
Electronic Controllers and Sensors

Stand-alone Driver Modules Series EXD-S

for stable superheat control with stepper motor driven electrical control valves Series EX5, EX6, EX7, EX8

Features

- Fully tested and ready for operation after wiring
- Plug and play
- Operating modes and alarms via LED for easy diagnostics
- Easy wiring
- CE Marking for electromagnetic compatibility
- Housing for DIN Rail mounting

Options

- Other setting values upon request, minimum 100 pieces per order quantity

See datasheet A3.5.046 for more information.



EXD-S

Selection Table

Type	Order-Nr.	Valve see page 14	Capacity regulation (kW) *	Capacity regulation	Refrigerant	Superheat setting (K)	MOP setting (bar)		
EXD-S05	804 537	EX5	5 .. 50	10-100%	R 22	6 K	6.5		
EXD-S06	804 538	EX6	15 .. 120						
EXD-S07	804 539	EX7	35 .. 330						
EXD-S08	804 540	EX8	90 .. 880						
EXD-S15	804 541	EX5	5 .. 53		R 407C	6 K	6.5		
EXD-S16	804 542	EX6	15 .. 126						
EXD-S17	804 543	EX7	35 .. 347						
EXD-S18	804 544	EX8	100 .. 925						
EXD-S25	804 545	EX5	4 .. 39		R 134a	6 K	3.3		
EXD-S26	804 546	EX6	10 .. 93						
EXD-S27	804 547	EX7	25 .. 255						
EXD-S28	804 548	EX8	70 .. 680						
EXD-S35	804 549	EX5	4 .. 35		R 404A	6 K	7.0		
EXD-S35S	804 564	EX5	4 .. 35				2.3		
EXD-S36	804 550	EX6	10 .. 84				7.0		
EXD-S36S	804 565	EX6	10 .. 84				2.3		
EXD-S37	804 551	EX7	25 .. 230				7.0		
EXD-S38	804 552	EX8	60 .. 613				7.0		
EXD-S45	804 553	EX5	6 .. 58				R 410A	6 K	10.6
EXD-S46	804 554	EX6	15 .. 140						

*) Nominal conditions: +38°C condensing temperature, +4°C evaporating temperature and 1K subcooling. For other conditions see datasheet.

Accessories

Description	Type	Order Nr.	Note
Pressure Transmitter	PT4-07S	802 320	for R 22, R 407C, R 134a, R 404A/R 507
Pressure Transmitter	PT4-18S	802 322	for R 410A only
Temperature Sensor	ECN-C60	804 514	6m cable length
Uninterruptible Power Supply	ECP-024	804 558	optional, recommended
Electrical Terminal Kit	K09-P00	804 560	for ECP-024
Transformer 230 V/24 V AC, 20 VA	ECT-523	804 332	

Cable Assemblies for EX5/EX6 see page 14



ECP-024

Ordering Information (Example)

System with 100 kW cooling capacity and refrigerant R22 requires the following parts:

EX6	Electronic Expansion Valve	ECN-C60	Temperature Sensor
EX5-N15	Electrical Cable and Plug assembly	ECP-024	Uninterruptible Power Supply
EXD-S06	Driver module	K09-P00	Electrical Terminal Kit
PT4-07S	Pressure Transmitter	ECT-523	Transformer

Universal Driver Modules Series EXD-U

for the operation of ALCO stepper motor driven valves EX5 / EX6 / EX7 / EX8 as

- Solenoid Valve
- Electronic Expansion Valve
- Hot Gas Bypass or Evaporating Pressure Regulator for capacity control
- Crankcase Pressure Regulator
- Condenser Pressure Regulator
- Liquid Level Control

Features

- Plug and run, no parameter for setting i.e. automatic operation
- Valve opening proportional to 4-20mA or 0-10V analogue input signal
- Digital input can be used to force valve closing
- Dip-switches allow for selection of Electrical Control Valve, analogue input and start mode
- Aluminium housing for DIN Rail mounting
- Easy wiring
- Fully tested and ready for operation
- CE-marking for electromagnetic compatibility

Options

- Uninterruptible Power Supply to automatically close valve after power down (see picture on page 28)



EXD-U

Selection Table

Description	Type	Order-Nr.	Note
Universal Driver Module	EXD-U00	804 557	
Electrical Terminal Kit	K09-U00	804 559	for EXD-U00

Accessories

Description	Type	Order Nr.	Note
Uninterruptible Power Supply	ECP-024	804 558	for up to 2 driver modules
Electrical Terminal Kit	K09-P00	804 560	for ECP-024
Transformer 230 V/24 V AC, 20 VA	ECT-523	804 332	

Capacity Data

see Electrical Control Valve data.

