EZ-HT / EZ-MT / EZ-LT

EN

Electronic controllers for refrigeration units

EZ-HT / EZ-MT / EZ-LT USER INTERFACE

KEYS

UP
Press and release
- Scroll menu items
- Increases values

Press for at least 5 sec
- Activates the Manual Defrost function

STAND-BY (ESC) - ON/OFF
Press and release
- Returns to the previous menu level
- Confirms parameter value

Press for at least 5 sec
- Activates the Standby function (when outside the menus)

DOWN
Press and release
- Scroll menu items
- Decrease values

Press for at least 5 sec
- Function can be configured by the user (par. **H32**)

SET (ENTER)
Press and release
- Displays alarms (if active)
- Opens Machine Status menu

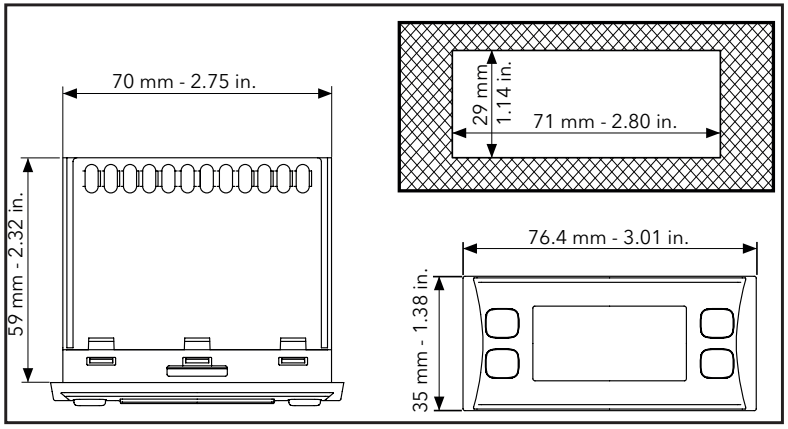
Press for at least 5 sec
- Opens Programming menu
- Confirm commands

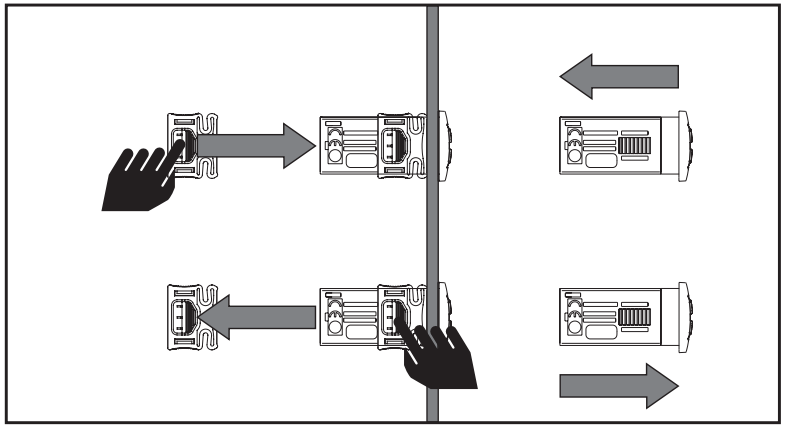
LEDS

	**Reduced SET / Economy LED** Flashing: reduced set active Off: otherwise		**Fans LED** Permanently on: fans active Off: otherwise
	**Compressor LED** Permanently on: compressor active Flashing: delay, protection or activation blocked Off: otherwise		**Defrost LED** Permanently on: defrost active Flashing: activated manually or from DI. Off: otherwise
	**Allarm LED** Permanently on: alarm active Flashing: alarm acknowledged Off: otherwise	°F	**°F LED** Permanently on: °F setting (**dro** = 1) Off: otherwise
°C	**°C LED** Permanently on: °C setting (**dro** = 0) Off: otherwise	AUX	NOT USED

MOUNTING - DIMENSIONS

The device is designed for panel mounting. Drill a 71x29 mm (2.80x1.14 in.) hole and insert the instrument; secure it with the special brackets provided. Do not install the device in places subject to high humidity and/or dirt; it is intended for use in sites with ordinary class of pollution. Keep the area around the instrument cooling slots adequately ventilated.





