

eliwell

ID *PLUS*
961 - 971 - 974



EN

Electronic controllers for refrigerating units

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Electronic controllers for refrigerating units



- * **To activate the LOC function:**
- enter the 'Basic Commands' menu by pressing **set**
 - press the **I** and **↕** keys within 2 seconds.

If the LOC function is **active** and you try to enter the 'Parameters' menu, the word LOC appears. If this happens, the parameters are still displayed but cannot be edited. To disable the keypad lock, repeat the aforementioned procedure.

- * When switched on, the device performs a Lamp Test; the display and LEDs will flash for several seconds to check that they all function correctly.

KEYs AND LEDs

 UP Press and release Scrolls through menu items Increases values Press for at least 5 secs Activates the Manual Defrost function	 Reduced Set/Economy LED Flashing: Reduced set active
 DOWN Press and release Scrolls through menu items Decreases values	 Compressor LED Permanently on: Compressor Active Flashing: Delay, protection or blocked start-up.
 STAND-BY (ESC) Press and release Returns to the previous menu level Confirm parameter value Press for at least 5 secs Activates the STANDBY function (when outside the menus)	 Defrost LED Permanently on: Defrost Active Flashing: Manual or D.I activation
 SET (ENTER) Press and release Displays alarms (if active) Opens Basic Commands menu Press for at least 5 secs Opens the Programming menu Confirms commands	 Fan LED Permanently on: Fans Active
	 Alarm LED Permanently on: Alarm on Flashing: Alarm acknowledged
	AUX Aux LED It depends from the model
	°C °C LED Permanently on: °C setting (dro = 0)
	°F °F LED Permanently on: °F setting (dro = 1)

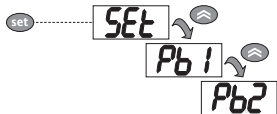
ACCESSING AND USING THE MENUS

Resources are organised into menus which are accessed by briefly tapping the **set** key ('Machine Status' menu) or by keeping the **set** key pressed for more than 5 seconds ('LIGHT' menu).

Either do not press any keys for 15 seconds (time-out) or press the **ⓘ** key once, to confirm the last value displayed and return to the previous screen.

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 all folders in the 'Machine Status' menu:



- AL: *alarms folder (only visible if an alarm is active);*
 - SEt: *Setpoint setting folder;*
 - Pb1: *probe 1 folder;*
 - Pb2: *probe 2 folder **;*
- (** only models ID971 and ID974)**

Setting the Setpoint: To display the Set point value press the **set** key when the 'SEt' label is displayed. The Set point value appears on the display. To change the Set point value, press the **⏮** and **⏭** keys within 15 seconds. Press **set** to confirm the modification.



Displaying probes value: When the Pb1 or Pb2 label is displayed, press the **set** key and the associated probe value will appear. (* Pb2 is only present on models ID971 and ID974)

SET POINT EDIT LOCK

It is possible to disable the keypad on this device.

The keypad can be locked by entering the 'Machine Status' menu using the **set** key and pressing the **⓪** and **⏮** keys within 2 seconds or by programming the 'LOC' parameter (see 'diS' label folder)

With the keypad locked you can still access the 'Machine Status' menu by pressing the **set** key to display the Setpoint and the value read by Pb1 and Pb2 probes, but you cannot edit them.

To disable the keypad lock, repeat the locking procedure.

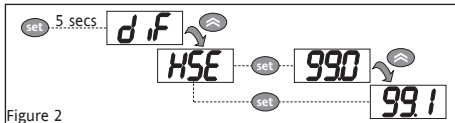
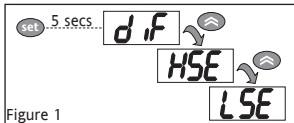
'LIGHT' MENU

To access the 'LIGHT' menu hold down the **set** key for at least 5 seconds.

If specified, the 'PA1' access PASSWORD will be requested (see 'PASSWORD' paragraph).

Press the **set** key to modify the values. The display will show the first parameter in the menu (e.g.: the 'diF' parameter).

By pressing the **⏮** and **⏭** keys you can scroll all parameters in the 'LIGHT' menu (Figure 1):



Select the desired parameter by using the **⏮** and **⏭** keys ("HSE" in the example in figure 2).

