

USER MANUAL
EUROTHERM 2204^e
for TM series



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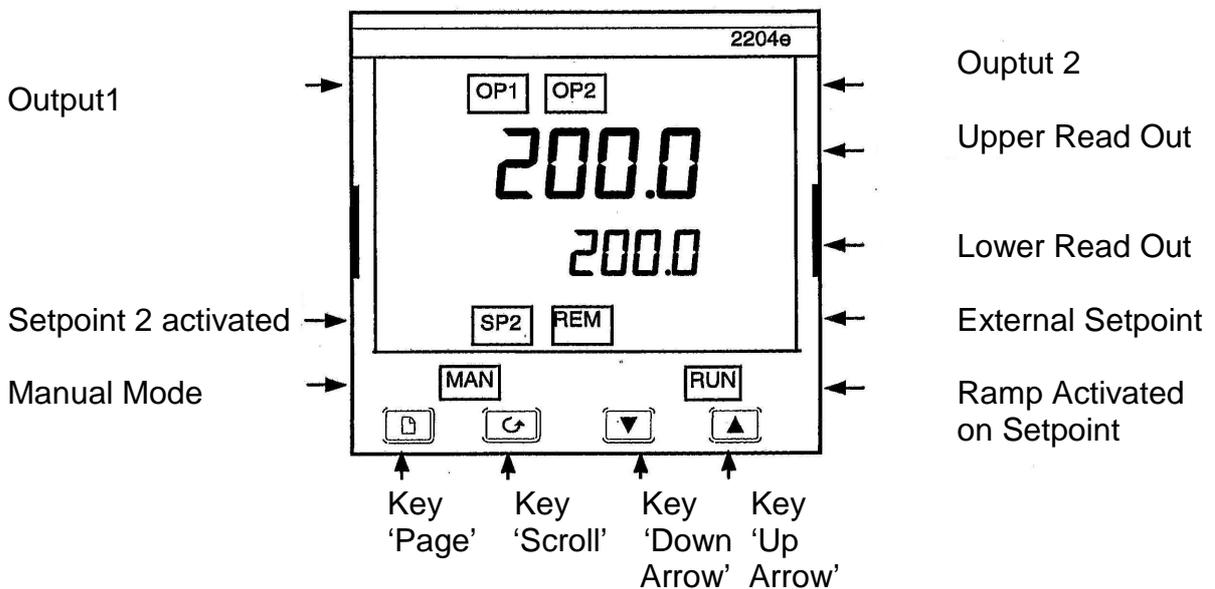
EUROTHERM 2204^e

For CLIMATS TM series

1. Getting started with main Switch

Once switched on, Eurotherm 2204e (96X96 format), runs a self test sequence (3 seconds), then displays Actual temperature (process value) (upper part) and Required value (setpoint) (lower part), then active regulation outputs, corresponding to Hot and Cold actuators.

Front View display :



2. To adjust the setpoint

From « Home display » (Actual temperature and Setpoint display) :

- Decrease the value :
Press continuously “Down arrow” key ▽
- Increase the value :
Press continuously “Up Arrow » key ▲

Nota : After 2 seconds, the lower readout will « blink » indicating new value has been accepted.

Remark: 2 setpoints are available SP1 and SP2. As a default SP1 is actual setpoint. To select SP2, Press « Scroll » key until **'SSEL'** is displayed .
Select **SP 1** or **SP 2** thanks to keys \triangle ∇ .
If SP 2 is selected, light in the display is on.

2.1. RAMP working



Key 'page'



Key 'Scroll'

From "Home page", move inside the operator list with the scroll key to parameter **'SPrr'**.

Set-up the temperature variation rate expressed in 1/10 °C/min on the setpoint. **'Off'** is displayed if ramp is **0 (ramp function is not activated)**.

Nota : When the ramp is activated, *'RUN'*light is on until the end of processing.

3. Equipment controlled through the regulator

For newest equipments, since (1st half of 2004), for which relay output is connected, the equipment start is linked to event output programming.

3.1. Getting started locally (in front of the equipment)



Key 'page'



Key 'Scroll'

- **First press** on 'scroll' key selects the output power (OP) of active actuator (0-100%) on the lower readout.
- **Second press** allows to start or stop the equipment. Regulator offers **m-A (manuel / Automatic)**, and displays actual mode displayed on lower readout (**mAn** or **Auto**).

⇒ Select **'mAn'** to **STOP the equipment**, or **'Auto'** to start the equipment with keys \triangle or ∇

Nota : After 2 seconds, the lower readout will « blink » indicating new value has been accepted.

Remark : When ramp is activated, one additional parameter can be read between **OP** and **m-A**. This parameter **w.SP** displays actual setpoint (read only).

3.2. Equipment Controlled through numeric communication

3.2.1. General

Regulator EURO THERM 2204e is supplied as a standard with RS 232, 3 wires, protocol **MODBUS RTU** .

For special requirements, it can be supplied as well with RS485 et RS422 and protocol Eurotherm **ASCII EI-BISYNCH**.

Through this external control, all recovery functions, as well as some modifications functions are available (temperature, setpoint, start/stop equipment etc..).

When an external command is sent to the regulator, '**REM**' (REMOTE) light blinks.

IMPORTANT : Some addresses give access to 'low level' parameters which could interfere with your equipment work. Make sure to use it safely.

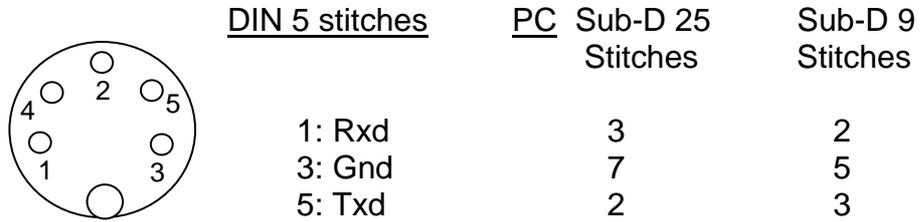
3.2.2. MODBUS adresses most frequently used

Regulator Display	Use	Adresses MODBUS
Process	Temperature	1
SP	Setpoint	2
m-A	Select 0 : Equipment starts (Auto) 1 : Equipment stops (Manual)	273
wSP	Actual Setpoint (Read only) SP if ramp unactivated .	5
SSEL	Select active setpoint 0:SP1 1:SP2	15
SP1	Setpoint 1	24
SP2	Setpoint 2	25
SP L	Setpoint 1 Lower limit	112
SP H	Setpoint 1 Higher limit	111
SP2 L	Setpoint 2 Lower limit 1	114
SP2 H	Setpoint 2 Higher limit	113
SPrr	Ramp rate : setpoint in 1/10 °C/min 0 :OFF (ramp desactivated)	35

For more information, please see <http://www.eurotherm.tm.fr> ,
'Communication Manual for Eurotherm Series 2000'.

3.2.3. RS232 connections to TM series connector (DIN 5 stitches)

DIN Connector Wiring(welding side) :



(stitches 2,3,4 strapped)

Remark : Cable length should not exceed 10 m..