


MICROENER

INSTRUCTIONS MANUAL REMOTE MONITORING SYSTEM FOR HOSPITAL LOCATION RMS-12

FDE n° : 15NLT1061715 Rév. A

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GESTION DES MODIFICATIONS				
Mod.	Description	Date	Création	Validation
Z	Création	16/04/2015	NLT	LA
A	Diffusion	17/04/2015	NLT	LA

 <p>Téléphone : 01 48 15 09 09 www.microener.com</p>	<p>INSTRUCTIONS MANUAL</p> <p>REMOTE MONITORING SYSTEM FOR HOSPITAL LOCATION</p> <p>RMS-12</p>	<p>FDE N°: 15NLT1061715</p> <hr/> <p>Rév. A Page 2 / 8</p>
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RMS-12

REMOTE MONITORING SYSTEM FOR HOSPITAL LOCATION

GENERAL

RMS-12 is a device which allow remote monitoring of parameters originated from insulation's supervisors for medical use HRI with serial output RS485.

By serial communication RS485 Modbus-RTU protocol different supervisors are connected to remote monitoring system.

The RMS-12 remote alarm indicator is used for:

- Indication and visualization of operating status and alarm messages
- Displaying measured values for monitoring Control HRI insulation's supervisors with Modbus protocol.

APPLICATION

- indication and visualization of operating status and alarm messages
- central network status visualization of HRI devices
- displaying measured values of response values for monitoring purpose



RMS-12 could be connected to a PC and transmits, by Modbus-RTU protocol, all the parameters that it has collected.

AVAILABLE MODELS

It's available one model for flush mounting 96 mm x 96 mm.

INSTALLATION

WARNING FOR THE USER

Read carefully the instructions/indications contained in this manual before installing and using the instrument.

The instrument described in this manual is intended for use by properly trained staff only.

SAFETY

This instrument has been manufactured and tested in compliance with EN 61010-1 standards. In order to maintain these conditions and to ensure safe operation, the person must comply with the indications and markings contained in the manual. When the instrument is received, before beginning installation, check that it's O.K. And it has not suffered any damage during transport. When starting installation make sure that the operating voltage and mains voltage are compatible with the device instructions. The instrument power supply must not be earthed. Maintenance and/or repair must be carried out only by qualified and authorized personnel. If there is ever the suspicious that, that there is a lack of safety ,during operation, the instrument must be disconnected and cautions taken against accidental use.

Operation is no longer safe when: - The instrument doesn't work. / - There is clearly visible damage. / - After serious damage incurred during transport. / - After a storage under unfavourable conditions

PARAMETERS

RS485 COM1

Baud rate: 19200

Parity: 1 – N – 8

RS485 COM2

ID Modbus: 1

Baud rate: 19200

Parity: 1 – N – 8

CONNECTION

For a correct use of the device, the wiring diagram contained in the present manual, must be respected.

- auxiliary power supply:

On the instrument are available terminals (AUX supply) to connect the auxiliary power supply to the instrument.

- relay outputs:

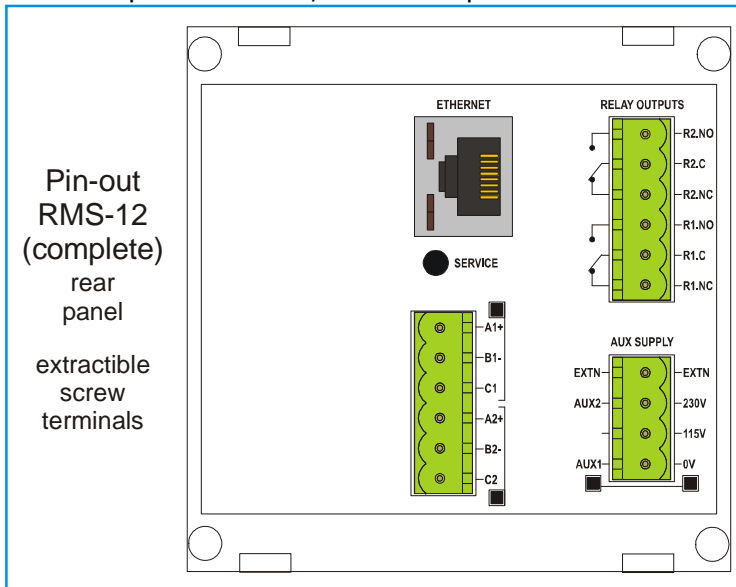
On the instrument are available two relay outputs (RELAY OUTPUTS).