Press the **set** key to see the current value of the selected parameter.

Press the **⏮** and **⏭** keys to change the value and then press the **set** key to save it.

NOTE: It is strongly recommended that you switch the device off and on again each time the parameter configuration is changed, in order to prevent malfunctioning of the configuration and/or ongoing timings.

'LIGHT' MENU PARAMETERS TABLE

PAR.	DESCRIPTION	RANGE	ID961*	ID971*	ID974*	U.M.
diF	Relay compressor tripping differential	+0,1 ... +30,0	2,0	2,0	2,0	°C/°F
HSE	Maximum possible setpoint value	LSE ... +302	99,0	99,0	99,0	°C/°F
LSE	Minimum possible setpoint value	-58,0 ... HSE	-50,0	-50,0	-50,0	°C/°F
dtY	Type of defrosting	0/1/2	---	0	0	num
dit	Period of time elapsing between the start of two defrosts	0 ... 250	6	6	6	hours
dEt	Defrosting time-out	1 ... 250	30	30	30	min
dSt	Defrost stop temperature	-50,0 ... +150	---	6,0	6,0	°C/°F
FSt	Fan shutdown temperature	-50,0 ... +150	---	2,0	2,0	°C/°F
Fdt	Delay before fans activation after defrosting	0 ... 250	---	0	0	min
dt	Dripping time	0 ... 250	---	0	0	min
dFd	Permit selection or not of evaporator fans disable	n/y	---	y	y	flag
HAL	Maximum temperature alarm	LAL ... +150,0	50,0	50,0	50,0	°C/°F
LAL	Minimum temperature alarm	-50,0 ... HAL	-50,0	-50,0	-50,0	°C/°F
tAO	Temperature alarm signal delay time	0 ... 250	0	0	0	min
LOC	Basic Commands edit lock	n/y	n	n	n	flag
PS1	PAssword1. It is the access key for the "LIGHT" menu parameters	0 ... 250	0	0	0	num
CA1	Calibration1. Value to added to the value read by probe 1	-12,0 ... +12,0	0,0	0,0	0,0	°C/°F
CA2	Calibration2. Value to added to the value read by probe 2	-12,0 ... +12,0	---	0,0	0,0	°C/°F
ddL	Visualization mode during defrosting	0/1/2	1	1	1	num
H00	Probe type selection (0 = PTC; 1 = NTC)	0/1	0	0	0	flag
H42	Evaporator probe presence (y = yes; n = no)	n/y	---	y	y	flag

Notes: * The value in the columns with * is the default value for each instrument model

** In the "LIGHT" menu parameters list is present also the "PA2" label for the access to the 'ADVANCE' menu

*** for the complete parameters list and the complete description, see: 'ADVANCE' menu Parameters table.

'ADVANCE' MENU

To access the 'ADVANCE' menu hold down the **set** key for at least 5 seconds. Display the 'PA2' label by using the **⏮** and **⏭** keys and then press the **set** key to select it. If enabled, the 'PA2' access PASSWORD will be requested (see 'PASSWORD' paragraph). The display will show the first folder in the 'ADVANCE' menu (e.g.: the 'CP' folder). By pressing the **⏮** and **⏭** keys you can scroll all folders in the 'ADVANCE' menu (Figure 1):

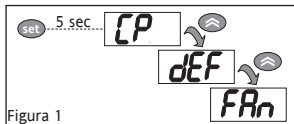


Figura 1

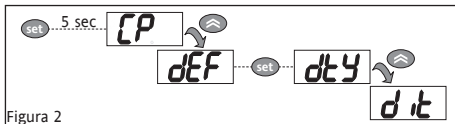


Figura 2

Press the **set** key beside the selected folder ('dEF' in the example in figure 2) to view the first parameter contained. Select the desired parameter by using the **⏮** and **⏭** keys. Press the **set** key to see the current value of the selected parameter. Press the **⏮** and **⏭** keys to change the value and then press the **set** key to save it.

- NOTES:** 1) It is strongly recommended that you switch the device off and on again each time the parameter configuration is changed, in order to prevent malfunctioning of the configuration and/or ongoing timings.
- 2) The 'ADVANCE' menu contains all the parameters of the device, included the 'LIGHT' menu parameters.

