PJEZ (PJEZ****G/H/I/L/M/N/O/P*) - electronic controller

CAREL

LEGGI E CONSERVA QUESTE ISTRUZIONI
READ AND SAVE THESE INSTRUCTIONS

Dimensions (mm)

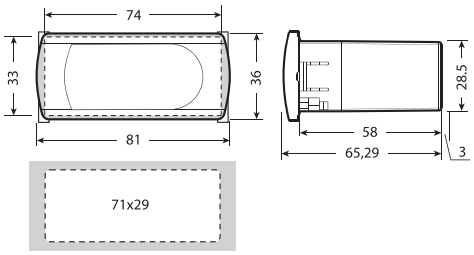


Fig. 1

Panel mounting

Rear (with 2 quick-fit side brackets)

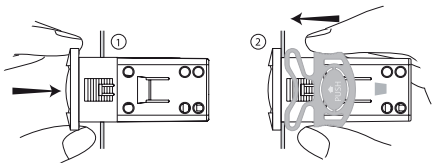


Fig. 2

Electrical connections

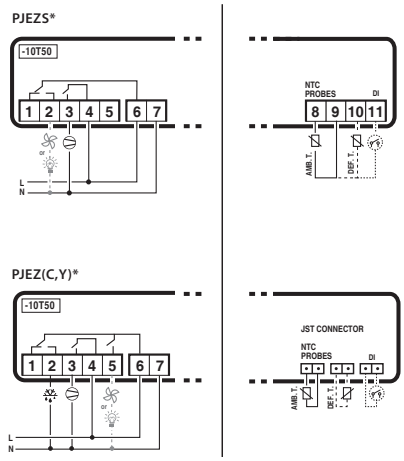


Fig. 3

NOTE: PJEZS*E* only support one NTC probe.

Safety standards:

Installation precautions:

- the connection cables must guarantee insulation up to 90 °C;
- ensure a space of at least 10 mm between the case and the nearby conductive parts;
- digital and analogue input connections less than 30m away; adopt suitable measures for separating the cables so as to ensure compliance with the immunity standards; Secure the connection cables of the outputs so as to avoid contact with very low voltage parts.

Disposal of the product

The appliance (or the product) must be disposed of separately in accordance with the local waste disposal legislation in force.

Description

PJEZ* (models S, Y, C) represent a range of electronic microprocessor controllers with LED display developed for the management of refrigerating units, display cabinets and showcases.

- PJEZS*, designed for the management of static refrigerating units, no fan on the evaporator, operating at temperature above 0°C;
- PJEZY*, designed for the management of static refrigerating units, no fan, operating at low temperatures;
- PJEZC*, designed for the managements of low temperature ventilated refrigerating units.

Technical specifications

power supply	230 Vac +10 /-15% 50/60 Hz; 115 Vac +10 /-15% 50/60 Hz
rated power	3.5 VA
inputs	NTC probes 1 or 2 inputs 1 digital input
relay outputs	30 A relay UL: 16 A Res. 16 FLA 96 LRA - 240 Vac (FASTON tabs) EN60730-1: 20(10) A 250 Vac (FASTON tabs) UL: 12 A Res. 12 FLA 72 LRA - 240 Vac EN60730-1: 12(10) A 250 Vac 8 A relay UL: 8 A Res. 2 FLA 12 LRA - 240 Vac C300, EN60730-1: 8(4) A NO, 6(4) A NC, 2(2) A CO - 250 Vac 5 A relay UL: 5 A Res. 1 FLA 6 LRA - 240 Vac C300, EN60730-1: 5(1) A - 250 Vac
type of probe	Std CAREL NTC 10 K Ω at 25 °C
connections	for screw terminals, cross-section of cables from 0.5 mm2 to 1.5 mm2, rated maximum current per terminal 12A for FASTON tabs, cross-section of cables up to 2.5 mm2, rated maximum current per terminal 20A
assembly	use rear brackets
display	2 digit LED display with sign (-99 to 99) and decimal point; four 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 - resolution 0.1 °C
front panel index of protection	panel installation with IP65 type 1 gasket
case	plastic terminal, 81x26x65 mm
classification according to protection against electric shock	Class II when suitably integrated
environmental pollution	normal
PTI of the insulating material	250V
period of stress across the insulating parts	long
category of resistance to heat and fire	category D (UL94 – V2)
immunity against voltage	category 1
type of action and disconnection	1C relay contacts
no. of relay automatic operating cycles	100,000 operations
software class and structure	Class A
cleaning the instrument	only use neutral detergents and water
cable max. length	probes: 30m, relay: 10m

WARNING:

- do not run the power cable less than 3 cm from the bottom part of the device or from the probes;
- the connections only use copper wires;
- relay not allowed to use on fluorescent lamp(neon) with phase-shift capacitors.

