

TPP-ML4 "Microline 4" Microline Digital Two Stage Controller

The TPP-ML4 (**Microline 4**) is a two independent stages electronic temperature regulator with decimal point resolution. The user can select the control action for each output. The measuring range is -50..+150 °C, std supply is 230 Vac, 50/60 Hz.

The **Microline 4** controller allows to display the measured temperature with decimal point resolution in the range -9.9..+99.9°C and switch to unit resolution in the remaining parts of the range automatically.

The setting values are stored in EEprom memory and the user can easy access to the parameters menu to set the instrument as he need. The controller allow to lock/unlock the access to the parameters menu to avoid wrong settings by unauthorized people.



Features

- 230Vac Power Supply
- Accurate Temperature Control
- Flying Lead Sensor Supplied
- Configuration via Keycodes

Model Type	Model	Description
	TPP-ML4	Microline 4 Panel Mounted Digital Two Stage On/Off Controller
Technical Data	Power Supply	230Vac -10/+5%
	Input	1 x Resistive PTC 1k Ohm (Flying Lead Sensor Supplied)
	Output	1 x 230Vac 8(1)A SPDT Relay 1 x 230Vac 5(1)A SPST Relay
	Operating Range	ML2 & ML4: -50..+150°C ML3: 0..10Vdc
	Measuring Range	-55°C to 168°C
	Display	3 Digits, 14.2mm, High Intensity Green Resolution +/-0.1°C within range -9.9..99.9°C, +/- 1°C plus +/- 1 digit in the remaining parts of the measuring range
	Accuracy	+/-0.5°C +/- 1 digit @ 25°C
	Ambient Temp	-5..+50°C
	Storage Temp	-20..+80°C
	Humidity Limits	30..90% rH non-condensing
	Housing	Plastic ULV-0 Rated
	Panel Cut-Out	W70.5 x H28.5 mm

If necessary, repeat from 2). In other way if you don't do any action (push or turn) the controller leaves the menu automatically.

Warning: do not switch off the instrument before exit to normal control function to avoid new setting loss.

HOW TO LOCK / UNLOCK THE KEYBOARD (Code PSb)

- 1) Push the knob and hold 3sec: displays SET
- 2) Turn the knob to display the code PSb
- 3) Push the knob: appear:

Pof if you are locking the keyboard

Pon if you are unlocking the keyboard

Note: the code dEF is not enabled: if you click the code nothing happen.

Operation Parameters

SEt - Set Point 1: it's the required value that determines the operation of the stage 1.

St2 - Set Point 2: it's the required value that determines the operation of the stage 2.

HyS - differential (hysteresis) 1: The value that controls the compressor/heater operation of the stage 1, moving the value of the set point in such a way that the system do not oscillate.

HyS - differential (hysteresis) 2: The value that controls the compressor/heater operation of the stage 2, 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 out 1: 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

Ac2 - Thermostat action out 2: 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 - Min temp. Alarm set point: it's a limit below of which the system goes in alarm condition indicated by 'LoT^a' displaying.

HiA - Max temp. Alarm set point: it's a limit above of which the system goes in alarm condition indicated by 'Hit^a' displaying.

Alr -Alarm mode: 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.

AcY - anticycling out 1: is the minimum time between two successive maneuvers ON (on - off ñ on cycle) of out 1

dl2 - anticycling out 2: is the minimum time between two successive maneuvers ON (on - off ñ on cycle) of out 2

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

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

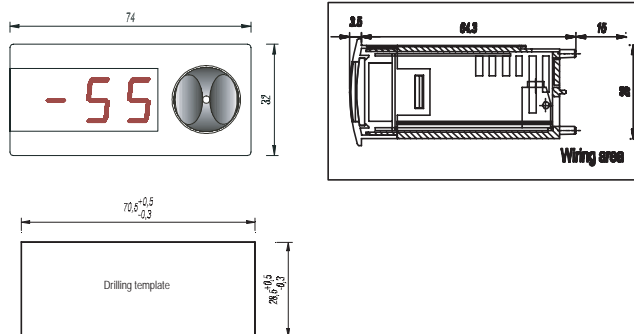
rES - resolution: allows to display the measured value with decimal or unit resolution.

DISPLAY	MEANING	SETTING
SEt	Set Point 1	Limits between «LoS» & «HiS»
St2	Set Point 2	Limits between «LoS» & «HiS»
HyS	Differential 1 (hysteresis)	Limits 0...10 °C
Hy2	Differential 2 (hysteresis)	Limits 0...10 °C
LoS	Lower Set Point limit	Limits -50...150 °C
HiS	Upper Set Point limit	Limits -50...150 °C
Act	Thermostat action out 1	0: cold 1: heat
Ac2	Thermostat action out 2	0: cold 1: heat
LoA	Min temperature Alarm set point	Limits -50...150 °C
HiA	Max temperature Alarm set point	Limits -50...150 °C
Alr	Alarm mode	0: not enaled 1: enabled HIT 2: enabled LOT 3: enable HIT&LOT
OFS	Temperature offset	Limits -10...10 °C
AcY	Anticycling out 1	Limits 0... 254 s
dl2	Anticycling out 2	Limits 0... 254 s
Adi	Alarm delay at start up	Limits 0... 99 min
utd	Display update delay	0...60 s
rES	Resolution	0: decimal point 1: unit

Error Messages

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

Dimensions



Notes: In the view of a constant development of their products, the manufacturer reserves the right for changing technical data and features without prior notice. The consumer is guaranteed against any lack of conformity for 24 months from the time of delivery, according to the European Directive 1999/44/EC. The full text of guarantee is available on request from the seller.