ID 975 LX

electronic controllers for “forced air” refrigeration units

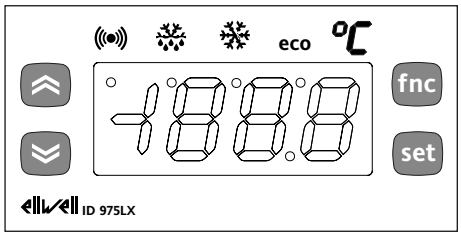
GB
cod. 9IS42054
rel. 4/05

USER INTERFACE

The user has a display and four keys for controlling status and programming of the instrument.

KEYS AND MENUS

UP key		Scrolls through the menu items Increases the values Activates manual def. function (see parameter H31)
DOWN key		Scrolls through the menu items Decreases the values Programmable by parameter (see parameter H32)
fnc key		ESC function (exit) Programmable by parameter (see parameter H33)
set key		Accesses the setpoint Accesses the menus Confirms the commands Displaying the alarms (if present)



ACCESSING AND USING MENUS

Resources are arranged in a menu, which can be accessed by pressing and quickly releasing the “set” key (“Machine Status” menu) or by holding down the “set” key for more than 5 seconds (“Programming” menu).
To access the contents of each folder, indicated by the relevant label, just press the “set” key once.
You can now scroll through the contents of each folder, modify it or use its functions.
If you do not use the keyboard for over 15 seconds (time-out) or if you press the “fnc” key once, the last value shown on the display is confirmed and you return to the previous view.

LED

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; blinking in case of manual enabling
((•))	Alarm	ON when the alarm is enabled; blinking when the alarm is silenced
	Fans	ON when the fan is working

MACHINE STATUS MENU
(See Machine Status Menu Diagram)

To access the “Machine Status” menu Press and quickly release the “set” key.
If alarms are not present, the label “SEt” appears. By using the “UP” and “DOWN” keys you can scroll through the other folders in the menu:
-AL: alarm folder (if alarms present, except for faulty probe(s)/probe(s) error(s);
-Pb1: probe 1 value folder;
-Pb2: probe 2 value folder - if present (parameter H42=y)
-SEt: Setpoint setting folder.

Set Setting

Access the “Machine Status” menu by pressing and quickly releasing the “set” key. The label of the “SEt” folder appears. To display the Setpoint value press the “set” key again.
The value appears on the display.
To change the Setpoint value, use the “UP” and “DOWN” keys within 15 seconds.
If the parameter is LOC = y the Setpoint cannot be changed.

Alarm on

If alarm condition exists, when accessing the “Machine Status” menu the “AL” folder label appears (see the “Diagnostics” section).

Displaying Probes

By pressing the “set” key when the appropriate label appears, the value of the probe associated to it is displayed.

PROGRAMMING MENU
(See Programming Menu Diagram)

1) Level 1 Parameters

To access the “Programming” menu, press the “set” key for more than 5 seconds. If specified, the level 1 access PASSWORD will be requested (see parameter “PA1”) and (if the password is correct) the label of the first folder will follow. If the password is wrong, the display will show the PA1 label again.
To scroll other folders, use the “UP” and “DOWN” keys; **the folders contain only the level 1 parameters.**

NOTE: At this point level 2 parameters are NOT visible, even if they aren’t protected by password.

2) Level 2 Parameters

In the Programming Menu go into the “CnF” folder, scroll all the parameter until you reach the PA2 label. By pressing and releasing the “set” button you will enter to level 2 parameters and the label of the first folder in the programming menu will follow.
The level 2 parameters may be protected by a second password (see “PA2” parameter inside “diS” folder, not to be confused with PA2 label inside “CnF” folder.
If specified, level 2 parameters are hidden to user; accessing the “CnF” folder the level 2 access PASSWORD will be requested and (if the correct password is entered) the label of the first folder in the programming menu will follow.

NOTE: At this point you will see only level 2 parameters.

Level 1 parameters will NOT be visible; to reach them you need to exit the Programming Menu and enter the Programming Menu section again (see step 1).
To enter the folder, press “set”. The label of the first visible parameter appears. To scroll through the other parameters, use the “UP” and “DOWN” keys; to change the parameter, press and release “set”, then set the desired value using the “UP” and “DOWN” keys, and confirm with the “set” key. Move to the next parameter.