ELECTRICAL CONNECTIONS

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power from all equipment including connected devices, prior to removing any covers or doors, or installing or removing any accessories, hardware, cables, or wires.
- Always use a properly rated voltage sensing device to confirm the power is off where and when indicated.
- Replace and secure all covers, accessories, hardware, cables and wires.
- Check the earthing connections on all earthed devices.
- Use only the specified voltage when operating this device and any associated products.

Failure to follow these instructions will result in death or serious injury.

⚠ DANGER

LOOSE WIRING CAUSES ELECTRIC SHOCK

Tighten connections in conformance with the torque specifications.

Failure to follow these instructions will result in death or serious injury.

The table below displays the type and the size of cables for disconnectable terminals with pitch **5.00** mm (0.197 in.) or **5.08** mm (0.2 in.).

mm / *in.* **7 / 0.28**								
mm^2	0.2…2.5	0.2…2.5	0.25…2.5	0.25…2.5	2 x 0.2…1	2 x 0.2…1.5	2 x 0.25…1	2 x 0.5...1.5
AWG	*24…13*	*24…13*	*22...13*	*22...13*	*2 x 24…18*	*2 x 24…16*	*2 x 22…18*	*2 x 20...16*

Ø 3.5 mm (*0.14 in.*)	C	N•m	0.5...0.6
		lb-in	*4.42...5.31*

⚠ DANGER

POTENTIAL OF OVERHEATING AND FIRE

- Do not use with loads other than those indicated in the technical specification.
- Do not exceed the maximum permitted current; for higher loads, use a contactor with sufficient power capacity.

Failure to follow these instructions will result in death or serious injury.

This device has been designed to operate outside of any dangerous location.
Only install this device in zones known to be free of hazardous atmosphere.

⚠ DANGER

POTENTIAL FOR EXPLOSION

Install and use this equipment in non-hazardous locations only.

Failure to follow these instructions will result in death or serious injury.

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel.
No responsibility is assumed by Eliwell for any consequences arising out of the use of this material.

⚠ WARNING

UNINTENDED EQUIPMENT OPERATION

- Use appropriate safety interlocks where personnel and/or equipment hazards exist.
- Install and operate this equipment in an enclosure appropriately rated for its intended environment.
- Power line and output circuits must be wired and fused in compliance with local and national regulatory requirements for the rated current and voltage of the particular equipment.
- Do not use this equipment in safety-critical machine functions.
- Do not disassemble, repair, or modify this equipment.
- Do not mount devices in extremely damp and/or dirt-laden areas.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

⚠ WARNING

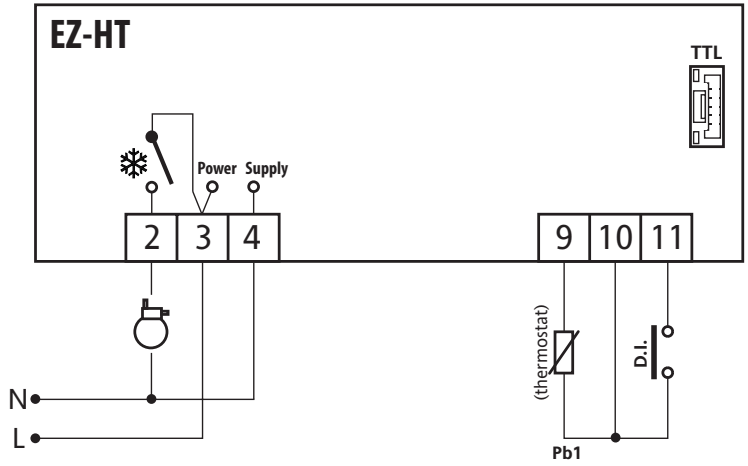
UNINTENDED EQUIPMENT OPERATION DUE TO CONNECTION

Signal leads (probes, digital inputs, communication and the signal electronic supply) must be routed separately from power and supply cables.

