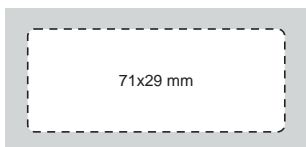
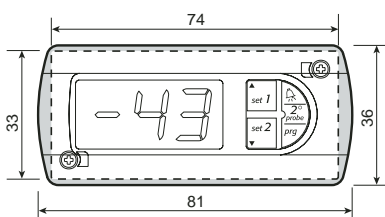


PJ32 Plug-in Series *electronic control for*

LEGGI E CONSERVA
QUESTE ISTRUZIONI
READ AND SAVE
THESE INSTRUCTIONS

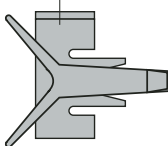
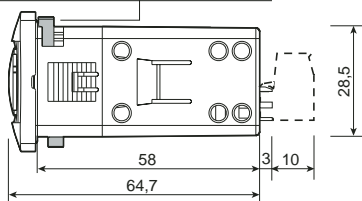


Dimensioni (mm) / Dimensions (mm)



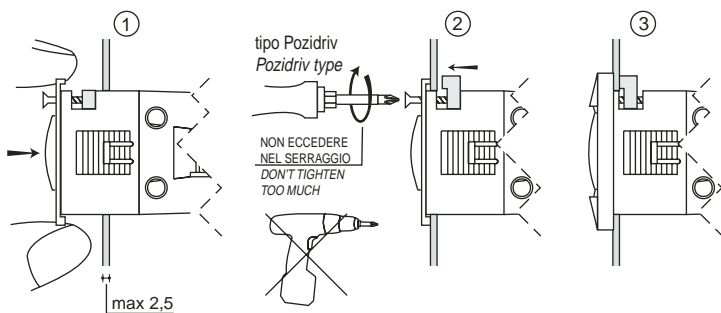
Sistema di fissaggio frontale/ Front fixing system

Sistema di fissaggio a staffa dal retro
Back fixing system

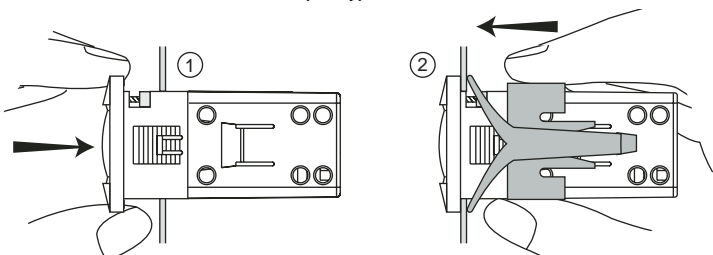


Montaggio a pannello / Panel mounting:

tipo A/type A



tipo B/type B





SAFETY STANDARD: in compliance with the European laws.

Installation precautions:

- the connection cables should be suitable for up to 90 °C operation. Note: the connection cables of the probes must grant the insulation up to the nominal operating temperature of the probe;
- for 12 Vac models use Class II transformers. In order to comply with standards on immunity (surge), the transformer should be chosen among recommended models (see CAREL's Price List);
- consider a distance of at least 10 mm from the case and the conductive parts nearby;
- the connections of the digital and analogic inputs have to be placed at less than 30 m of distance. It is necessary to adopt the right measures of separation of the cables in order to comply with immunity laws.

DISPLAY


During normal working conditions, the display shows the value measured by the regulation probe or by the second probe (parameter /4). In case of active alarm, the temperature flashes alternately to the code alarm.


ALARMS AND SIGNALS


Alarm code	Description
E0	Probe 1 fault
E1	Probe 1 fault
IA	immediate external alarm (dI parameter)
LO	low temperature alarm (AL, Ad and A0 parameters)
HI	high temperature alarm (AH, Ad and A0 parameters)
EE	data acquisition failure (see the manual for the default procedure)

Note: in case both set1 and set2 regulations are active, the alarm sets refer to the measurements of both of the two probes (e.g.: HI is the higher reference and LO is the lower one).

OPERATING INDICATIONS ON THE DISPLAY


 LED of the key "UP" signals that the regulation on set1 (*) is in progress;


 LED of the key "DOWN" signals that the regulation on set2 (*) is in progress;


 LED of the key "PRG" signals that the display of the probe 2 is in progress;


(*) The blinking stands for a request for actuation, which cannot be performed up to the term of the times that delay it.


SET-POINT (desired temperature value)

 press the SET1 or SET2 buttons for one second to display the set point code to be modified;


 press PRG to display the set point value;

 press UP or DOWN to increase or decrease the set point value;


 Keep the PRG key pressed to confirm the new value;

 **Alternate probe display.** In case there are two probes, pressing at the same time the keys UP and DOWN allows displaying the alternative probe.