PLEASE NOTE: It is suggested to switch-off and switch-on again the instrument everytime it is changed the configuration of the parameters: this prevents malfunctioning on regulation and delay time occuring.

PASSWORD

The passwords “PA1” and “PA2” allow access respectively to level 1 and level 2 parameters. In the standard configuration passwords are not present. To enable them (value ≠ 0) and assign them the desired value, access the “Programming” menu, within the folder with the “diS” label. If passwords are enabled, they will be requested:
- PA1 at the entrance of the “Programming” menu (see the “Programming Menu“ section);
- PA2 within the folder with the “Cnf” label containing level 1 parameters.

MANUAL ACTIVATION OF THE DEFROSTING CYCLE

To manually activate the defrosting cycle, press the "UP" key for 5 seconds.
If defrosting conditions are not present, (for example the evaporator probe temperature is higher than defrost stop temperature), the display will blink 3 times, in order to indicate that the operation will not be performed.

COPY CARD

The Copy Card is an accessory connected to the TTL serial port used forquick programming of the instrument parameters.
The operation is performed as follows:

Format (level 2)

This command allows copy card formatting, an operation recommended in case of first use.
Warning: if the copy card has been programmed, using the "Fr" the data entered are erased. This operation cannot be cancelled.

Upload

This operation loads the programming parameters from the instrument.

Download

This operation downloads to the instrument the programming parameters.

NOTE:

• UPLOAD: instrument --> Copy Card
• DOWNLOAD: Copy Card --> instrument.

The operations are performed by accessing the folder identified by the "FPr" label and selecting, according to the case, "UL", "dL" or "Fr" commands; the operation is confirmed by pressing the "set" key. If the operation is successful an "y" is displayed, on the contrary, if it fails a "n" will be displayed.

KEYBOARD LOCKING

The instrument includes a facility for disabling the keyboard, by programming the "Loc" parameter (see folder with "diS" label). If the keyboard is locked, you can still access the programming menu by pressing the "set" key.
The Setpoint can also be viewed.

DIAGNOSTICS

The alarm condition is always signalled by the buzzer (if present) and by the led of the alarm icon

The alarm signal produced by a faulty thermostat probe (referred to probe 1) is shown as E1 on the instrument display
The alarm signal produced by a faulty evaporator probe (probe 2) is shown as E2 on the instrument display.

Probe faults table

DISPLAY	FAULT
E1	Faulty probe 1 (thermostat) Faulty
E2	probe 2 (evaporator)

If simultaneous, they will be shown on the display alternately, every 2 seconds

The error condition of the probe 1 (thermostat) causes the following:
• viewing E1 code on the display
• activating compressor as indicated by "Ont" and "OFt" parameters:

Ont	OFt	Compressor output
0	0	OFF
0	>0	OFF
>0	0	ON
>0	>0	dc (duty cycle)

Other signalling alarm are not shown on the instrument display, but from the "Machine Status" menu within the "AL" folder.
The signals for maximum and minimum alarms do not appear on the instrument display but are viewable on the "Machine Status" menu in the "AL" folder, with the label "AH1" or "AL1".
The regulation of the maximum and minimum temperature alarm refers to the room probe. The temperature limits are defined by the parameters "HAL" (maximum alarm) and "LAL" (minimum alarm).

MINIMUM AND MAXIMUM TEMPERATURE ALARMS

Regulation of the minimum and maximum temperature alarms refers to the thermostat probe.
The temperature limits defined by the "HAL" (maximum temperature alarm) and "LAL" parameters (minimum temperature alarm) are as temperature absolute values or as differential compared to the Setpoint, depending on Att parameter.
When an alarm status occurs, if no alarm exclusion phases are underway (see alarm exclusion parameters), the alarm set icon is lit up and the buzzer, and/or the relay configured as an alarm, is activated. The occurrence of this alarm does not in anyway effect the control activities in progress. This alarm status can be viewed in the "AL" folder with AH1-AL1 labels.

DEFROST ALARM

If defrosting does not reach the end of cycle temperature but is terminated by a time out, the alarm controller is immediately activated. This condition can be viewed in the "AL" folder with the label "Ad2". Automatic back swing occurs when the next defrost starts. By pressing any key during the alarm condition, the signal light disappears. In order to really erase the alarm you must wait for the next defrost.