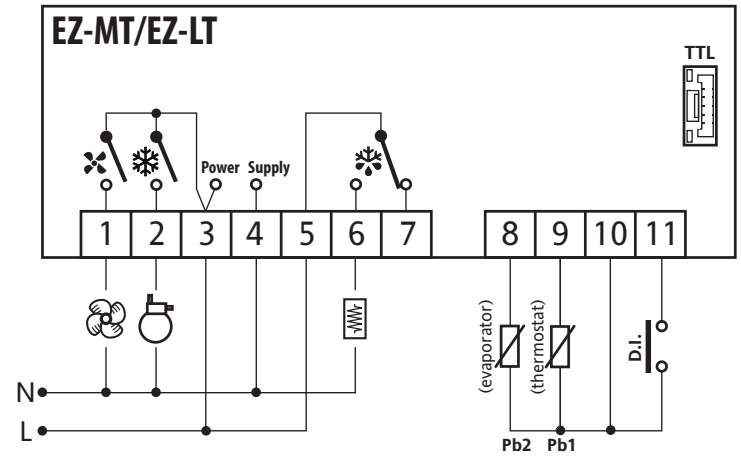
Failure to follow these instructions can result in death, serious injury, or equipment damage.

Probes have no connection polarity and can be extended using a regular bipolar cable (note that the extension of the probes affects the EMC electromagnetic compatibility of the instrument: pay extreme attention to wiring).

CONNECTION



TERMINALS	
2-3	Compressor relay ❄
3-4	Power supply input (230 Vac)
N-L	Power supply (230 Vac)
9-10	Pb1 probe
10-11	Digital input
TTL	TTL input



TERMINALS	
1-3	Fans relay
2-3	Compressor relay ❄
5-6-7	Defrost relay
3-4	Power supply input (230 Vac)
N-L	Power supply (230 Vac)
8-10	Pb2 probe
9-10	Pb1 probe
10-11	Digital input
TTL	TTL input

TECHNICAL DATA (EN 60730-2-9)

Classification:	Electronic automatic control (not safety) device for incorporation
Mounting:	Panel mounting with 71x29 mm (2.80x1.14 in.) drilling template
Type of action:	1.B
Pollution class:	2
Insulation material group:	IIIa
Overvoltage category:	II
Nominal pulse voltage:	2500 V
Temperature:	Use: –5 … 55 °C (23 ... 131 °F) - Storage: –30 … 85 °C (-22 ... 185 °F)
Power supply:	230 Vac (±10%) 50/60 Hz
Consumption:	4 VA max
Digital output (relay):	Refer to the label on the device
Fire resistance category:	D
Software class:	A

NOTE: check the power supply specified on the instrument label; contact our Sales Office for power supply and relay ratings.

FURTHER INFORMATION

Input Characteristics

Display range:	**NTC:** –50.0 ... 110 °C (-58.0 ... 230 °F) (on 3-digit display with ± sign) **PTC:** –55.0 ... 140 °C (-67.0 ... 284 °F) (on 3-digit display with ± sign)
Accuracy:	Better than 0.5 % of full-scale +1 digit
Resolution:	0.1 °C / °F
Buzzer:	Depending on model
Analogue Inputs:	**EZ-HT**: 1 NTC/PTC Input - **EZ-MT / EZ-LT**: 2 NTC/PTC input
Digital input:	1 D.I. voltage free

Output Characteristics

Digital output:

MODEL	DEFAULT	EN60730 (max 250 Vac)	UL60730 (max 120 Vac)	UL60730 (max 240 Vac)
EZ-HT	Compressor	12(8) A	16 FLA - 96 LRA	12 FLA - 72 LRA
EZ-MT / EZ-LT	Compressor	12(8) A	16 FLA - 96 LRA	12 FLA / 72 LRA
	Defrost	NO 8(4) A - NC 6(3) A	NO 8 A - NC 6 A resistive 1/8 HP	NO 8 A - NC 6 A resistive 1/2 HP
	Fan	5(2) A	3 A resistive 1.4 FLA / 7.5 LRA	3 A resistive 1.4 FLA / 7.5 LRA

Mechanical Characteristics

Housing: PC+ABS UL94 V-0 resin casing, polycarbonate window, thermoplastic resin keys

Dimensions: Front: 76.4x35 mm (3.01x1.38 in.); depth: 59 mm (2.32 in.) (without terminals)

Terminals: Screw terminals for wires with cross-section of 2.5 mm^2 (13 AWG)

Connectors: TTL for connection to Copy Card (maximum lenght = 3 m (9.84 ft))

Humidity: Use / Storage: 10 ... 90 % RH (non-condensing)

Regulations

Food Safety: The device complies with standard EN13485 as follows:

- suitable for storage
- application: air
- climate range A
- measurement class 1 in the range -25 ... 15 °C (-13 ... 59 °F) (*****)

(*** exclusively using Eliwell probes**)

NOTE: The technical specifications stated in this document regarding measurement (range, accuracy, resolution, etc.) refer strictly to the instrument and not to any accessories provided, such as the probes.