ACCESS FREQUENT PARAMETERS (F TYPE)


 Press the button PRG for more than 5 s (in case of alarm, first silence the buzzer);


 the display displays "PS"


 Using the keys "UP" or "DOWN", scroll all the parameters "F" type

ACCESS CONFIGURATION PARAMETERS (C TYPE)

 Access the parameters F, select the parameter "PS" and press the key "PRG";


 the display displays "00";


 Press the keys "UP" or "DOWN" up to displaying "22";


 Confirm with the key "prg".


MODIFICATION OF THE PARAMETERS (C OR F TYPE)


After having displayed the first parameter, both of C or F type, proceed as follows:

 Press "UP" or "DOWN" to show the parameter that has to be changed; (**)

 press "prg" to display the associated value;


 Increase or decrease the value with the keys "UP" or "DOWN" up to displaying the desired value;

 Press "prg" to confirm the new value and go back to the parameter code display;

 press again the keys "UP" or "DOWN" to access to the subsequent parameter whose value has to be changed;

Repeat the operations from the point (**).



Storage of the new values: press  at least for 5 seconds to store the new value and exit the "PARAMETERS MODIFICATION" procedure. **For timing parameters only:** switch off and switch on the controller in order to make them immediately effective without waiting for the following cycle. **To exit without modifying any parameter:** do not press any button for at least 60 seconds (TIME OUT).

LIST OF PARAMETERS TYPE F

parameter	Type	Min	Max	U.M.	Def Value*
/5 display in °C/°F (0= °C, 1= °F)	F	0	1	-	0
/6 probe S2 measurement display	F	-	-	°C/°F	-
REGULATOR PARAMETERS					
P1 regulator 1 differential (0= 0.5 °C)	F	0	+19	°C/°F	3
P2 regulator 2 differential (0= 0.5 °C)	F	0	+19	°C/°F	3
ALARM PARAMETERS					
AL low temperature alarm threshold (absolute value)	F	-50	AH	°C/°F	-50
AH high temperature alarm threshold (absolute value)	F	AL	+150	°C/°F	150
H5 Identification code	F	-99	99	-	10
t reserved	F	-127	127	-	-

LIST OF PARAMETERS TYPE C

parameter	Type	Min	Max	U.M.	Def Value*
/2 Measurement stability	C	1	15	-	6
/4 selection of the probe to be displayed (0= S1, 1= S2)	C	0	1	-	0
/C ambient probe calibration (x 0.1 °C/°F)	C	-127	127	°C/°F	0.0
REGULATOR PARAMETERS					
r1 regulator 1 mode (0= Direct / 1= Reverse)	C	0	1	-	0
r2 regulator 2 mode (0= Direct / 1= Reverse)	C	0	1	-	0
r3 minimum allowed set	C	-50	r4	°C/°F	-50
r4 maximum allowed set	C	r3	+150	°C/°F	60
r5 regulator 2 probe (0= S1, 1= S2)	C	0	1	-	0
REGULATION TIMINGS					
c0 outputs activation delay from the start-up of the instrument	C	0	199	min	0
c1 regulation outputs minimum operation time	C	0	15	min	0
c2 regulation outputs minimum shut-down time	C	0	15	min	0
c3 interlock of the regulator start-up (0= no; 1= yes)	C	0	1	-	0
c4 minimum time between the start-up of two outputs	C	0	199	s	0
ALARM PARAMETERS					
A0 Alarm differential (0= 0.5 °C/°F)	C	0	19	°C/°F	0
At Temperature alarm delay	C	0	199	min	0
Ad external alarm detection delay from digital input	C	0	15	min	0
DIGITAL INPUT PARAMETERS					
dl digital input operation mode	C	0	2	-	0
Def.: dl=0, digital input not used. Parameter available in the models with digital input					
OTHER SELECTIONS					
H0 reserved	C	0	199	-	1
H1 alarm signal output mode (0= OFF; 1= ON)	C	0	1	flag	1
H2 mode out2 (0= alarm, 1= regulation)	C	0	1	flag	1
H3 keypad disabling (0= disabled)	C	0	1	-	1
H4 buzzer disabling (1= disabled)	C	0	1	-	0

* show the set value

Warning: In the versions prior to 1.2, the unit of measure for parameter C0 was seconds.

Copying the parameters using the key from an instrument with firmware vers. < 1.2 to an instrument with vers. ≥ 1.2 or vice-versa, the value of parameter C0 is not converted to the destination unit of measure.