- ethernet:

Module RJ45 ethernet 100 base-T.

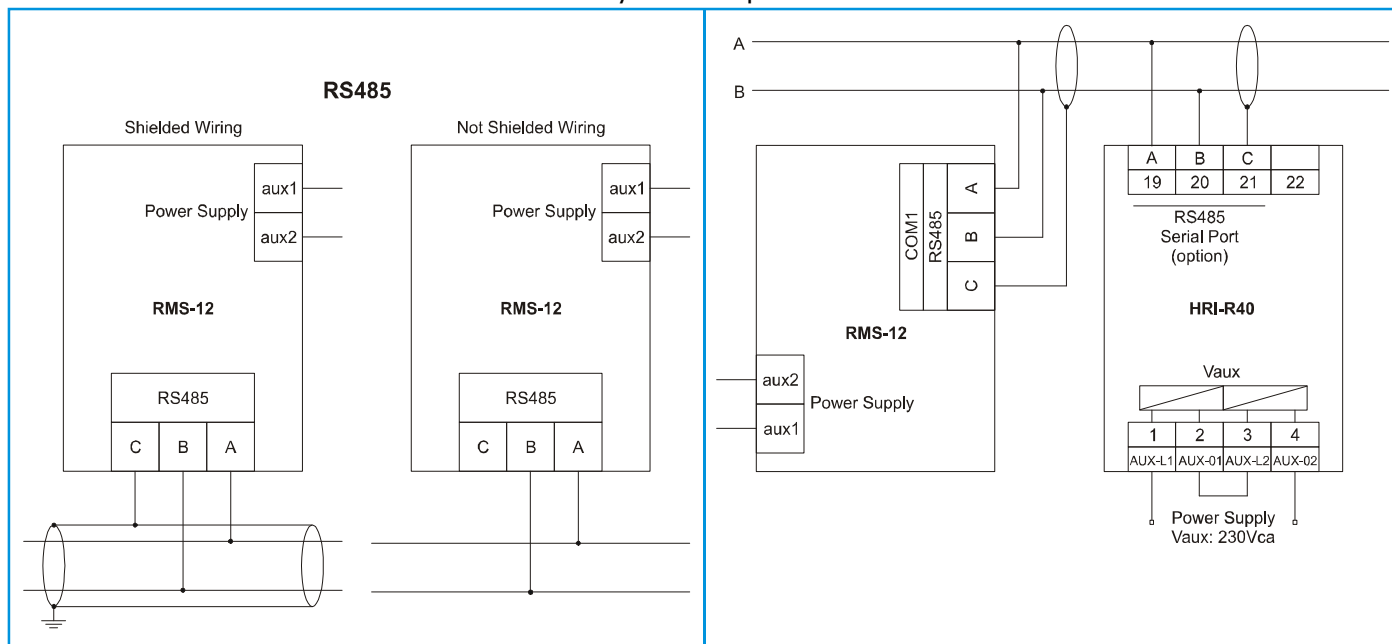
- communication port:

2 RS485 ports (COM1: terminals A1,B1,C1; COM2: terminals A2,B2,C2) are available for the connection of the serial communication.



WIRING DIAGRAMS

HRI devices are connected to RMS-12 concentrator by serial output COM1 RS485.




Maximum 12 HRI devices could be connected.

The PC Master is connected to RMS-12 concentrator by serial output COM2 RS485.

SERIAL LINE CONNECTIONS

In serial line over 500 mt, it's necessary to insert a line termination resistance ($R_t = 100 \div 120 \text{ ohm}$) between the twisted pair of cables, placing it between the converter and the end of the network (last instrument connected). With a shielded cable it's necessary to connect the shield to earth. Use always twisted cables with minimum section of 0,36mm² (22AWG) and lower capacity of 60 pF/m.

