multifunction: 12Vdc 20mA 1 SSR 100…240Vac/dc; Imax=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...+50°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.

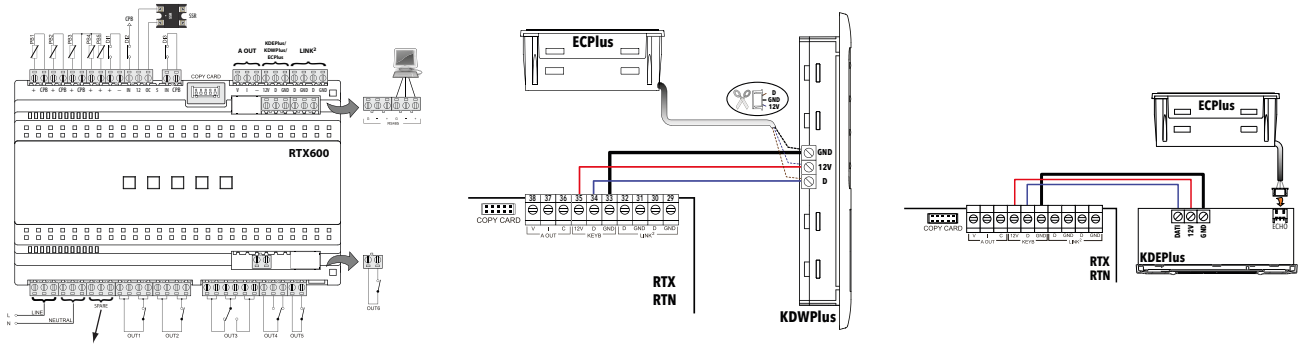
Features

- 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:	• 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:	• 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 – ECHO Plus - KDTPlus - KDTSplit - KDX

User interface for RTX, RTD, RTN series controllers

ECHO Plus

KDEPlus

KDTPlus

KDTSplit

KDTPlus STD WHITE

KDWPlus

Codes	Descr.
KDE400E004000	KDEPlus AMBER
KDW6004004080	KDWPlus
EH000050V4000	ECHO PLUS AMBRER 5m CABLE
KDT6HB0F17080	KDTPlus STD WHITE
KDT6VBWF17080	KDTPlus
KDT6C00F0B001	KDTSplit
KDX5H0R0000	KDX 500 100-240V
KDX5HDR0000	KDX 500 4 DIN 100-240V
KDX5KDR0000	KDX 5000 100-240V

KDX 5000

KDX 500 4 DIN

KDX 500

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 KDX series, specifically designed for cold rooms, offers additional remote I/Os to integrate multiple functionalities in an easy to use interface.

Features

- Standard dimensions 32x74 and minimal depth
- 6 buttons offer direct access to the most used functions
- Second ECHO Plus display can be used in conjunction with KDEPlus and KDWPlus

Technical data	KDEPlus	KDWPlus	ECHO Plus	KDTPlus STD	KDTPlus	KDT Split
Casing:	PC+ABS UL94 V-0 resin casing, polycarbonate window, thermoplastic resin keys			Polymethylmethacrylate (PMMA) front panel		ABS+PC
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	front panel 83x140mm, depth 33mm
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 100m, with 150x31mm drilling template	panel mounting, can be set for a distance of up to 100m, with 67x120mm drilling template	wall
Keys:	4 mechanical	6 mechanical	-	6 capacitive touch keys	6 capacitive touch keys	6 capacitive touch keys
Display:	with decimal point ° 3 digits + sign, 8 icons					with decimal point 3 digits + sign
Power supply:	from power board					

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

Technical data	KDX 500	KDX 500 4 DIN	KDX 5000
Dimensions:	213 x 318mm front panel, depth 102mm	213 x 318mm front panel, depth 102mm	450 x 380 front panel, depth 160mm
Installation:	Wall mount		
Keys:	6 buttons with direct access to most used functionalities		
Display:	1 main display with status icon 1 ECHO display		
Power supply:	SMPS 100...240 Vac (±10 %) 50/60 Hz Independent from the controller		
Inputs	1 x 4...20mA 2 x voltage-free digital inputs		
Outputs	Buzzer 1 x SPST relay 1 x SPDT relay		

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

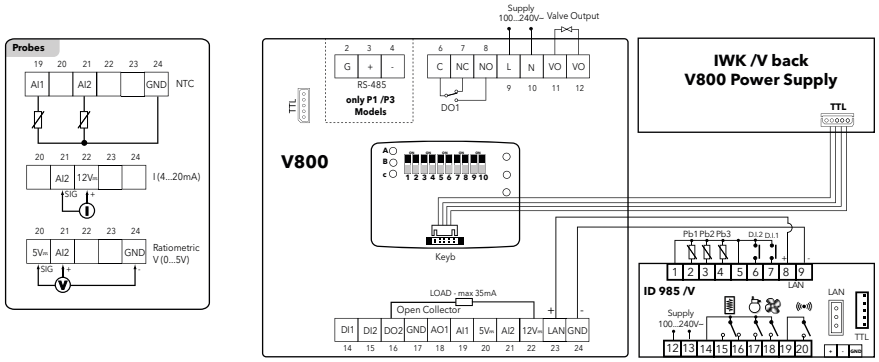
Container	PC+ABS UL94 V-0 plastic resin casing	**Ambient operation and storage humidity**	10...90% RH (non-condensing)
Operating temperature	-5...55°C		
Storage temperature	-20...85°C		

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:	•TTL port for connection to CopyCard and Televis**System** • 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**	•TTL port for connection to CopyCard and Televis**System** - • LAN port for connection to V800 • RS-485 serial port	- - • 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: • 1 x ID 985 /V • 1 x V800/P2 • 1 x 'FAST' NTC probe (SN8P0X3002) • 1 x ratiometric probe (TD420030B)
EVK2A43BXC020	Starter Kit	Includes: • 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 (CO_2) - R507A - R717 (NH_3) - 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

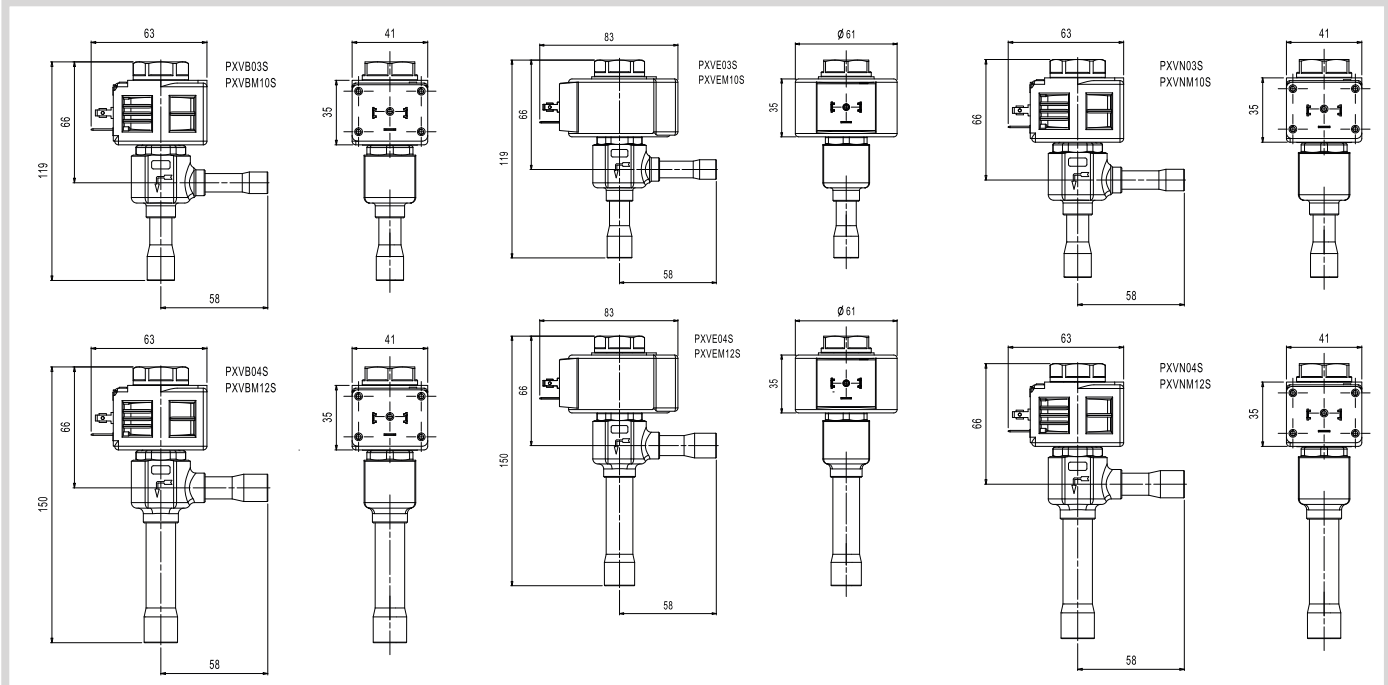
Applications

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	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 (CO2 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	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 (inches)		ODS connections (mm)		Flow factor Kv (m3/h)	Cooling capacity (kW)				
			IN	OUT	IN	OUT		R134a	R507	R407C	R410A	R290
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 (inches)		ODS connections (mm)		Flow factor Kv (m3/h)	Cooling capacity (kW)	
			IN	OUT	IN	OUT		R22	R404A
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. Tevap = +5°C • Condensation temp. Tcond = +32°C • Temp. of valve input liquid Tliq = +28°C

PXV

Electronic pulse expansion valve

General specifications and cooling capacities of CO_2 valves (R744)

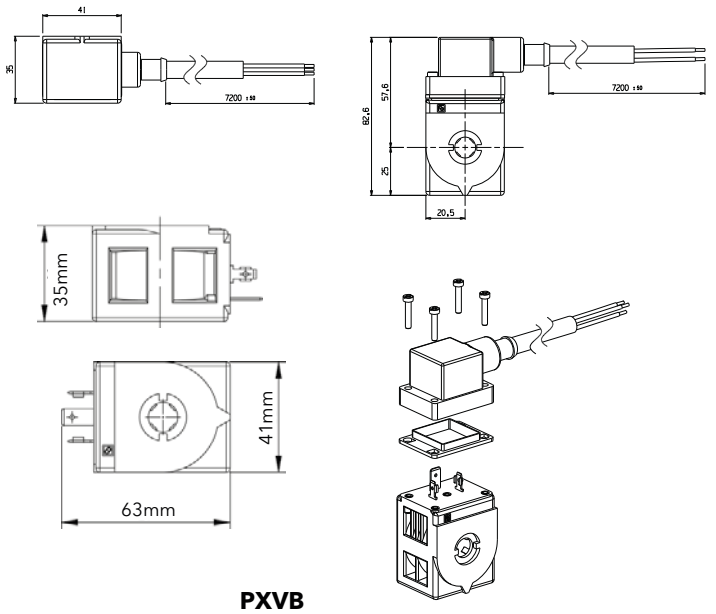
Code	Type of orifice	Orifice hole (mm)	ODS connections (inches) IN	ODS connections (inches) OUT	ODS connections (mm) IN	ODS connections (mm) OUT	Flow factor Kv (m3/h)	R744 (CO_2)
PXVE03S000100	0	0.3	3/8″	1/2″	-	-	0.003	1.04
PXVEM10S00100			-	-	10	12		
PXVE03S010100	1	0.5	3/8″	1/2″	-	-	0.010	2.6
PXVEM10S01100			-	-	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. Tevap = -25°C • Condensation temp. Tcond = 0°C • Temp. of valve input liquid Tliq = -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 ZERO