DISPLAY	ALARM
AH1	High temperature alarm (referred to the thermostat probe or probe 1)
AL1	Low temperature alarm (referred to the thermostat probe or probe 1)
Ad2	End of defrost due to time-out

To silence alarms press any key.
Alarms are in absolute value or related to Setpoint (considered as the distance from the Setpoint itself) depending on Att parameter.

INSTALLATION

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 colling slits.

ELECTRICAL WIRING

Attention! Never work on electrical connections when the machine is switched on.
The instrument is equipped with screw terminal boards for connection of electrical cables with a diameter of 2.5 mm^2 (one conductor only per terminal for power connections).
For the capacity of the terminals, see the label on the instrument.
The relay contacts 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.
The power supply must be provided by a security transformer with the protection of a delayed 250 mA fuse.
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 by independent mounting;
• 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

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 & Controlli S.r.L. 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;

TECHNICAL DATA

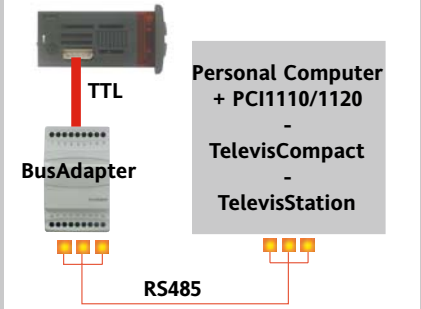
Frontal panel protection: IP65.
Casing: plastic body in resin type PC+ABS UL94 V-0, inspection window in polycarbonate, buttons in thermoplastic resin.
Dimensions: frontal panel 74x32 mm, depth 60 mm.
Installation: on panel, with drilling template 71x29 mm (+0.2/–0.1 mm).
Use temperature: –5...55 °C.
Storage temperature.: –30...85 °C.
Use environment humidity: 10...90 % RH (not condensing).
Storage environment humidity: 10...90% RH (not condensing).
Viewing range: –50...110 (NTC); –55...140 (PTC) °C without decimal point (selectable through parameter) on 3 digit & $^1/_2$ + mark display.
Analog inputs: two PTC or NTC inputs (programmable by parameter).
Serial: TTL for connection to Copy Card or Televis system.
Digital outputs: 4 relay contacts:
(A), (B): SPST 8(3)A 250V~,
(C), (D): SPST 5(2)A 250V~.
Measuring range: from –55 to 140 °C.
Accuracy: 0.5% better than end scale + 1 digit.
Resolution: 1 or 0.1 °C.
Power: 3 VA.
Power supply: 12 V~/⎓.

The technical characteristics in this document concerning measurements (range, accuracy, resolution, etc.) refer to the instrument in the strictest sense and not to any accessories provided such as probes, for example. This means that an error introduced by the probe is added to any error that is in the instrument.

Televis**System**

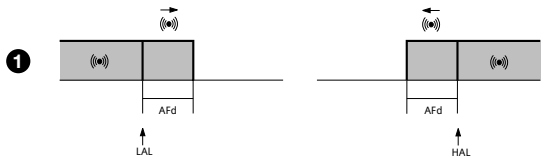
BusAdapter130/150
TTL - RS-485 serial interface on DIN rail to connect the device
to a RS-485 network designed for the connection to a Televis supervision system.

PCInterface1110/1120
RS-232/RS-485 serial interface to connect a PC to several devices connected to a RS-485 network.
The BlueCard activation module with Eliwell software license must be plugged into the special slot.

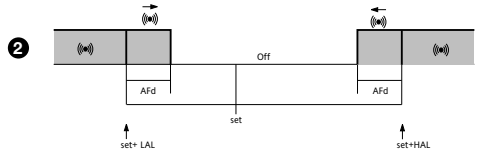


MAX/MIN ALARM DIAGRAM

Temperature expressed as an absolute value (par "Att0) Abs(olute)



Temperature expressed in relation to set point (par "Att"=0) reL(ative)



Minimum temperature alarm	Temperature lower than or equal to LAL (LAL with sign)	Temperature lower than or equal to set point+LAL (set-|LAL|) (LAL only negative)
Maximum temperature alarm	Temperature higher than or equal to HAL (HAL with sign)	Temperature higher than or equal to set point+HAL (HAL only positive)
Minimum temperature alarm back swing	Temperature higher than or equal to LAL+AFd	Temperature higher than or equal to set point + LAL + AFd set point -|LAL|+AFd
Maximum temperature alarm back swing	Temperature lower than or equal to HAL-AFd	Temperature lower than or equal to set point+HAL-AFd

if Att=reL(ative) LAL must be negative: therefore set point+LAL<set point because set point+(-\|LAL\|)=set point-\|LAL\|