DIAGNOSTICS

Alarms are always indicated by the buzzer (if present) and the alarm icon (((•))). To switch off the buzzer, press and release any key; the corresponding icon will continue to flash.

N.B.: If alarm exclusion times have been set the alarm will not be signalled.

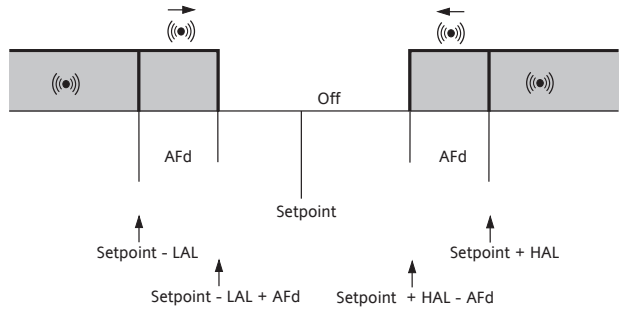
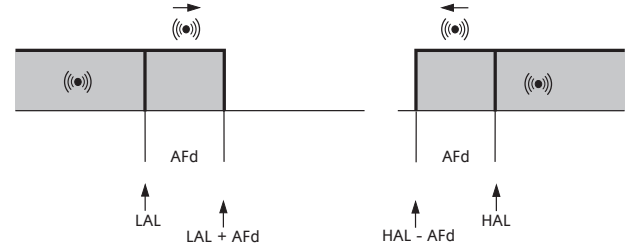
- **E1**: if the Pb1 probe is in error, the indication **E1** will appear on the display.
- **E2**: if the Pb2 probe is in error, the indication **E2** will appear on the display. (**EZ-MT / EZ-LT only**).

ALARMS

Label	Description	Cause	Effects	Remedy
E1	Pb1 probe inoperable (Cold room)	• Measured values are outside operating range • Probe inoperable/short-circuited/open	• Display label **E1** • Alarm icon permanently on • Disable max/min alarm controller • Compressor operation based on parameters **Ont** and **OFt**	• Check probe type (par. **H00**) • Check probe wiring • Replace probe
E2	Pb2 probe inoperable (Defrost)	• Measured values are outside operating range • Probe inoperable/short-circuited/open	• Display label **E2** • Alarm icon permanently on • The Defrost will end due to Timeout (**dEt**)	• Check probe type (par. **H00**) • Check probe wiring • Replace probe
AH1	Pb1 HIGH Temperature alarm	Value read by Pb1 > **HAL** after time of **tAO** (see 'MAX/MIN TEMP. ALARMS')	• Recording of label **AH1** in folder AL • No effect on regulation	Wait until value read by Pb1 returns below **HAL**
AL1	Pb1 LOW Temperature alarm	Value read by Pb1 < **LAL** after time of **tAO** (see 'MAX/MIN TEMP. ALARMS')	• Recording of label **AL1** in folder AL • No effect on regulation	Wait until value read by Pb1 returns above **LAL**

Label	Description	Cause	Effects	Remedy
EA	External alarm	Digital input activated (**H11** = ±5)	• Recording of label **EA** in folder AL • Alarm icon permanently on • Regulation locked if **rLO** = y	Check and remove the external cause which triggered the alarm on the D.I.
OPd	Door open alarm	Digital input activated (**H11** = ±4) (for longer than **tdO**)	• Recording of label **OPd** in folder AL • Alarm icon permanently on • Controller locked	• Close the door • Delay function defined by **OAO**

MAX/MIN TEMPERATURE ALARMS

	Temperature as a value relative to Setpoint (Att=1)	**Temperature as an Absolute value (Att=0)**
		
Minimum alarm	Temp. ≤ **Set + LAL ***	Temp. ≤ **LAL** (**LAL** with sign)
Maximum alarm	Temp. ≥ **Set + HAL ****	Temp. ≥ **HAL** (**HAL** with sign)
Returning from minimum temperature alarm	Temp. ≥ **Set + LAL + AFd** or ≥ **Set** - I**LAL**I **+ AFd** (LAL < 0)	Temp. ≥ **LAL + AFd**
Returning from maximum temperature alarm	Temp. ≤ **Set + HAL - AFd** (HAL > 0)	Temp. ≤ **HAL - AFd**
	*** if LAL is negative, Set + LAL < Set** **** if HAL is negative, Set + HAL < Set**	