Should it be the case of long distance networks, ambiances where there have been placed energy transporting cables or ambiances subject to be electrically disturbed, it is suggested to use 100÷120ohm 1/2W resistors, placed between the common of the RS485 outlet and the shielded cable.

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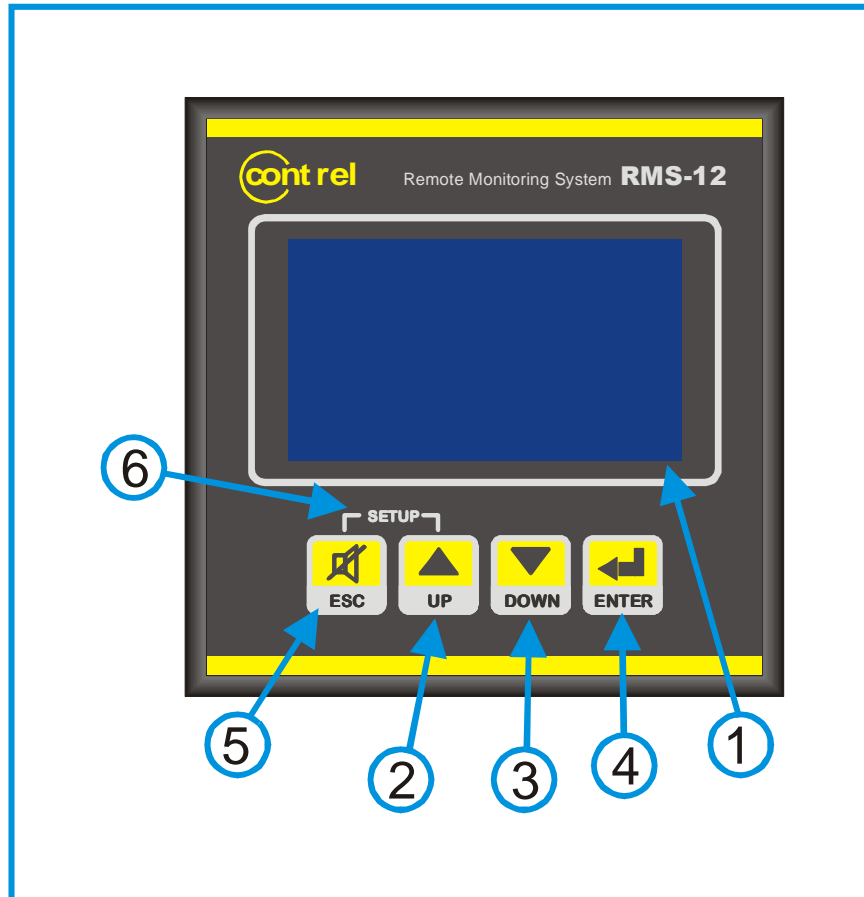
EIA485 INTERFACE COMMUNICATION (RS485)

It is possible to exchange information between the instrument and a PC, PLC or other compatible system (using COM2 port), through the asynchronous serial line RS485.

The interface EIA485 allows a multi-drop connection, in order to connect various instruments in the same network.

The maximum suggested length for a RS485 connection is 1200m.

For longer distances provide the use of low attenuation cables or signal amplifiers.

DESCRIPTION FRONT PANEL– OPERATORS

1. LCD: to display operating, measured values and alarm messages.
2. Scroll button: in operating mode: to scroll messages
in menu mode: UP
3. Scroll button: in operating mode: to scroll messages
in menu mode: DOWN
4. "ENTER" button": in operating mode: to scroll windows
in menu mode: confirm function 5.
5. "ESC" button": return to main page
6. "MENU" button: in operating mode: to call up the menu mode
in menu mode: enter function

PAGES

General page

ROOM 1 - 6			
Room1	△	Room2	▽ OK
Room3	▽ OK	Room4	△
Room5	▽ OK	Room6	▽ OK

It is possible immediately understand whether the system of each facility is functioning correctly or if, instead, it is suffering anomalies or damages.