MANUAL DEFROST CYCLE ACTIVATION

To manually activate the defrost cycle, hold down the **⏮** key for at least 5 seconds.

If the defrost conditions are not satisfied:

- parameter OdO $\neq$ 0
 - the evaporator probe Pb2 temperature is higher than the defrost end temperature (ID971 and ID974)
- the display will flash 3 times, to indicate that the operation will not be carried out.

USING THE COPY CARD

The Copy Card is an accessory that, connected to the TTL serial port, is used for quick programming of the device parameters (upload and download of a parameter map to one or more devices of the same type).

Upload (label UL) and copy card formatting (label Fr) operations should be performed as explained below:



The 'FPr' folder contains the commands necessary for use of the Copy Card. Press the **set** key to open the Functions menu. Press the **⏮** and **⏭** keys to scroll through the parameters to display the required function (e.g. UL). Press the **set** key to execute the upload. If the operation is successful, the display will show 'y', if not it will show 'n'.

Upload (UL) This function uploads the programming parameters from the device.

UPLOAD: device $\longrightarrow$ Copy Card

Format (Fr) This command is used to format the copy card, an operation which is necessary when using the card for the first time. **Important:** when the copy card has been programmed, the parameter 'Fr' will delete all data that have been entered. This operation cannot be cancelled.

Download from reset:

Connect the copy card when the device is switched off.

When the device is switched on, the download from the copy card will begin automatically. At the end of the lamp test, the display will show 'dLy' if the operation was successful and 'dLn' if not.

DOWNLOAD: Copy Card $\longrightarrow$ device



NOTES:

- after the parameters have been downloaded, the device uses the downloaded parameter map settings.
- see 'FPr folder' in Parameter Table.

PASSWORD

The password 'PA1' allows access to the 'LIGHT' menu parameters. In the standard configuration the password is disabled (value = 0). To enable it (value $\neq 0$) enter the 'LIGHT' menu, in the folder with the 'diS' label (PS1 parameter). If the password is already enabled it will be required to access the 'LIGHT' menu. To enter it:



The password 'PA2' allows access to the 'ADVANCE' menu parameters. In the standard configuration the password is disabled (value = 0). To enable it (value $\neq 0$) enter the 'ADVANCE' menu, in the folder with the 'diS' label (PS2 parameter). The 'PA2' label is present inside the 'LIGHT' menu, display it and then press the **set** key to access the 'ADVANCE' menu. If it is enabled, to enter it:



If the password is incorrect, the display will show the 'PA1'/'PA2' label and you will have to repeat the entry procedure.

DIAGNOSTICS

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

NOTES: If alarm exclusion times have been set (see 'AL' folder in the parameters table) the alarm will not be signalled.

The probe 1 (Pb1) faulty alarm will appear directly on the display of the device with the label E1.

E1

ID971 and ID974: The probe 2 (Pb2) faulty alarm will appear directly on the display of the device with the label E2.

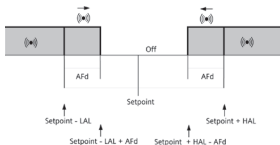
E2

ALARMS

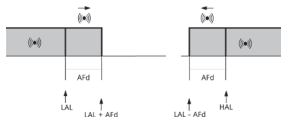
Label	Fault	Cause	Effect	Problem Resolution
E1	Probe 1 faulty (cold room)	- measured values are outside operating range - probe faulty/short-circuited/open	- Display of E1 label - Alarm icon permanently on - Min/max alarm regulator disabled - Compressor operation according to 'Ont' and 'OFt' parameters	- check probe type NTC/PTC (H00) - check the probe wiring - replace probe
E2	Probe 1 faulty (defrost)	- measured values are outside operating range - probe faulty/short-circuited/open	- Display of E2 label - Alarm icon permanently on - The defrost cycle will end due to Time-out (Parameter "dEt")	- check probe type NTC/PTC (H00) - check the probe wiring - replace probe
AH1	Probe 1 HIGH temperature alarm	value read by Pb1 > HAL after time of 'tAO' (see MAX/MIN TEMPERATURE ALARMS)	- Recording of AH1 label in AL folder - No effect on regulation	Wait until temperature value read by probe 1 returns below HAL
AL1	Probe 1 LOW temperature alarm	value read by Pb1 < LAL after time of 'tAO' (see MAX/MIN TEMPERATURE ALARMS)	- Recording of AL1 label in AL folder - No effect on regulation	Wait until temperature value read by probe 1 returns above LAL
EA	External Alarm	Digital input activated (H11 set as external alarm)	- Recording of EA label in AL folder - Alarm icon permanently on - Regulation blocked if EAL = y	to check and to remove the external cause which generate alarm on D.I.
Opd	Door Open Alarm	Digital input activated (H11 set as door switch) (for a longer time than tdO)	- Recording of Opd label in AL folder - Alarm icon permanently on - Regulator blocked	- close the door - delay function defined by OAO

