

5.00 OPERATING PARAMETERS

DISPLAY	MEANING	SETTING
SE1	Main set point	Limits between «LOS» & «HIS»
SI2	Set Point 2	Limits between «LOS» & «HIS»
HYS	Thermostat differential(Hysteresis)	Limits 0...10 °C
LoS	Minimum value for SET POINT parameter	Limits -50...154 °C
HiS	Maximum value for SET POINT parameter	Limits -50...154 °C
Act	Thermostat action cold/heat	0: cooling app 1: heating app
LoA	Low limit of operation of alarm temperature	Limits -50...154 °C
HiA	High limit of operation of alarm temperature	Limits -50...154 °C
Alr	Alarm mode of operation	0: disabled 1: enable HIT 2: enable LOT 3: enable HIT&LOT
OFS	Offset, temperature correction factor	Limits -10...+10 °C
dPt	Defrost pause time	Limits 1...99 Hrs
ddt	Defrost duration time	Limits 0...99 min
AcY	Anticycling time	Limits 0...254 sec
Adi	Alarm delay initialization	Limits 0...99 min
Dio	Digital input operation mode	0: disabled 1: switch to SI2 2: energy saving
Utd	Update time delay	0...60 s
Res	Resolution	0: decimal point 1: unit

NOTE:

When the parameter «ddt» is set to «0» the defrost management is disabled and the controller operates as a normal «thermostat»

6.00 ANOMALIES SIGNALING

MSG	CAUSE	OUTPUT
LOt	Measured temperature is lower than «LoA»	Do not change
HiT	Measured temperature is higher than «HiA»	Do not change
PrF	The probe input line is open or short circuited	Off

Seitron srl

36061 Bassano del Grappa (VI) - Via M. Prodocimo,30
Tel: +39 0424 567842
Fax: +39 0424 567849
web: www.seitron.it
e-mail: info@seitron.it

7.0 PARAMETERS DESCRIPTION

SET – Main Set Point: is the required value of temperature in the cell
SI2 – Set Point 2: it's the value that will be the new Set Point regulation (case of dio=1) or the value that will be added to the current Set Point regulation (case of dio=2)

HyS - differential hysteresis: The value that controls the compressor/heater operation, moving the value of the set point in such a way that the system do not oscillate.

LoS - low limit oper. of set point: a limit below of which is not possible to move the set point value.

HiS - high limit oper. of set point: a limit above of which is not possible to move the set point value.

Act - thermostat action : describes the way by which the controller manages the controlled variable. 0= direct action, good for refrigerating units, 1= inverse action, usable for boilers units

LoA - low operation point of alarm temperature: A limit below of which the system goes in alarm condition indicated by «LoT» displaying.

HiA - high operation point of alarm temperature: A limit above of which the system goes in alarm condition indicated by «HiT» displaying.

Alr - alarm mode of operation: the high and low temperature alarms can be enabled or disabled as required by installer. There are the following possibilities. 0= all alarms disabled, 1=only high temperature alarm enable, 2= only low temperature alarm enable, 3=high and low temperature alarms enabled.

OFS - offset of temperature: is the temperature added or subtracted to the temperature measured by the probe to compensate for any deviation from the real value.

dPt - defrost cycle pause: is the pause time during the defrost cycle.

ddt - defrost duration time: the time duration of the defrost. **Set ddt=0 to disable off cycle defrost.**

AcY - anticycling delay time: is the minimum time between two successive maneuvers ON (on -off -on cycle)

Adi - alarm delay initialization: delay between the power-up of the instrument and the arming of the alarms if enabled.

dio - digital input mode operation: if present, sets the digital input mode operation. **-NOT ENABLED**

utd - update time delay: it sets the time delay between two display refresh

rES - resolution: allows to display the measured value with decimal or unit resolution.



WARNING

- To adjust properly room temperature, install the thermostat far from heat sources, airstreams or particularly cold walls (thermal bridges).
- For remote version all wirings must be made using wires with 1,5 mm² minimum cross section and no longer than 25 m.
- The appliance must be wired to the electric mains through a switch capable of disconnecting all poles in compliance with the current safety standards and with a contact separation of at least 3 mm in all poles.
- Installation and electrical wirings of this appliance must be made by qualified technicians and in compliance with the current standards.
- Before wiring the appliance be sure to turn the mains power off.



User-friendly
ON-OFF Thermostat

__microline__ 2

1.0 GENERAL DESCRIPTION

The **Microline 2** is a low-cost controllers with OFF-Cycle defrost, specifically designed to control refrigerating static units operating at positive temperatures.

This type of controller is particularly indicated, either for the manufactures of economical refrigeration units or for contractors / end-installers. Applications spans to refrigerated cabinets, displays, wine show cases, bottle coolers, etc.

The **Microline 2** can support one input PTC type sensor, which can be located, if installed with properly shielded cable, up to 50m from the instrument without readjust. The device offers one relay output for compressor/heater control.

If used for cooling applications the instrument can perform automatic or manual OFF-CYCLE defrost.

Standard supply is 230 V-.

The Microline 2 controller can perform decimal point resolution in the range -9.9 .. +99.9°C and automatically switches to unit resolution out of this range.

3.00 INSTALLATION

3.10 GENERAL

The controller must be installed in a place protected from extreme vibration, impact, water, corrosive gases, and where temperatures and moisture do not exceed the maximum rating levels indicated in the specifications. The same directives are valid for probe installation.