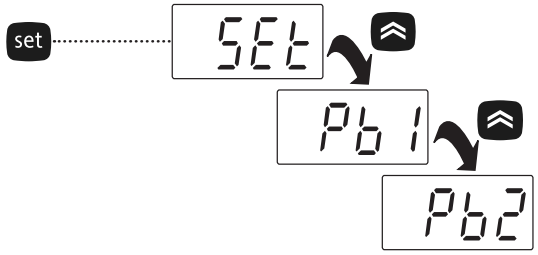
PROGRAMMING MENU

To access the **Programming** menu hold down the set key for longer than 5 seconds. If enabled, the instrument will request an access PASSWORD, either **PA1**. When accessed the display will show the first parameter (**diF**). Press ⌃ and ⌄ to scroll through all of the parameters in the current level. Select the desired parameter by pressing set.
Press ⌃ and ⌄ to change it and set to save the changes.

NOTE:Switch the device off and on again each time the parameter configuration is changed.

MACHINE STATUS MENU

Access the **Machine Status** menu by pressing and releasing the set key. If no alarms are active, the **SEt** label appears.
By pressing the ⌃ and ⌄ keys you can scroll through all the folders in the menu:



- **AL**: alarms folder (**only visible if an alarm is active**);
- **SEt**: Setpoint setting folder;
- **Pb1**: probe 1 - Pb1 folder;
- **PB2**: probe 2 - Pb2 folder *****; (**EZ-MT / EZ-LT models only**)

*** folder displayed if Pb2 present (H42 = y)**

Setting the Setpoint: To display the Setpoint value press the set key when the **SEt** label is displayed. The Setpoint value appears on the display. To change the Setpoint value, press the ⌃ e ⌄ keys within 15 seconds. Press set to confirm the modification.

Displaying the probes: When labels Pb1, Pb2 are present, press the set key to view the value measured by the corresponding probe (the value cannot be modified).

MANUAL DEFROST CYCLE ACTIVATION

Hold down the ⌃ key for longer than 5 seconds. It is only activates if the temperature conditions are fulfilled.
Otherwise, the display will flash three times to indicate that the operation will not be performed.

ACCESSING AND USING THE MENUS

The resources are organised into 2 menus which are accessed as follows:

- **Machine Status** menu: press and release the set key.
- **Programming menu**: hold down the set key for 5 seconds.

Either do not press any keys for 15 seconds (timeout) or press the ⏻ key once, to confirm the last value displayed and return to the previous screen.

INSTRUMENT ON/OFF

The instrument can be switched off by pressing the ⏻ key for longer than 5 seconds. In this condition, the adjustment algorithms and defrost cycles are disabled and the text 'OFF' will appear on the display.

PASSWORD

Password **PA1**: used to access User parameters. The password is not enabled by default (**PS1**=0).
To enable it (**PS1**≠0): press and hold set for longer than 5 seconds, scroll through the parameters using ⌃ and ⌄ until you see the label **PS1**, press set to display the value, modify it using ⌃ and ⌄ then save it by pressing set or ⏻.
If enabled, it will be required in order to access the User parameters.

USING THE COPY CARD

The Copycard must be connected to the TTL serial port and allows the rapid programming of instrument parameters. Access the parameters, using ⌃ and ⌄ until **FPr** is displayed. Select it using set, scroll through the parameters using ⌃ and ⌄ and select the function using set (e.g. **UL**).

- **Upload** (**UL**): Select **UL** and press set. This function uploads the programming parameters from the instrument to the card. If the procedure is a success, **y**, will appear on the display, otherwise **n** will appear.
- **Format** (**Fr**): This command is used to format the Copycard, (recommended when using the card for the first time).
  NOTE: the **Fr** parameter deletes all data present. This operation cannot be cancelled.
- **Download**: Connect the Copycard when the instrument is switched off. At power-on, data is downloaded from the Copycard to the instrument automatically. At the end of the lamp test, the display will show **dLy** if the operation was successful and **dLn** if not.