Table of alarms

Alarm code		LED	Description	Parameters involved
E0	E0	ON	probe 1 error = control	-
E1(*)	E1	ON	probe 2 error = defrost	[d0 = 0 / 1]
dr(*)	dr	ON	open door alarm	
Lo	Lo	ON	low temperature alarm	[AL] [Ad][A0]
HI	HI	ON	high temperature alarm	[AH] [Ad][A0]
EE	EE	ON	unit parameter error	-
EF	EF	ON	operating parameter error	-

(*) not available for PJEZS*E*

IMPORTANT WARNINGS

The CAREL product is a state-of-the-art device, whose operation is specified in the technical documentation supplied with the product or can be downloaded, even prior to purchase, from the website www.carel.com.The customer (manufacturer, developer or installer of the final equipment) accepts all liability and risk relating to the configuration of the product in order to reach the expected results in relation to the specific final installation and/or equipment. The failure to complete such phase, which is required/indicated in the user manual, may cause the final product to malfunction; CAREL accepts no liability in such cases. The customer must use the product only in the manner described in the documentation relating to the product. The liability of CAREL in relation to its products is specified in the CAREL general contract conditions, available on the website www.carel.com and/or by specific agreements with customers.

Parameters table

Table of parameters for PJEZY*,PJEZC*,PJEZS*J*

		Description	Type	Min	Max	Def.	UOM
PS		Password	F	0	99	22	-
-C1		Probe 1 calibration	F	-20	20	0	°C
-C2		Probe 2 calibration	F	-20	20	0	°C
St		Control temperature	F	-50	90	4.0	°C
rd		Control differential	F	0	19	2.0	°C
c0		Comp. and fan start delay after start-up	C	0	99	0	Min
c2		Min. compressor off time	C	0	99	3	Min
d0		Type of defrost (0= heater; 1= hot gas; 2= heater by time; 3= hot gas by time; 4= heater by time with temp. cont.)	C	0	4	0	-
dI		Interval between two defrosts	C	0	24	8	Hour
dt		End defrost temperature	C	-50	90	12	°C
dP		Max. or effective defrost duration	C	1	99	30	Min
dd		Dripping time after defrost	C	0	15	2	Min
A0		Fan and alarm differential (≤0,AL and AH expressed as absolutes; >0,AL and AH expressed relative to the set point)	C	-20	20	-2.0	°C
AL		Low temperature alarm threshold/deviation (when A0≤0,AL=-50:alarm disable, when A0>0, AL=0:alarm disable)	C	-50	90	-50	°C
AH		High temperature alarm threshold/deviation (when A0≤0,AH=90:alarm disable, when A0>0, AH=0:alarm disable)	C	-50	90	90	°C
Ad		Low and high temperature alarm delay	C	0	99	0	Min
A4		door related FAN or Light management 0= input not active 1=door opening with FAN OFF 2= door opening with Light ON 3= door opening with display shown "do", keypad ON/OFF Light 4= door opening with display shown "EA" and Comp. OFF, keypad ON/OFF Light	C	0	4	0	-
A7		External alarm detection delay	C	0	199	0	Min
F0		enable fan control	C	0	1	0	-
F1		Fans shutdown temperature	F	-50	99	5.0	°C
F2		fan off when compressor off	C	0	2	1	-
F3		fan states during defrost	C	0	1	1	-
Fd		post-dripping time	C	0	15	0	Min
F4		Start delay when FAN ON is required by the Regulation	C	1	99	3	Sec
F5		Fan Duty Cycle(with F2=2): ON time	C	1	99	5	Min
F6		Fan Duty Cycle(with F2=2) : OFF time	C	1	99	5	Min
r1		Minimum set point allowed to the user	C	-50	r2	-50	°C
r2		Maximum set point allowed to the user	C	r1	90	90	°C

