8 WORKING SETPOINT AND CONFIGURATION PARAMETERS

8.1 Working setpoint

LABEL	MIN.	MAX.	U.M.	DEF.	WORKING SETPOINT
	-40	99	°C	2	working setpoint

8.2 Configuration parameters

LABEL	MIN.	MAX.	U.M.	DEF.	MEASURE INPUTS
/1	-55	99	°C	0	cabinet and evaporator probe calibration (you have to set eight points for adjusting one degree)
/A	0	1	—	1	evaporator probe presence (and its functions; 1 = YES) (4) (5)

LABEL	MIN.	MAX.	U.M.	DEF.	REGULATOR
r0	1	15	°C	2	hysteresis (differential, it is relative to the working setpoint)

LABEL	MIN.	MAX.	U.M.	DEF.	COMPRESSOR PROTECTION
C0	0	240	min	0	minimum delay between you turn the instrument ON and the first compressor activation
C1	0	240	min	5	minimum delay between two compressor activation in succession
C2	0	240	min	3	minimum delay between the compressor gets OFF and the following activation
C6	0	100	%	0	percentage of cycle time the compressor is ON during the cabinet probe failure (6)

LABEL	MIN.	MAX.	U.M.	DEF.	DEFROST
d0	0	99	h	8	defrost interval (7) (0 = the defrost will never automatically be activated)
d1	0	1	—	0	kind of defrost (0 = electric defrost, 1 = hot gas defrost)
d2	-55	99	°C	2	defrost end temperature (evaporator temperature, it is important if /A = 1)
d3	0	99	min	30	defrost maximum length (0 = the defrost will never be activated)
d6	0	1	—	1	freeze of the temperature showed by the instrument during the defrost (1 = YES) (8)
d7	0	15	min	2	dripping time

(4) once you have modified the value of the parameter, you will have to switch off the power supply of the instrument

(5) if the parameter has value 0, the defrost will end by time (parameter d3)

(6) the cycle time value is 20 min

(7) unless the evaporator temperature is below the defrost end temperature you have set with the parameter d2, the defrost will not be activated

(8) the instrument restores the normal operation once the dripping ends and the cabinet temperature gets the working setpoint.

FK 205A

ON-OFF digital controller for static refrigerating units

smart guide

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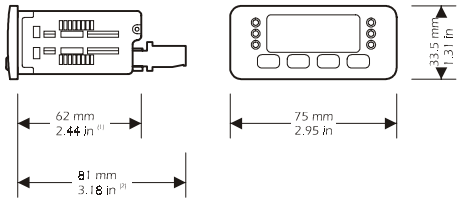
ENGLISH

1 PREPARATIONS

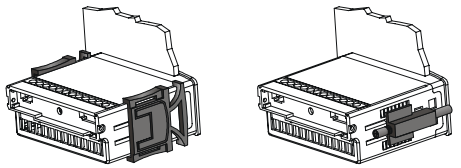
1.1 How to install the instrument

Panel mounting, panel cut out 71 x 29 mm (2.79 x 1.14 in), with click brackets (they are supplied by the builder) or screw brackets (by request).



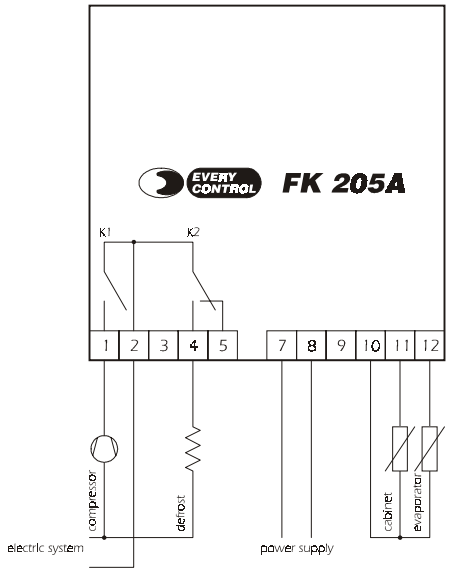
(1) maximum depth with screw terminal blocks (standard model)

(2) maximum depth with extractable terminal blocks (by request).



installation with click brackets (on the left-hand side, they are supplied by the builder) and screw brackets (on the right-hand side, by request); if you are using screw brackets, you have to moderate the clamping torque, in order not to damage the box and screw brackets.

1.2 Electrical connection



2 OPERATION

2.1 Preliminary information

During the normal operation the instrument shows the cabinet temperature.