For function as:

- Expansion Valve - Superheat Control see page 15 to 21
- Capacity Control by means of Hot Gas Bypass see page 22
- Evaporating Pressure Regulator or Crankcase Pressure Regulator see page 23 to 24
- Condensing Pressure Regulator see page 25 to 26

See datasheet A3.5.048 for detailed application drawings and technical data. For other than the specified operating conditions an Excel based **Selection Tool** can be ordered from your ALCO sales office.

Electronic Temperature and Case Controller Series EC1

without network communication

Features

- 2 ½ digit LED display with automatic decimal point
- Standard 71 x 29 mm cutout dimensions
- Display in °C or °F (EC1-000, -010, -020, -040)
- Display in %, bar, psi and k Pa (EC1-110)
- 5 models for typical modes of operation:
 - Electronic Thermometer
 - Thermostat for off cycle defrost (1 relay)
 - Thermostat for electric or hot-gas defrost (2 relays)
 - Thermostat for electric or hot-gas defrost and fan control (4 relays)
 - Universal Electronic Controller with mA input for multiple applications: typically humidity or pressure sensors
- Integrated timer and alarm functions
- All parameters and functions programmable on keypad or with optional infrared remote control
- Password protection to eliminate abuse
- IP 65 protection class when mounted in front panel



EC1-040



EC1-110

Type	Order Nr.	Function	Outputs	Indicator LEDs	Housing Depth
EC1-000	804 300	Electronic Thermometer		1	64 mm
EC1-010	804 301	Thermostat for off cycle defrost	1 SPST	2	64 mm
EC1-020	804 302	Thermostat for electric or hot-gas defrost	2 SPST	2	72 mm
EC1-040	804 303	Thermostat for electric or hot-gas defrost and fan control	2 SPST 2 SPDT	4	72 mm
EC1-110	804 316	Universal Electronic Controller	1 SPST	1	71.5

Brief Description of the Different Versions

EC1-000 Electronic Thermometer

- Temperature display for up to two NTC sensors
- Switch from display sensor 1 to sensor 2 by external contact
- Display of a virtual temperature calculated from the temperature at both sensors

EC1-010 Temperature Controller for off cycle defrost

- For display cases or cold rooms with temperatures above 0°C
- Thermostatic control of compressor or liquid line solenoid
- Integrated defrost timer functionality
- All temperature and timing parameters programmable

EC1-020 Temperature Controller for electric or hot-gas defrost

- Same than EC1-010, but for display case or cold room temperatures below 0°C
- Timer- or temperature controlled defrost functionality
- Single relay control output for compressor or solenoid valve

EC1-040 Temperature Controller for electric or hot-gas defrost and fan control

- Same than EC1-020, for display case or cold room temperatures below 0°C
- Fan control programmable
- Two digital multifunction inputs
- Auxilliary multifunction relay can be programmed for various functions (light, alarm etc.)

EC1-110 Universal Controller

- Multi purpose single 4-20 mA or 0-20 mA input typically for pressure or humidity applications
- Units of display variable: % humidity, pressure; bar, psi or k Pa
- Single relay control output for compressor or liquid line solenoid
- Integrated defrost timer functionality