Table of parameters for PJEZS*E*

		Description	Type	Min	Max	Def.	UOM
PS		Password	F	0	99	22	-
-C1		Probe 1 calibration	F	-20	20	0	°C
St		Control temperature	F	-50	90	4.0	°C
rd		Control differential	F	0	19	2.0	°C
c0		Comp. and fan start delay after start-up	C	0	99	0	Min
c2		Min. compressor off time	C	0	99	3	Min
dI		Interval between two defrosts	C	0	24	8	Hour
dP		Max. or effective defrost duration	C	1	99	30	Min
dd		Dripping time after defrost	C	0	15	2	Min
A0		Fan and alarm differential (≤0,AL and AH expressed as absolutes; >0,AL and AH expressed relative to the set point)	C	-20	20	-2.0	°C
AL		Low temperature alarm threshold/deviation (when A0≤0,AL=-50:alarm disable,when A0>0, AL=0:alarm disable)	C	-50	90	-50	°C
AH		High temperature alarm threshold/deviation (when A0≤0,AH=90:alarm disable, when A0>0, AH=0:alarm disable)	C	-50	90	90	°C
Ad		Low and high temperature alarm delay	C	0	99	0	Min
r1		Minimum set point allowed to the user	C	-50	r2	-50	°C
r2		Maximum set point allowed to the user	C	r1	90	90	°C

*F: frequent parameters, without password

*C: configuration parameters, with password

Fixed settings

- Minimum compressor ON time is 1 minute;
- If there is no defrost relay, the compressor will be shut down for defrost;
- Freeze the display when defrost, it returns when the temperature reaches the set point;
- Alarm is bypassed 1 hour after defrost;

Setting the set point (desired temperature)

- press set for 1 s, the set value will start flashing after a few moments;
- increase or decrease the value using ▲ or ▼;
- press set to confirm the new value.

Switching the device ON/OFF

press ▲ for more than 3 s. The control and defrost algorithms are now disabled and the instrument displays the message"OFF" alternating with the temperature read by the set probe.

Manual defrost (only for models C/Y)

press down ▼ for DOWN more than 3 s (the defrost starts only the temperature conditions are valid).

Show defrost probe temperture(only for models C/Y)

press ▲ and ▼ together.

Access and setting type F (frequent) and type C (configuration) parameters

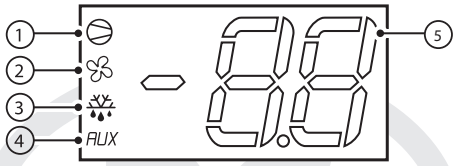
- press set for 3 s (the display will show "PS");
- to access the type F and C parameter menu, enter the password "22" using ▲ / ▼;
- to access the F parameter menu only, press set (without entering the password);
- scroll inside the parameter menu using ▲ / ▼.

To display/set the values of the parameter displayed, press set, then ▲ / ▼ and finally to confirm the changes (returning to the parameter menu).
To save all the new values and exit the parameter menu, press set for 3 s;
To exit the menu without saving the changed values (exit by timeout) do not press any button for at least 60 s.

Display and functions

During normal operation, the controller displays the ambient temperature. In addition, the display has LEDs that indicate the activation of the control functions (see Table 1), while the 3 buttons can be used to activate/deactivate some of the functions (see Table 2).

LEDs and associated functions



index	function	normal operation			Start up
		ON	OFF	blink	
1	compressor	on	off	request	on
2	fan	on	off	request	on
3	defrost	on	off	request	on
4	aux	output on	output off	-	on
5	digit	2 digit LED display with sign (-99 to 99) and decimal point			

Table.1

Table of functions activated by the buttons

button	normal operation		start up	
	pressing the button alone	pressed together		
▲	more than 3 s: toggle ON/OFF	pressed together display defrost probe temp.	-	
▼	more than 3 s: start/stop defrost		Pressed together start parameter reset procedure	For 1 s: display firmware vers. code
set	1 s: display/set the set point More than 3 s: access parameter setting menu(enter password '22')	-		

Table.2