MAX/MIN TEMPERATURE ALARMS

**Relative Temperature Value
to setpoint (Att=1)**



Absolute Temperature Value (Att=0)



Minimum temperature alarm	Temp. $\leq$ Set+LAL *	Temp. $\leq$ LAL (LAL with sign)
Maximum temperature alarm	Temp. $\geq$ Set+HAL **	Temp. $\geq$ HAL (HAL with sign)
Returning from min temperature alarm	Temp. $\geq$ Setpoint + LAL + AFd Setpoint - LAL + AFd	Temp. $\geq$ LAL + AFd
Returning from max temperature alarm	Temp. $\leq$ Setpoint + HAL - AFd	Temp. $\leq$ HAL - AFd

- * if LAL is negative, $\text{Set} + \text{LAL} < \text{Set}$

**** if HAL is negative, Set + HAL > Set**

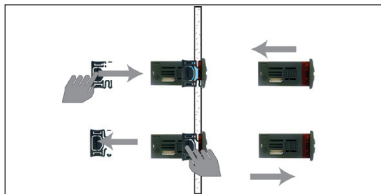
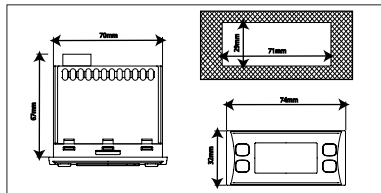
MECHANICAL ASSEMBLY

The instrument is designed for panel mounting.

Make a hole of 29x71 mm, insert the instrument and fix it using the brackets provided.

Do not mount the instrument in humid and/or dirty places; it is suitable for use in ordinary polluted places.

Ventilate the place in proximity to the instrument cooling slits.



ELECTRICAL WIRING

Attention! Never work on electrical connections when the machine is switched on.

The device is equipped with screw or removable terminals for connecting electric cables with a diameter of 2.5mm² (one wire per terminal for power connections). For the capacity of the terminals, see the label on the instrument.

The relay outputs are voltage-free.

Do not exceed the maximum current allowed; in case of higher loads, use an appropriate contactor.

Make sure the power supply voltage complies with the one required by the instrument.

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).

Probe cables, power supply cables and the TTL serial cables should be distant from power cables.

CONDITIONS OF USE

Permitted Use

For safety reasons the instrument must be installed and used according to the instruction provided and in particular, under normal conditions, parts bearing dangerous voltage levels must not be accessible. The device must be adequately protected from water and dust as per the application and must also only be accessible via the use of tools (with the exception of the frontlet).

The device is ideally suited for use on household appliances and/or similar refrigeration equipment and has been tested with regard to the aspects concerning European reference standards on safety. It is classified as follows:

- according to its manufacture: as an automatic electronic control device to be incorporated;
- according to its automatic operating features: as a 1 B-type operated control type;
- as a Class A device in relation to the category and structure of the software.
- device with pollution grade 2
- as a device with class D fire resistance
- overvoltage category grade II
- device made with class IIIa material

Unpermitted use

Any other use other than that permitted is de facto prohibited. It should be noted that the relay contacts provided are of a practical type and therefore subject to fault. Any protection devices required by product standards or dictated by common sense due to obvious safety reasons should be applied externally.

LIABILITY AND RESIDUAL RISKS

ELIWELL CONTROLS SRL shall not be liable for any damages deriving from:

- installation/use other than that prescribed and, in particular, that which does not comply with safety standards anticipated by regulations and/or those given herein;
- use on boards which do not guarantee adequate protection against electric shock, water or dust under the conditions of assembly applied;
- use on boards which allow access to dangerous parts without the use of tools;
- tampering with and/or alteration of the products;
- installation/use on boards that do not comply with the standards and regulations in force.