Technical Data

Supply voltage	12 V AC $\pm 10\%$ 50/60 Hz	Output contact rating	all relays: $I_{ind} = 2 \text{ A}$, $P_{ind} = 230 \text{ W}$, 50 Hz, 230 V, $\cos \varphi = 0.5$ $I_W = 8 \text{ A}$, $P_W = 1800 \text{ W}$, 230 V, $\cos \varphi = 1$
Inputs (EC1-000, -010, -020, -040) Sensor type	Temperature sensors, defrost termination sensor NTC 10K Ω @ 25°C Order codes see accessories	Temperature storage ambient operation (NTC sensor)	-10 ... +70°C 0 ... +60°C -50 ... +50°C
Inputs (EC1-110) Sensor type	Single input sensor: 4-20 or 0-20mA Humidity or pressure, see below	Indicators (LED)	Compressor, defrost, continuous cycle, fan, alarm, indirect or direct operation mode if applicable infrared remote control activated
Display	2 $\frac{1}{2}$ digits red LED	Protection	IP 65 (frontal protection with gasket)
Alarm buzzer	fitted as standard		
Weight	~ 120 g		
Power consumption	3 VA EC1-010, -020, -040 2 VA EC1-000, EC1-110		

Accessories

Description	Type	Order Nr.
NTC Sensors, single insulated (10 k Ω at 25°C)	1,5 m cable length	ECN-S15 804 304
	3 m cable length	ECN-S30 804 305
	6 m cable length	ECN-S60 804 284

Transformer 12 V, 3 VA 12 / 24 V, 20 VA	230 VAC Input	ECT-123 804 307
	110 / 230 VAC input	ECT-523 804 332

Infrared Remote Control for EC1-000, EC1-010, EC1-020, EC1-040	English	EC1-IRE 804 308
	German	EC1-IRD 804 309
	French	EC1-IRF 804 310
	Spanish	EC1-IRS 804 311
	Italian	EC1-IRI 804 329

Infrared Remote Control for EC1-110	English	ECU-IRE 804 350
	German	ECU-IRD 804 351
	French	ECU-IRF 804 352
	Spanish	ECU-IRS 804 353
	Italian	ECU-IRI 804 354

Sensors for EC1-110	Type	Order Nr.
Pressure Transmitters PT4 series 4 ... 20 mA	-0.8 to 7 bar	PT4-07S 802 320
	0 to 18 bar	PT4-18S 802 322
	0 to 30 bar	PT4-30S 802 324
	0 to 50 bar	PT4-50S 802 326
Cable Assemblies -50 ... +80 °C	1,5 m cable length	PT4-L15 804 593
	3,0 m cable length	PT4-L30 804 594
	6,0 m cable length	PT4-L60 804 595
Humidity sensors	temp. & humidity (wall)	ECS-TH1 804 355
	temp. & humidity (duct)	ECS-TH2 804 356



ECN-Sxx



ECT-123



EC1-IRx



PT4

PT4-Lxx



ECS-TH1



ECS-TH2



Display Case and Universal Controllers Series EC2

with Web Server functionality and TCP/IP Protocol or
with LON Protocol (FTT-10)

Functional Overview:	Type TCP/IP	Type LON
Display Case and Cold Room Controllers		
Electronic Controller: Temperature and Superheat Control of EX2 (Press. / Temp. input)	EC2-352	EC2-351
Electronic Controller: Temperature and Superheat Control of EX2 (Temp. / Temp. input)	EC2-312	EC2-311
Electronic Controller: Thermostat control, for Thermo-Expansion valve	EC2-212	EC2-211
Universal Controllers		
With 2 digital inputs, 3 temperature inputs, 4 relay outputs	EC2-112	EC2-111

Features of EC2-3 models:

- Superheat control for Pulse Width Modulated Valves (e.g. EX2-Series) see Functional Overview above
- Self-adapting controller, no user setup necessary
- Limitation of evaporating temperature (MOP)

Features of all models:

- Air temperature control
- Defrost timer for natural, electric or hot-gas defrost with fan control
- Integrated timer and alarm functions
- All parameters and functions are programmable: via standard web browser (EC2-xx2 models), via LON communication (EC2-xx1 models), with integral keypad, or with optional infrared remote control
- Password protection to eliminate unauthorised use
- Standard 29 x 71 mm cutout dimensions
- 2 ½ digit display in °C or °F
- CE approved

Communication LON

- Echelon® LON FTT-10 interface based on the LonWorks® standard for monitoring and configuration through a supervisory system such as the AMS Monitoring Server

Communication TCP/IP Ethernet

- Web Server Function provides monitoring and configuration through a standard web browser. Ethernet interface, as used in most office PCs.
- Graphical visualisation via built-in web-pages
- Fixed or dynamic TCP/IP address with username and password
- Alarms via email
- Up to 30 days datalog