DIN controller for motorized EEV cabinets and cold rooms

Code	Description
EWKRTZS3E00	RTX 600 /VS DOMINO ZERO POWER-PACK KIT KDEPlus
RTZS0S3H00	RTX 600 /VS DOMINO ZERO POWER-PACK
EWKRTZS1E00	RTX 600 /VS DOMINO ZERO KIT KDEPlus
EWKRTZS3X00	RTX 600 /VS POWER-PACK PANEL KIT 100-240V
KS0000S1	VS POWER-PACK
KDE400E004000	KDEPlus 32x74 AMBER SCREW/JST
EH000050V4000	ECHO PLUS AMBRER 5m CABLE
KDX5H0R0000	KDX 500 100-240V
KDX5HDR0000	KDX 500 4 DIN 100-240V
TF111205	TF TRANSF 230/24 35VA PROT. DIN

Applications

RTX600 /VS DOMINO ZERO is designed to control remote cabinets and cold rooms with unipolar or bipolar stepper electronic expansion valve in single or multiple evaporators configuration. The innovative DOMINO ZERO adaptive control algorithm works at low stable superheat values with all refrigerants and flooded evaporator management for high efficiency CO2 systems. The RTX600 /VS DOMINO ZERO controller can drive a variety of unipolar and bipolar stepper valves and can be interfaced with the KDEPlus and KDTPlus keyboards, the ECHO Plus display module and the new KDX specifically designed as a cold room control panel.

Features

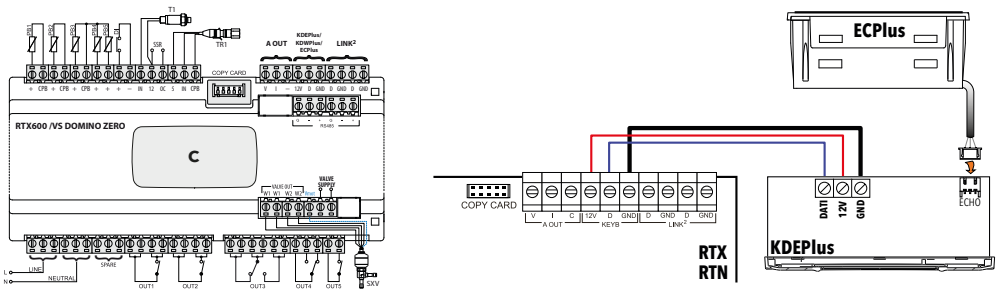
- High efficiency systems with adaptive low superheat
- Superheat configuration with only 2 parameters
- Intelligent defrost for energy saving and optimal food preservation
- Control of all cabinet and cold room functionalities from one controller
- Quick setup of multiple evaporator systems with Link² plug-n-play
- Single model for multi-brands unipolar and bipolar valves

Technical data	RTX 600 /VS DOMINO ZERO	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:	• 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:	• 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:	• 3 12(5)A – 230Vac relays • 2 8(4)A – 230Vac relays 1 Open Collector output (12 Vdc – 20 mA)	-	-
Analogue outputs:	1 D.A.C. multifunction: 0...10V - 4...20mA	-	-
Valve driver output:	• 4 way connector for bipolar command	-	-
Auxiliary power supply	• 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...+50°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)

Wiring diagram



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
Usage time	-5...+55°C
Storage temperature	-20...+85°C
Ambient operation and storage humidity	10...90% RH (non-condensing)

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⎓/0-10V⎓* 2x NTC/Pt1000	- -
Digital inputs:	2 voltage free	
Connections:	• 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⎓ 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/⎓ ±10% 50/60 Hz	100...240Vac ±10% 50/60Hz
Power consumption:	30VA / 25W	<1W
Interface:	-	LED display

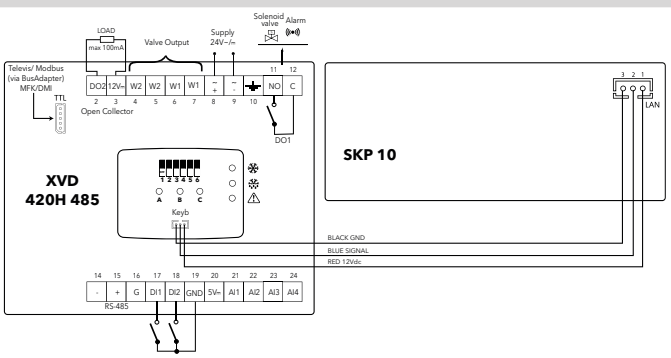
* selectable by parameter

STEPPER valve compatibility*

Models	Brand
CEVxx-S1 (xx = 10, 14, 16, 18, 24, 26, 30, 32)with CEC100Y5 stator	Sporlan
SER / SERI / SEI / SHE	Sporlan
EX4 / EX5 / EX6 / EX7 / EX8	Alco
ETS 12.5 / 25 / 50 / 100	Danfoss
261 / 262 / 263 / 264	Castel

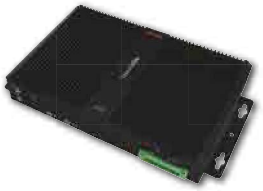
*if using other valves, contact Eliwell Technical Support

Wiring diagrams



TelevisGo

Monitoring and maintenance systems via web



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

*contains No.1 **Serial**Adapter + 1.5m serial cable

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

LE versions do not include the Algorithms function

*contains No.1 **Serial**Adapter + 1.5m serial cable

Applications

Televis**Go** 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 Televis**Go** is included (configuration, updating, restarting of the device)
- Televis**Go** 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

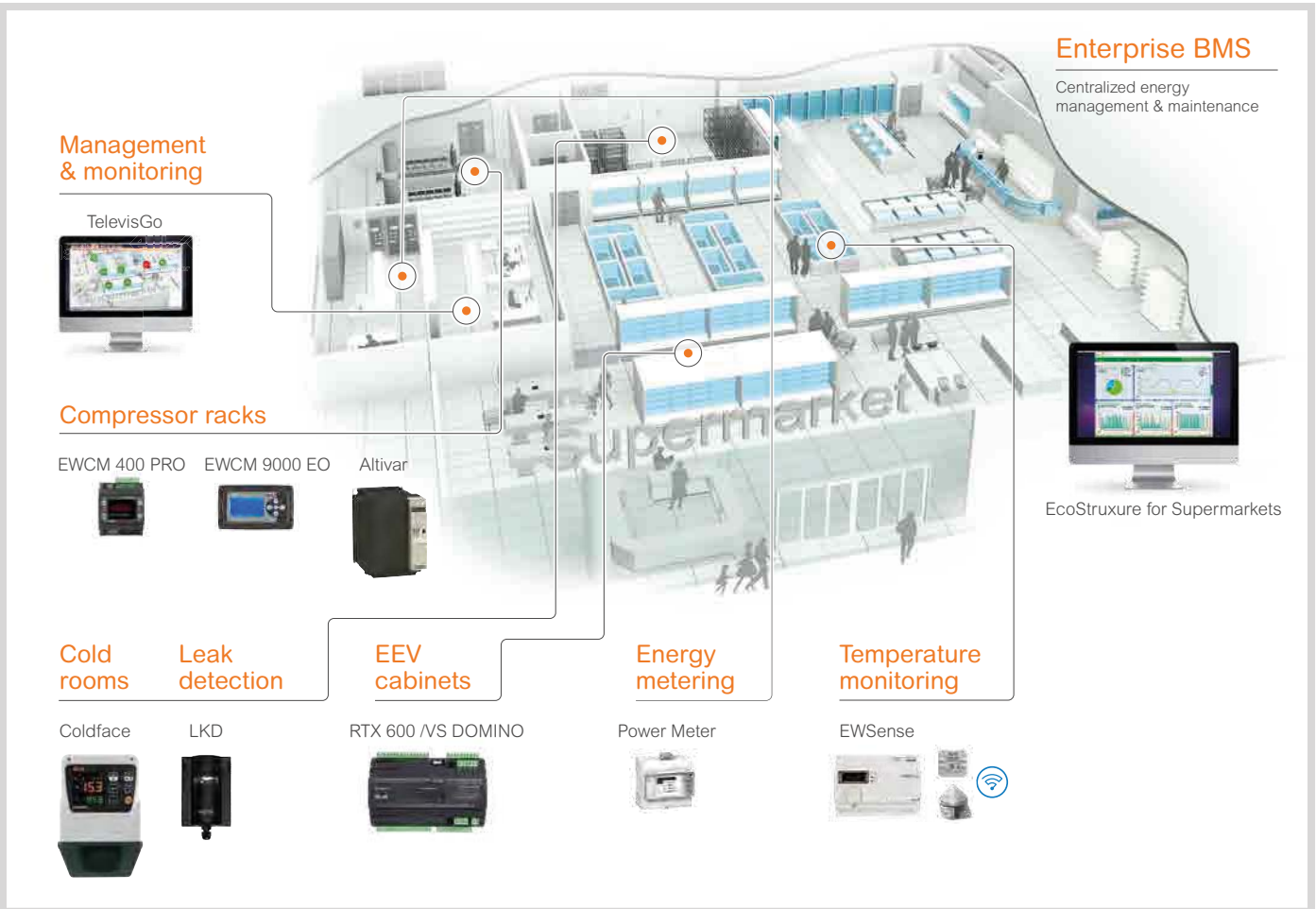
Monitoring and maintenance systems via web

Features

For the end user	• recording of HACCP temperatures • information on energy consumption • complete, easy to use system • open, expandable system
For 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
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

Technical Data

	TelevisGo 10 / 30 / 60 / 224
User interface:	from web browser
Browsers supported:	• 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⎓ with external power supply 100...240Vac ±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



TelevisBlue

Remote monitoring and maintenance for small systems

Codes	Description	Notes
TBR2S1E0000**	TelevisBlue Starter 1Y 2G	12 months of service included. Monitoring, Reports and Alarms and Centralised data access
TBR2P1E0000**	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

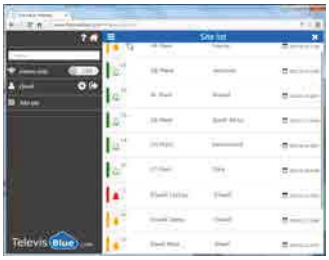
TelevisBlue Starter: cloud monitoring with built-in connectivity
TelevisBlue is the innovative monitoring system based entirely on cloud dedicated to small and medium sized plants using their own protected M2M mobile data connection to transfer information between the plant and the cloud without the 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*.

