MAKING MODERN LIVING POSSIBLE

Temperature controller
EKC 102

REFRIGERATION &
AIR CONDITIONING DIVISION

EKC 102 - Temperature controller

EKC 102 controllers for panel mounting are used for temperature and defrost control via pump-down or start/stop of compressor.

Functions

Thermostat
- ON/OFF thermostat
- Sensors: Danfoss Pt1000, PTC1000 or NTC5000
- Calibration of sensors
- Day/night control
- Alarm thermostat with delays

Defrost
- Electrical or natural defrost
- Start via DI input, time interval or display
- Defrost on demand
- Stop on time or temperature

Compressor
- Anti cycle timers for optimum compressor protection
- High-effect 16A relays for connection of compressors without use of intermediate relay
- Control of 2 compressors (version 102B)

Multipurpose DI input
- Multipurpose DI input for defrost start, day/night control, dooralarm or main switch

Other functions
- The S5 sensor can be used for monitoring of condenser temperature or as product sensor (version 102B+102D)
- Door function with alarm monitoring
- Manual control of outputs
- Delay of outputs at power up

Display & Programming
- High-efficient LED display with icons for indication of operational status. Parameter settings/readouts and alarm conditions can be read on the display.
- "Copy key" programming key with room for 25 different controller setups

Fan (102D only)
- Fan delay during defrost
- Fan stop when compressor cuts out
- Fan stop at high S5 temperature

Advantages

- **Integrated refrigeration-technical functions**
- **Defrost on demand in 1:1 systems**
- **Buttons and seal imbedded in the front**
- **IP65 density from the front panel**
- **Can control two compressors**
- **Digital input for either:**
  - Door alarm
  - Defrost start
  - Start/stop of regulation
  - Night operation
  - Change-over between two temperature reference
  - Case cleaning function
- **Instant programming via programming key**
- **HACCP**
  Factory calibration that will guarantee a better measuring accuracy than stated in the standard EN 441-13 without subsequent calibration (Pt 1000 ohm sensor)

Technical data and ordering

Technical data

Supply voltage	230 V a.c.(115 V) +10/-15 %. 1.5 VA		
Sensors	Pt 1000 or PTC (1000 ohm/25°C) or NTC-M2020 (5000 ohm/25°C)		
Accuracy	Measuring range	-60 to +99°C	
	Controller	±1 K below -35°C ±0.5 K between -35 to +25°C ±1 K above +25°C	
	Pt 1000 sensor	±0.3 K at 0°C ±0.005 K per grad	
Display	LED, 3 digits		
Digital inputs	Signal from contact functions Requirements to contacts: Gold plating Cable length must be max. 15 m Use auxiliary relays when the cable is longer		
Electrical connection cable	Max.1.5 mm² multi-core cable on supply and relays. Max. 1 mm² on sensors - and DI inputs. Terminals are mounted on the circuit board		
Relays*		CE (250 V a.c.)	UL ** (240 V a.c.)
	DO1. Refrigeration	10 (6) A	10 A Resistive 5FLA, 30LRA
	DO2. Alarm/ Defrost/ Refrigeration	10 (6) A	10 A Resistive 5FLA, 30LRA
	DO3. Fan	6 (3) A	6 A Resistive 3FLA, 18LRA 131 VA Pilot duty
Environments	0 to +55°C, During operations -40 to +70°C, During transport		
	20 - 80% Rh, not condensed		
	No shock influence/vibrations		
Enclosure	IP 65 from front. Buttons and packing are imbedded in the front.		
Approvals	EU Low Voltage Directive and EMC demands re CE-marking complied with LVD tested acc. EN 60730-1 og EN 60730-2-9, A1, A2 EMC tested acc. EN50082-1 og EN 60730-2-9, A2		

* DO1 and DO2 are 16 A relays. DO3 is a 8 A relay. Max. load must be keept.

** UL-approval based on 30000 couplings

Ordering

Type	Description	Supply	Code No.
EKC 102A	Temperature controller	230 V a.c.	**084B8500**
		115 V a.c.	**084B8503**
EKC 102B	Temperature controller with alarm function	230 V a.c.	**084B8501**
		115 V a.c.	**084B8504**
EKC 102C	Temperature controller for electric defrost	230 V a.c.	**084B8502**
		115 V a.c.	**084B8505**
EKC 102D	Controller for refrigeration with fan function	230 V a.c.	**084B8506**
		115 V a.c.	**084B8507**

Accessories

EKA 179A	RS485 LON	**084B8565**
EKA 181A	Battery & Buzzer	**084B8566**
EKA 182A	Copy key EKC - EKC	**084B8567**
AKS 12	Pt 1000 Sensor	**084N0036**
EKS 111	PTC 1000 Sensor	**084N1178**
EKS 211	NTC 5000 Sensor	**084N1220**

Additional information!
Manual: RS8DY

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