EC2 Controller

Options

- Standard screw terminal kit K02-000 available for all models. OEM crimp versions available upon request.
- NTC temperature sensors
- Transformers for 230 VAC mains
- ALCO EC2-IRx Series Infrared Remote Control for easy parameter setting and programming



Example for web page monitoring

Selection Table

Alco EC2 Series Controllers

Description	Network Controller TCP/IP		LON	
	Type	Order-Nr.	Type	Order-Nr.
Display Case Controller (P / T)	EC2-352	807 772	EC2-351	807 771
Display Case Controller (T / T)	EC2-312	807 682	EC2-311	807 681
Display Case Controller TXV	EC2-212	807 482	EC2-211	807 481
Universal I/O Controller	EC2-112	807 472	EC2-111	807 471



K02-000

Accessories	Type	Order-Nr.
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Terminal kits

Terminal kit for EC2-35x and EC2-31x	K02-000	800 050
Terminal kit for EC2-21x and EC2-11x	K02-211	807 647

Temperature Sensors

Air-Sensors, single insulated (10 kΩ at 25°C)	1,5 m cable length	ECN-S15	804 304
	3 m cable length	ECN-S30	804 305
	6 m cable length	ECN-S60	804 284
Pipe-Sensors (10 kΩ at 25°C)	3 m cable length	ECN-P30	804 280
	6 m cable length	ECN-P60	804 281
	8 m cable length	ECN-P80	804 282
Defrost sensor (10 kΩ at 25°C) (including fin clip)	6 m cable length	ECN-F60	804 283
Pressure transmitter	-0.8...7 bar,	PT4-07S	802 320
Cable plug assembly	1.5m length	PT4-L15	804 593



ECT-523

Transformer, 110/230 VAC Input, 12/24 V output, 20VA	ECT-523	804 332
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Infrared Remote Control

Language:	English	EC2-IRE	804 345
	German	EC2-IRD	804 346
	French	EC2-IRF	804 347
	Spanish	EC2-IRS	804 348
	Italian	EC2-IRI	804 349



EC2-IRE

EX2 Pulse width modulated expansion valve: see page 10

Technical Data

Supply voltage	24 V AC ±10% 50/60 Hz class II only	Temperature storage	-10 ... +70°C
Power consumption	20 VA incl. EX2 valve (EC2-3xx) 3 VA (EC2-21x and EC2-11x)	Temperature operation	0 ... +50°C (housing)
Inputs	up to 5 Temperature sensors Refrigerant inlet (saturated temp.) Refrigerant outlet (suction temp.) Air into / Air out of evaporator Defrost termination	Temperature operation	-50 ... +50°C (NTC sensor)
		Display	2½ digits red LED Automatic decimal point between -19.9 & +19.9 Switchable between °C & °F
Output contact rating cos φ = 0.5:	SPDT & SPST relays, 250 V max / 8 A resistive load 2 A inductive load	Indicator LEDs Varies upon model	Compressor, defrost, fan, alarm, service LED
(Voltage free contacts)	(defrost, compressor, fan)	Protection	IP 65 (front protection with gasket)
Triac output to EX2	24 VAC, 1 A max.	Sensor type	NTC 10KΩ @ 25°C Order codes see above
Communication interface	LON: FTT10 TCP/IP: Ethernet	Weight	~ 150 g