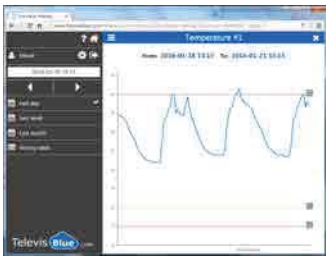
System and features always up to date
No application to download or update is required. Simply log into the www.televisblue.com site to use its functions. Eliwell takes care software updates, new feature releases, and updates to the online manual.

*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
	SPDT 8A relay 30Vac-dc 30V max for communication status
Alarm signalling	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. • 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.

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 date, signal level and battery level, for full system diagnostics.

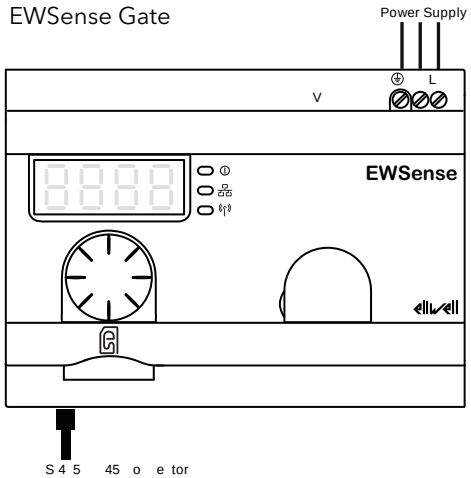
Common features

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

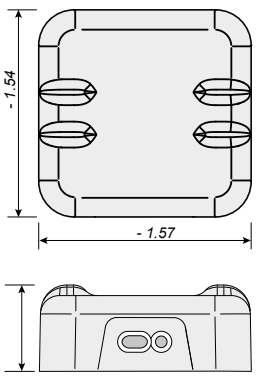
Technical data	EWSense Gate	EWSense Temp	EWSense Gate
Dimensions (mm)	121 x 89 x 69.6 (LxHxD)	40.1 x 39.1 x 16.4 (LxHxD)	91.0 x 67.0 x 67.0 (LxHxD)
Installation	on DIN Omega bar support	Gluing on flat surface with double sided tape (supplied)	wall
Power supply	24V…240Vac/dc	Integrated battery, not replaceable. 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

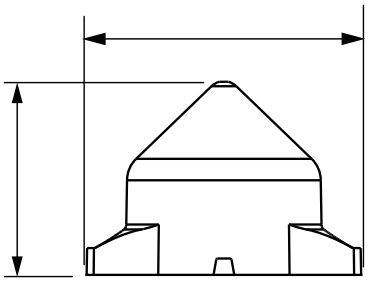
EWSense Gate



EWSense Temp



EWSense Repeater



TelevisIn / TelevisOut

Data acquisition modules and actuators

Codes	Descr.	Power supply
TAMID152RS700	Televis**In**	100...240Vac
TAMOD602RS700	Televis**Out**	100...240Vac

Applications

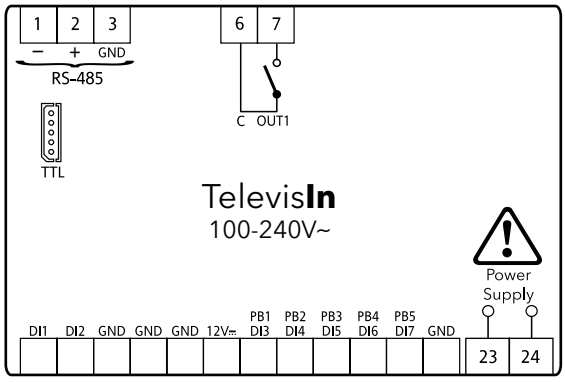
Televis**In** and Televis**Out** are data acquisition, alarm signalling and user control modules which can be connected to Televis systems or third-party systems, thanks to the ModBus protocol that can be selected from the relevant parameter. The Televis**In** controller, connected to specific probes, enables the acquisition of temperature, humidity and pressure data, and digital signals. It will also calculate dew points. Televis**Out** 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.

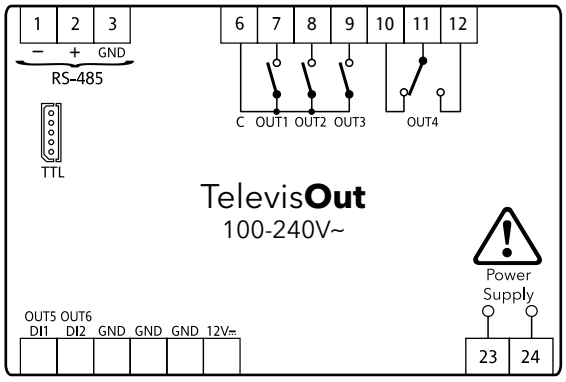
Common features

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:	• 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	• 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:	• 1 RS-485 for connection to Televis**System** monitoring and systems based on ModBus protocol • 1 TTL to connect to Eliwell Unicard USB, Copycard and DMI interface for **Device**Manager	• 1 RS-485 for connection to Televis**System** monitoring and systems based on ModBus protocol • 1 TTL to connect to Eliwell Unicard USB, Copycard and DMI interface for **Device**Manager
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

Refrigerant leaks detection

Codes	Description
LKD41SC00M400	LKD 500 R134a 24Vac-dc 1000 ppm
LKD41SC01M400	LKD 500 R449a 24Vac-dc 1000 ppm
LKD41IR02M400	LKD 500 CO2 24Vac-dc 0-10000 ppm
LKD41SC03M400	LKD 500 R448a 24Vac-dc 1000 ppm
LKD41SC04M400	LKD 500 R404a 24Vac-dc 1000 ppm
LKD41SC05M400	LKD 500 R407a 24Vac-dc 1000 ppm
LKD41EC06M400	LKD 500 NH3 24Vac-dc 0-100 ppm
LKD41SC07M400	LKD 500 R450 24Vac-dc 1000 ppm
LKD41SC08M400	LKD 500 R507a 24Vac-dc 1000 ppm
LKD41SC09M400	LKD 500 R410a 24Vac-dc 1000 ppm
LKD41SC10M400	LKD 500 R513a 24Vac-dc 1000 ppm
LKD41SC11M400	LKD 500 R1234ze 24Vac-dc 1000 ppm
LKD41SC12M400	LKD 500 R1234yf 24Vac-dc 1000 ppm
LKD41SC13M400	LKD 500 R32 24Vac-dc 1000 ppm
LKD41SC14M400	LKD 500 R407c 24Vac-dc 1000 ppm
LKD41SC16M400	LKD 500 R454 24Vac-dc 1000 ppm
LKD41SC17M400	LKD 500 R422 24Vac-dc 1000 ppm
LKD41SC18M400	LKD 500 R422D 24Vac-dc 1000 ppm
LKD41SC19M400	LKD 500 R427A 24Vac-dc 1000 ppm
LKD41SC00S400	LKD 500 R134a 24Vac-dc 1000 ppm
LKD41SC01S400	LKD 500 R449a 24Vac-dc 1000 ppm
LKD41IR02S400	LKD 500 CO2 24Vac-dc 0-10000 ppm
LKD41SC03S400	LKD 500 R448a 24Vac-dc 1000 ppm
LKD41SC04S400	LKD 500 R404a 24Vac-dc 1000 ppm
LKD41SC05S400	LKD 500 R407a 24Vac-dc 1000 ppm
LKD66IR02M400	LKD 500 CO2 24Vac-dc 0-10000 ppm
LKD66SC04M400	LKD 500 R404a 24Vac-dc 1000 ppm

Codes	Description
LKD66SC01M400	LKD 500 R449a 24Vac-dc 1000 ppm
LKD66SC03M400	LKD 500 R448a 24Vac-dc 1000 ppm
LKD66SC00M400	LKD 500 R134a 24Vac-dc 1000 ppm
LKD66SC20M400	LKD 500 R407f 24Vac-dc 1000 ppm
LKD66EC06M400	LKD 500 NH3 24Vac-dc 0-100 ppm
LKD66SC10M400	LKD 500 R513a 24Vac-dc 1000 ppm
LKD66IR21M400	LKD 500 R290 24Vac-dc 0-100% LFL
LKD66SC08M400	LKD 500 R507a 24Vac-dc 1000 ppm
LKD66SC09M400	LKD 500 R410a 24Vac-dc 1000 ppm
LKD66SC12M400	LKD 500 R1234yf 24Vac-dc 1000 ppm
LKD66SC11M400	LKD 500 R1234ze 24Vac-dc 1000 ppm
LKD66SC13M400	LKD 500 R32 24Vac-dc 1000 ppm
LKD66SC14M400	LKD 500 R407c 24Vac-dc 1000 ppm
LKD66SC16M400	LKD 500 R454 24Vac-dc 1000 ppm
LKD66SC17M400	LKD 500 R422 24Vac-dc 1000 ppm
LKD66SC18M400	LKD 500 R422D 24Vac-dc 1000 ppm
LKD66SC19M400	LKD 500 R427A 24Vac-dc 1000 ppm
LKD66IR02S400	LKD 500 CO2 24Vac-dc 0-10000 ppm
LKD66SC04S400	LKD 500 R404a 24Vac-dc 1000 ppm
LKD66SC01S400	LKD 500 R449a 24Vac-dc 1000 ppm
LKD66SC03S400	LKD 500 R448a 24Vac-dc 1000 ppm
LKD66SC00S400	LKD 500 R134a 24Vac-dc 1000 ppm
LKDR6SC04M400	LKD 600 R404a 24Vac-dc 1000 ppm
LKDR6SC20M400	LKD 600 R407f 24Vac-dc 1000 ppm
LKDR6SC09M400	LKD 600 R410a 24Vac-dc 1000 ppm
LKDR6IR21M400	LKD 600 R290 24Vac-dc 0-100% LFL
LKDR6SC01M400	LKD 600 R449a 24Vac-dc 1000 ppm

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. The gas sensors of the **LKD** series can be used alone to control a buzzer, siren, etc., or integrated with Eliwell or third party remote management systems, thanks to an inbuilt RS485 ModBus. The main applications are: LT or NT cold rooms, refrigerated cabinets and compressor racks.