Tab. 1 Parameter Table

****NOTE: At level 1 the folders will show only level 1 parameters. At level 2 the folders will show only level 2 parameters.**

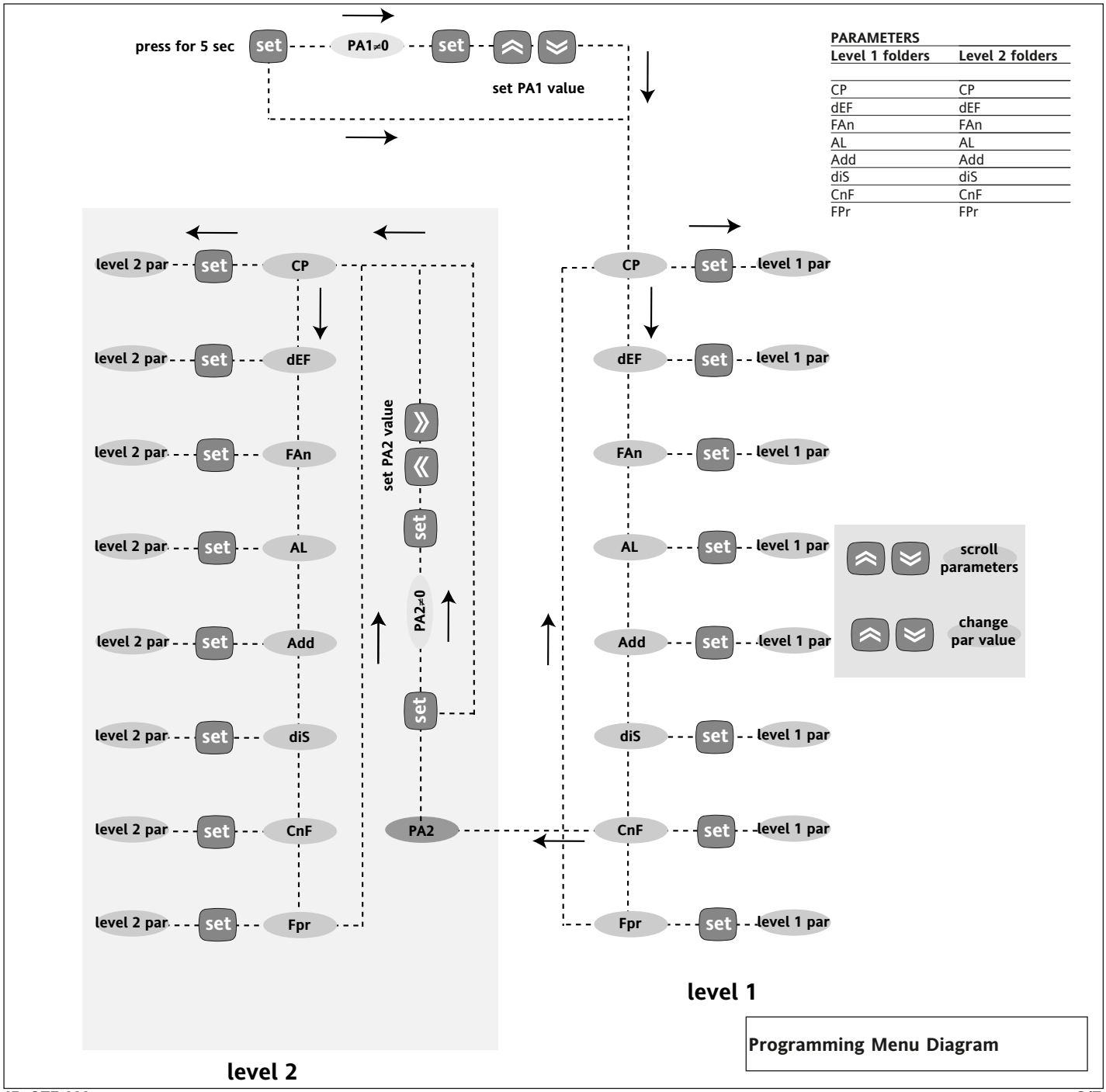
	PAR.	DESCRIPTION	RANGE	DEFAULT	VALUE*	LEVEL**	U.M.
CP		**COMPRESSOR REGULATOR (folder with "CP" label)**					
	diF	diFferential. Relay compressor tripping differential. The compressor stops on reaching the Setpoint value (as indicated by the adjustment probe), and restarts at temperature value equal to the Setpoint plus the value of the differential. Note: the value 0 cannot be assumed.	0.1...30.0	2.0		1	°C/°F
	HSE	Higher SEt. Maximum possible setpoint value.	LSE..302	99.0		1	°C/°F
	LSE	Lower SEt. Minimum possible setpoint value.	-55.0...HSE	-50.0		1	°C/°F
	OSP	Offset Setpoint: temperature value to be added algebraically to the setpoint in the case of reduced set enabled (Economy function). It can be activated through a key configured for such use.	-30.0...30.0	0		**2**	°C/°F
	Cit	Compressor min on time. Minimum compressor activation time before any possible disabling. If set at 0 it is not active	0...250	0		**2**	min
	CAt	Compressor mAx on time. Maximum compressor activation time before any possible disabling. If set at 0 it is not active	0...250	0		**2**	min
		COMPRESSOR PROTECTIVE DEVICE (folder with "CP" label)					
	Ont (1)	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. **See Duty Cycle table**	0...250	0		1	min
	OFt (1)	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. **See Duty Cycle table**	0...250	1		1	min
	dOn	delay (at) On compressor. Delay time in activating the compressor relay after switch-on of instrument	0...250	0		1	sec
	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		1	min
	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		1	min
	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		1	min
dEF		**DEFROSTING REGULATOR (folder with "dEF" label)**					
	dty	defrost type. Type of defrosting. 0 = electric defrost; 1 = reverse cycle defrost (hot gas); 2 = Free defrost (compressor independent).	0/1/2	0		1	num
	dit	defrost interval time. Interval between the start of two successive defrosting operations.	0...250	6h		1	hours
	dt1	defrost time 1. Measure unit for defrosting intervals ("dit" parameter). 0 = "dit" parameter in hours; 1 = "dit" parameter in minutes; 2 = "dit" parameter in seconds.	0/1/2	0		**2**	num
	dt2	defrost time 2. Measure unit for defrosting duration ("dEt" parameter). 0 = "dEt" parameter in hours; 1 = "dEt" parameter in minutes; 2 = "dEt" parameter in seconds.	0/1/2	1		**2**	flag