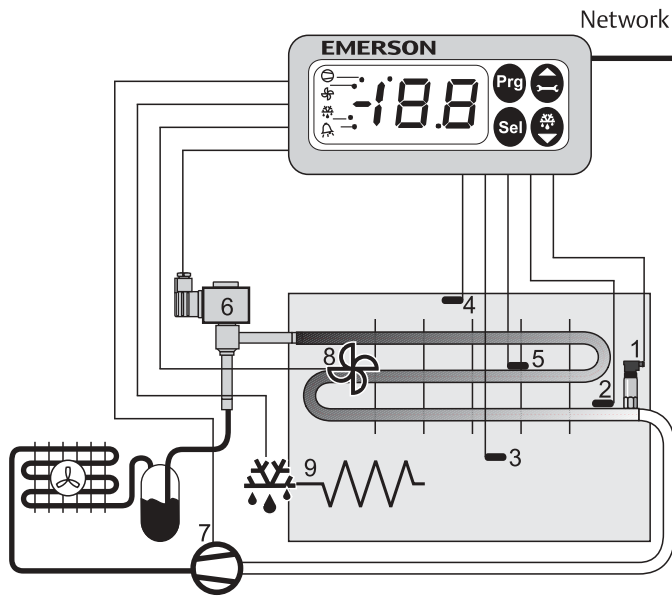
Typical Order Package

for a display case

Case Controller	EC2-311	807 681	2 pipe sensors	ECN-P60	804 281
Electrical Control Valve	EX2-M00	801 091	2 air sensors	ECN-S30	804 305
Coil 24 VAC / 2W	ASC 24V	801 052	Defrost sensor	ECN-F60	804 283
Orifice 2	EXO-003	801 088	Transformer	ECT-523	804 332
Terminal Kit	K02-000	800 050			

Block Diagrams

EC2-35x Case Controller (EXV, Press / Temp)



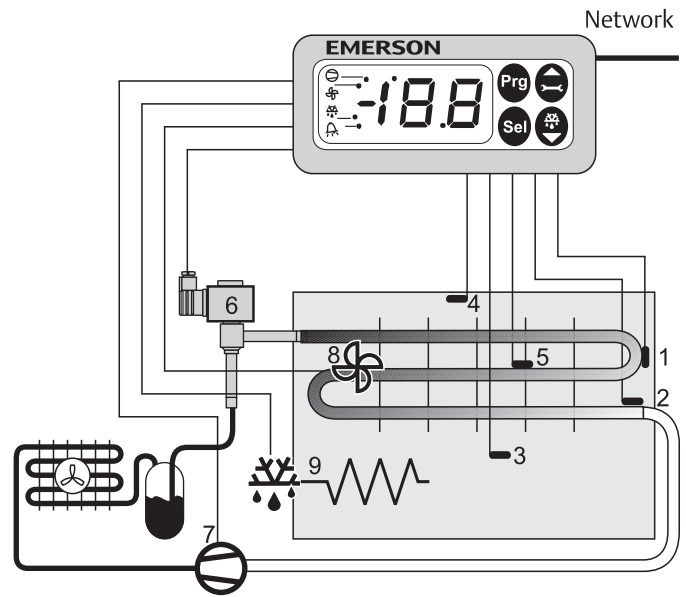
Inputs

- 1 = Suction pressure
- 2 = Coil out temperature
- 3 = Air in temperature
- 4 = Air out temperature
- 5 = Defrost temperature

Outputs

- 6 = EX2 Expansion valve
- 7 = Compressor
- 8 = Fan
- 9 = Defrost heater

EC2-31x Case Controller (EXV, Temp / Temp)



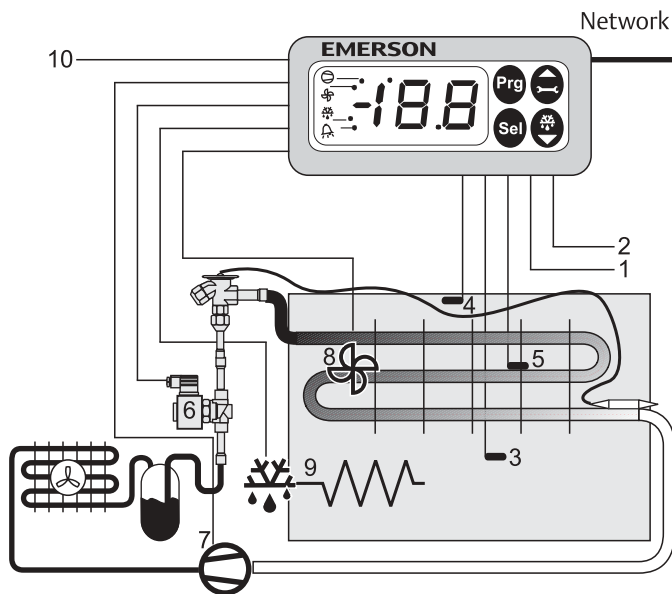
Inputs

- 1 = Coil in temperature
- 2 = Coil out temperature
- 3 = Air in temperature
- 4 = Air out temperature
- 5 = Defrost temperature

