CONFIGURATION HANDBOOK

TRANSMITTER TR18

SPM12 SENSORS

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Download manual at : www.loreme.fr

REV0.0 - 20/07/11

Table of contents

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RS232 Configuration

The device can be configured in Terminal mode via an RS232 link. 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 section**. (http://www.loreme.fr/HyperTerm/htpe63.exe)

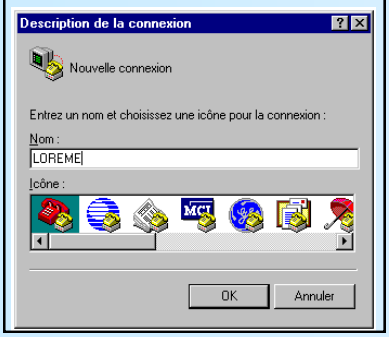
The different procedures for the terminal are detailed below.

PC with WINDOWS:

Step for start up terminal program:

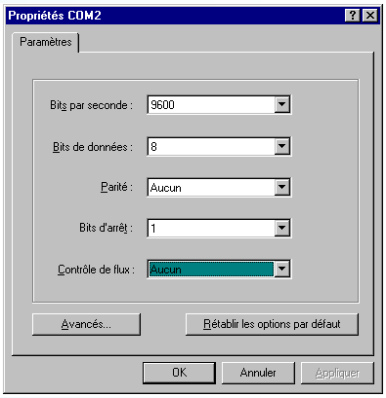
1 1 - Clic on **"START"** bouton.
2 - Tick off **"Programs \ Accessories \ Communication \ Hyper Terminal"**
3 - Clic on **"Hypertrm.exe"**

2 Enter a name for the new connection



3 Choose a communication port

4 Choose:
- 9600 bauds
- 8 data bits
- no parity
- 1 stop bit
- flow control: **None**



5 PC is now in terminal mode, connect to device by plugging the RS232 link cable. Measure is now displayed and to access configuration, press **"C"** key .

6 When leaving HyperTerminal, the following window will appear.

By accepting the reccording of the session, terminal mode will be able to be started again without using this procedure..

Thus, the short cut will permit to communicate with all LOREME devices.

Note: to modify 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.

USB / RS232 adaptator:

The USB/RS232 adaptator link below has to be use to communicate with the TR18.

- driver downloadable on www.loreme.fr:
  http://www.loreme.fr/aff_produits.asp?rubid=53&langue=fr

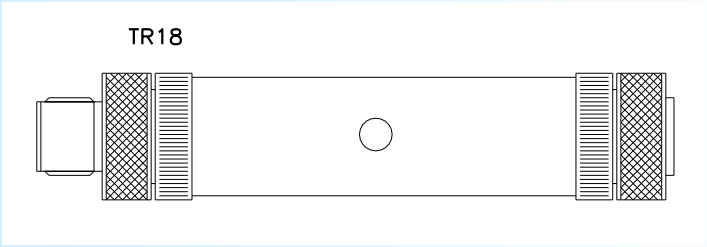
- click on the setup executable to install the driver,
- Plug the adaptator in a USB port
- Start and configure the **HyperTerminal** as described above (in the step 3, choose the new port com)

Note:
The use of the adapter on another USB port, or the use of a different adapter generates a new different communication port (COM1, COM2, ...) and requires the hyperterminal reconfiguration.

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 interchangalility 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".

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Configuration

2) Input:
In this rubric, the user can coose 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 posssible 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 over-flow.

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"**.

EMC CONSIDERATION

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.