Common features

Compatible with Televis and third-party systems	Suitable for refrigerants: NH3, HFO, HC, HFC and CO_2
Available versions **SC** (semiconductor), **IR** (infra-red) and **EC** (electro chemical)	

Technical data	LKD 500 IP41	LKD 500 IP66	LKD 600 IP66
Dimensions	165x165x77mm	165x165x87mm	165x165x87mm
Enclosure rating	IP41 (NT applications)	IP66 (LT applications)	IP66 (LT applications)
Installation	wall-mounted, height suitable to the type of refrigerant		
Analogue outputs	0-5V, 1-5V, 0-10V, 2-10V, 4-20mA		
Digital outputs	Optional 2 SPDT 1A 24vac\dc relays		
Connectivity	ModBus-RTU		
Measurement range	**SC**: 10-1.000ppm - **IR**: ppm-% - **EC**: 0...100ppm-%		
Temperature range	-40…50°C		
Humidity range	10…90% (non-condensing)		
Calibration check	1 year		
Lifetime	**SC**: 3 years - **IR**: 8 years - **EC**: 3 years		
T50 alarm threshold	Depending on model		
T90 alarm threshold	Depending on model		
Power supply	19.5 - 28.5 Vdc ; 24 Vac +/-20% ;50 - 60 Hz		

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

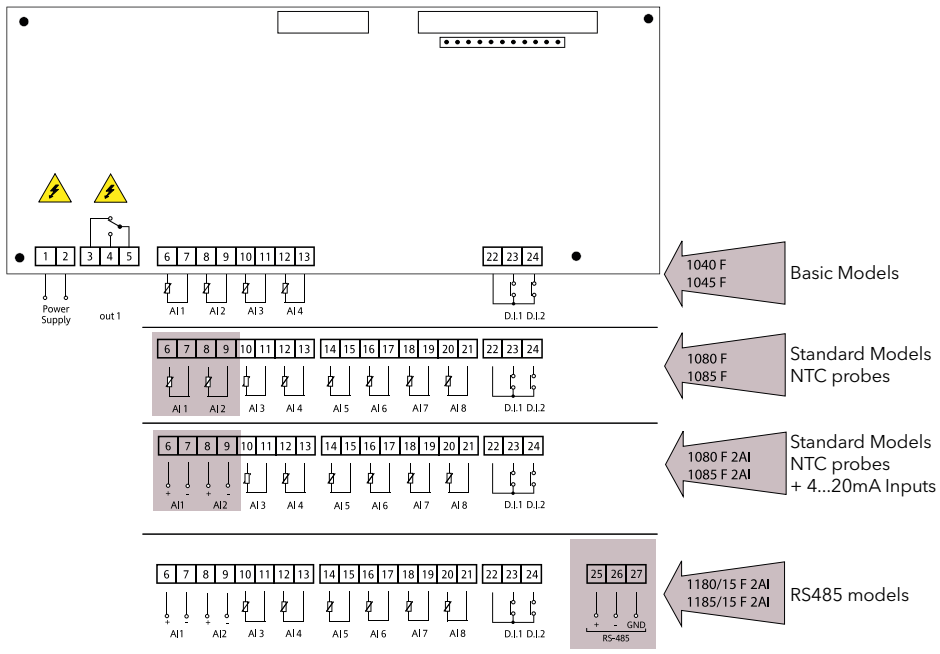
Powerful and easy to use thanks to: • fast data download on SD CARD, without using the PC • soft key to enter the report printing menu directly	Manages all aspects of network controller alarms
	12 months+ data logging capacity
	A wide range of models to fit all application requirements
Compatible with 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	**Serial**Adapter 232
LA0ET00X700	Ethernet **Lan**Adapter

Applications

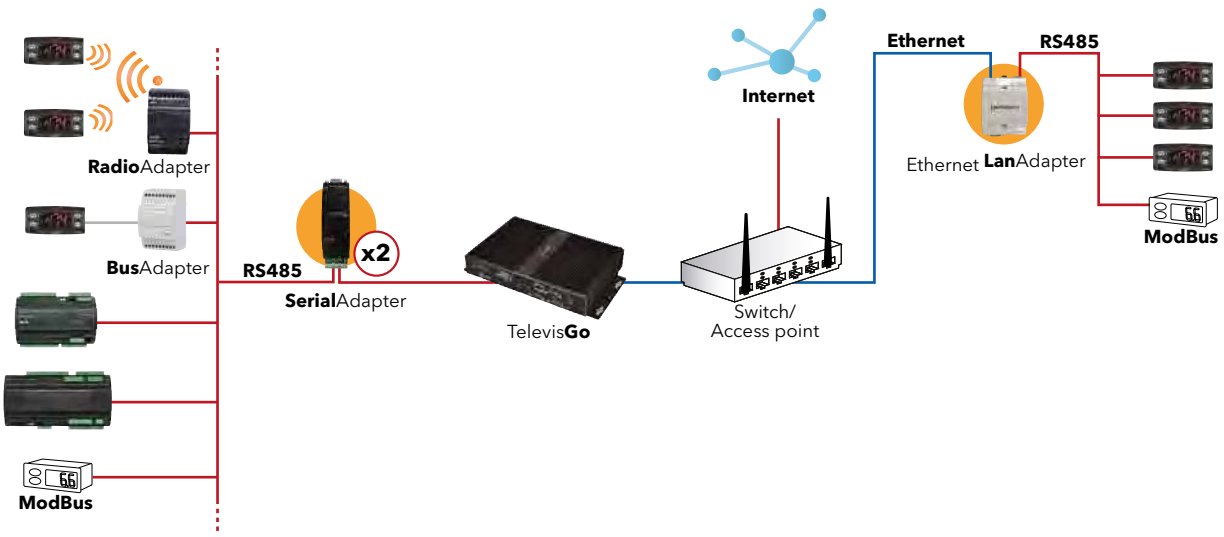
SerialAdapter is a galvanically isolated RS-232/RS-485 adapter to be used on networks with Televis**Go**.
LanAdapter is an Ethernet/RS-485 (or TTL) interface module enabling communication between a LAN and a network of instruments compatible with the Televis protocol. In this way, the LAN network monitoring system can manage data, alarms and connected instrument network functions.
The **Lan**Adapter can be configured via web pages accessible from any PC belonging to the LAN the **Lan**Adapter 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
Casing:	plastic, 2 DIN modules	plastic, 4 DIN modules
Installation:	on DIN Omega bar support	on DIN Omega bar support
Power supply:	12V⎓ through Televis**Go serial port**	100-240Vac ±10% 50/60Hz
Power consumption:	-	4W max
Insulation class:	-	II
Ambient operating temperature:	-5...+55°C	0...+55°C
Storage ambient temperature:	-30...+75°C	-20...+85°C
Ambient humidity operation and storage humidity:	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
Connections:	• RS-485 port for connection to Televis**System**	• RS-485 port for connection to Televis**System** • TTL port for connection to instruments • LAN 10/100 MBps

Connectivity



RadioAdapter (/S) - RadioKey

Wireless connectivity modules

Codes	Description
BARF0TT00NH00	**Radio**Adapter V2.0
BARF0DT00NH00	**Radio**Adapter/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.

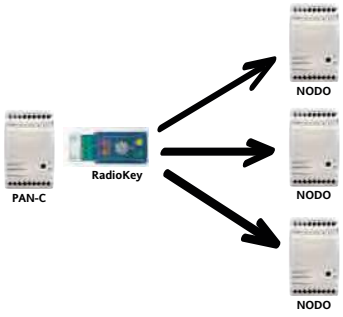
Common features

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

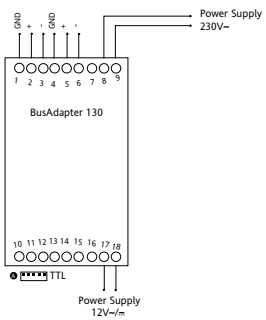
130 models have an auxiliary 12V (5 VA) output to power the instrument.

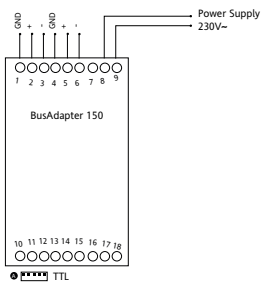
150 models are equipped with reinforced electric insulation

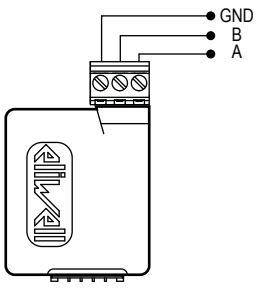
The **150 DONGLE models** are powered directly from the controller and are not isolated. Check the list of compatible controllers on the website www.eliwell.com

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 ±10% 50/60Hz	230Vac / 115Vac ±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 mm2 (one wire per terminal for power connections)	screw-on terminal block to connect electric cables with a section of max. 2.5 mm2 (one wire per terminal for power connections)	screw terminals to connect electric cables with a section of max. 2.5 mm2
Connectivity	• double RS-485 port for connection to Televis**System** • TTL port for connection to instruments	• double RS-485 port for connection to Televis**System** • TTL port for connection to instruments	• RS-485 for connection to Televis**System** • TTL port for connection to instruments
Baud rate	2400...9600 Baud	2400...9600 Baud	2400...9600 Baud
Auxiliary output	12Vac/⎓ ±10% 50/60Hz	/	/

Wiring diagrams







Modem GSM/GPRS

Modems

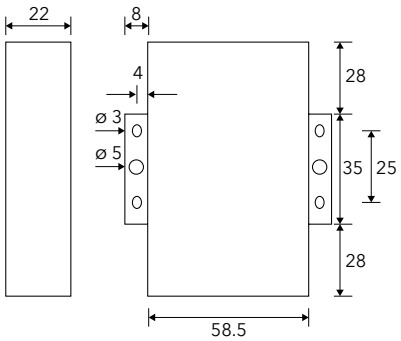
Codes	Description
SAMGPRS35AL00	GSM/GPRS W/ANT PSU MODEM KIT Includes: power supply unit (European 10A plug) + antenna with 1.5m cable

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:	• 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⎓ 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



Unit of Measure: mm

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.