DISCLAIMER

This manual and its contents remain the sole property of ELIWELL CONTROLS SRL, and shall not be reproduced or distributed without authorization.

Although great care has been exercised in the preparation of this document, ELIWELL CONTROLS SRL, its employees or its vendors, cannot accept any liability whatsoever connected with its use.

ELIWELL CONTROLS SRL reserves the right to make any changes or improvements without prior notice.

REGULATIONS

Electromagnetic compatibility: This device complies with Directive 2004/108/EC and the harmonised standard EN60730-2-9

Security:: This device complies with Directive 2006/95/EC and the harmonised standard EN60730-2-9

Food safety: This device complies with standard EN13485 as follows:

- suitable for storage
- climate range A
- measurement class 1 in the range from -35°C to 25°C (*)

(* exclusively using Eliwell NTC probes)

Voluntary marks/certifications: ENEC/UL (check on the device label).

Classification: operating (not safety) device for integration.

NOTE 1: switch the device off and on after modifying the NTC/PTC probe (par. H00).

NOTE 2: check the power supply specified on the instrument label; for relay and power supply capacities, contact the Sales Office.

NOTE: The technical data included in this document, related to measurement (range, accuracy, resolution, etc.) refer to the instrument itself, and not to its equipment such as, for example, sensors. This means, for example, that sensor(s) error(s) shall be added to the instrument's one.

‘ADVANCE’ MENU PARAMETERS TABLE

PAR.	DESCRIPTION
SEt	Temperature SEtpoint.
COMPRESSOR (folder with ‘CP’ label)	
diF	diFferential. Relay compressor tripping differential. The compressor stops on reaching the Setpoint value (as indicated by the adjustment probe), and restarts at temperature value equal to the Setpoint plus the value of the differential. Note: the value 0 cannot be assumed.
HSE	Higher SEt. Maximum possible setpoint value.
LSE	Lower SEt. Minimum possible setpoint value.
OSP	Offset Set Point. Temperature Value to be added to the Set-Point if reduced set is enabled (Economy function).
dOd	digital (input) Open door. Digital input that allow you to switch off loads. Valid if H11 = ± 4 (door switch). n = does not switch off loads; y = switch off loads.
Ont	ON time (compressor). Compressor activation time in the event of faulty probe. If set to “1” with OFt=0 the compressor always remain on whereas if OFt>0 it operates in duty cycle mode.
OFt	OFF time (compressor). Compressor deactivation time in the event of faulty probe. If set to “1” with Ont=0 the compressor always remain off whereas if Ont>0 it operates in duty cycle mode.
dOn	delay (at) On compressor. Delay time for compressor relay activation on call.
dOF	delay (after power) OFF. Delay after shut-down; between compressor relay shut-down and subsequent start-up the specified time must elapse.
dbi	delay between power-on. Delay between power-on. Delay between switch-ons; the specified time must elapse between two subsequent switch-ons.
OdO(!)	Delay in enabling outputs after start-up of instrument or after a power failure. 0 = not active.
DEFROST (folder with ‘dEF’ label)	
dty	defrost type. Type of defrosting. 0 = electric defrost - compressor off (OFF) during defrosting; 1 = reverse cycle defrost (hot gas); compressor on (ON) during defrosting; 2 = Free defrost; defrosting independently from compressor.