NOTE: After downloading, the instrument works with the settings of the new map just downloaded.

LOCK SETPOINT MODIFICATION

The keypad can be locked by entering the 'Basic Commands' menu using set and pressing ⏻ and ⏶ within 2 seconds, or by programming the **LOC** parameter. If the keypad is locked, the 'Basic Commands' menu can be accessed and the Setpoint displayed, but the value cannot be modified.

PARAMETERS TABLE

PAR.	DESCRIPTION	M.U.	RANGE	EZ-HT	EZ-MT	EZ-LT
SEt	Temperature control Setpoint.	°C/°F	(*)	3.0	0.0	-18.0
diF	Compressor relay activation differential.	°C/°F	0.1 ... 30.0	2.0	2.0	2.0
Ont	Controller switch-on time in the event of inoperable probe: • if **Ont** = 1 and **OFt** = 0, the compressor stays on permanently (ON); • if **Ont** > 0 and **OFt** > 0, it operates in Duty Cycle mode.	min	0 ... 250	15	15	15
OFt	Controller switch-off time in the event of a inoperable probe: • if **OFt** = 1 and **Ont** = 0, the compressor stays off permanently (OFF); • if **Ont** > 0 and **OFt** > 0, it operates in Duty Cycle mode.	min	0 ... 250	15	15	15
dOn	Compressor relay activation delay after request.	s	0 ... 250	0	0	0
dOF	Delay after switching off and subsequent switch-on.	min	0 ... 250	0	0	0
dbi	Delay between two consecutive compressor switch-on.	min	0 ... 250	0	0	0
OdO	Delay in activating outputs after the instrument is switched on or after a power failure. **0** = Not active.	min	0 ... 250	0	0	0
dit	Interval between the start of two consecutive defrost cycles. **0** = Function disabled.	hours	0 ... 250	6	6	6

***EZ-HT:** 1.0 ...18.0 °C / °F; **EZ-MT:** -15.0 ... 5.0 °C / °F; **EZ-LT:** -30.0 ... -10.0 °C / °F

PAR.	DESCRIPTION	M.U.	RANGE	EZ-HT	EZ-MT	EZ-LT
dtY	Type of defrost. **0** = Electric defrosting - compressor OFF during defrosting; **1** = Reverse cycle defrost (hot gas) - compressor ON during defrosting; **2** = 'Free': defrost independent of compressor.	num	0/1/2		0	0
dCt	Selects the count mode for the defrost interval. **0** = Compressor operating hours (DIGIFROST® method); defrosting active only if compressor is on; **1** = Equipment operating hours; defrost counting is always active when the machine is on and start every time the instrument switch on; **2** = Compressor stop; each time the compressor stops a defrosting cycle is performed according to parameter **dtY**; **3** = Not used.	num	0 ... 3	1	1	1
dOH	Defrost start delay time after request.	min	0 ... 59	0	0	0
dEt	Defrost time-out; determines the maximum defrost duration.	min	1 ... 250	20	25	25
dSt	Defrost end temperature.	°C/°F	-67.0 ... 320		8.0	8.0
dPO	Determines if the device should switch to defrost at switch-on (depending on the evaporator temperature read). **n**(0) = No, no defrost at switch-on; **y**(1) = Yes, defrost at switch-on.	flag	n/y	n	n	n
FPt	Characterises parameter **FSt** which can be expressed either as an absolute temperature value or as a value relative to the setpoint. **0** = Absolute; **1** = Relative.	flag	0/1		0	0
FSt	Fans stop temperature; if **Pb2 > FSt**, the fans are stopped.	°C/°F	-67.0 ... 320		2.0	2.0
FAd	Fans activation intervention differential (see par. **FSt**).	°C/°F	1.0 ... 50.0		2.0	2.0
Fdt	Fans activation delay after a defrost cycle.	min	0 ... 250		3	3