CONFIGURATION FOR THE DIGITAL MULTIFUNCTION INPUT VERSIONS

"dl" value	Meaning
0	not used input;
1	Immediate or delayed external alarm (in accordance with the parameter Ad);
2	set point switching;

TECHNICAL SPECIFICATIONS

Power supply ():** L Mod.: 12 Vac (-15/+10 %), 50/60 Hz; 12 Vdc, 12 to 16 Vdc
 Q Mod.: 230 Vac (-15/+10 %), 50/60Hz; 1 Mod.: 115 Vac (-15/+10 %), 50/60Hz

Power consumption: 3 VA

Inputs ():** NTC or PTC probes, 1 or 2 inputs. Digital input: alternative to the second probe

Relay outputs ():** depending on the models:

8 A relay model: UL: 8 A Res. 2FLA 12LRA - EN60730-1: 6 (2) A or 8 (3) A only N.O.

16 A relay model: UL: 12 A Res. 5FLA 30LRA - EN60730-1: 12 (2) A or 10 (4) A only N.O.

5 A relay model: UL: 5 A Res. 1FLA 6LRA - EN60730-1: 5 (1) A

2 HP relay model: UL: 12 A Res. 12FLA 72LRA 250 Vac (***) - EN60730-1: 10 (10) A

Probe type ():** Std CAREL NTC 10 kΩ at 25 °C, Sd CAREL PTC 985 Ω at 0 °C

Connections ():** fixed screw terminals for cables with 1.5 mm² max and 0.5 mm² min. section.
 Plug-in terminals for screw or clamp connectors (max cross section 2.5 mm²)
 Maximum nominal current for each terminal 12 A

Mounting ():** by means of screws on the front panel or bracket on the back

Display: LED display 2 1/2 digits and sign -99 to 199, three status LEDs

Operating conditions: -10T50 °C - humidity <90% rH non-condensing

Storage conditions: -20T70 °C - humidity <90% rH non-condensing

Range of measurement: -50T90 °C (-50T127 °F) - resolution 1 °C/°F

Front panel - index of protection: front panel mounting with gasket inserted: IP65 (o-ring IP54)

Case: plastic, 81x36x65 mm

Classification according to protection against electric shock: Class II for appropriate installations

Environmental pollution: normal

PTI of insulating materials: 250 V

Period of electrical stress of the insulating parts: long

Categ. of resist. to heat and fire: D (UL94 - V0)

Immunity against voltage surges: Category 1

Action type of the device: relay contact 1C

No. of automatic operating cycles relay ():**

EN60730-1: 6 (2) A and 10 (10) A: 100,000, 12 (2): 30,000, 5 (1) A: 10,000

UL: (250 Vac) 30,000 operations, 5 A 10,000 operations

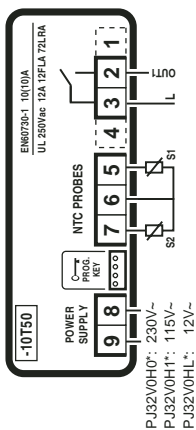
Software class and structure: class A

Cleaning the instrument: Use only neutral detergents and water

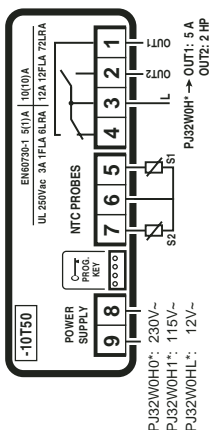
WARNING: keep separated the cable from the low part of the controller and probes at least 3 cm;
 use only copper cables for connections.

(**) All the characteristics are different according to the model.

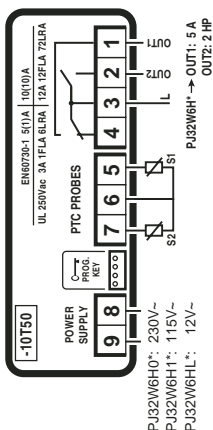
(***)T OFF minimum between two following motor load starting is 60 seconds or more.