PAR.	DESCRIPTION
dit	defrost interval time. Period of time elapsing between the start of two defrosts.
dCt	defrost Counting type. Selection of defrosting time count mode. 0 = compressor operating hours (DIGIFROST® method); Defrost activated ONLY with compressor on; 1 = Real Time - equipment operating hours; counting of the defrost cycle is always activated with the machine on and at every start-up; 2 = compressor stop. Each time the compressor stops a defrosting cycle is performed according to parameter dtY.
dOH	defrost Offset Hour. Delay time for start up of defrost on call.
dEt	defrost Endurance time. Defrosting time-out; determines maximum duration of defrosting.
dSt	defrost Stop temperature. Defrost stop temperature (defined by evaporator probe).
dPO	defrost (at) Power On. Determines if at start-up the instrument must start defrosting. y = yes; n = no
FANs (folder with 'FAn' label)	
FSt	Fan Stop temperature. Fan shutdown temperature; a value read by evaporator probe over the set value causes fans stopping.
FAd	FAn differential. Fans activation intervention differential (see section "FSt").
Fdt	Fan delay time. Delay before fans activation after defrosting.
dt	drainage time. Dripping time.
dFd	defrost Fan disable. Permit selection or not of evaporator fans disable during defrost. y = yes (fans disable); n = no.
FCO	Permit selection or not of fan shutdown with compressor OFF. y = fans on (thermostats; based on the value read by the defrost probe, see parameter "FSt"); n = fans off; dc = not used;
Fod	Fan open door. Fans active when the door is open. Allows you to select the option of stopping the fans when the door is open, and r-starting the fans when the door is closed (if they were active). n = fans stop; y = fans unchanged.
ALARMS (folder with 'AL' label)	
Att	Allow you to select if the parameters HAL and LAL will have absolute (Att=0) or relative (Att=1) value.

PAR.	DESCRIPTION
AFd	Alarm Fan differential. Alarm differential.
HAL	Higher ALarm. Maximum temperature alarm. Temperature value (in relative value) which if exceeded in an upward direction triggers the activation of the alarm signal.
LAL	Lower ALarm. Minimum temperature alarm. Temperature value (in relative value), which if exceeded in a downward direction triggers the activation of the alarm signal.
PAO	Power-on Alarm Override. Alarm exclusion time after instrument switch on, after a power failure.
dAO	defrost Alarm Override. Temperature alarm exclusion time after defrost.
OAO	Alarm signal delay after disabling the digital input (door closed). Alarm is intended as high and low temperature alarms.
tdO	time out door Open. Open door alarm activation delay time.
tAO	temperature Alarm Override. Temperature alarm signal delay time.
EAL	External Alarm Clock. An external alarm (D.I.) locks loads (n = don't lock loads; y = lock loads).
DISPLAY (folder with 'diS' label)	
LOC	LOCK. Basic Commands edit lock. However, you can enter parameter programming modify them along with the status of this parameter in order to allow unlocking. y = yes; n = no.
PS1	PASsword 1. When enabled (value $\neq$ 0) it constitutes the access key for the 'LIGHT' menu parameters.
PS2	PASsword 2. When enabled (value $\neq$ 0) it constitutes the access key for the 'ADVANCE' menu parameters.
ndt	number display type. Display with decimal point. y = yes; n = no.
CA1	CALibration 1. Positive or negative temperature value added to the value read by probe Pb1.
CA2	CALibration 2. Positive or negative temperature value added to the value read by probe Pb2.
ddl	defrost display Lock. Visualization mode during defrosting. 0 = display the temperature read by the cold room probe; 1 = locks the reading on the temperature value read by room 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.

PAR.	DESCRIPTION
dro	display read-out. Select °C or °F for displaying the temperature read by probe (0=°C, 1=°F). PLEASE NOTE: the switch between °C and °F DO NOT modify setpoint, differential, etc. (for example set=10°C become 10°F)
CONFIGURATION (folder with 'CnF' label)	
H00 (!)	Probe type selection, PTC (Default) or NTC. 0 = PTC; 1 = NTC.
H08	Stand-by operating mode. 0 = display switch off; 1 = display switch off, loads and alarms stopped; 2 = display with OFF label, loads and alarms stopped.
H11	Configurability digital input/polarity. 0 = disabled; ±1 = defrosting; ±2 = reduced set; ±3 = not used; ±4 = door switch; ±5 = external alarm; ±6 = Stand-by (ON-OFF). NOTE: The "+" sign indicates that the input is activated when the contact is closed. The "-" sign indicates that the input is activated when the contact is open.
H25	Enabled/Disabled the buzzer (It depends from the model). 0 = Disabled; 4 = Enabled; 1-2-3-5-6 = not used.
H42	Evaporator probe presence. n = not present; y = present.
reL	reLease firmware. Device version: Read only parameter.
tAb	tAbLe of parameters. Reserved: read only parameter.
COPY CARD (folder with 'Fpr' folder)	
UL	Up load. Programming parameter transfer from instrument to Copy Card.
Fr	Format. Copy Card formatting. Erasing all data in the copy card. NOTE: L'uso del parametro "Fr" comporta la perdita definitiva dei dati inseriti. L'operazione non è annullabile.