3.11 THERMOSTAT PROBE

The probe must be installed in a place protected from direct air flow, particularly far from fans and doors, so the average temperature of the room will be measured. If the probe is not waterproof, place it with the head upward, so drops cannot penetrate into the bulb and damage the sensor. Maintain the length of the electrical wires short as possible in order to keep low the noise picked by them, otherwise you will need to use shielded conductor where the shield will be connected to ground.

3.12 ELECTRICAL WIRING

We recommend to protect the power supply of the controller from electrical noise, spikes, and specially from voltage surges a dips. This can be easily done following this recommendations:

-separate the power supply of the loads (compressor, heaters, fans, etc) from the power supply of the controller. This can alleviate problems related to voltage dips that can arise during the switch-on of the loads, that may interfere with the controller's microprocessor causing unexpected resets.

-the cables of the probes, and the ones of the controller supply or the loads must be separate and not close, to reduce spikes and noise on the sensor. This improves the stability of the readings, and also the precise commutation of the device.

3.13 CRITICAL ENVIRONMENT

For applications in heavy industrial environment the following rules could be valuable

-After identifying the source of noise/spikes try to apply a line filter for such source of the type specifically designed to solve EMC (Electromagnetic compatibility) related problems. Sometimes, may be sufficient an RC type filter, also called «snubber», connected in parallel to the external relays coils, or circuit breakers.

-Use an independent power supply to feed the device in extreme cases.

3.20 MOUNTING

The model treated is a «flush» panel mounted instrument. We recommend to leave on the rear panel enough room to avoid compression or excessive bending of the cables.

2.00 SPECIFICATIONS

DISPLAY: 3 digit, 12.5 mm, high intensity green

INPUT: one PTC sensor, semiconductor type, green selection

MEASURING RANGE: -50°C to 150°C

ACCURACY AT 25°C: +/-0.5°C, +/- 1 digit

RESOLUTION: +/- 0.1°C plus +/- 1 digit in the range -9.9 .. 99.9°C
+/- 1°C plus +/- 1 digit in the remaining parts of the measuring range

THERMOSTAT OUTPUT: 1 SPDT relay 250V~ 8A resistive

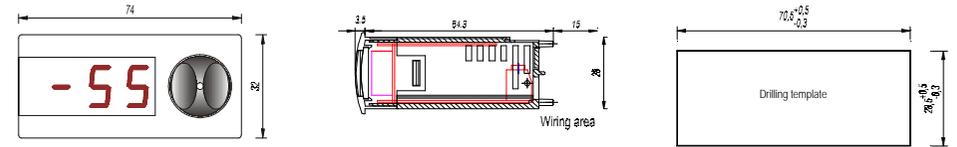
POWER SUPPLY: 230V~ +5% -10% (50/60 Hz)

ENVIRONMENTAL CONDITIONS:

- room temperature -5°C to 50°C
- storage temperature -20°C to 80°C
- relative humidity 30 .. 90% non condensing
- no shocks or vibrations

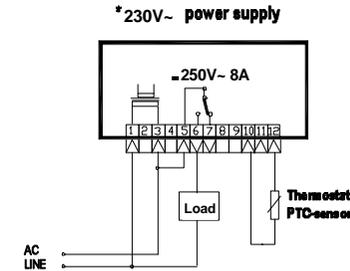
MECHANICAL DATA:

- rectangular hole panel mounting 70.5 x 28.5 mm
- plastic housing self extinguishing type UL94V0
- connections through terminal block for 4 mm² gauge wire.



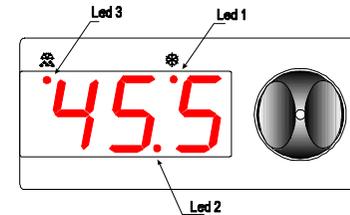
3.30 CONNECTIONS

We recommend to use wires of proper gauge, according to the power of the load; in any case do not exceed 4 mm² to avoid damage of the connector



4.00 FRONT PANEL FUNCTIONS

4.10 Front panel layout



4.20 DISPLAY FUNCTIONS

The display has three digits, seven segment type. During normal working it shows the value of the temperature, in alarm condition it shows the proper indication as per «anomalies signaling».

The first two ciphers have, also, an upper point (units and tenth), that light-up in the following conditions: the units point during the compressor/heater operation, the hundred point only when the defrost function is active.

4.30 HOW TO DISPLAY AND ADJUST THE MAIN SET POINT (code SEt) AND THE OTHER PARAMETERS

- 1) Push the knob in the middle and hold 3s (10s to enter in the main menu), SEt (HyS) is displayed
- 2) Push the knob to display the current value
- 3) Turn clockwise (anticlockwise) the knob to increase [or to scroll the menu] (decrease) the current value
- 4) Push the knob in the middle to confirm the data, the controller displays the code and after leaves the set mode and the data will be stored in EEprom memory.

WARNING: don't reset the instrument before leaving set mode, in this case the new settings will be lost.

4.40 HOW TO START/STOP MANUALLY A DEFROST CYCLE

Code dEF

- 1) Push the knob in the middle, SEt is displayed
- 2) Turn clockwise the knob, PSb and after dEF is displayed
- 3) Push the knob in the middle to start a defrost cycle, the controller leaves the menu and goes in defrost.

4.50 LOCK/UNLOCK KEYBOARD

Code PSb

- 1) Push the knob in the middle, SEt is displayed
- 2) Turn clockwise the knob, PSb is displayed
- 3) Push the knob in the middle, the controller displays: PoF (keyboard lock) or Pon (keyboard unlock) and leaves the menu.