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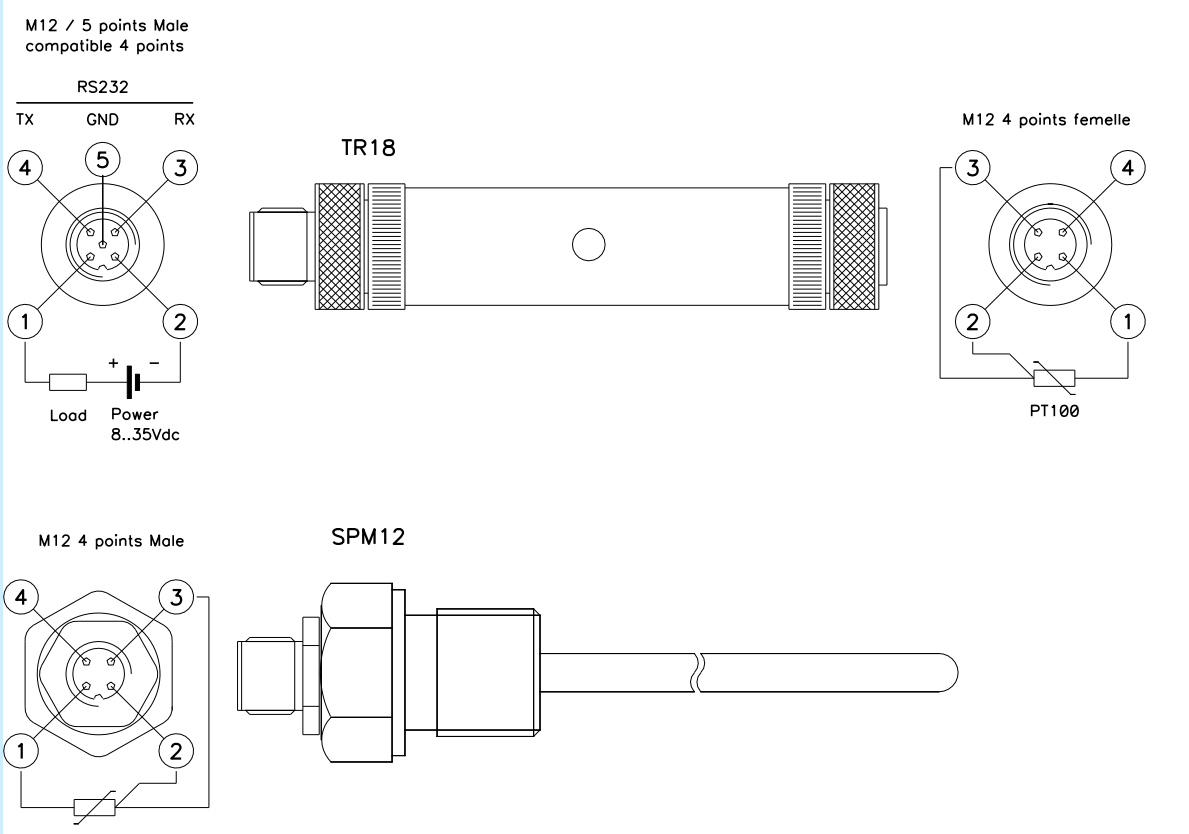
Wiring



TRANSMITTER TR18

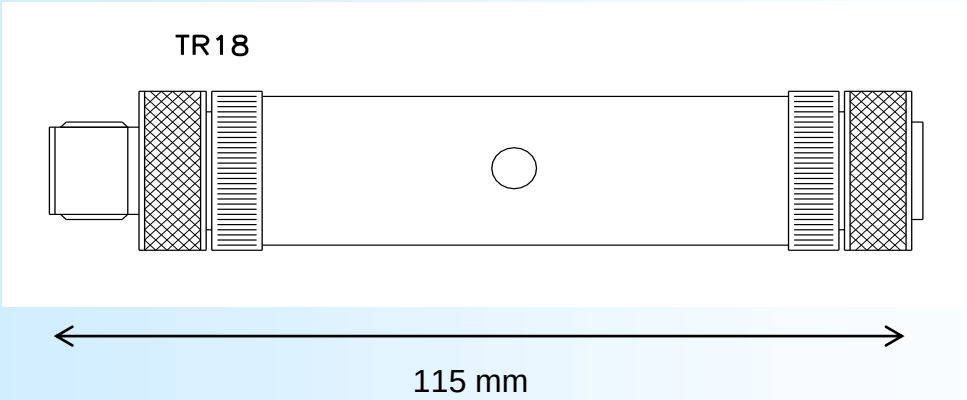
M12 female 4 terminals
- RTD 100 Ω (3 wires) Terminals 1 (+), 3 (-), 2 (line)

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



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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:

GENERIC STANDARDS:	Realised test	**FUNDAMENTAL NORMS:**	
(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 inducted 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