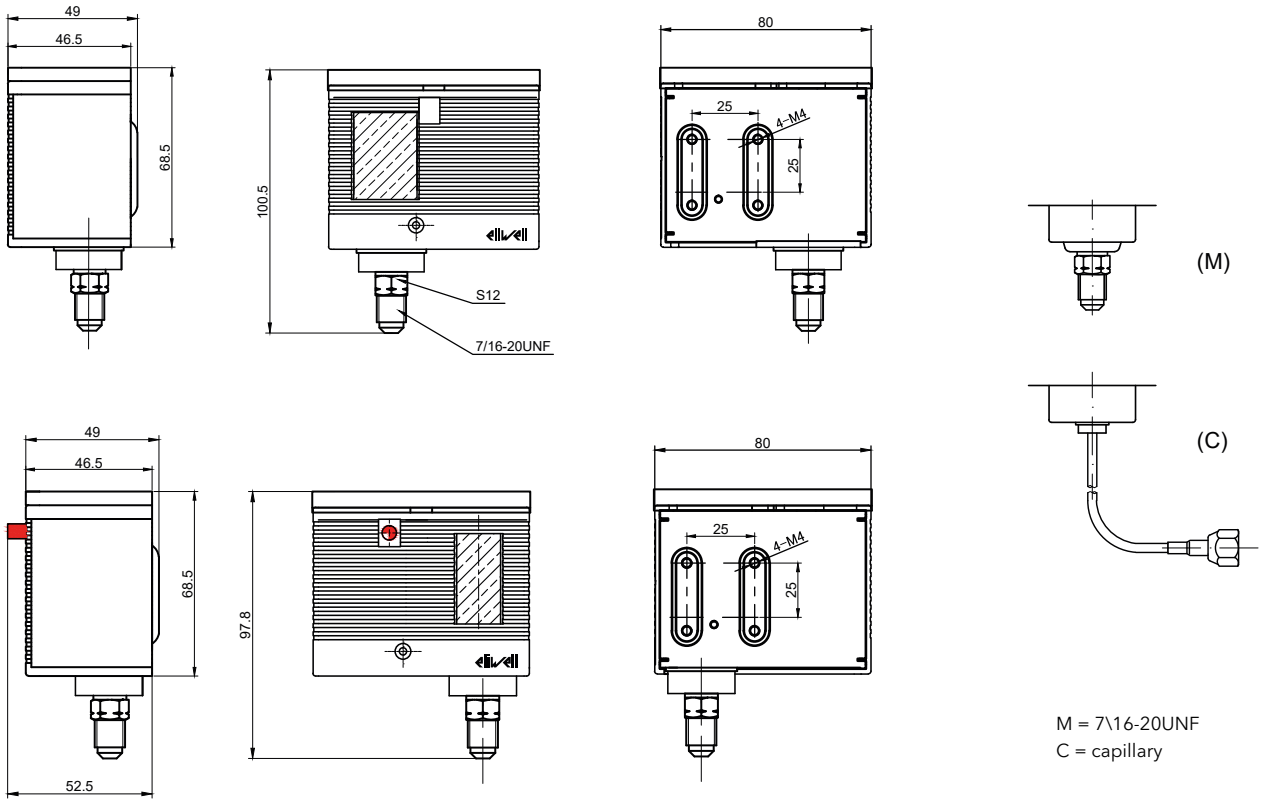
D16P

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

For availability, kindly contact the sales office.

Dimensions



D17P

Adjustable dual pressure controllers

Applications

D17P are electromechanical dual pressure controllers for high and low pressure, equipped with 2 indipendent 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.

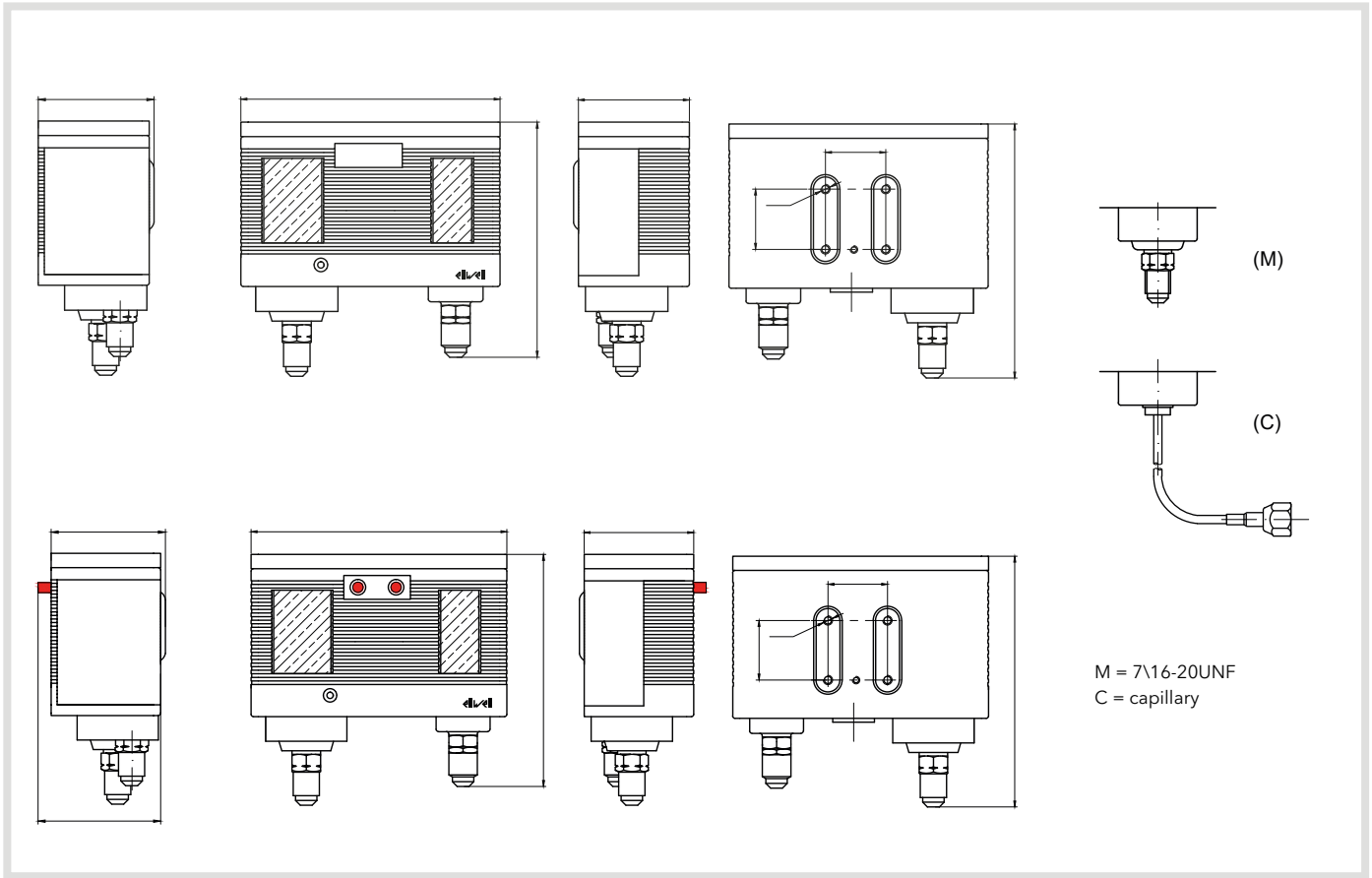
D17P

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

For availability, kindly contact the sales office.

Dimensions



D16T

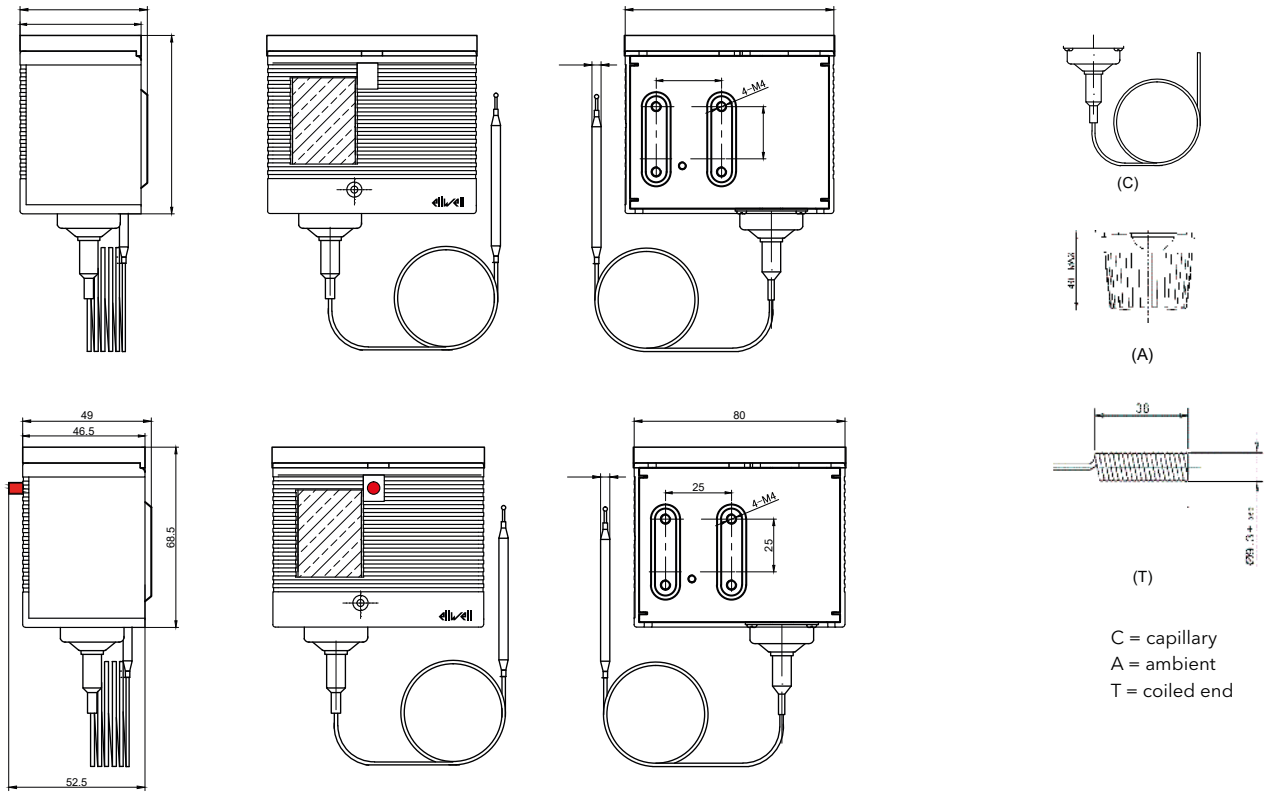
Adjustable temperature controllers

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	**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	
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 lenght	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...5 (3.5...9)	automatic	cage Ø 40mm	40mm	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

For availability, kindly contact the sales office.

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

For availability, kindly contact the sales office.