2.2 How to activate the defrost by hand

If you have to activate the defrost by hand:

▪ press ↑ for 4 s

Unless the evaporator temperature is below the defrost end temperature you have set with the parameter d2, the defrost will not be activated.

3 WORKING SETPOINT

3.1 How to set the working setpoint

If you have to modify the working setpoint value:

▪ press set and ↑ or ↓ (3)

(3) you can set the working setpoint between -40 and 99 °C (-40 and 99 °F).

4 CONFIGURATION PARAMETERS

4.1 How to set the configuration parameters

If you have to gain access the procedure:

- press (▲) and (▼) for 4 s: the instrument will show P1

If you have to select a parameter:

- press (▲) or (▼)

If you have to modify the value of the parameter:

- press (set) and (▲) or (▼)

If you have to quit the procedure:

- press (▲) and (▼) for 4 s or do not operate for about 60 s.

5 SIGNALS

5.1 Signals

LED	MEANING
❄	Compressor LED if it is lighted, the compressor will be ON if it flashes, a compressor delay will be running (look at the parameters C0, C1 and C2)
❄	Defrost LED if it is lighted, the defrost output will be activated if it flashes: ▪ a defrost delay will be running (look at the parameters C0, C1 and C2) ▪ the dripping will be running (look at the parameter d7)

6 ALARMS

6.1 Alarms

CODE	REASONS	REMEDIES	EFFECTS
E2 corrupted memory data	there is the corruption of the configuration data of the memory of the instrument	switch off the power supply of the instrument: unless the alarm disappears, you will have to change the instrument	▪ you can not gain access the setting procedures ▪ all outputs will be forced OFF
E0 cabinet probe alarm	▪ the kind of cabinet probe you have connected is not right ▪ the cabinet probe plays up ▪ the connection instrument-cabinet probe is wrong ▪ the cabinet temperature is outside the limits allowed by the working range of the instrument	▪ test the integrity of the probe ▪ test the instrument-probe connection ▪ test the temperature close to the probe (it has to be between the limits allowed by the working range)	▪ the compressor will work in accordance with the parameter C6 ▪ if the defrost is running, it will immediately end ▪ the defrost will never be activated
E1 evaporator probe alarm	▪ the kind of evaporator probe you have connected is not right ▪ the evaporator probe plays up ▪ the connection instrument-evaporator probe is wrong ▪ the evaporator temperature is outside the limits allowed by the working range of the instrument	▪ test the integrity of the probe ▪ test the instrument-probe connection ▪ test the temperature close to the probe (it has to be between the limits allowed by the working range)	the defrost will end by time (parameter d3)

The instrument shows the indications above flashing.

7 TECHNICAL DATA

7.1 Technical data

Box: self-extinguishing grey.

Size: 75 x 33.5 x 62 mm (2.95 x 1.31 x 2.44 in) the model with screw terminal blocks (standard model), 75 x 33.5 x 81 mm (2.95 x 1.31 x 3.18 in) the model with extractable terminal blocks (by request).

Installation: panel mounting, panel cut out 71 x 29 mm (2.79 x 1.14 in), with click brackets (they are supplied by the builder) or screw brackets (by request).

Frontal protection: IP 65.

Connections: screw terminal blocks with pitch 5 mm (0.19 in, standard model) for cables up to 2.5 mm² (0.38 sq in, power supply, inputs and outputs) or extractable terminal blocks with pitch 5 mm (0.19 in, by request) for cables up to 2.5 mm² (0.38 sq in, power supply, inputs and outputs).

Ambient temperature: from 0 to 55 °C (32 to 131 °F; 10 ... 90% of relative humidity without condensate).

Power supply: 12 Vac/dc, 50/60 Hz, 1.5 VA (standard model) or 12-24 Vac/dc, 50/60 Hz, 1.5 VA (by request).

Measure inputs: 2 (cabinet and evaporator probe) for NTC probes.

Working range: from -40 to 99 °C (-40 to 210 °F).

Setpoint range: from -40 to 99 °C (-40 to 99 °F).

Resolution: 1 °C.

Display: one red LED 3-digit display 13.2 mm (0.51 in) high, output status indicators.

Outputs: 2 relays: one 10 A @ 250 Vac relay for one ½ HP @ 230 Vac compressor control (NO contact) and one 8 A @ 250 Vac relay for defrost system control (change-over contact).

Kind of defrost: electric and hot gas defrost.

Defrost control: defrost interval, defrost end temperature and defrost maximum length (automatic and by hand).