

CONFIGURATION HANDBOOK

TRANSMITTER TR18



SPM12 SENSORS



LOREME 12, rue des Potiers d'Étain Actipole BORN Y - B.P. 35014 - 57071 METZ CEDEX 3
Phone 03.87.76.32.51 - Telefax 03.87.76.32.52
Contact : Commercial@Loreme.fr - Technique@Loreme.fr
Download manual at : www.loreme.fr

DIALOGUE - TERMINAL MODE.....	p3
PC with WINDOWS.....	p3
DEVICE PRESENTATION.....	p4
VISUALIZATION	p4
CONFIGURATION	p4
1) Method.....	p4
1.1) Menu selection	p4
1.2) Value acquisition	p4
2) Inputs	p5
3) Analog output	p5
4) Offset.....	p5
EMC CONSIDERATION.....	p6
1) Introduction.....	p6
2) Recommendation of use	p6
2.1) General remarks	p6
2.2) Power Supply	p6
2.3) Inputs / Outputs	p6
WIRING	p7
OUTLINE DIMENSIONS	p8
DECLARATION OF CONFORMITY	p9

RS232 Configuration

The device can be configured or updated in terminal mode via an RS232 link.

Step 1: Driver installation for USB / RS232 adapter



- download driver at www.loreme.fr/download/ rubric accessories

- Click on executable file to install the driver,
- Plug the cable on a USB port, Windows install a new serial communication port **COMx** (x >= 4).

Note :

The use of the cable on another USB port don't generates a new communication port. Use of another adapter generates another communication port number (COMx) and requires the reconfiguration of the HyperTerminal.

Step 2: Setting of terminal emulation software (PC with windows).

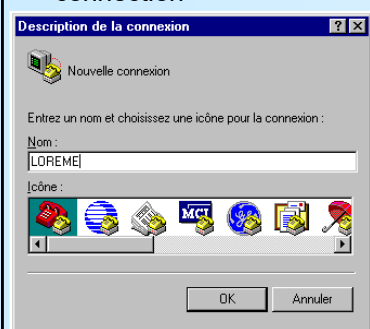
1 The terminal emulation software for PC « HyperTerminal » is resident in windows up to XP version. For later versions, it is downloadable on : **www.loreme.fr in download part** (www.loreme.fr/download/)

=> Run the downloaded software to install it.

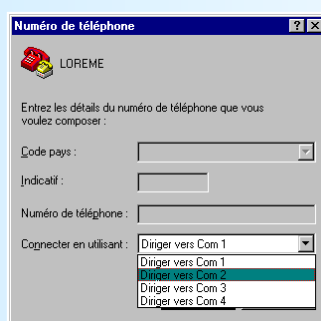
2 Start a "hyper Terminal" connection :

- Click on **"START"** button
- Go to **"All programs \ HyperTerminal Private Edition"**
- Click on **"HyperTerminal Private Edition"**

3 Enter name for the new connection

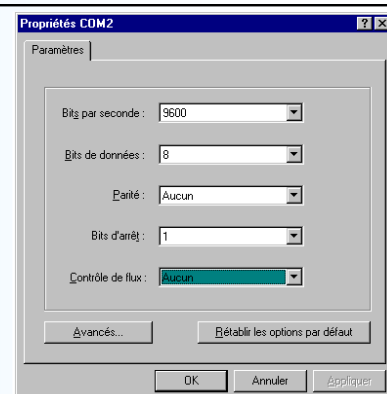


4 Choose the communication port related to the adapter.



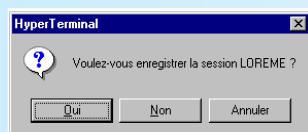
5

- Choose:
- 9600 bauds
 - 8 DATA bits
 - no parity
 - 1 stop bit
 - **XON/XOFF**



6 The PC is now in terminal mode, connect it to the device by plugging the RS232 cable. The measure is now displayed on the terminal. To access configuration, press 'C' key.

7 When leaving Hyper terminal, the following window will appear. By saving, the terminal session will start with the same configuration.



Thus, the shortcut **LOREME.ht** will permit to communicate with all LOREME devices.