	dCt	defrost Counting type. Selection of count mode for the defrosting interval. 0 = compressor operating hours (DIGIFROST® method); 1 = appliance operating time; 2 = compressor stop.	0/1/2	1		1	flag
	dOH	defrost Offset Hour. Start-of-defrosting delay time - to be added to dit	0...59	0		1	min
	dEt	defrost Endurance time. Defrosting time-out; determines duration of defrosting.	1...250	30min		1	min
	dSt	defrost Stop temperature. Defrost stop temperature (defined by the evaporator probe).	-50.0... 150	8.0		1	°C/°F
	dPO	defrost (at) Power On. Determines if at the start-up the instrument must enter defrosting y = yes; n = no.	n/y	n		1	flag
	tcd	time compressor for defrost. Minimum time for compressor On or OFF before defrost. Negative values: compressor must be OFF for the time set by tcd (before defrost) Positive values : compressor must be ON for the time set by tcd (before defrost)	-31...31	0		**2**	min
	Cod	Compressor off (before defrost). Time for compressor OFF in proximity of the defrost cycle. If a defrost cycle is set within the programmed time for this parameter, the compressor is not started up.	0...60	0		**2**	min
FAn		**FAN REGULATOR (folder with "FAn" label)**					
	FPt	Fan Parameter type. "FSt" parameter mode. It can be displayed as temperature absolute value or as value related to Setpoint. 0 = absolute; 1 = relative.	0/1	0		**2**	flag
	FSt	Fan Stop temperature. Fan lock temperature; if the value, read by the evaporator probe, is higher than the set value, fans stop.	-50.0..150.0	2.0		1	°C/°F
	Fot	Fan on-start temperature. Fan starting temperature; if the temperature read by the evaporator is lower than the value set for this parameter, fans stay still.	-50.0..150.0	-50.0		1	°C/°F
	FAd	Fan differential. Fan starting differential (see par. "FSt" and "Fot").	1.0...50.0	2.0		1	°C/°F
	Fdt	Fan delay time. Delay time in activating fans after a defrost operation.	0...250	0		1	min
	dt	drainage time. Dripping time.	0...250	0		1	min
	dFd	defrost Fan disable. Allows to select the evaporator probes exclusion during defrost. y = yes; n = no.	n/y	y		1	flag
	FCO	Fan Compressor OFF. Allows to select compressor fans lock OFF (switched off). y = fans activated (with thermostat; based on the value read by the defrost probe, see parameter "FSt"); n = fans off; dc = duty cycle (by parameters "Fon" and "FoF").	n/y/dc	y		1	num
	FdC	Fan delay Compressor off. Fan stop delay time after compressor stop.	0..99	0		**2**	min

