

LABEL	MIN.	MAX.	U.M.	DEF.	ALARMS
A0	1	15	°C/°F ⁽⁴⁾	2	hysteresis (differential, it is relative to A1 and A2, it is important if A1 and/or A2 ≠ 0)
A1	-55	0	°C/°F ⁽⁴⁾	0	lower temperature alarm threshold (it is relative to the working setpoint, 0 = it will never be activated)
A2	0	99	°C/°F ⁽⁴⁾	0	upper temperature alarm threshold (it is relative to the working setpoint, 0 = it will never be activated)
A3	0	15	h	0	temperature alarm exclusion time since you turn the instrument ON (it is important if A1 and/or A2 ≠ 0)

LABEL	MIN.	MAX.	U.M.	DEF.	SERIAL NETWORK (EVCOBUS)
L1	1	15	—	1	instrument address
L2	0	7	—	0	instrument group

(4) the unit of measure depends on the parameter /8

(5) if the parameter r3 has value 0, you have to set the parameter r0 with positive sign; if the parameter r3 has value 1, you have to set the parameter r0 with negative sign.

FK 151X(A)

ON-OFF single output digital thermoregulator

Version 1.01 of 18th February 2004

File fk151x[a]_eng_v1.01.pdf

PT

EVERY CONTROL S.r.l.

Via Mezzaterra 6, 32036 Sedico Belluno ITALY

Phone 0039-0437-852468 • Fax 0039-0437-83648

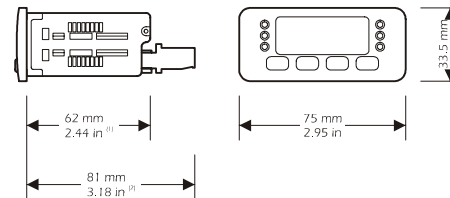
info@evco.it • www.evco.it

ENGLISH

1 PREPARATIONS

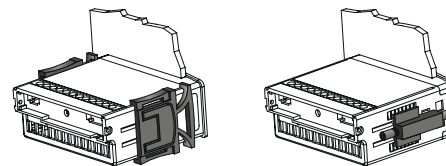
1.1 How to install the instrument

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

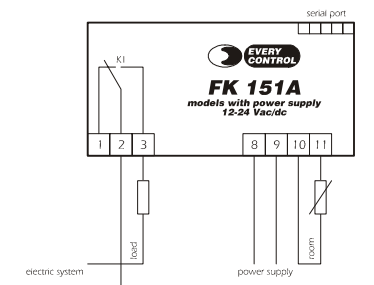
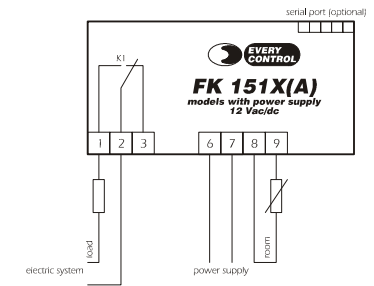
(2) maximum depth with extractable terminal blocks.



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 room temperature.

2.2 How to silence the buzzer (optional)

If you have to silence the buzzer:

▪ press

3 WORKING SETPOINT

3.1 How to set the working setpoint

If you have to modify the working setpoint value:

▪ press 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

Configuration parameters are arranged on two levels.

If you have to gain access the first level:

▪ press and for 4 s ; the instrument will show *PR*

If you have to select a parameter:

- press or

If you have to modify the value of the parameter:

- press and or

If you have to gain access the second level:

- gain access the first level

- press or for selecting *PR*

- press and or for setting “-19”

- press and for 4 s : the instrument will show

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
out	Load LED if it is lighted, the load will be ON if it flashes, a load delay will be running (look at the parameters C0, C1, C2 and C4)

6 ALARMS

6.1 Alarms

CODE	REASONS	REMEDIES	EFFECTS
<i>E2</i> 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	<ul style="list-style-type: none"> you can not gain access the setting procedures the load will be forced OFF
<i>E0</i> room probe alarm	<ul style="list-style-type: none"> the kind of room probe you have connected is not right the room probe plays up the connection instrument-room probe is wrong 	<ul style="list-style-type: none"> look at the parameter /0 test the integrity of the probe test the instrument-probe connection 	<ul style="list-style-type: none"> the load will be forced to the status you have set with the parameter C3