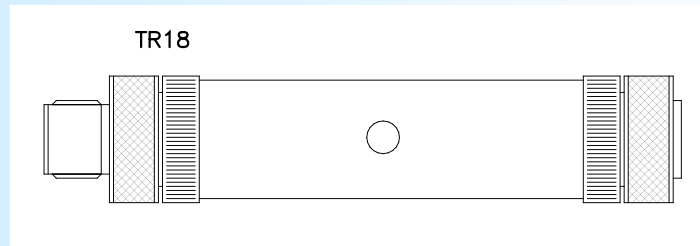
Note: to modify the parameters of terminal mode whereas this one is already started, it is necessary, after having carried out the modifications, to close the terminal and to open it again so that the modifications are effective.

Device Presentation



The purpose of this configuration handbook is to allow to become familiar with the functions supplied by the device.

M12 male connector
Loop power + RS232 link



M12 female connector
sensor connexion

The TR18 is a 4/20 mA loop powered transmitter. Associated the a SPM12 sensor it is a powerfull temperature transmitter with fast interchangability M12 connectivity.

VISUALIZATION

When powered, the device swithes automatically in operating mode and visualize the measure, if connected to a terminal, in this form:

300 DEG	measure
11.99 mA	ouptut current.

To enter configuration mode, just press on "**C**" key and follow the configuration procedure.

CONFIGURATION

The handbook explains in detail differents possibilities of configuration: input, output.

1) Méthod:

In configuration, the user is asked different types of questions. For each one, several answers are possible. You will find below the detailed description of each case.

1.1) Menu selection:

exemple: INPUT
Y - N

The user makes a choice by pressing the keys "**Y**" or "**N**". This choice allows to access the different menus of configuration.

1.2) Value acquisition:

exemple: LOW SCALE
4 mA

Two cases are possible:

- validation without modification, just press "**ENTER**",
- value modification on keyboard (simultaneous display), followed by validation with "**ENTER**".

Note:

- It is possible, when a mistake is made during a value acquisition, before validating it, to go back by pressing "**backspace**" key which re-displays the message without taking notice of the wrong value.
- if there is no action, device goes back in operating mode after a two minutes delay without taking notice of modifications made before.
- if you want to return to measure mode without taking notice of the modifications made before, you just have to press "**ESC**".

Configuration



2) Input:

In this rubric, the user can choose the low and high measuring input scales. The factory default scale are -200 °C to 600 °C.

3) Analog output:

The CNL40 is a 2 wires loop powered transmitter so, the analog output is a 4-20mA current.

For the output configuration, it is possible to change: the security value, the response time and the limitation.

The security value allows to set the output on a known state when there is a sensor breaking or a measure range overflow.

The response time allows to smooth the analogical output when the measure is disrupted or exposed to interferences. The time value must be between 0.2 and 60 seconds.

The **limitation** clamp the output signal swing to the scale configuration. Only security value goes beyond this function

4) OFFSET measure:

Sometimes, it may be interesting to modify measure by a keyboard intervention.

It can be used in many situations:

- Sensor's degradation,
- to calibrate the input with magnifying effect to obtain a better accuracy in the measure window.

To shift the measure, it is necessary: - to be in measure mode,
- press "+" or "-", the message "OFFSET" is sended on the RS 232:

OFFSET 0.2	indicate present shifting value.
100.2 DEG	measure value corrected

- use "+" and "-" keys to decrement and increment the measure,
- type on "ENTER" to save the shifting.

Observation: The value of measurement shift is memorized and remains active after a new configuration.

To annulate the shift effect, recall the shift function, put back offset at zero and validate by "ENTER".

1) Introduction:

In order to satisfy its policy as regards EMC, based on the Community directive 89/336/CE, the LOREME company takes into account the standards relative to this directive from the very start of the conception of each product.

As the devices are devised to work in industrial environments, the various tests are carried out in the sight of the EN 50081-2 and EN 50082-2 standards, in order to make out a statement of conformity.

As the devices lie in certain typical configurations during the tests, it is not possible to secure the outcomes in any possible configuration.

To ensure the best functioning possible of each device, it would be judicious to comply with several recommendations of use.