NSD

Fixed setting pressure switches

Applications

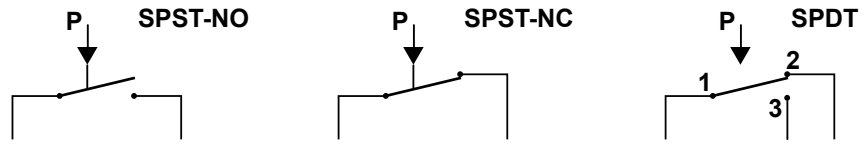
The NSD range of electromechanical pressure switches with fixed setting are compact, lightweight and easy to install.
They are products designed to protect refrigeration systems against critical conditions by setting high or low pressure limits. The stainless steel control element is designed so as to 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 mm2 / 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) **CO_2 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	---
	Manual Reset - SPDT	Motor	120 Vac	6 FLA - 36 LRA	375
			240 Vac	3 FLA - 18 LRA	
NSDHA NSDHF NSDLA NSDCA	Automatic Reset - SPST	---	36 Vdc	3 A	---
		Motor	24 Vac	---	125
			120 Vac	6 FLA - 36 RLA	375
			240 Vac	6 FLA - 36 RLA	
		Resistive or inductive	250 Vac	6 A	---
NSDHA NSDLA	Automatic Reset - SPDT	---	36 Vdc	3 A	---
		Motor	24 Vac		125
			120 Vac	6 FLA - 36 RLA	
			240 Vac	3 FLA - 18 RLA	375
		Inductive	250 Vac	3 A	---

Contacts configuration



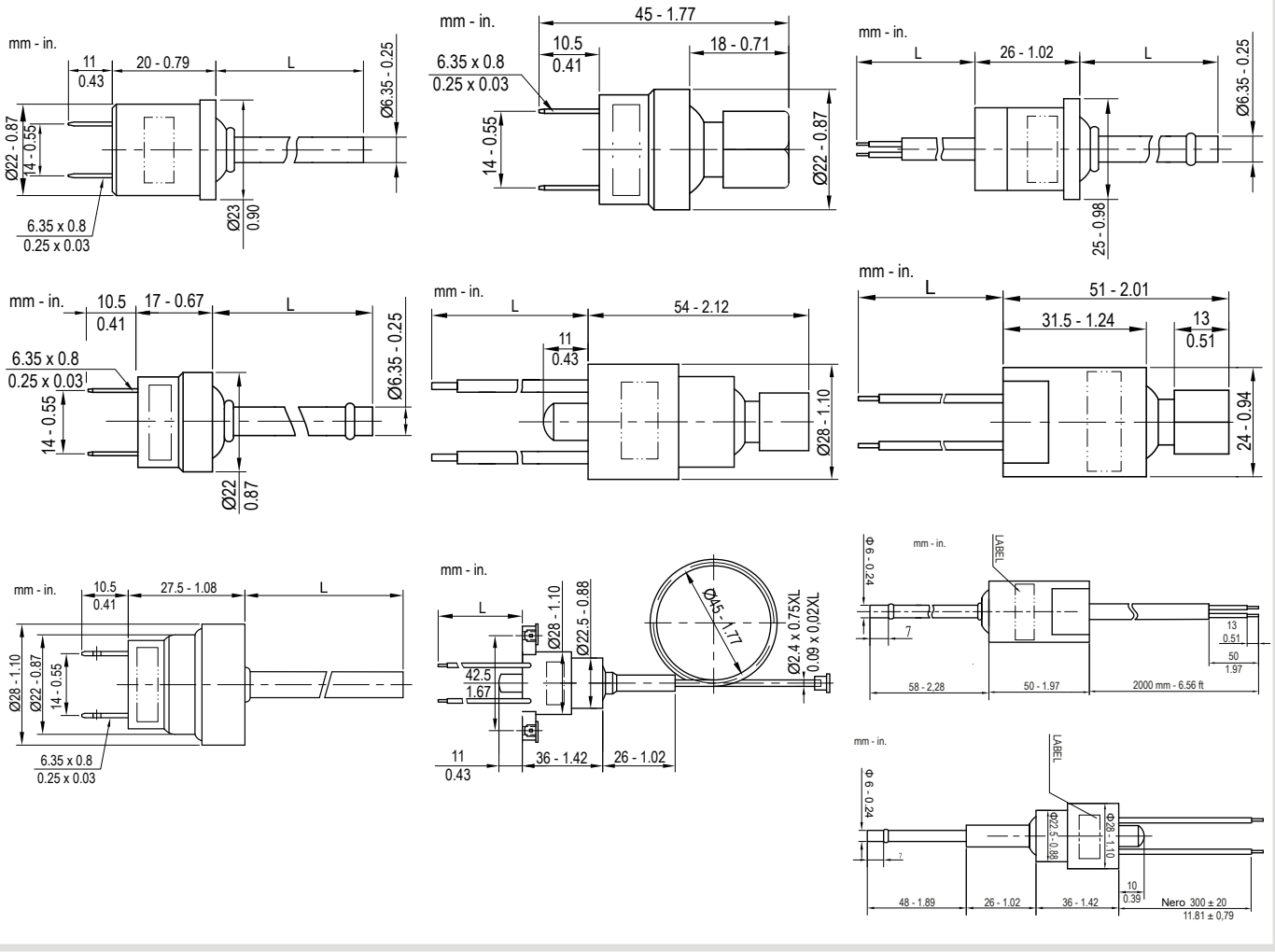
NSD

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	//

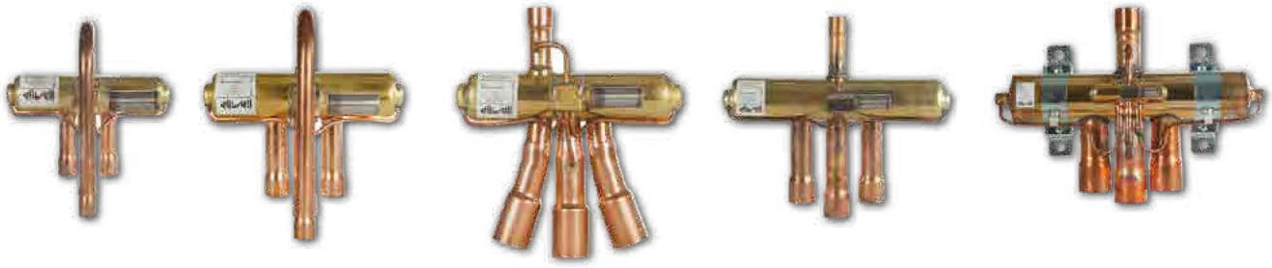
* Standard codes with 1 m cable length, and ¼ SAE female connection with depressor

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 265 kW.
All the valves are suitable for use with HC, HCFC, HFC and HFO refrigerants, including A2L.
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 and individually packaged to ensure maximum flexibility for purchasing and usage.

List of permitted refrigerants
R407C / R410A / R404A / R134a / R22 / R32 / R1234yf / R1234ze / R452B / R450A / R445A / R454A / R454B / R454C / R455A / R1233zd / R1336mzz / R290

Direct action models

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		R32		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	1,65	4,25	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	1,87	6,61	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	1,87	6,61	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	1,87	6,61	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	1,87	6,61	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	1,87	6,61	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	1,87	6,61	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	1,87	6,61	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	3,42	8,47	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	3,42	8,47	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	4,90	9,69	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	4,90	9,69	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	4,90	13,18	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	4,90	13,59	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	4,90	13,18	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	4,90	13,18	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	4,90	26,35	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	4,90	26,35	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	4,90	26,35	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	4,90	26,35	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	14,05	46,07	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	14,05	46,07	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	14,05	46,07	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	14,05	46,07	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	21,29	52,26	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	21,29	52,26	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	21,29	52,26	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	21,29	52,26	14,41	32,36	16,62	41,36
RV12FD220T0000	REV VALVE 12 UST 1-3/8	22,83	46,82	26,35	58,94	28,46	64,83	18,97	36,96		
RV15AD18140000	REV VALVE 15 UST 1-1/8 - 7/8	15,81	54,54	15,81	61,58	17,07	67,74	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		R32		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	1,80	4,62	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	2,03	7,19	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	2,03	7,19	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	2,03	7,19	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	2,03	7,19	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	2,03	7,19	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	2,03	7,19	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	2,03	7,19	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	3,72	9,21	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	3,72	9,21	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	5,33	10,53	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	5,33	10,53	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	5,33	14,32	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	5,33	14,77	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	5,33	14,32	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	5,33	14,32	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	5,33	28,64	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	5,33	28,64	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	5,33	28,64	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	5,33	28,64	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	15,27	50,07	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	15,27	50,07	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	15,27	50,07	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	15,27	50,07	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	23,14	56,81	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	23,14	56,81	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	23,14	56,81	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	23,14	56,81	15,66	35,17	18,07	44,96
RV12FD220T0000	REV VALVE 12 UST 1-3/8	24,82	50,89	28,64	64,07	30,93	70,47	20,62	40,17		
RV15AD18140000	REV VALVE 15 UST 1-1/8 - 7/8	17,18	59,28	17,18	66,93	18,56	73,63	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		R32		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	19,00	89,80	13,69	54,19		
RV20AP22180000	REV VALVE 20 UST 1-3/8 - 1-1/8	17,56	72,48	17,59	81,64	19,00	89,80	13,69	54,19		
RV30AP24200000	REV VALVE 30 UST 1-1/2 - 1-1/4	26,35	108,72	26,36	122,44	28,47	134,68	20,36	81,28		
RV40AP28240000	REV VALVE 40 UST 1-3/4 - 1-1/2	35,14	144,95	35,16	163,25	37,97	179,58	27,03	108,36		
RV40AP26240000	REV VALVE 40 UST 1-5/8 - 1-1/2	35,14	144,95	35,16	163,25	37,97	179,58	27,03	108,36		
RV50AP34240000	REV VALVE 50 UST 2-1/8 - 1-1/2	35,14	181,13	35,21	203,99	38,03	224,39	27,03	135,40		
RV60AP42260000	REV VALVE 60 UST 2-5/8 - 1-5/8	38,30	197,43	38,38	222,35	41,45	244,59	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		R32		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	20,65	97,61	14,88	58,90		
RV20AP22180000	REV VALVE 20 UST 1-3/8 - 1-1/8	19,09	78,78	19,12	88,74	20,65	97,61	14,88	58,90		
RV30AP24200000	REV VALVE 30 UST 1-1/2 - 1-1/4	28,64	118,17	28,65	133,09	30,94	146,40	22,13	88,35		
RV40AP28240000	REV VALVE 40 UST 1-3/4 - 1-1/2	38,20	157,55	38,22	177,45	41,27	195,19	29,38	117,78		
RV40AP26240000	REV VALVE 40 UST 1-5/8 - 1-1/2	38,20	157,55	38,22	177,45	41,27	195,19	29,38	117,78		
RV50AP34240000	REV VALVE 50 UST 2-1/8 - 1-1/2	38,20	196,88	38,27	221,73	41,33	243,90	29,38	147,17		
RV60AP42260000	REV VALVE 60 UST 2-5/8 - 1-5/8	41,63	214,60	41,72	241,68	45,05	265,85	32,02	160,42		