NOTE: If one or more of these parameters highlighted with (!) are modified, the controller MUST be switched off and switched on to ensure correct operation.

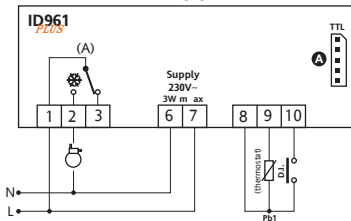
“ADVANCE” MENU PARAMETERS VALUE

	PAR.	DESCRIPTION	RANGE	ID961	ID971	ID974	U.M.
CP	SEt	Temperature SEtpoint	-50,0 ... +99,0	0,0	0,0	0,0	°C/°F
	diF	Relay compressor tripping differential	+0,1 ... +30,0	2,0	2,0	2,0	°C/°F
	HSE	Maximum possible setpoint value	LSE ... +302	99,0	99,0	99,0	°C/°F
	LSE	Minimum possible setpoint value	-58,0 ... HSE	-50,0	-50,0	-50,0	°C/°F
	OSP	Value to be added to the SEtPoint if reduced set is enable	-30,0 ... +30,0	0	0	0	°C/°F
	dOd	Digital input that allow you to switch off loads	n/y	n	n	n	flag
	Ont	Compressor activation time in the event of faulty probe	0 ... 250	0	0	0	min
	OFt	Compressor deactivation time in the event of faulty probe	0 ... 250	1	1	1	secs
	dOn	Delay time for compressor relay activation on call	0 ... 250	0	0	0	min
	dOF	Delay time after switch off	0 ... 250	0	0	0	min
	dbi	Delay time between two subsequent compressor switch-ons	0 ... 250	0	0	0	min
dEF	OdO	Delay in enabling outputs after start-up of instrument	0 ... 250	0	0	0	min
	dtY	Type of defrosting	0/1/2	---	0	0	num
	dit	Period of time elapsing between the start of two defrosts	0 ... 250	6	6	6	hours
	dCt	Selection of defrosting time count mode	0/1/2	1	1	1	num
	dOH	Delay time for start up of defrost on call	0 ... 59	0	0	0	min
	dEt	Defrosting time-out	1 ... 250	30	30	30	min
	dSt	Defrost stop temperature	-50,0 ... +150	---	6,0	6,0	°C/°F
FAN	dPO	Determines if at start-up the device must start defrosting	n/y	n	n	n	flag
	FSt	Fan shutdown temperature	-50,0 ... +150	---	---	2,0	°C/°F
	FAd	Fans activation intervention differential	1,0 ... +50,0	---	---	2,0	°C/°F
	Fdt	Delay before fans activation after defrosting	0 ... 250	---	---	0	min
	dt	Dripping time	0 ... 250	---	---	0	min
	dFd	Permit selection of evaporator fans disable during defrost	n/y	---	---	y	flag
	FCO	Permit selection of fan shutdown with compressor OFF	n/y/dc	---	---	n	num
	Fod	Fans active when the door is open	n/y	---	---	n	flag