PAR.	DESCRIPTION	RANGE	DEFAULT	VALUE*	LEVEL**	U.M.
Fon	Fan oFF (in duty cycle). Fan OFF time due to duty cycle Fan use with duty cycle mode; valid for FCO = dc	0..99	0		1	min
FoF	Fan oFF (in duty cycle). Fan OFF time due to duty cycle Fan use with duty cycle mode; valid for FCO = dc	0..99	0		1	min
	ALARMS (folder with "AL" label)					
Att	Alarm type. Parameter "HAL" and "LAL" modes, as temperature absolute values or as differential compared to the Setpoint. 0 = absolute value; 1 = relative value.	0/1	0		**2**	flag
AFd	Alarm differential. Alarm differential.	1.0...50.0	2.0		1	°C/°F
HAL	High ALarm. Maximum temperature alarm. Temperature value (absolute or related to Setpoint depending on Att parameter) which if exceeded in an upward direction triggers the activation of the alarm signal. **See Max/Min. Alarm Diagram;**	LAL...150.0	50.0		1	°C/°F
LAL	Low ALarm. Minimum temperature alarm. Temperature value(absolute or related to Setpoint depending on Att parameter), which if exceeded in a downward direction, triggers the activation of the alarm signal. **See Max/Min. Alarm Diagram.**	-50.0...HAL	-50.0		1	°C/°F
PAO	Power-on Alarm Override. Alarm exclusion time after instrument switch on, after a power failure.	0...10	0		1	hours
dAO	defrost Alarm Override. Alarm exclusion time after defrost.	0..999	0		1	min
tAO	temperature Alarm Override. Temperature alarm signal delay time.	0...250	0		1	min
dAt	defrost Alarm time. Alarm for defrost end due to time-out. n = does not enable alarm; y = enables alarm.	n/y	n		**2**	flag
AOP	Alarm Output Polarity. Polarity of alarm output. 0 = alarm activated and output disabled; 1 = alarm activated and output enabled.	0/1	1		**2**	flag
	COMUNICATION (folder with label "Add")					
dEA	dEA= device number within the family (valid values: from 0 to 14)	0...14	0		1	num
FAA	FAA= device family (valid values: from 0 to 14) The value couple FAA and dEA represents the network address of the device and it is indicated in the following way: "FF.DD" (where FF=FAA and DD=dEA).	0...14	0		1	num
	DISPLAY (folder with "diS" label)					
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	n/y	n		1	flag
PA1	PAssword 1. When enabled (value other than 0) it constitutes the access key for level 1 parameters.	0...250	0		1	num
PA2***	PAssword 2. When enabled (value other than 0) it constitutes the access key for level 2 parameters.	0...255	0		**2**	num
ndt	number display type. View with decimal point. y = yes; n = no	n/y	y		1	flag
CA1	Calibration 1. Positive or negative temperature value added to the value read by probe 1, based on "CA" parameter settings.	-12.0...12.0	0		1	°C/°F
CA2	Calibration 2. Positive or negative temperature value added to the value read by probe 2, based on "CA" parameter settings.	-12.0...12.0	0		1	°C/°F
CA	CAlibration Intervention. Intervention on view offset, thermostat offset or both. 0 = modifies the temperature displayed only; 1 = modifies the temperature used by regulators, not the temperature displayed, which stays unchanged. 2 = modifies the temperature displayed that is also used by regulators.	0/1/2	2		**2**	num
LdL	Low display Label. Minimum value the instrument is able to display.	-55.0...302	-55.0		**2**	°C/°F
HdL	High display Label. Maximum value the instrument is able to display.	-55.0..302	140.0		**2**	°C/°F
ddL	defrost display Lock. Viewing mode during defrosting. 0 = shows the temperature read by the thermostat probe; 1 = locks the reading on the temperature value read by thermostat 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.	0/1/2	1		1	flag
dro	display read-out. **Select °C or °F for displaying the temperature read by the 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).**	0/1	0		1	flag
ddd	Selection of the value type to be shown on the display. 0 = Setpoint; 1 = probe 1; 2 = probe 2.	0/1/2	1		**2**	num
	CONFIGURATION (folder with "CnF" label)					
H00	Probe type selection, PTC or NTC. 0 = PTC; 1 = NTC.	0/1	1		1	flag
H02	Time to enable keys, if these are configured for a specific function.	0...15	5		**2**	sec
H21	Configurability digital output (B) 0 = disabled; 1 = compressor; 2 = defrosting; 3 = fans; 4 = alarm; 5 = auxiliary.	0...5	1		**2**	num
H22	Configurability digital output (A) Same as H21.	0...5	2		**2**	num
H23	Configurability digital output (C) Same as H21	0...5	3		**2**	num
H24	Configurability digital output (D) Same as H21	0...5	4		**2**	num
H31	Configurability UP key 0 = disabled; 1 = defrosting; 2 = auxiliary; 3 = reduced set (economy).	0...3	1		**2**	num
H32	Configurability DOWN key 0 = disabled; 1 = defrosting; 2 = auxiliary; 3 = reduced set (economy).	0...3	0		**2**	num