<table>
<tr><th>PAR.</th><th>DESCRIPTION</th><th>M.U.</th><th>RANGE</th><th>EZ-HT</th><th>EZ-MT</th><th>EZ-LT</th></tr>
<tr><td>dt</td><td>drainage time. Coil drainage time.</td><td>min</td><td>0 ... 250</td><td></td><td>5</td><td>5</td></tr>
<tr><td>dFd</td><td>Allows exclusion of the evaporator fans to be selected or not during defrosting. n(0) = No (it depends on FCO); y(1) = Yes (fans excluded).</td><td>flag</td><td>n/y</td><td></td><td>y</td><td>y</td></tr>
<tr><td>FCO</td><td>Allows to select compressor fans lock OFF (switched off).
<table>
<tr><th>H42</th><th>FCO</th><th>COMPRESSOR ON</th><th>COMPRESSOR OFF</th></tr>
<tr><td rowspan="4">H42 = y</td><td>0</td><td>Thermostat controlled</td><td>OFF</td></tr>
<tr><td>1</td><td>Thermostat controlled</td><td>Thermostat controlled</td></tr>
<tr><td>2</td><td>Not used</td><td>Not used</td></tr>
<tr><td>3</td><td>Not used</td><td>Not used</td></tr>
<tr><td rowspan="4">H42 = n</td><td>0</td><td>ON</td><td>OFF</td></tr>
<tr><td>1</td><td>Not used</td><td>Not used</td></tr>
<tr><td>2</td><td>Not used</td><td>Not used</td></tr>
<tr><td>3</td><td>Not used</td><td>Not used</td></tr>
</table></td><td>num</td><td>0 ... 3</td><td></td><td>1</td><td>1</td></tr>
<tr><td>Att</td><td>HAL and LAL parameters mode, i.e. the absolute temperature value or differential in relation to the setpoint.
0 = Absolute value; 1 = Relative value.</td><td>flag</td><td>0/1</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>AFd</td><td>Alarms activation differential.</td><td>°C/°F</td><td>1.0 ... 50.0</td><td>2.0</td><td>2.0</td><td>2.0</td></tr>
<tr><td>HAL</td><td>Temperature value (intended either as distance from setpoint or as an absolute value based on Att) which, if exceeded in an upward direction, triggers the activation of the alarm signal.</td><td>°C/°F</td><td>LAL ... 320</td><td>50.0</td><td>50.0</td><td>50.0</td></tr>
<tr><td>LAL</td><td>Temperature value (intended as distance from setpoint or as an absolute value based on Att) which, if exceeded in an upward direction, triggers the activation of the alarm signal.</td><td>°C/°F</td><td>-67.0 ... HAL</td><td>-50.0</td><td>-50.0</td><td>-50.0</td></tr>
<tr><td>PAO</td><td>Alarm override time after device is switched on following a power outage.</td><td>hours</td><td>0 ... 10</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>dAO</td><td>Temperature alarm exclusion time after defrost.</td><td>min</td><td>0 ... 999</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>OAO</td><td>Alarm signal delay (low and high temperature) after the deactivation of the digital input (port closed).</td><td>hours</td><td>0 ... 10</td><td>0</td><td>0</td><td>0</td></tr>
</table>

PAR.	DESCRIPTION	M.U.	RANGE	EZ-HT	EZ-MT	EZ-LT
tdO	Delay in door open alarm activation.	min	0 ... 250	0	0	0
tAO	Time delay for temperature alarm indication.	min	0 ... 250	0	0	0
dAt	Alarm signalling end of defrost due to timeout. **n**(0) = Alarm not activated; **y**(1) = Alarm activated.	flag	n/y		n	n
rLO	Regulators locked by external alarm. **n**(0) = Does not lock the regulators; **y**(1) = Locks the regulators.	flag	n/y	n	n	n
dOd	Enable utility switch-off on activation of door switch: **0** = Disabled; **1** = Disables fans; **2** = Disables the compressor; **3** = Disables fans and compressor.	num	0 ... 3	1	1	1
dAd	Digital input activation delay.	min	0 ... 255	0	0	0
OSP	Temperature value to be added to the Setpoint if reduced set enabled (Economy function).	°C/°F	-30.0 ... 30.0	0.5	0.5	0.5
LOC	Lock. Setpoint change shutdown. It is still possible to enter parameter programming mode and modify them. **n**(0) = No; **y**(1) = Yes.	flag	n/y	n	n	n
PS1	PAssword 1. When enabled (**PS1≠0**), this password provides access to parameters.	num	0 ... 250	0	0	0
ndt	Display with decimal point **n**(0) = No (integers only); **y**(1) = Yes (display with decimal point).	flag	n/y	y	y	y
CA1	Calibration 1. Positive or negative temperature value added to the value read by **Pb1**.	°C/°F	-12.0 ... 12.0	0.0	0.0	0.0
CA2	Calibration 2. Positive or negative temperature value added to the value read by **Pb2**.	°C/°F	-12.0 ... 12.0		0.0	0.0