2) Recommendations of use:

2.1) General remarks:

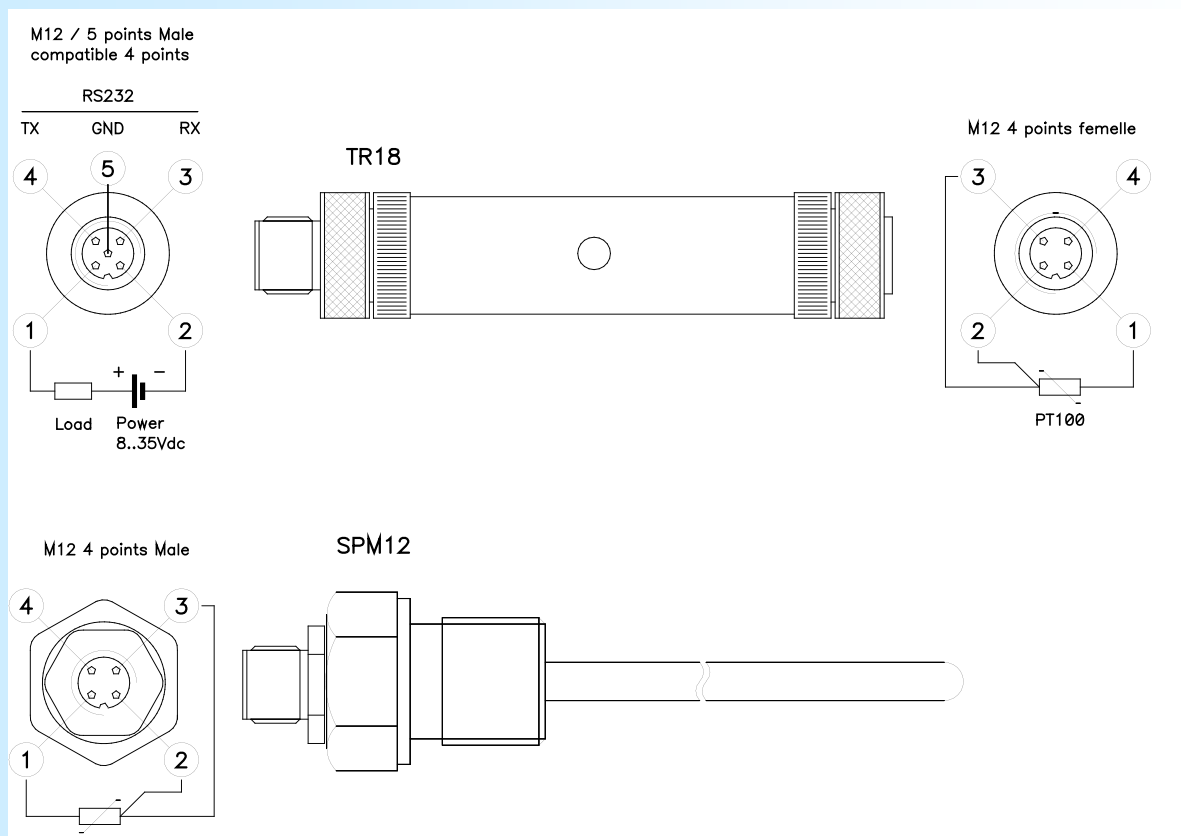
- Comply with the recommendations of assembly indicated in the technical sheet (direction of assembly, spacing between the devices, ...).
- Comply with the recommendations of use indicated in the technical sheet (temperature range, protection index).
- Avoid dust and excessive humidity, corrosive gas, considerable sources of heat.
- Avoid disturbed environments and disruptive phenomena or elements.
- If possible, group together the instrumentation devices in a zone separated from the power and relay circuits.
- Avoid the direct proximity with considerable power distance switches, contactors, relays, thyristor power groups, ...
- Do not get closer within fifty centimetres of a device with a transmitter (walkie-talkie) of a power of 5 W, because the latter can create a field with an intensity higher than 10 V/M for a distance fewer than 50 cm.