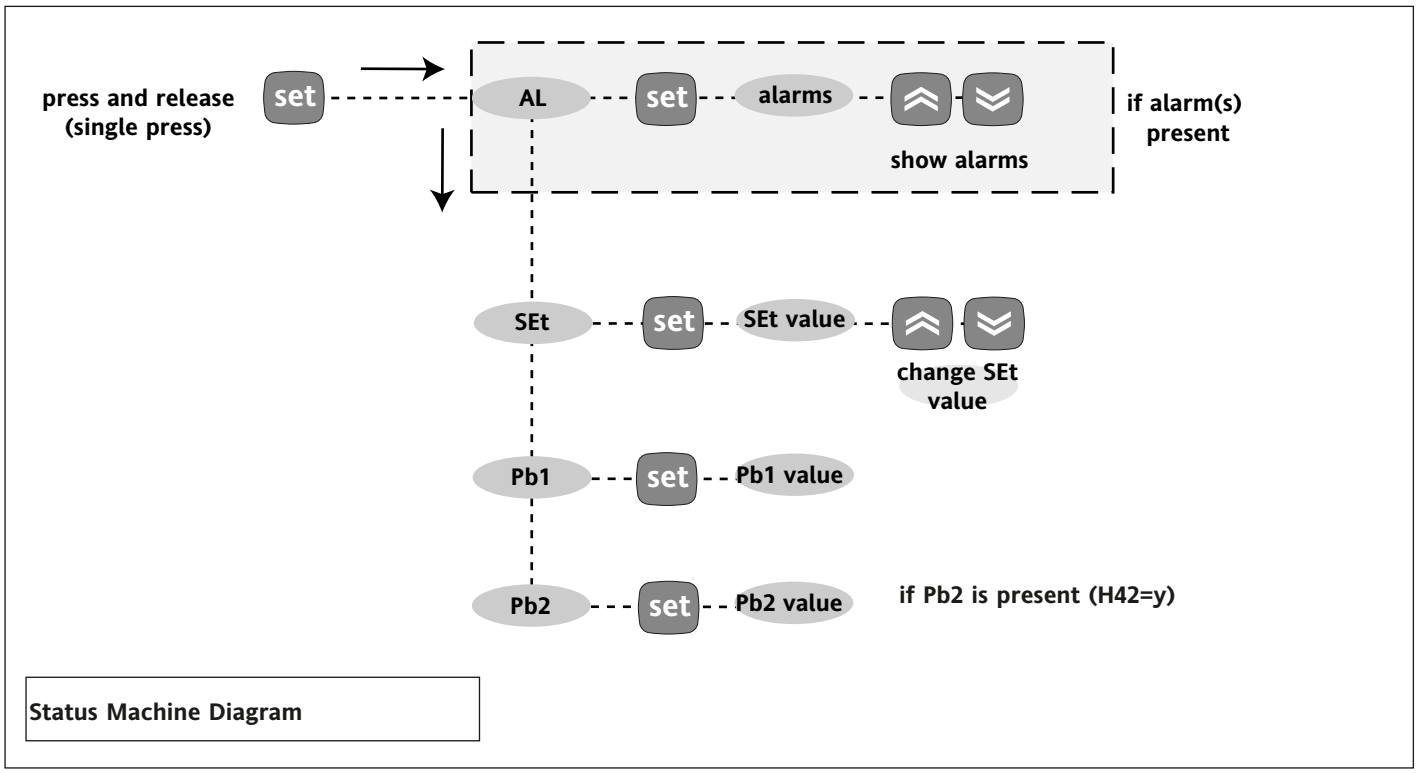
PAR.	DESCRIPTION	RANGE	DEFAULT	VALUE*	LEVEL**	U.M.
CnF						
H33	Configurability fnc key (ESC function) 0 = disabled; 1 = defrosting; 2 = auxiliary; 3 = reduced set (economy).	0...3	0		**2**	num
H41	Regulating probe present.	n/y	y		**2**	flag
H42	Evaporator probe present.	n/y	y		1	flag
rEL	reLease firmware. Device version: read only parameter.	/	/		1	/
tAb	tAble of parameters. Reserved: read only parameter.	/	/		1	/
	label PA2 **Inside CnF folder it is possible to reach all level 2 parameters from label PA2 by pressing the "set" button** **SEE 2) level 2 Parameters paragraph**					
Fpr						
	COPY CARD (folder with "Fpr"label)					
UL	Up load. Programming parameter transfer from instrument to Copy Card.	/	/		1	/
dL	Down load. Programming parameter transfer from Copy Card to instrument	/	/		1	/
Fr	Format. Erasing all data in the copy card.	/	/		**2**	/
	PLEASE NOTE : using "Fr" parameter (copy card formatting) the data within the copy card will be lost permenently. The operation cannot be cancelled.					