	<ul style="list-style-type: none"> the room temperature is outside the limits allowed by the working range of the instrument 	<ul style="list-style-type: none"> test the temperature close to the probe (it has to be between the limits allowed by the working range) 	
room	the room temperature	test the temperature	no effect
temperature	is outside the limit you have set with the parameter A1 or A2	close to the probe (look at the parameters A0, A1 and A2)	
lower or upper temperature alarm			

The instrument shows the indications above flashing and the buzzer (optional) utters an intermittent beep.

7 TECHNICAL DATA

7.1 Technical data

Box: self-extinguishing grey.

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

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: extractable terminal blocks with pitch 5 mm (0.19 in) for cables up to 2.5 mm² (0.38 sq in, power supply, input and output) or screw terminal blocks with pitch 5 mm (0.19 in) for cables up to 2.5 mm² (0.38 sq in, power supply, input and output), 5 poles single line male connector with pitch 2.5 mm (0.09 in, serial port, optional in models with power supply 12 Vac/dc).

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).

Alarm buzzer: optional.

Measure inputs: 1 (room probe) for PTC or NTC probes.

Working range: from -50 to 99 °C (-58 to 99 °F) for PTC probe, from -40 to 99 °C (-40 to 99 °F) for NTC probe.

Setpoint range: from -55 to 99 °C (-55 to 99 °F).

Resolution: 1 °F with unit of measure in Fahrenheit, 1 °C with unit of measure in Celsius.

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

Outputs: one 10 A @ 250 Vac relay (change-over contact).

Serial port: TTL with EVCOBUS communication protocol (optional in models with power supply 12 Vac/dc).

8 WORKING SETPOINT AND CONFIGURATION PARAMETERS

8.1 Working setpoint

LABEL	MIN.	MAX.	U.M.	DEF.	WORKING SETPOINT
r1	r2		°C/°F ⁽⁴⁾	0	working setpoint

8.2 First level parameters

LABEL	MIN.	MAX.	U.M.	DEF.	PASSWORD
PA	-55	99	—	0	password

LABEL	MIN.	MAX.	U.M.	DEF.	MEASURE INPUTS
/1	-55	99	°C/°F ⁽⁴⁾	0	room probe calibration (you have to set eight points for adjusting one degree)

LABEL	MIN.	MAX.	U.M.	DEF.	REGULATOR
r0	-15	15	°C/°F ⁽⁴⁾	2	hysteresis (differential, it is relative to the working setpoint) ⁽⁵⁾

8.3 Second level parameters

LABEL	MIN.	MAX.	U.M.	DEF.	MEASURE INPUTS
/0	1	3	—	1	kind of probe (1 = PTC, 3 = NTC)
/1	-55	99	°C/°F ⁽⁴⁾	0	room probe calibration (you have to set eight points for adjusting one degree)
/2	0	6	—	3	probe reading speed (0 = fast, ... , 6 = slow)
/8	0	1	—	1	temperature unit of measure (0 = Fahrenheit degree, 1 = Celsius degree)

LABEL	MIN.	MAX.	U.M.	DEF.	REGULATOR
r0	-15	15	°C/°F ⁽⁴⁾	2	hysteresis (differential, it is relative to the working setpoint) ⁽⁵⁾
r1	-55	r2	°C/°F ⁽⁴⁾	-50	minimum value you can assign to the working setpoint
r2	r1	99	°C/°F ⁽⁴⁾	99	maximum value you can assign to the working setpoint
r3	0	1	—	0	cooling or heating action (0 = cooling action)

LABEL	MIN.	MAX.	U.M.	DEF.	LOAD PROTECTION
C0	0	15	min	0	minimum delay between you turn the instrument ON and the first load activation
C1	0	15	min	0	minimum delay between two load activation in succession
C2	0	15	min	0	minimum delay between the load gets OFF and the following activation
C3	0	1	—	0	load status during the room probe alarm (0 = it will be forced OFF, 1 = it will be forced ON)
C4	0	1	—	0	fixed delay since the load gets ON and OFF (1 = YES, for 3 s)