READ AND SAVE
THESE INSTRUCTIONS

Dimension (mm)
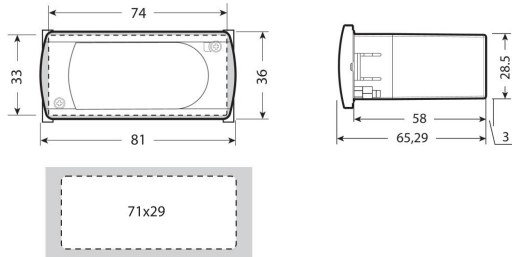

Fig. 1

Panel mounting
Rear (with 2 quick-fit side brackets)
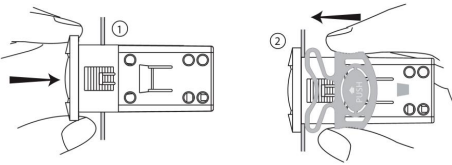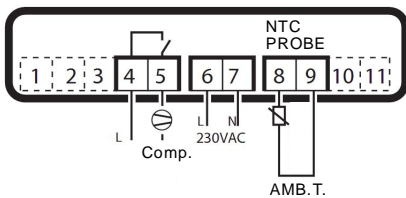

Fig. 2

Electrical connections
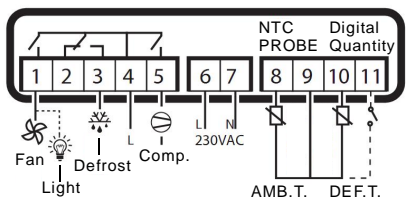
RCEZS*

RCEZC*

Fig. 3

Safety standards:

Installation precautions:
- the connection cables must guarantee insulation up to 90℃;
- ensure a space of at least 10mm 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:

RCEZ* (models S,C) represent a range of electronic microprocessor controllers with LED display developed for the management of refrigerating units, display cabinets and showcases.
- RCEZS*, designed for the management of static refrigerating units, no fan on the evaporator, operating at temperatures above 0℃;
- RCEZC*, designed for the management of low temperature ventilated refrigerating units.

Technical specifications

power supply	230Vac+10/-15% 50/60Hz
rated power	3.5 VA
Inputs	NTC probes 1 or 2 inputs 1 switch input
relay outputs	2 Hp relay 12A Res.12 FLA 72 LRA-250 Vac (RCEZS*) 12A Res.10 FLA 60 LRA-250 Vac (RCEZC*) 8 A relay 8A Res. 2 FLA 12 LRA - 250 Vac
type of probe	std CAREL NTC, 10KΩ at 25℃
Connections	screw terminals for cables with cross-sect. from 0.5mm^2. Rated maximum current per terminal 12A. When there is common terminal, the maximum current is also 12A.
Assembly	with rear brackets
Display	3 digit LED display with sign (-199 to 999) and decimal point; six status LEDs
operating conditions	-10T50℃ -humidity<90% rH non-condensing
storage conditions	-20T70℃-humidity<90% rH non-condensing
range of measurement	-50T90℃ - resolution 0.1℃/℉
front panel index of protection	panel installation with IP65 type 1 gasket
case	plastic terminal, 81×26×65mm
classification according to protection against electric shock	Class II when suitably integrated
environmental pollution	Normal
PTI of the insulating material	250 V
period of stress across the insulating parts	Long
category of resistance to heat and fire	category D (UL94 -V2)
immunity against voltage surges	category 1
type of action and disconnection	1C relay contacts
no. of relay automatic operating cycles	100000 operations
software class and structure	Class A
cleaning the instrument	Only use neutral detergents and water.
cable max.lenght	probes: 30 m relay: 10 m

WARNING:
- Do not run the power cable less than 3 cm from the bottom part of the device or from the probes;
- For the connections only use copper wires;
- The relay is not applicable to the fluorescent lights (neon lights) started by the ballast with phase-shift capacitors.

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, ever 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.

Table of parameters

	Parameter		Min.	Max.	Def.	UOM
PS	PASSWORD	F	0	200	22	−
/C1	Probe calibration	F	-12.7	12.7	0	℃
/C2	Probe 2 calibration	F	-12.7	12.7	0	℃
St	Control temperaure	F	-50.0	90	4.0	℃
rd	Control differential (hysteresis)	F	0	19.0	2.0	℃
c0	Comp. and fan start delay after start-up	C	0	100	0	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	−
d1	Interval between two defrosts	C	0	199	8	h
dt	End defrost temperature	C	-50	127	12	℃
dP	Max. or effective defrost duration	C	1	199	30	Min
dd	Dripping time after defrost	C	0	15	2	Min
A0	Alarm and fan differential	C	-20.0	20.0	-2.0	℃
AL	Low temperature alarm threshold/deviation (AL=-50; alarm disabled)	C	-50	150	-50	℃
AH	High temperature alarm threshold/deviation (AH=-150, alarm disabled)	C	-50	150	150	℃
Ad	Low and high temperature alarm delay	C	0	199	0	Min
F0	Fan management	C	0	1	0	−
F1	Fans shut down temperature	F	-50	127	5.0	℃
F2	Fans off when compressor off	C	0	1	1	−
F3	Fans off during defrost	C	0	1	1	−
Fd	Fans dripping time	C	0	15	0	Min
EZY	Select Easy Set	C	0	3	0	−

*F: common parameters, no need passwords.
*C: configuration parameters, it needs passwords.

EZY=1: fan independent control
EZY=2: fan and door swith synchronous control
EZY=3: light and door switch synchronous control

Table of alarms

Alarm code	LED	Description	Parameters involved
E0	ON	probe 1 error = control	−
E1	ON	probe 2 error = defrost	[d0=0/1]
dOr	ON	open door alarm	
LO	ON	low temperature alarm	[AL][Ad]
HI	ON	high temperature alarm	[AH][Ad]
EE	ON	unit parameter error	−
EF	ON	operating parameter error	−
Ed	ON	defrost ended by timeout	[dP][dt]

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
Press [❄] for more than 3s (the defrost starts only when the temperature conditions are valid).

Displays defrost probe temperature
Press [⏻] and [❄] together for more than 3 s (model C only).

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 [set] 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 value of the ambient probe. 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

Icon	Function	normal operation			start up
		ON	OFF	blink	
⊖	Compressor	on	off	request	ON
✳	Fan	on	off	request	ON
❄	Defrost	on	off	request	ON
AUX	Aux	output on	output off	−	ON
🔔	Alarm	all	no alarm	−	ON

Tab. 1

Table of functions activated by the buttons

Button	normal operation		start up	
	pressing the button alone	pressed together		
[⏻]	more than 3 s: ON/OFF	Pressed together display defrost probe temperature	−	
[❄]	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)	−		for 1 s RESET current EZY set

Tab. 2