2.2) Power supply:

- Comply with the features indicated in the technical sheet (power supply voltage, frequency, allowance of the values, stability, variations ...).
- It is better that the power supply should come from a system with section switches equipped with fuses for the instrumentation element and that the power supply line be the most direct possible from the section switch.
- Avoid using this power supply for the control of relays, of contactors, of electrogates, ...
- If the switching of thyristor statical groups, of engines, of speed variator, ... causes strong interferences on the power supply circuit, it would be necessary to put an insulation transformer especially intended for instrumentation linking the screen to earth.
- It is also important that the installation should have a good earth system and it is better that the voltage in relation to the neutral should not exceed 1V, and the resistance be inferior to 6 ohms.
- If the installation is near high frequency generators or installations of arc welding, it is better to put suitable section filters.

2.3) Inputs / Outputs:

- In harsh conditions, it is advisable to use sheathed and twisted cables whose ground braid will be linked to the earth at a single point.
- It is advisable to separate the input / output lines from the power supply lines in order to avoid the coupling phenomena.
- It is also advisable to limit the lengths of data cables as much as possible.



TRANSMITTER TR18

M12 female 4 terminals

- RTD 100 Ω (3 wires) Terminals 1 (+), 3 (-), 2 (line)

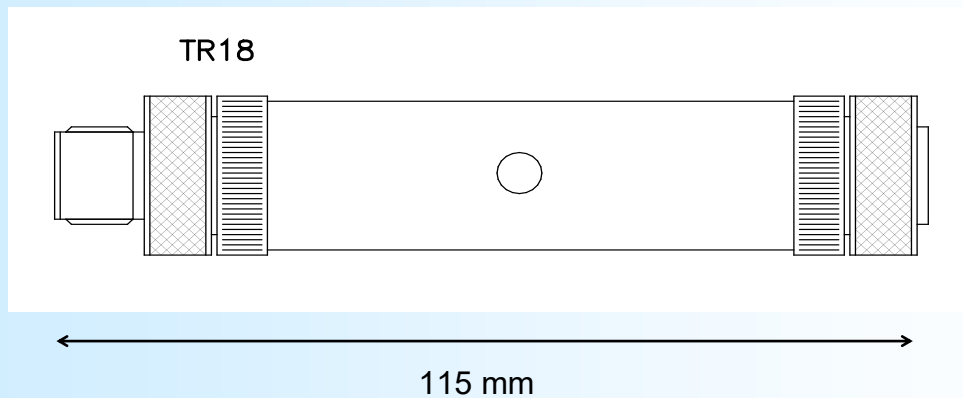
M12 male 5 terminals

- Power supply Terminals 1 (+), 2 (-)
 - RS232 link Terminals 3(Rx), 4 (Tx), 5(GND)

SENSOR SPM12

- RTD 100 Ω (3 wires) Terminals 1 (+), 3 (-), 2 (line)

Outline dimensions



EC DECLARATION OF CONFORMITY



**With protection requirements of directive 89/336/CEE "ELECTROMAGNETIC compatibility"
and requirements of directive 73/23/CEE "LOW VOLTAGE"**

We declare, under our own responsibility, that the following product :

Désignation: 4/20 mA loop powered transmitter Type: TR18 Revision number : 0.0 date : 07/2011
--

Comply with the following generic or specific harmonized:

<u>GENERIC STANDARDS:</u>	Realised test	<u>FUNDAMENTAL NORMS:</u>	
(SECURITY) : directive 73/23/CEE " LOW VOLTAGE "			
	X	EN 61010-1	Security rules for measurement electric devices. For laboratory and regulation.
(CEM) NF EN 50081-2 : 1993 electromagnetic compatibility emissivity (indice C 91-081-2) part 2 : industrial environnement.			
		EN 55011	Radiated emission and induced emission on alternative current power supply.
(CEM) NF EN 50082-2 : 1995 electromagnetic compatibility immunity (indice C 91-082-2) part 2 : industrial environnement.			
	X	EN 61000-4-2	Electrostatic discharges.
	X	EN 61000-4-4	Burst.
	X	EN 61000-4-5	Surge 1,2/50 (5/20) µs.
	X	EN 61000-4-8	Power frequency magnetic field.
	X	EN 61000-4-11	Voltage dips and short voltage interruptions.
	X	ENV 50140	RF AM electromagnetic field.
	X	ENV 50141	Command mode RF AM.

Metz, the 20/07/2011

The authorized officer : M. Dominique Curulla

Signature :

Year where CE mark was putted on : 2011