PAR.	DESCRIPTION	M.U.	RANGE	EZ-HT	EZ-MT	EZ-LT
ddL	Display mode during defrost. **0** = Displays the temperature read by probe **Pb1**; **1** = Locks the reading at the temperature value read by probe **Pb1** when defrosting starts and until the next time the **SEt** is reached; **2** = Displays the label **deF** during defrosting and until the next time the **SEt** is reached.	num	0/1/2	2	0	0
dro	Select the unit of measurement used when displaying the temperature recorded by the probes. **0** = °C, **1** = °F. **NOTE:** switching from °C to °F or vice versa DOES NOT modify the setpoint, differential, etc. (e.g. **set**=10 °C becomes 10 °F).	flag	0/1	0	0	0
ddd	Selects type of value to display. **0** = Setpoint; **1** = Probe Pb1; **2** = Probe Pb2; **3** = Not used.	num	0 ... 3	1	1	1
H00	Probe type selection. **0** = PTC; **1** = NTC;	num	0/1	1	1	1
H11	Configuration of digital input 1/polarity (D.I.): **0** = Disabled; **± 1** = Defrost; **± 2** = Reduced set; **± 3** = AUX; **± 4** = Door switch; **± 5** = External alarm; **± 6** = Stand-by (ON-OFF); **± 7, ± 8, ± 9, ±10** = Not used. **NOTE:** - The '**+**' sign indicates that the input is active when the contact is closed. - The '**–**' sign indicates that the input is active when the contact is open.	num	-10 ... 10	0	0	0
H32	DOWN key configuration . **0** = Disabled; **1** = Defrost; **2** = AUX; **3** = Reduced set; **4** = Stand-by; **5**,**6** = Not used.	num	0 ... 6	0	0	0
H42	Presence of Evaporator probe (Pb2). **n**(0) = Not present; **y**(1) = Present.	flag	n/y		y	y
UL	Upload. Transfer programming parameters from instrument to Copy Card.	/	/	/	/	/
Fr	Formatting. Deletes data on Copy Card.	/	/	/	/	/

LIABILITY AND RESIDUAL RISKS

ELIWELL CONTROLS SRL declines any liability for damage due to:

- installation/uses different from those specified and, in particular, not complying with the safety regulations and/or instructions given in this document;
- use on panels that do not provide adequate protection against electric shocks, water or dust when assembled;
- use on panels allowing access to dangerous parts without the use of tools;
- tampering with and/or modifying the product;
- installation/use on panels not complying with current standards and regulations.

DISCLAIMER

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CONDITIONS OF USE

Permitted use

For safety reasons, the instrument must be installed and used according to the instructions supplied and, in particular, parts under dangerous voltages must not be accessible in normal conditions. The device must be adequately protected from water and dust with regard to its application, and must only be accessible using tools (except for the front panel). The device is suitable for use in household refrigeration appliances and/or similar equipment and has been tested for safety aspects in accordance with the harmonised European reference standards.

Improper use

Any use other than that expressly permitted is prohibited. The relay contacts provided are of a functional type and subject to failure: any protection devices required by product standards, or suggested by common sense for obvious safety requirements, must be installed externally to the instrument.

DISPOSAL

The appliance (or the product) must be disposed of separately in compliance with the local standards in force on waste disposal.

eliwell

by Schneider Electric

Eliwell Controls s.r.l.
Via dell'Industria, 15 - Z.I. Paludi
32010 Pieve d'Alpago (BL) ITALY
T: +39 0437 986 111
F: +39 0437 989 066
www.eliwell.com

Technical Customer Support:
T: +39 0437 986 300
E: Techsuppeliwell@schneider-electric.com

Sales:
T: +39 0437 986 100 (Italy)
T: +39 0437 986 200 (other countries)
E: saleseliwell@schneider-electric.com

Certified System ™
ISO 9001

ENVIRONMENTAL SYSTEM CERTIFICATION ISO 14001 DNV

cod. 9IS54509 • EZ-HT/EZ-MT/EZ-LT • EN • rel. 11/16