(1) See Duty Cycle Diagram
* VALUE column: to be filled manually, with customized settings (if different from the default value).
** LEVEL column: indicates the level of visibility of parameters accessible by PASSWORD (see the related paragraph)
*** PA2 is visible (it will be required, if necessary) at level 1 and can be set (editable) at level 2

(!) WARNING!
• If one or more of these parameters highlighted with (!) are modified, teh controlller must be switched off and switched on again to ensure correct operation.
• It is strongly recommended, anyway to switch off and switch on again the controller anytime parameters have been changed to prevent malfunctioning on configuration and/or ongoing timings.



Programming Menu Diagram



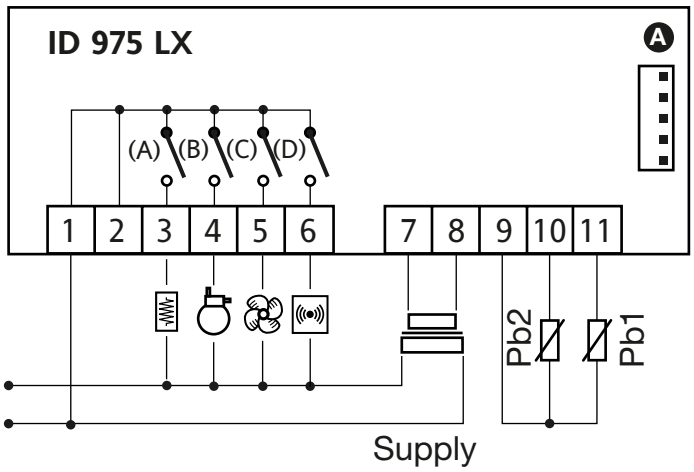
Status Machine Diagram

Wiring diagram

TERMINALS

1 - 2	Common relay contact (A)-(B)-(C)-(D) **15A max.**
3	Defrost relay output (A) configurable (see par. H22)
4	Compressor relay output (B) configurable (see par. H21)
5	Fan relay output (C) configurable (see par. H23)
6	Auxiliary or alarm relay output (D) configurable (see par. H24)
7 - 8	Power supply 12V~/⎓
9 - 10	Probe 2 input (evaporator) **Pb2**
9 - 11	Probe 1 input (thermostat) **Pb1**
A	TTL input for Copy Card and connection to Televis system

NOTE: Default user settings (see diagram below)



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