

# EV7401J Single output thermoregulator

## GB ENGLISH

### 1 GETTING STARTED

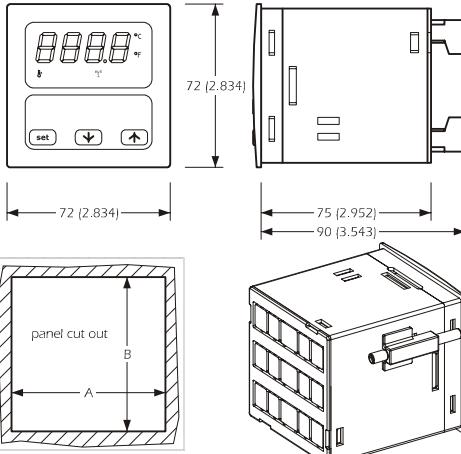
#### 1.1 Important

Read these instructions carefully before installing and using the instrument and follow all additional information for installation and electrical connection.

Keep these instructions close to the instrument for future consultations.

#### 1.2 Installing the instrument

Panel mounting, with the screw brackets supplied by the builder; dimensions in mm (in).

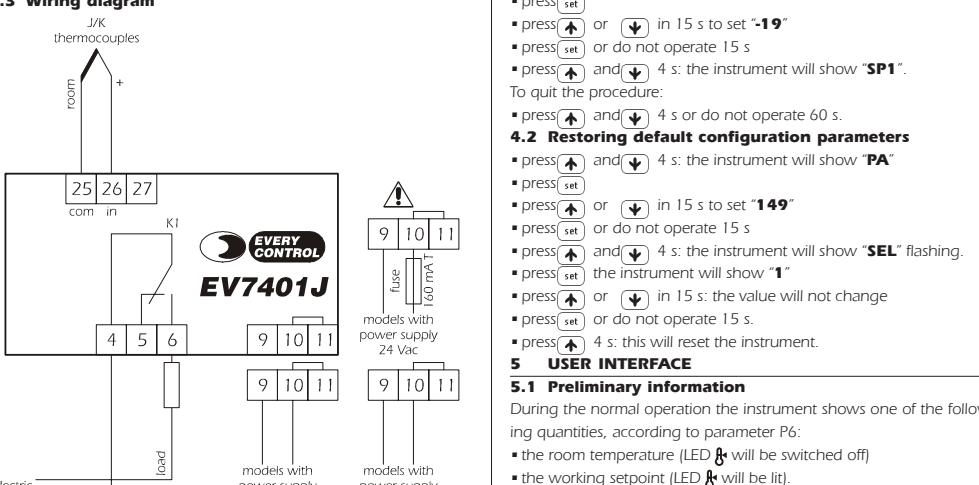


DIMENS.	MINIMUM	TYPICAL	MAXIMUM
A	68.0 (2.677)	68.0 (2.677)	68.7 (2.704)
B	68.0 (2.677)	68.0 (2.677)	68.7 (2.704)

Additional information for installation:

- 75 (2.952) is the maximum depth with spring terminal blocks
- 90 (3.543) is the maximum depth with extractable terminal blocks
- the maximum panel thickness must be 4 mm (0.157 in)
- position the brackets as indicated; moderate the clamping torque, in order not to damage box and brackets
- working conditions (ambient temperature, humidity, etc.) must be between the limits indicated in the technical data
- do not install the instrument close to heating sources (resistances, hot air ducts, etc.), locations subject to direct sunlight, rain, humidity, dust, mechanical vibrations or bumps, devices provided with big magnetos (big speakers, etc.)
- according to the safety norms, the protection against electrical parts must be ensured by a correct installation of the instrument; the parts that ensure the protection must be installed so that you can not remove them if not by using a tool.

#### 1.3 Wiring diagram



**PAY ATTENTION:**  
• if the instrument is supplied with 24 Vac, protect terminal 9 or terminal 10 with a fuse (160 mA T).

Additional information for electrical connection:

- do not operate on the terminal blocks with electrical or pneumatic screws
- if the instrument has been moved from a cold to a warm location, the humidity will condense on the inside; wait about an hour before supplying the instrument
- test the working power supply voltage, working electrical frequency and working electrical power of the instrument; they must correspond with the local power supply
- disconnect the local power supply before servicing the instrument
- provide the probe with a protection able to protect it against contacts with metal parts or use an insulated probe
- do not use the instrument as safety device
- for repairs and information concerning the instrument please contact Evco sales network.