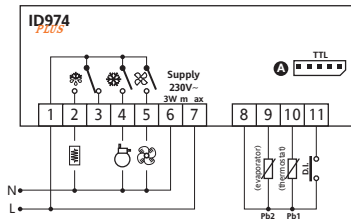
	PAR.	DESCRIPTION	RANGE	ID961	ID971	ID974	U.M.
AL	Att	Select if HAL and LAL will have absolute or relative value	0/1	1	1	1	flag
	AFd	Alarm differential	1,0 ... +50,0	2,0	2,0	2,0	°C/°F
	HAL	Maximum temperature alarm	LAL ... +150,0	50,0	50,0	50,0	°C/°F
	LAL	Minimum temperature alarm	-50,0 ... HAL	-50,0	-50,0	-50,0	°C/°F
	PAO	Alarm exclusion time after instrument switch on	0 ... 10	0	0	0	hours
	dAO	Temperature alarm exclusion time after defrost	0 ... 999	0	0	0	min
	OAO	Alarm signalling delay after D.I. disabling	0 ... 10	0	0	0	hours
	tdO	Alarm activation delay time open door	0 ... 250	0	0	0	min
	tAO	Temperature alarm signal delay time	0 ... 250	0	0	0	min
dis	EAL	An External alarm locks loads	n/y	n	n	n	flag
	LOC	Set Point edit lock	n/y	n	n	n	flag
	PS1	PAssword1 for access to the 'LIGHT' menu parameters	0 ... 250	0	0	0	num
	PS2	PAssword2 for access to the 'ADVANCE' menu parameters	0 ... 250	0	0	0	num
	ndt	Display with decimal point	n/y	y	y	y	flag
	CA1	Calibration1. Value to added to the value read by probe Pb1	-12,0 ... +12,0	0,0	0,0	0,0	°C/°F
	CA2	Calibration2. Value to added to the value read by probe Pb2	-12,0 ... +12,0	---	0,0	0,0	°C/°F
	ddl	Visualization mode during defrosting	0/1/2	1	1	1	num
	dro	Select °C or °F for displaying the temperature read	0/1	0	0	0	flag
CnF	H00	Probe type selection (0 = PTC; 1 = NTC)	0/1	0	0	0	flag
	H08	Stand-by operating mode	0/1/2	2	2	2	num
	H11	Configuration digital input/polarity	-6 ... +6	0	0	0	num
	H25	Enabled/Disabled the buzzer (if present)	0 ... 6	---	---	4	num
	H42	Evaporator probe presence (y = yes; n = no)	n/y	---	y	y	flag
	rEL	reLease firmware. Device version	/	/	/	/	/
	tAb	tAble of parameters	/	/	/	/	/
FPr	UL	Parameters transfer from instrument to Copy Card	/	/	/	/	/
	Fr	CopyCard formatting (Operation CANNOT BE CANCELLED)	/	/	/	/	/

CONNECTIONS

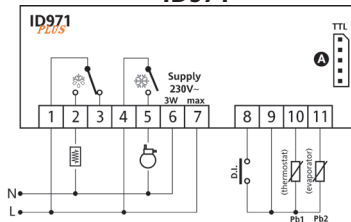
ID961



ID974



ID971



TERMINALS



defrost relay



compressor relay



fan relay

N-L Power Supply

A TTL input



TECHNICAL DATA

Mechanical Characteristics

Front protection:	IP65.
Housing:	PC+ABS UL94 V-0 resin plastic casing, polycarbonate glass, thermoplastic resin keys
Dimensions:	front 74x32 mm, depth 59 mm. (excluding terminals)
Mounting:	panel mounting with 71x29 mm (+0.2/-0.1 mm) drilling template.
Terminals:	screw terminal for cable with a diameter of 2,5mm ²
Serial:	TTL for connection to Copy Card
Temperature:	Operating: -5 ... +55 °C - Storage: -30 ... +85 °C
Humidity:	Operating / Storage: 10...90 % RH (not condensing)

Electrical Characteristics

Power Supply:	230V~ (+10% / -15%) 50/60 Hz - Consumption: 3W max
Display range:	NTC: -50.0°C ... +110°C; PTC: -55.0°C ... +140°C (on display with 3 digits + sign)
Accuracy:	Better than 0.5% of full-scale +1 digit.
Resolution:	0,1 °C
Buzzer:	YES (it depends from the model)
Analogue Input:	ID961: 1 NTC / PTC (Default) input (programmable by parameter H00) ID971 & ID974: 2 NTC / PTC (Default) input (programmable by parameter H00)
Digital Input:	1 voltage-free digital input
Digital Output	ID961: 1 Compressor relay: IEC 60730-1 15(2)A max 250V~ UL60730 1 Hp (8FLA - 48LRA) max 240V~ ID971: 1 Defrost relay: N.O. 8(3)A - N.C. 6(3)A max 250V~ 1 Compressor relay: IEC 60730-1 15(2)A max 250V~ UL60730 1 Hp (8FLA - 48LRA) max 240V~ ID974: 1 Defrost relay: N.O. 8(3)A - N.C. 6(3)A max 250V~ 1 Compressor relay: IEC 60730-1 8(3)A max 250V~ UL60730 1/2 Hp (5FLA - 29LRA) max 240V~ 1 Fan relay: 5(2)A max 250V~