

ETC-961 User manual

1、 Working conditions:

- 1.1、 Power supply: 230VAC±10% 50/60Hz
- 1.2、 Rated current of the relays(refrigeration, defrost and fan): 8A/220VAC
- 1.3、 Use temperature: -5℃~55℃ Relative humidity: 10%~90% RH (not condensing)
- 1.4、 Storage temperature: -30℃~85℃

2、 Specification:

- 2.1、 Product: Length 77× Width 34.5 × Depth 58 (mm)
- 2.2、 Mounting size: Length 71 × Width 29 (mm)
- 2.3、 Probe wire length: 2M (including the probe)

3、 Technical parameters:

3.1、 Temperature controlling range:

NTC probe: -50...110 °C (-58...230°F)

PTC probe: -55...140 °C (-67...284°F)

3.2、 Display resolution: 1℃/0.1℃ (With the switch mode between integer and decimal)

3.3、 Accuracy:

NTC:±0.5℃ (-30℃-50℃), others,±1℃

PTC:±1℃ (-30℃-50℃), others, ±2℃

3.4、 Probe type: NTC (-50℃~120℃) PTC (-50℃~150℃)

4、 Operation and display panel

FNC key: Exit SET key: Set

⋈ key: Up ≡ key: Down

Position	Related Function	Status
	Compressor	ON when the compressor is started up; blinking in case of delay, protection or blocked enabling
	Defrost	ON when defrosting;
	Alarm	ON when the alarm is enabled; blinking when the alarm is silenced

6、 Parameter table

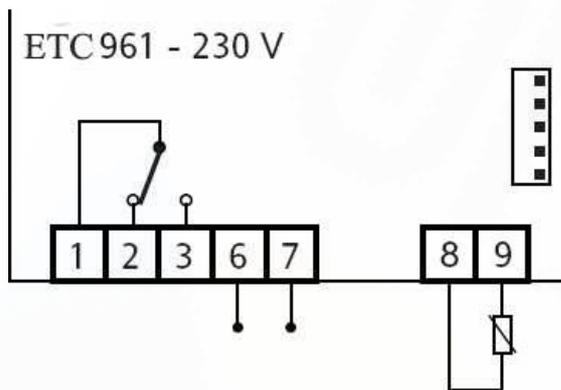
COMPRESSOR REGULATOR (folder with “CP” label)					
	Parameter code	Description	Set range	Default value	Unit
1	diF	COMPRESSOR REGULATOR (folder with “CP”)	(0.1 ... 30.0)	2.0	°C/F
2	HSE	Higher SEt. Maximum possible setpoint value.	(LSE ... 302)	99.0	°C/F

3	LSE	Lower SEt. Minimum possible setpoint value.	(-55.0 ... HSE)	-50.0	°C/F
4	Ont	On time (compressor). Compressor activation time in the event of faulty probe. If set to "1" with OFt at "0" the compressor is always on, while at OFt >0 it functions always in duty cycle mode.	(0 ... 250)	0	min
5	OFt	OFF time (compressor). Compressor in disabled state time in the event of a faulty probe. If set to "1" with Ont at "0" the compressor is always off, while at Ont >0 it functions always in duty cycle mode.	(0 ... 250)	1	min
6	dOn	delay (at) On compressor. Delay time in activating the compressor relay after switch-on of instrument	(0 ... 250)	0	S
7	dOF	delay (after power) OFF. Delay after switch off; the indicated time must elapse between switch-off of the compressor relay and the successive switch-on.	(0 ... 250)	0	min
8	dbi	delay between power-on. Delay between switch-ons; the indicated time must elapse between two successive switch-ons of the compressor.	(0 ... 250)	0	min
9	OdO	delay Output (from power) On. Delay time in activating the outputs after switch-on of the instrument or after a power failure.	(0 ... 250)	0	min
DEFROSTING REGULATOR (folder with "dEF" label)					
10	dit	defrost interval time. Interval between the start of two successive defrosting operations.	(0 ... 250)	6	hours
11	dCt	defrost Counting type. Selection of count mode for the defrosting interval.	(0 ... 2)	1	number
		0 = compressor operating hours;			
		1 = Real Time – appliance operating time;			
2 = compressor stop.					
13	dOH	defrost Offset Hour. Start-of-defrosting delay time from start up of instrument.	(0 ... 59)	0	min
14	dEt	defrost Endurance time. Defrosting time-out; determines duration of defrosting.	(1 ... 250)	30	min
16	dPO	defrost (at) Power On. Determines if at the start-up the instrument must enter defrosting (if the temperature measured by the evaporator allows this operation). y = yes; n = no.	(0=n ... 1=Y)	n	flag
DISPLAY (folder with "diS" label)					
13	LOC	(keyboard) LOCK. Keyboard locking. However, you can enter parameter programming modify them along with the status of this parameter in order to allow keyboard locking. y = yes; n = no	(0=n ... 1=Y)	n	flag
14	PA1	PAssword 1. When enabled (value other than 0) it	(0 ... 250)	0	number

		constitutes the access key for level 1 parameters.			
15	CA1	CAlibration 1. Calibration 1. Positive or negative temperature value added to the value read by probe 1.	(-120 ... 120)	0	°C/F
16	ddL	defrost display Lock. Viewing mode during defrosting.	(0 ... 2)	1	number
		0 = shows the temperature read by the controller probe;			
		1 = locks the reading on the temperature value read by controller probe when defrosting starts, and until the next time the Setpoint value is reached;			
		2 = displays the label “deF” during defrosting, and until the next time the Setpoint value is reached.			
17	dro	display read-out. Select °C or °F for displaying the temperature read by the controller probe. 0 = °C, 1 = °F.		0	number
CONFIGURATION (folder with “CnF” label)					
18	H00	Probe type selection, PTC or NTC. 0 = PTC; 1 = NTC.	(0...1)	1	number
19	rEL	reLease firmware. Device version: read only parameter.	/		
20	tAb	tAble of parameters. Reserved: read only parameter.	/		
COPY CARD (folder with “Fpr” label)					
21	UL	Up load. Programming parameter transfer from instrument to Copy Card.		/	
22	dL	Down load. Programming parameter transfer from Copy Card to instrument		/	

Note: After setting the parameters about timing, it is suggested to power on the instrument again.

7、Wiring Diagram



WIRING

1 - 2	N.C. compressor relay output
1 - 3	N.O. compressor relay output
6 - 7	Power supply
8 - 9	Sensor input
A	TTL input for Copy Card

★Caution:

- 1、 Confirm whether the power voltage meets the requirements of controller power supply, or else, the instrument might work improperly even burnout.
- 2、 Probe down-leads and power wires should be kept for a proper distance to avoid possible interference.

Appendix 1 Character Set:

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
A	b	C	d	E	F	G	H	i	J
A	b	C	d	E	F	G	H	i	J
K	L	M	n	o	P	q	r	S	t
U	V	W	X	y	Z	°	-		
U	V	W	X	y	Z	°	-		