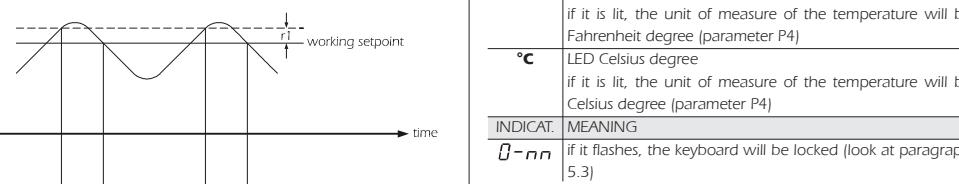
## 2 OPERATION

### 2.1 Preliminary information

You can configure the instrument to work in two different modes, according to parameter P6:

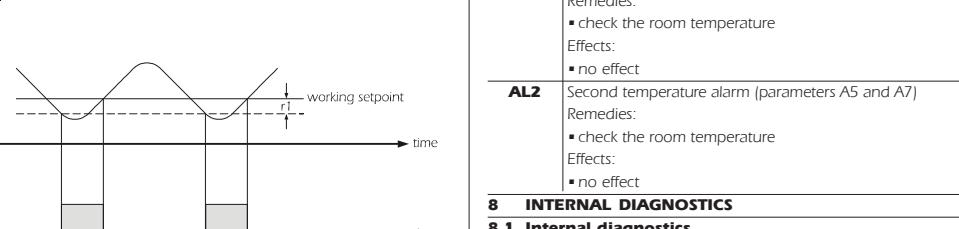
#### 2.2 Operation with parameter r4 = 0 ("cooling" action)

temp.



#### 2.3 Operation with parameter r4 = 1 ("heating" action, default value)

temp.



## 3 WORKING SETPOINT

### 3.1 Preliminary information

You can set the working setpoint through parameter SP1, too.

#### 3.2 Setting the working setpoint

- press or in 15 s (look at parameters r2 and r3, too)
- press or do not operate 15 s.

## 4 CONFIGURATION PARAMETERS

### 4.1 Setting configuration parameters

Configuration parameters are arranged on two levels.

To gain access the first level:

- press and 4 s: the instrument will show "PA"
- select a parameter:

▪ press or

To modify a parameter:

▪ press

▪ press or in 15 s

▪ press or do not operate 15 s.

To gain access the second level:

▪ gain access the first level

▪ press or to select "PA"

▪ press

▪ press or in 15 s to set "-19"

▪ press or do not operate 15 s

▪ press and 4 s: the instrument will show "SP1".

To quit the procedure:

▪ press and 4 s or do not operate 60 s.

### 4.2 Restoring default configuration parameters

- press and 4 s: the instrument will show "PA"

▪ press

▪ press or in 15 s to set "149"

▪ press or do not operate 15 s

▪ press and 4 s: the instrument will show "SEL" flashing.

▪ press the instrument will show "1"

▪ press or in 15 s: the value will not change

▪ press or do not operate 15 s.

▪ press 4 s: this will reset the instrument.

## 5 USER INTERFACE

### 5.1 Preliminary information

During the normal operation the instrument shows one of the following quantities, according to parameter P6:

- the room temperature (LED will be switched off)
- the working setpoint (LED will be lit).

### 5.2 Silencing the buzzer

▪ press a button.

### 5.3 Locking the keyboard

- press 4 s: the instrument will show .

To unlock the keyboard:

▪ press 4 s.

## 6 SIGNALS

### 6.1 Signals

#### LED | MEANING

LED working setpoint

- if it is switched off, the instrument will show the room temperature (parameter P6)
- if it is lit, the instrument will show the working setpoint (parameter P6)
- if it flashes, the modification of the working setpoint will be running

### 6.2 SIGNALIZZAZIONI

#### 6.1 Segnalazioni

##### LED | SIGNIFICATO

LED setpoint di lavoro

- se è spento, lo strumento visualizza la temperatura ambiente (parametro P6)
- se è acceso, lo strumento visualizza il setpoint di lavoro (parametro P6)
- se lampeggia, è in corso la modifica del setpoint di lavoro

### 6.3 Collegamento elettrico

Voir le dessin du paragraphe 1.3 de la section en Anglais.