Outputs

- 6 = EX2 Expansion valve
- 7 = Compressor
- 8 = Fan
- 9 = Defrost heater

EC2-21x Case Controller (TXV)



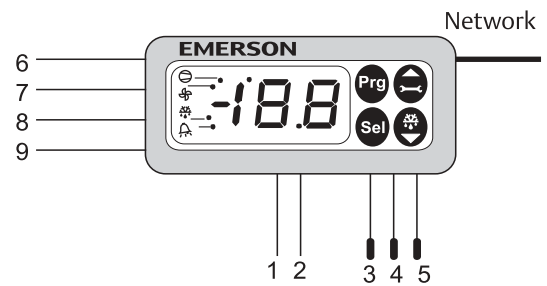
Inputs

- 1 = Digital Input
- 2 = Digital Input
- 3 = Air in temperature
- 4 = Air out temperature
- 5 = Defrost temperature

Outputs

- 6 = Solenoid valve
- 7 = Compressor
- 8 = Fan
- 9 = Defrost heater
- 10 = Digital output

EC2-11x Universal I/O Controller



Inputs

- 1 = Digital Input
- 2 = Digital Input
- 3 = Temperature input
- 4 = Temperature input
- 5 = Temperature input

Outputs

- 6 = Digital output
- 7 = Digital output
- 8 = Digital output
- 9 = Digital output

Coldroom and Universal Controllers Series EC3

with Webserver Function and TCP/IP Protocol or
with LON Protocol

Functional Overview:	Type TCP/IP	Type FTT-10
Cold Room Controllers Coldroom Controller: Temperature and Superheat Control of EX5 .. EX8 (Stepper Motor)	EC3-332	EC3-331
Universal Controllers With 12 digital inputs and 12 digital outputs	EC3-112	EC3-111

Features of EC3-3 models:

- Superheat control with self-adapting algorithm for Stepper Motor driven ECVs (EX5 ... EX8) see Functional Overview above
- **Version EC3-33x with integral backup battery** to close Expansion Valve in case of power loss
- Limitation of evaporating temperature (MOP)

Features of all models:

- Thermostat, fan & defrost control including adaptive and on demand defrost algorithms
- Analog inputs: 6 NTC temperature sensors
- Analog input for suction pressure measurement using Alco PT4 Series pressure transmitters
- Digital inputs for compressor safety and coldroom door contact plus two programmable inputs
- Relay outputs for compressor, defrost and alarm plus programmable relay
- All parameters and functions are programmable: via TCP/IP Ethernet controller (EC3-xx2 models), via LON communication (EC3-xx1 models), with keypad of optional display unit ECD-001
- Electrical connections via plug-in type screw terminals
- Lightweight aluminum enclosure for DIN rail mounting
- CE approved

Communication TCP/IP Ethernet

- Web Server Function provides monitoring and configuration through a standard web browser. Ethernet interface, as used in most office PCs.

Communication LON

- Echelon® LON FTT-10 interface based on the LonWorks® standard for monitoring and configuration through a supervisory system such as the ALCO Monitoring Server AMS

Options

- Front mounted ECD-001 Display Unit for temperature and output status indication
- Alco Controls EC2-IRx Infrared Remote Control for easy parameter setting and programming. Available in English, German, French, Italian & Spanish languages
- NTC temperature sensors
- 50 VA Din rail mounting transformer ECT-623
- AMS Series Monitoring Server for remote visualisation and programming



EC3-311

ECD-001

Features of ECD-001 Display Unit

- Connection to EC3 Series via a RJ45 Western digital plug. No further power cables are required.
- 2 ½ digit display
- Indicator LEDs for compressor, fan, heater and alarm
- 4 Keys allow parameter modification if necessary
- Easy mounting in panels with 71 x 29 mm cut-out
- IP65 if mounted in front panel

Typical Order Package

- Coldroom Controller EC3-33x
- Terminal Kit: K03-330 for EC3-33x
- Display unit: ECD-001
- 1.5m connector cable for display unit : ECC-017
- Transformer: ECT-623
- Sensors: depending on application

Selection table

EC3- Series for Cold Applications:

Description	Communication interface:		LON	
	Type	Order Nr.	Type	Order Nr.
Coldroom Controller ECV Stepper Motor Drive	EC3-332	807 632	EC3-331	807 631
Universal Controller	EC3-112	807 712	EC3-111	807 711

*For further details, refer to: EX5, EX6 Electrical Control Valves see page 14

Terminal Kits for EC3 Series :

Terminal Kit for EC3-33x series	K03-331	807 648
Terminal Kit for EC3-11x series	K03-110	807 656



K03-330

ECD Series Display Units :

Display for EC3-200 to -500	ECD-001	807 641
Connection cable EC3 to ECD 1.5 m	ECC-017	804 380

Accessories

		Type	Order Nr.
NTC Sensors (Air type) (10 kΩ at 25°C)	1,5 m cable length	ECN-S15	804 304
	3 m cable length	ECN-S30	804 305
	6 m cable length	ECN-S60	804 284
NTC Sensors (Pipe type) (10 kΩ at 25°C)	3 m cable length	ECN-P30	804 280
	6 m cable length	ECN-P60	804 281
	8 m cable length	ECN-P80	804 282
NTC Sensors (Fin type) (10 kΩ at 25°C)	6 m cable length	ECN-F60	804 283
Pressure transmitter	-0.8...7 bar,	PT4-07S	802 320
Cable plug assembly	1.5m length	PT4-L15	804 593
Transformer for DIN rail mounting, Class II	230 VAC Input, 24 V output, 50VA	ECT-623	804 421



PT4

PT4-Lxx



ECT-623

Infra Red Remote Control

Language:	English	EC2-IRE	804 345
	German	EC2-IRD	804 346
	French	EC2-IRF	804 347
	Spanish	EC2-IRS	804 348
	Italian	EC2-IRI	804 349



EC2-IRE

Technical Data

Controller EC3-3xx

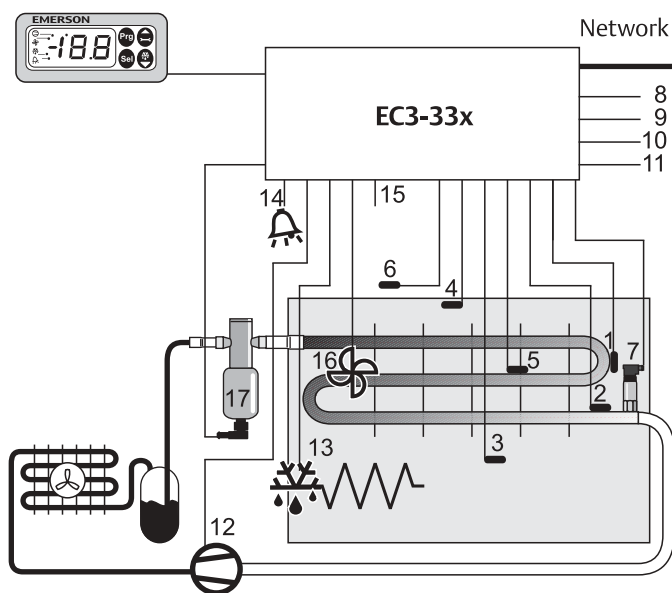
Supply voltage	24 VAC ±10%, 50/60 Hz Class II only
Power consumption	20 VA max. EC3-20x & EC3-31x version 50 VA max. EC3-33x version
Plug-in connector size	Removable screw version
Digital I/Os	wire size 0.5 ... 2.5 mm ²
Analogue I/O	wire size 0.14 ... 1.5 mm ²
Communication interface	LON: FTT10 TCP/IP: Ethernet
Temperature storage	-20 ... +65°C
operating	0 ... +60°C
Humidity	0 ... 80% r.h. non condensing
Protection class	IP 20
Weight	~ 810 g
Mounting	Din-rail mounted

Display Unit ECD-001

Supply voltage	Via ECC-017 from EC3 controller
LED indicators	Compressor, fan, defrost, alarm outputs LON service pin & IR controller status
Display LED	Numeric segmental display, red, 2½ digits with automatic dec. point betw. ±19.9 switchable between °C and °F
Operating Keys	4 operating keys: Programming, service/up, select/Down
Connecting lead	1,5 m (ECC-017) with RJ45 connectors
Temperature storage	-20 ... +65°C
operating	0 ... +60°C
Humidity	0 ... 80% r.h. non condensing
Protection class	IP 65 (front panel with gasket)
Weight	~ 52 g
Mounting	Panel door (71 x 29mm cutout)

