FK 200A

ON-OFF simple digital controller for static refrigerating units

smart guide

Version 1.01 of July the second, 2002

File fk200ae_v1.01.pdf

PT

EVERY CONTROL S.r.l.

This Company belongs to EVCO group

Via Mezzaterra 6, 32036 Sedico Belluno ITALY

Phone 0039-0437-852468 ▪ Fax 0039-0437-83648

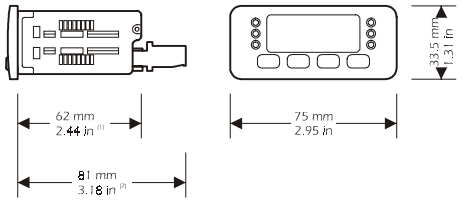
info@everycontrol.it ▪ www.everycontrol.it

ENGLISH

1 PREPARATIONS

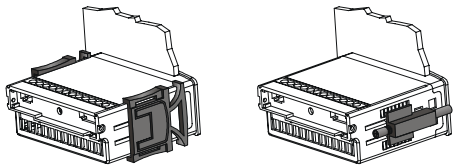
1.1 How to install the instrument

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).



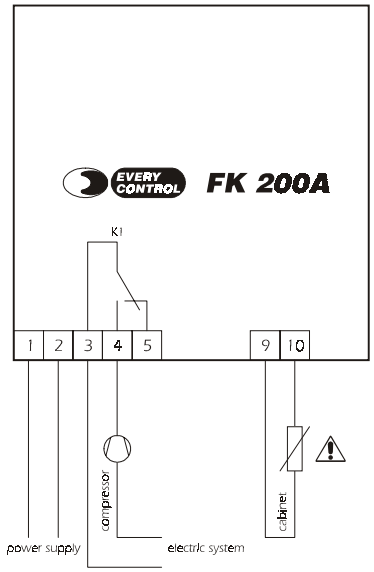
(1) maximum depth with screw terminal blocks (standard model)

(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



The probe is connected with an high voltage terminal; in order not to get a shock, you have to use probes with double insulation.

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

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 the limits you have set with the parameters r1 and r2.

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 PA 1

If you have to select a parameter:

- press (UP) or (DOWN)

If you have to modify the value of the parameter:

- press (SET) and (UP) or (DOWN)

If you have to quit the procedure:

- press (UP) and (DOWN) 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, the defrost will be running

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 ▪ the compressor 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 be forced OFF ▪ if the defrost is running, it will immediately end ▪ the defrost will never be activated

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, input and output) 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, input and output).

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

Power supply: 230 Vac, 50/60 Hz, 11 VA.

Measure inputs: 1 (cabinet probe) for NTC probes.

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

Setpoint range: from -40 to 99 °C.

Resolution: 1 °C.

Display: one red LED 2-digit display 13.2 mm (0.51 in) high, output status indicator, defrost status indicator.

Outputs: one 8 A @ 250 Vac relay for one ½ HP @ 230 Vac compressor control (change-over contact).

Kind of defrost: stopping the compressor.

Defrost control: defrost interval and defrost length (automatic and by hand).

8 WORKING SETPOINT AND CONFIGURATION PARAMETERS

8.1 Working setpoint

LABEL	MIN.	MAX.	U.M.	DEF.	WORKING SETPOINT
	r1	r2	°C	0	working setpoint

8.2 Configuration parameters

LABEL	MIN.	MAX.	U.M.	DEF.	MEASURE INPUTS
/1	-15	15	°C	0	cabinet probe calibration

LABEL	MIN.	MAX.	U.M.	DEF.	REGULATOR
r0	1	15	°C	2	hysteresis (differential, it is relative to the working setpoint)
r1	-40	r2	°C	-40	minimum value you can assign to the working setpoint
r2	r1	99	°C	99	maximum value you can assign to the working setpoint

LABEL	MIN.	MAX.	U.M.	DEF.	COMPRESSOR PROTECTION
C0	0	15	min	0	minimum delay between you turn the instrument ON and the first compressor activation
C2	0	15	min	3	minimum delay between the compressor gets OFF and the following activation

LABEL	MIN.	MAX.	U.M.	DEF.	DEFROST
d0	0	99	h/min (4)	8	defrost interval (0 = the defrost will never automatically be activated)
d3	1	99	min/s (4)	30	defrost length
d4	0	1	—	0	defrost activation every time you turn the instrument ON (1 = YES)
d5	0	99	min/s (4)	0	delay between you turn the instrument ON and the defrost activation (it is important if d4 = 1)
d6	0	1	—	1	freeze of the temperature showed by the instrument during the defrost (1 = YES) (5)
db	0	1	—	0	unit of measure defrost times (0 = d0 in hours, d3 and d5 in minutes, 1 = d0 in minutes, d3 and d5 in seconds)

(4) the unit of measure depends on the parameter db

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