RV

4 ways reversing valves

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

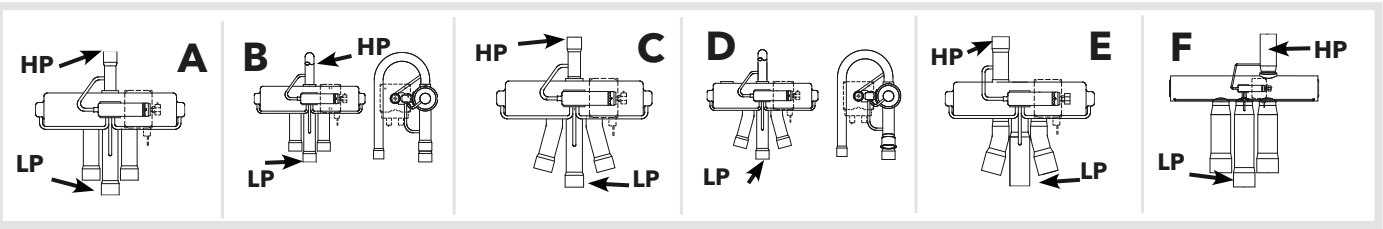
other cable lengths are available on request

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 protec-tion	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 protec-tion	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	-1..9 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
TD360007B	EWPA 007	7/16 20UNF	2m cable	IP67
TD360010B	EWPA 007	7/16 20UNF	2m cable	IP67
TD360030B	EWPA 007	7/16 20UNF	2m cable	IP67
TD360050B	EWPA 007	7/16 20UNF	2m cable	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 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
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

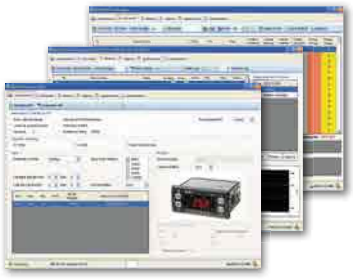
Eliwell supplies a number of accessories to complete its line of instruments.

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
DMP1000002000	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 **Device**Manager 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
- Eliwell instrument parameter management
- Real-time variable monitoring and management
- Device alarm log management
- Firmware updating

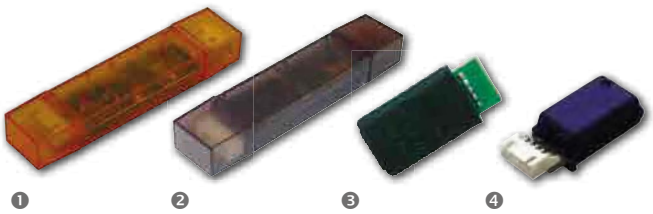
System requirements	DeviceManager
Operating system:	• Windows XP Pro SP2, Italian and English. • Windows XP Home SP2, Italian and English. • Windows 2000 Professional SP4, Italian and English. • Windows 7 Premium, Windows 7 Professional, Windows 7 Ultimate, versions 32bit, Italian-English • Windows 10
Software components required besides operating system:	• .NET Framework 2.0
Minimum hardware:	• 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



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Codes		Notes
CCA0BHT00UU00	❶	UNICARD USB/TTL
CCA0BUI02N000	❷	USB Copy Card
COLV000016200		Extension cable for USB Copy Card
CC0S00A00M000	❸	Standard Copy Card
MFK100T000000	❹	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 **Device**Manager 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 **Device**Manager 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	•	-	-	-
EWTSPlus 990	•	-	-	-
EWRC 300 - EWRC 500 NT series	•	-	•	-
EWDR series	•	-	-	-
EWRC 5000 - 5010 - 5030 NT	•	-	•	-
IWC series	•	-	-	-
IWP 750	•	-	•	-
Televis**In** Televis**Out**	•	-	• / 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

power supply
Unicard - controller

Unicard

controller

Field power supply examples

Unicard

controller

controller power supply

Unicard power supply

Unicard

controller

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 ≤ 2.5mm2.
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

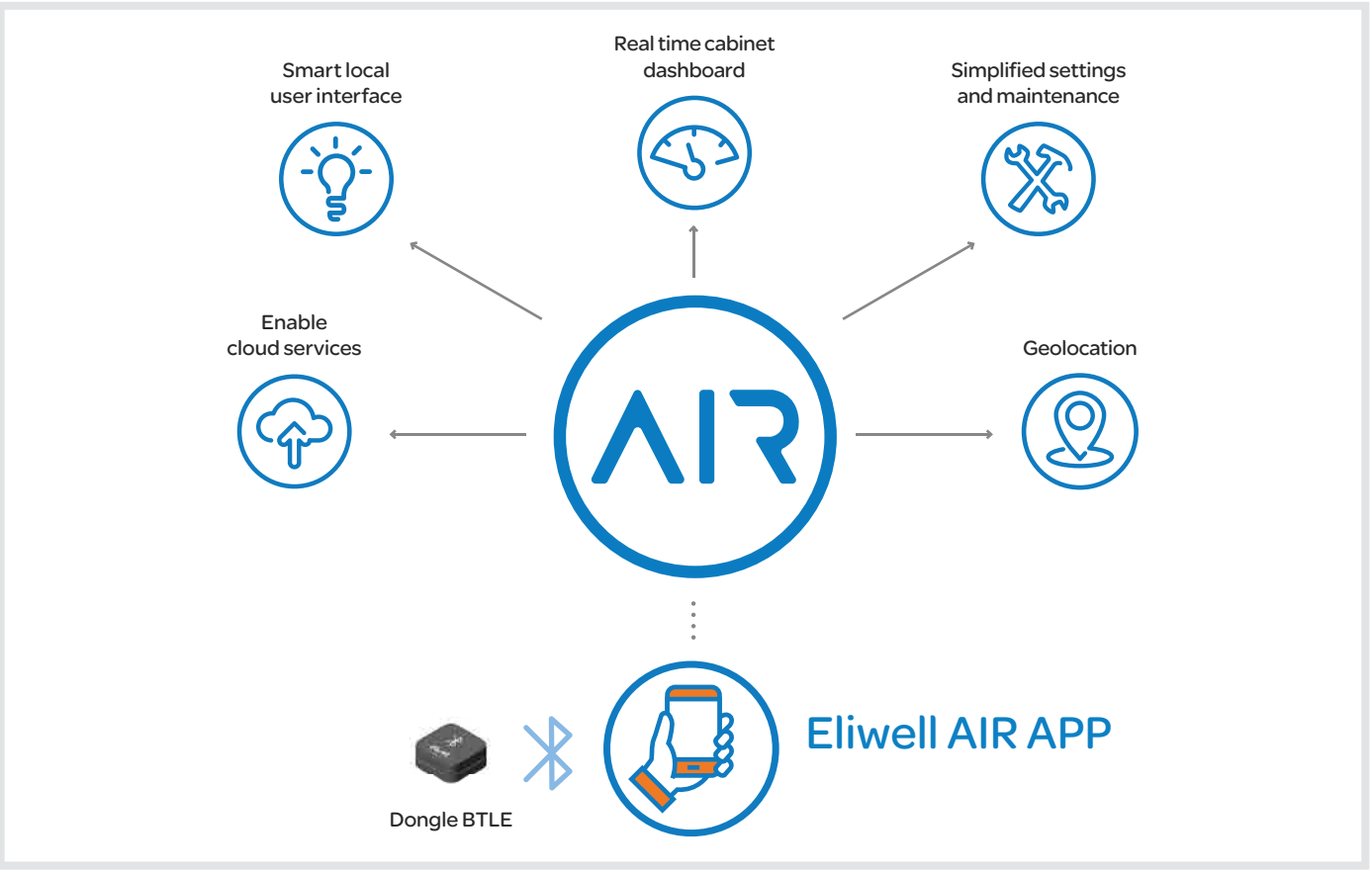
Applications

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~	Unicard USB for customizing even small lots
Use of removable/faston/screw connectors for quick, versatile hookup	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	Unicard USB for customizing even small lots
230V~ power supply	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

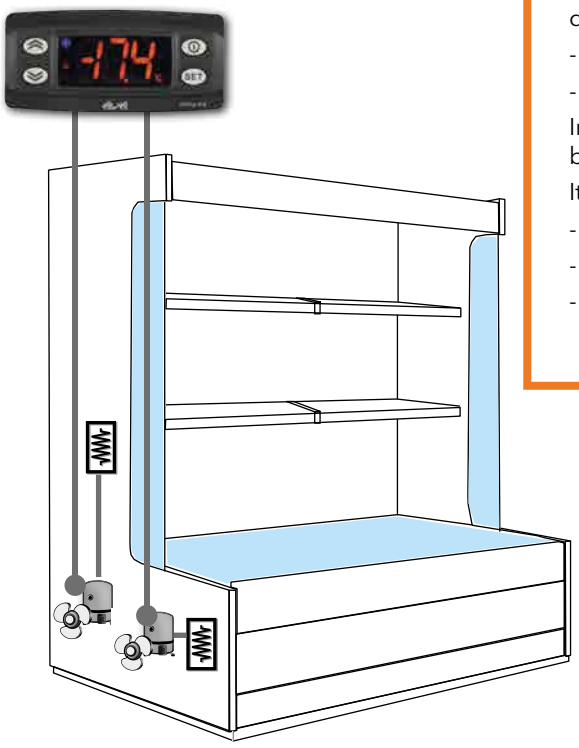
Applications

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 Monoblocs	Single or double compressor 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.