Block Diagrams

EC3-33x Coldroom Controller for stepper motor driven ECV



Inputs

- 1 = Coil in temperature
- 2 = Coil out temperature
- 3 = Air in temperature
- 4 = Air out temperature
- 5 = Defrost temperature
- 6 = spare
- 7 = Suction pressure
- 8 = Compressor safety
- 9 = Door contact
- 10 = spare
- 11 = spare

Outputs

- 12 = Compressor
- 13 = Defrost heater
- 14 = Alarm
- 15 = spare
- 16 = Fan
- 17 = Stepper motor ECV

Condenser- and Condensing Unit Controllers Series EC2

with Webserver Function and TCP/IP or with LON Protocol

Common Features

- Maintenance and alarm management
- Sensor failure handling
- Setpoint compensation by market sensor
- Inputs for common low and common high pressure alarms
- Configuration data stored in non-volatile memory
- Electrical connection via plug-in type screw terminals
- Echelon® LON-protocol for full network capabilities
- FTT10 Network interface
- Operation and commissioning via local or remote PC
- CE approved

Condenser Controllers

- Compact controller to control condensing temperature at the desired condition based on pressure input.

Condensing Unit Controllers

- To control a combination of compressors and condenser fans based on suction and condensing pressure respectively.

Communication LON

- Echelon® LON FTT-10 interface based on the LonWorks® standard for monitoring and configuration through a supervisory system such as the AMS Monitoring Server



EC2 Controller



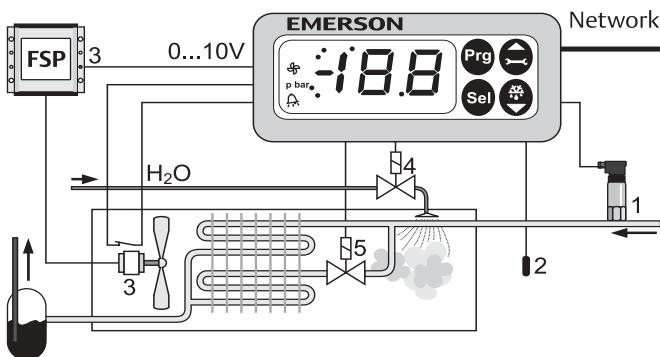
EC2-IRE Remote Control

Communication TCP/IP Ethernet

- Web Server Function provides monitoring and configuration through a standard web browser. Ethernet interface, as used in most office PCs.
- Graphical visualisation via built-in web-pages
- Fixed or dynamic TCP/IP address with username and password
- Alarms via email
- Up to 30 days datalog

Block Diagrams

EC2-74x Condenser Controller with fan speed control



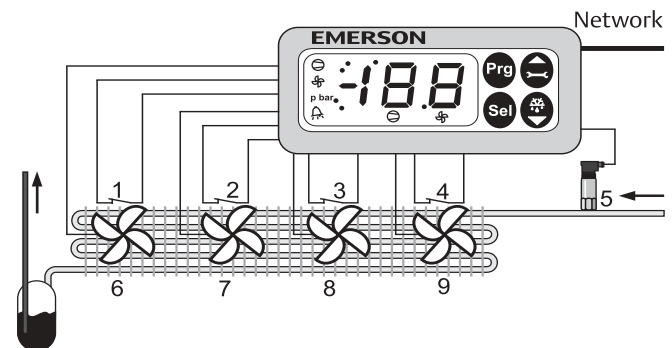
Inputs

- 1 = Condenser pressure
- 2 = Ambient temperature

Outputs

- 3 = Speed controlled fan
- 4 = Sprinkler
- 5 = 2 stage condenser coil

EC2-71x Condenser Controller for up to 4 fans



Inputs

- 1 = Safety switch fan 1
- 2 = Safety switch fan 2
- 3 = Safety switch fan 3
- 4 = Safety switch fan 4
- 5 = Condenser pressure

Outputs

- 6 = Fan 1
- 7 = Fan 2
- 8 = Fan 3
- 9 = Fan 4