## ATTENZIONE:

### • se lo strumento viene alimentato a 24 Vca, proteggere il morsetto 9 o il morsetto 10 con un fusibile (160 mA T).

Avvertenze per il collegamento elettrico:

- non operare sul morsetto utilizzando avvitatori elettrici o pneumatici
- se lo strumento viene portato da un luogo freddo a uno caldo, l'umidità può condensare all'interno; attendere circa un'ora prima di alimentare lo strumento

• accertarsi che la tensione di alimentazione, la frequenza e la potenza elettrica operative dello strumento corrispondano a quelle dell'alimentazione locale

- disconnettere l'alimentazione prima di procedere con qualunque tipo di manutenzione
- dotare la sonda di una protezione in grado di isolalarla contro i contatti con le parti metalliche o utilizzare una sonda isolata
- non utilizzare lo strumento come dispositivo di sicurezza
- per le riparazioni e per informazioni riguardanti lo strumento rivolgersi alla rete di vendita Evco.

## 2 FUNZIONAMENTO

### 2.1 Cenni preliminari

È possibile configurare lo strumento per funzionare in due modi diversi, a seconda del parametro r4.

### 2.2 Funzionamento con parametro r4 = 0 (funzionamento per "freddo")

Si veda il disegno del paragrafo 2.2 della sezione in Inglese.

### 2.3 Funzionamento con parametro r4 = 1 (funzionamento per "caldo", valore di default)

Si veda il disegno del paragrafo 2.3 della sezione in Inglese.

## 3 SETPOINT DI LAVORO

### 3.1 Cenni preliminari

È possibile impostare il setpoint di lavoro anche attraverso il parametro SP1.

### 3.2 Impostazione del setpoint di lavoro

- premere
- premere o entro 15 s (si vedano anche i parametri r2 ed r3)
- premere o non operare per 15 s.

## 4 PARAMETRI DI CONFIGURAZIONE

### 4.1 Impostazione dei parametri di configurazione

I parametri di configurazione sono disposti su due livelli.

Per accedere al primo livello:

- premere e per 4 s: lo strumento visualizza "PA"
- Per selezionare un parametro:

▪ premere o

Per modificare un parametro:

- premere
- premere o entro 15 s
- premere o non operare per 15 s.

Per accedere al secondo livello:

▪ accedere al primo livello

▪ premere o per selezionare "PA"

▪ premere

- premere o entro 15 s per impostare "-19"
- premere o non operare per 15 s

▪ premere e per 4 s: lo strumento visualizza "SP1".

Per uscire dalla procedura:

- premere e per 4 s o non operare per 60 s.

### 4.2 Ripristino dei parametri di configurazione di default

- premere e per 4 s: lo strumento visualizza "PA"
- premere

- premere o entro 15 s per impostare "149"
- premere o non operare per 15 s

▪ premere e <img alt="down

out	LED charge
1	si allumée, la charge est en marche
	si clignote, la modification du point de consigne est en cours
	ou une protection de la charge est en cours (paramètres C1 ou C2)
°F	LED degré Fahrenheit
	si allumée, l'unité de mesure des températures est le degré Fahrenheit (paramètre P4)
°C	LED degré Celsius
	si allumée, l'unité de mesure des températures est le degré Celsius (paramètre P4)
INDICAT.	SIGNIFICATION
β-nn	si clignote, le clavier est bloqué (voir le paragraphe 5.3)

## 7 ALARMES

### 7.1 Alarms

CODE	SIGNIFICATION
AL1	Première alarme de température (paramètre A1 et A3) Remédies: ▪ vérifier la température de l'ambiance Conséquences: ▪ aucun conséquence
AL2	Seconde alarme de température (paramètre A5 et A7) Remédies: ▪ vérifier la température de l'ambiance Conséquences: ▪ aucun conséquence
PR1	Alarme sonde ambience Remédies: ▪ vérifier le type de sonde (paramètre P0) ▪ vérifier l'intégrité de la sonde ▪ vérifier le raccordement appareil-sonde ▪ vérifier la température de l'ambiance Conséquences: ▪ la charge est éteinte
Err	Alarme interne Remédies: ▪ interrompre l'alimentation de l'appareil; si l'alarme ne disparaît pas, il est nécessaire de changer l'appareil Conséquences: ▪ la charge est éteinte