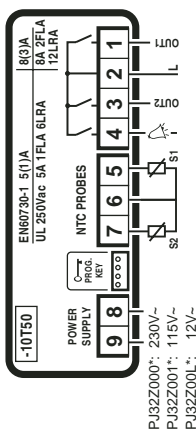
PJ32V0H*



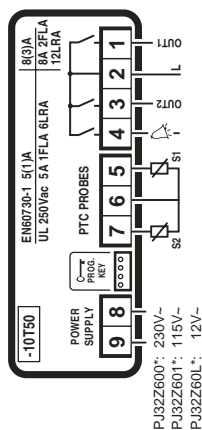
PJ32W0H*



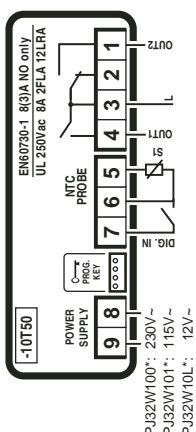
PJ32W6H*



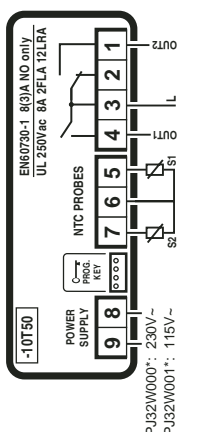
PJ32Z00*



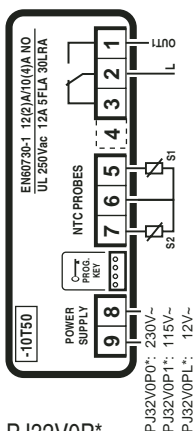
PJ32Z60*



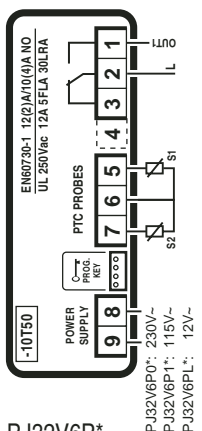
PJ32W10*



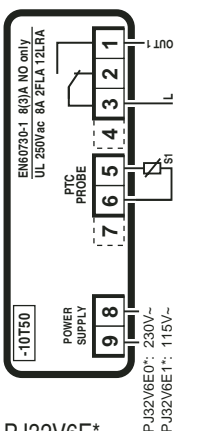
PJ32W00*



PJ32V0P*



PJ32V6P*



PJ32V6E*

LIST OF PARAMETERS TYPE F

Parameter	Type	Min	Max	U.M.	Def Value	Cossiga
/5 display in °C/°F (0= °C, 1=° F)	F	0	1	-	0	
/6 probe S2 measurement display	F	-	-	°C/°F	-	
REGULATOR PARAMETERS						
P1 regulator 1 differential (0= 0.5 °C)	F	0	19	C/F	3	3
P2 regulator 2 differential (0= 0.5 °C)	F	0	19	°C/°F	3	
ALARM PARAMETERS						
AL low temperature alarm threshold (absolute value)	F	-50	AH	°C/°F	-50	
AH high temperature alarm threshold (absolute value)	F	AL	150	°C/°F	150	
H5 Identification code	F	-99	99	-	10	-1
t reserved	F	-127	127	-	-	

LIST OF PARAMETERS TYPE C

Parameter	Type	Min	Max	U.M.	Def Value	Cossiga
/2 Measurement stability	C	1	15	-	6	
/4 selection of the probe to be displayed (0= S1, 1= S2)	C	0	1	-	0	
/C ambient probe calibration (x 0.1 °C/°F)	C	-127	127	°C/°F	0	0 *
REGULATOR PARAMETERS						
r1 regulator 1 mode (0= Direct / 1= Reverse)	C	0	1	-	0	1
r2 regulator 2 mode (0= Direct / 1= Reverse)	C	0	1	-	0	
r3 minimum allowed set	C	-50	r4	°C/°F	-50	
r4 maximum allowed set	C	r3	150	°C/°F	60	84
r5 regulator 2 probe (0= S1, 1= S2)	C	0	1	-	0	
REGULATION TIMINGS						
c0 outputs activation delay from the start-up of the instrument	C	0	199	min	0	
c1 regulation outputs minimum operation time	C	0	15	min	0	
c2 regulation outputs minimum shut-down time	C	0	15	min	0	
c3 interlock of the regulator start-up (0= no; 1= yes)	C	0	1	-	0	
c4 minimum time between the start-up of two outputs	C	0	199	s	0	
ALARM PARAMETERS						
A0 Alarm differential (0= 0.5 °C/°F)	C	0	19	°C/°F	0	2
At Temperature alarm delay	C	0	199	min	0	
Ad external alarm detection delay from digital input	C	0	15	min	0	
DIGITAL INPUT PARAMETERS						
dl digital input operation mode	C	0	2	-	0	
Def.: dl=0, digital input not used. Parameter available in the models with digital input						
OTHER SELECTIONS						
H0 reserved	C	0	199	-	1	
H1 alarm signal output mode (0= OFF; 1= ON)	C	0	1	flag	1	0
H2 mode out2 (0= alarm, 1= regulation)	C	0	1	flag	1	
H3 keypad disabling (0= disabled)	C	0	1	-	1	
H4 buzzer disabling (1= disabled)	C	0	1	-	0	

Item's to check when setting up controller

ver: D Gordon 18-05-09

Set point is set to 75 °c and only the settings under the Cossiga column are changed, all other settings remain at default.

* /C - parameter may need to be calibration depending on the Model and placement of probe

Controller can flash E1 (Probe error) when temperature is greater than 90 °c - will reset when temp drops, check that the relay is not faulty. The temperature is exceeding the probe range .