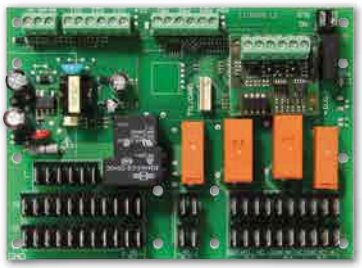
It can also manage double defrosting:

- 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

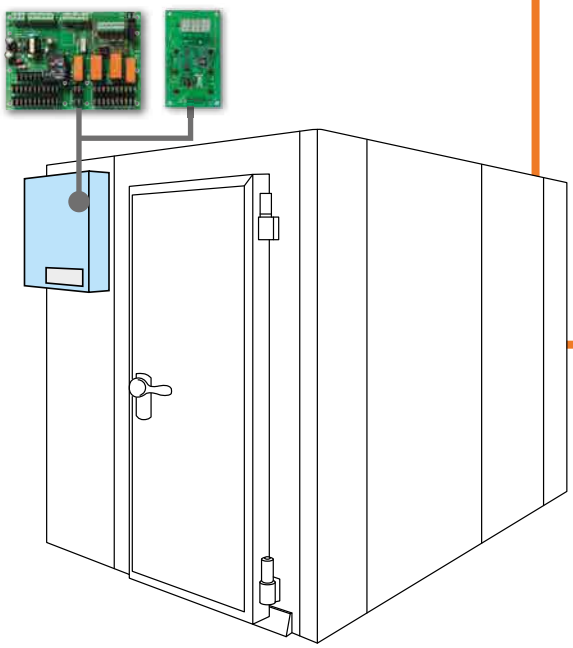
Applications

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

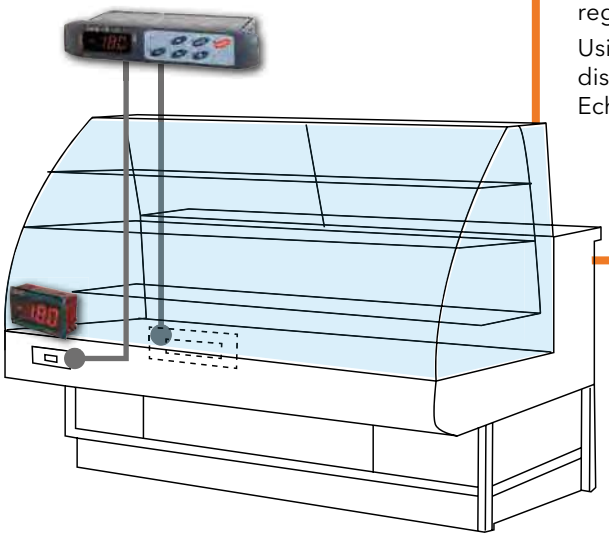
Applications

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

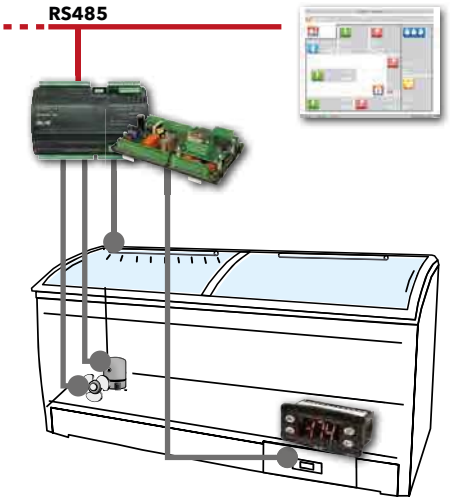
Applications

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



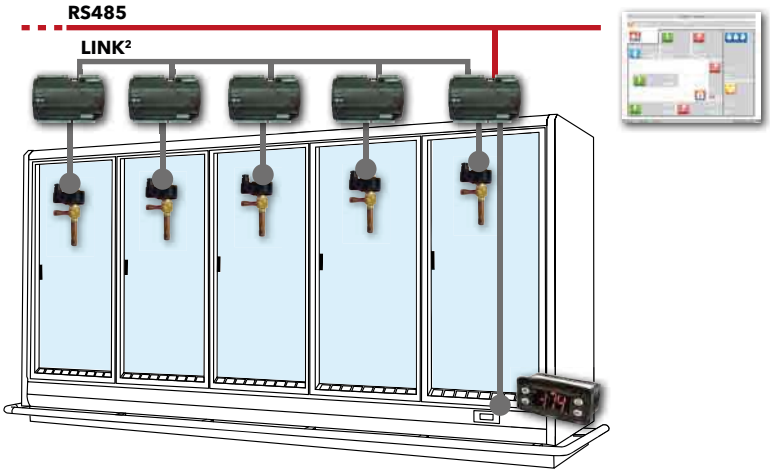
Application examples

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.

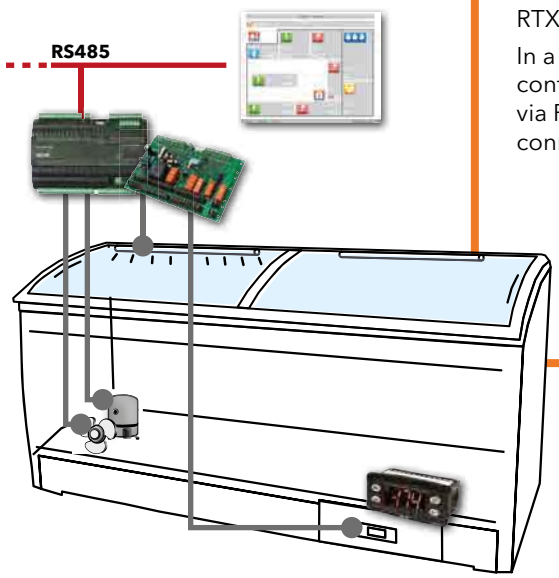
Applications

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)	6 configurable outputs with direct control of loads up to 2HP
3 temperature probes and 3 configurable digital inputs	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

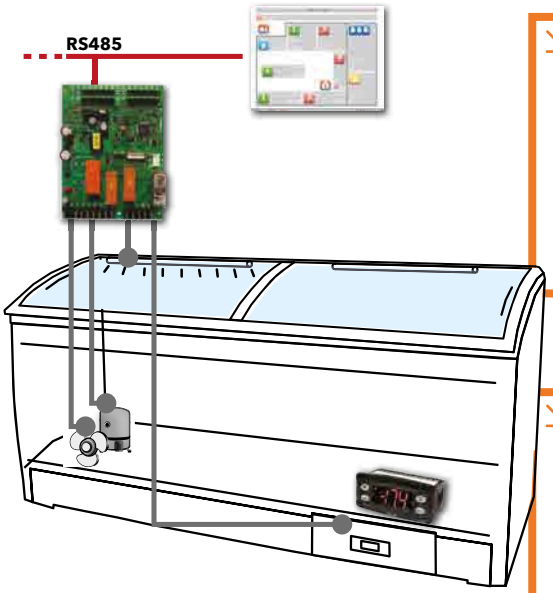
Applications

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.
RTN400controllers 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:			• screw terminals for low voltage connection • JST for ECPlus display connection	• screw terminals for low voltage connection • JST for ECPlus display connection	• 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:	• 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"	• 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 Multi Function Key

FREE Way

Programmable platform

FREE Smart

FREE Panel

FREE Advance

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**.
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

The **FREE Smart** logic controller for simple and compact machines is one of the smallest programmable controller on the market.
Available as DIN rail-mounting (**SMD** with display, **SMC** with no display) and in the compact 32x74 Eliwell (SMP) size for panel-mounting, it requires minimal installation time and offers tremendous versality.

Various I/O expansion modules (SME) and terminals (SKP, SKW) are also available to be used with the controllers.
Inputs and outputs are configurable for any type of HVAC sensors and actuators to maximise the units' adaptability 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

Free Panel range includes controllers than combine in a single device a programmable graphic terminal and a programmable controller with connectivity, for remote connection and distributer control management.

FREE Panel Evolution (**EVP**) is the solution with LCD display that can be used as a system controller, with gateway functions, used in association with other FREE Way controllers or third-party controllers, and I/O expansion via CAN expansion bus.

FREE Panel Advance (**AVP**) is a high-performance programmable colour touchscreen interface with nice aesthetic. Available in wall mounting and panel versions to address any type of application. The wall mounting versions embed temperature, temperature & humidity or temperature, humidity & presence sensor, while the panel version is available in grey or white colour.

Both series includes Modbus SL RS485 port configurable as Master or Slave.

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

The **FREE Advance** logic controller for any size of connectable or connected machines, represents the top range of programmable controllers, designed to handle the most demanding applications.
Available as DIN rail-mounting, it offers full scalability thanks to various sizes and a wide range of I/O expansion modules.

Free Advance is equipped with two RS485 ports for Modbus SL (master/slave) or BACnet MS/TP (B-AAC profile, BTL certified). One CAN expansion port which allows to expand each controller to up to 7 I/Os expansion modules and 2 terminals (EVK1000) or connect to other controllers. On RJ45 port for Modbus TCP, BACnet IP (B-AAC profile, BTL certified) and Ethernet to allow user to browse the embedded webpages.

Inputs and outputs are fully configurable for any type of HVAC sensors (0-10V, 4-20mA, 0-20mA, NTC, PTC, Pt1000...) and actuators to maximise the units' adaptability to any system.

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 netwowrk 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

APPENDIX

Temperature Probe Tables

Appendix

NTC probe table

Ambient temperature	Resistance (kOhm)
(°C)	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	Resistance (kOhm)		
(°C)	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	99454
-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	33260
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) Minimum	Standard	Maximum	Error - temperature
-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	222.400	22.952	23.504	24.059	243610	24.164	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	14.1293	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	-	-

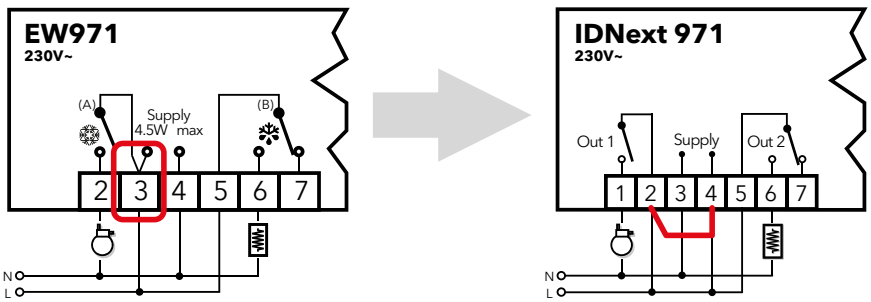
IDNext vs IDPlus and EW and ID, ICPlus vs IC compatibility

Compatibility tables

IDNext models	IDPlus models	IC - ID	EWPC - EWTC - EWPX	EW - EWPlus*
IDNext 902 Output: 10A SPDT	**IDPlus 902** Output: 8A SPDT	IC 901 IC 902 ID 961 ID 961LX	EWPC 901 EWPC 902 EWPC 961 EWTC 101 EWPX 161	EW 902 EWPlus 902
IDNext 961 Output: 2Hp SPST	**IDPlus 961** Output: 2Hp SPST	IC 901 IC 902 ID 961 ID 961LX	EWPC 901 EWPC 902 EWPC 961 EWTC 101 EWPX 161	EW 961 EWPlus 961
IDNext 971 Outputs: 2Hp + 8A	**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
IDNext 974 Outputs: 2Hp + 8A + 5A	**IDPlus 974** Outputs: 2Hp + 8A + 5A	ID 974 ID 974 LX	EWPC 974 EWPX 174	EW 974 EWPlus 974
IDNext 978 Outputs: 1.5Hp + 8A + 5A (2x)	**IDPlus 978** Outputs: 1.5Hp + 8A + 5A (2x)	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 IDNext series. IT IS therefore necessary to jumper the load line and the controller power supply, see example below:



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The type approval marks associated with each individual instrument are present on specific part numbers only. Check details and availability with sales office.

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