## 9 DONNEES TECHNIQUES

### 9.1 Données techniques

Boîtier:	autoextinguible gris.
Degré de protection de la face avant:	IP 65.
Connecteurs:	borniers débrochables ou borniers à ressort (alimentation, entrée et sortie).
Température ambiante:	de 0 à 55 °C (de 32 à 131 °F, 10 ... 90% d'humidité relative sans condensation).
Alimentation:	230 Vca, 50/60 Hz, 2 VA (115 Vca ou 24 Vca, 50/60 Hz, 2 VA sur demande).
Buzzer d'alarme:	incorporé.
Entrées de mesure:	1 (sonde ambience) pour thermocouples J/K.
Plage de travail:	de -100 à 700 °C (-130 à 1.300 °F) pour thermocouple J, de -100 à 1.150 °C (-130 à 2.000 °F) pour thermocouple K.
Résolution:	1 °C/1 °F.
Sorties:	1 relais inverseur (8 A @ 250 Vca le contact NO, 3 A @ 250 Vca le contact NF).

GB ENGLISH					
10 WORKING SETPOINTS AND CONFIGURATION PARAMETERS					
10.1 Working setpoints					
PARAM	MIN.	MAX.	U.M.	DEF.	WORKING SETPOINTS
SP1	r2	r3	°C/°F (1)	0	working setpoint
PARAM	MIN.	MAX.	U.M.	DEF.	MEASURE INPUTS
CA1	-25	25	°C/°F (1)	0	room probe offset
PARAM	MIN.	MAX.	U.M.	DEF.	REGULATOR
r1	1	99	°C/°F (1)	1	differenziale del setpoint di lavoro
10.2 First level configuration parameters					
PARAM	MIN.	MAX.	U.M.	DEF.	WORKING SETPOINTS
SP1	r2	r3	°C/°F (1)	0	working setpoint
PARAM	MIN.	MAX.	U.M.	DEF.	MEASURE INPUTS
CA1	-25	25	°C/°F (1)	0	room probe offset
PARAM	MIN.	MAX.	U.M.	DEF.	REGULATOR
P0	2	3	---	2	kind of probe [2 = J, 3 = K] [2]
P4	0	1	---	0	unit of measure temperature [0 = °C, 1 = °F]
P5	0	2	---	0	display colour [0 = green during the normal operation and red during an alarm condition, 1 = red, 2 = green during the normal operation and red during an alarm condition, even if this last is masked by an alarm delay]
P6	0	1	---	0	quantity showed during the normal operation [0 = room temperature, 1 = working setpoint]
PARAM	MIN.	MAX.	U.M.	DEF.	REGULATOR
r1	1	99	°C/°F (1)	1	working setpoint differential
r2	-99	r3	°C/°F (1)	0	minimum working setpoint programmable
r3	r2	999	°C/°F (1)	350	maximum working setpoint programmable
r4	0	1	---	1	"cooling" or "heating" action [0 = "cooling"]
PARAM	MIN.	MAX.	U.M.	DEF.	LOAD PROTECTION
C1	0	999	s	0	delay since the last activation
C2	0	999	s	0	delay since the last shutdown; it sets the delay since you turn on the instrument, too
PARAM	MIN.	MAX.	U.M.	DEF.	FIRST TEMPERATURE ALARM
A1	-99	999	°C/°F (1)	0	first temperature alarm set; look at parameter A3, too [3]
A2	0	999	min	0	first temperature alarm delay
A3	0	4	---	0	kind of alarm [0 = not enabled, 1 = absolute lower alarm, 2 = absolute upper alarm, 3 = lower alarm relative to the working setpoint, 4 = upper alarm relative to the working setpoint]
A4	0	999	min	0	first and second temperature alarm delay since you modify the working setpoint
PARAM	MIN.	MAX.	U.M.	DEF.	SECOND TEMPERATURE ALARM
A5	-99	999	°C/°F (1)	0	second temperature alarm set; look at parameter A7, too [3]
A6	0	999	min	0	second temperature alarm delay
A7	0	4	---	0	kind of alarm [0 = not enabled, 1 = absolute lower alarm, 2 = absolute upper alarm, 3 = lower alarm relative to the working setpoint, 4 = upper alarm relative to the working setpoint]

(1) it depends on parameter P4  
(2) **switch off the power supply of the instrument after the modification of the parameter**  
(3) the differential is 2 °C/2 °F.

I ITALIANO					
10 SETPOINT DI LAVORO E PARAMETRI DI CONFI-					
10.1 Setpoint di lavoro					
SETPOINT DI LAVORO	setpoint di lavoro				
10.2 Parametri di configurazione del primo livello					
SETPOINT DI LAVORO	setpoint di lavoro				
INGRESSI DI MISURA	offset sonda ambiente				
CA1	-25	25	°C/°F (1)	0	REGOLATORE
PARAM	MIN.	MAX.	U.M.	DEF.	differenziale del setpoint di lavoro
P0	2	3	---	2	differentielle del setpoint di lavoro
P4	0	1	---	0	POINT DE CONSIGNE
P5	0	2	---	0	point de consigne
P6	0	1	---	0	ENTRIES DE MESURE
P7	0	999	°C/°F (1)	1	offset sonde ambiente
P8	-99	999	°C/°F (1)	0	REGULATEUR
P9	0	4	---	0	differentielle du point de consigne
P10	0	999	min	0	POINT DE CONSIGNE
P11	0	4	---	0	point de consigne
P12	0	999	min	0	ENTRIES DE MESURE
P13	0	4	---	0	offset sonde ambiente
P14	0	999	°C/°F (1)	1	REGULATORE
P15	-99	999	°C/°F (1)	0	differentielle du point de consigne
P16	0	4	---	0	POINT DE CONSIGNE
P17	0	999	min	0	point de consigne
P18	0	4	---	0	ENTRIES DE MESURE
P19	0	999	°C/°F (1)	1	offset sonde ambiente
P20	-99	999	°C/°F (1)	0	REGULATORE
P21	0	4	---	0	differentielle du point de consigne
P22	0	999	min	0	POINT DE CONSIGNE
P23	0	4	---	0	point de consigne
P24	0	999	°C/°F (1)	1	ENTRIES DE MESURE
P25	-99	999	°C/°F (1)	0	offset sonde ambiente
P26	0	4	---	0	REGULATORE
P27	0	999	min	0	differentielle du point de consigne
P28	0	4	---	0	POINT DE CONSIGNE
P29	0	999	°C/°F (1)	1	point de consigne
P30	-99	999	°C/°F (1)	0	ENTRIES DE MESURE
P31	0	4	---	0	offset sonde ambiente
P32	0	999	°C/°F (1)	1	REGULATORE
P33	-99	999	°C/°F (1)	0	differentielle du point de consigne
P34	0	4	---	0	POINT DE CONSIGNE
P35	0	999	min	0	point de consigne
P36	0	4	---	0	ENTRIES DE MESURE
P37	0	999	°C/°F (1)	1	offset sonde ambiente
P38	-99	999	°C/°F (1)	0	REGULATORE
P39	0	4	---	0	differentielle du point de consigne
P40	0	999	min	0	POINT DE CONSIGNE
P41	0	4	---	0	point de consigne
P42	0	999	°C/°F (1)	1	ENTRIES DE MESURE
P43	-99	999	°C/°F (1)	0	offset sonde ambiente
P44	0	4	---	0	REGULATORE
P45	0	999	min	0	differentielle du point de consigne
P46	0	4	---	0	POINT DE CONSIGNE
P47	0	999	°C/°F (1)	1	point de consigne
P48	-99	999	°C/°F (1)	0	ENTRIES DE MESURE
P49	0	4	---	0	offset sonde ambiente
P50	0	999	°C/°F (1)	1	REGULATORE
P51	-99	999	°C/°F (1)	0	differentielle du point de consigne
P52	0	4	---	0	POINT DE CONSIGNE
P53	0	999	min	0	point de consigne
P54	0	4	---	0	ENTRIES DE MESURE
P55	0	999	°C/°F (1)	1	offset sonde ambiente
P56	-99	999	°C/°F (1)	0	REGULATORE
P57	0	4	---	0	differentielle du point de consigne
P58	0	999	min	0	POINT DE CONSIGNE
P59	0	4	---	0	point de consigne
P60	0	999	°C/°F (1)	1	ENTRIES DE MESURE
P61					