Measure page

ROOM 1			
<div> <div>↶</div> <div>⏏</div> </div>			

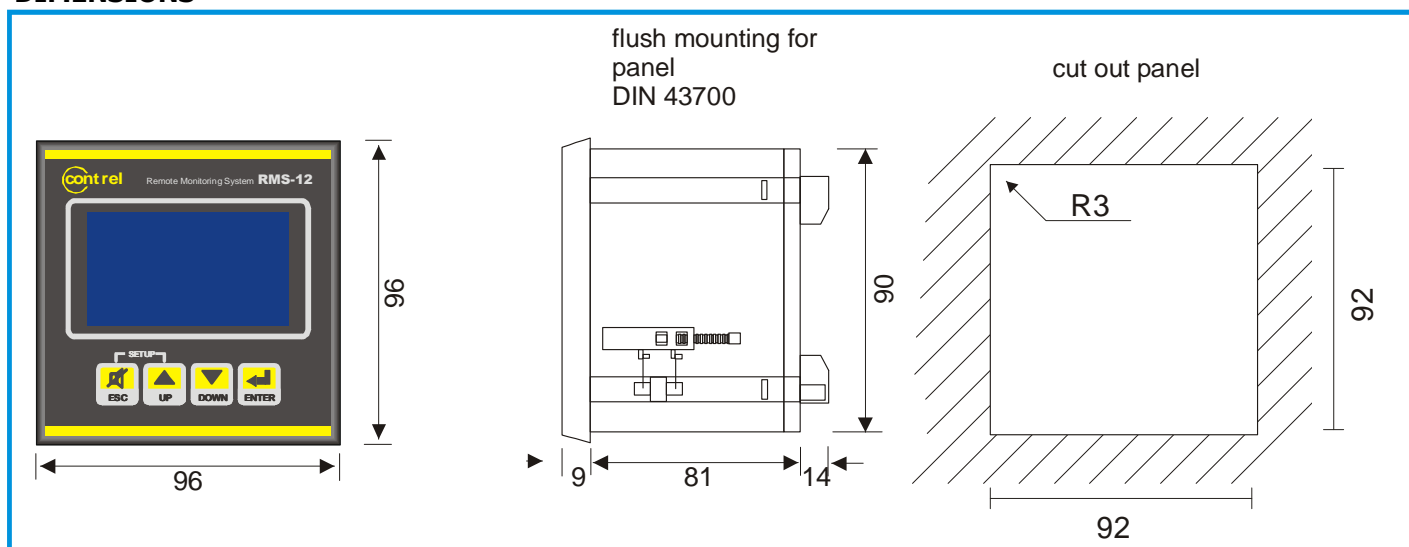
R	[KΩ]	120	80
Z	[KΩ]	0	0
T1	[°C]	70	55 △
T2	[°C]	0	0
I	[A]	5.0	10.0

Summarizes in a single screen the real time, threshold measures (resistance, impedance, temperature of the transformer primary and secondary, current) and the alarm RMS-12 (low insulation; surpassed programmed threshold alarm).

Alarm page

ROOM ALARM	
Resi st ance	△
I mpedance	▽ OK
Temper at ur e1	▽ OK
Temper at ur e2	▽ OK
Cur rent	△
L. F.	▽ OK

Summarizes in a single screen the alarm RMS-12 presents (resistance, impedance, as well as any over temperature of the transformer primary and secondary and over current).

DIMENSIONS**TECHNICAL FEATURES****AUXILIARY POWER SUPPLY**

auxiliary power supply | 115-230 Vac or 20÷60Vac /dc or 90÷250Vac/ - frequency 50-60Hzdc - consumption max 4VA

COMMUNICATION

serial port | 1 RS485 output standard and 1 option, baud rate fixed to 19200 bps, MODBUS-RTU protocol insulation: 1kV for 60 seconds

ethernet | RJ45 jack and 10/100 baseT magnetic, TCP/IP protocol

GENERALdisplay, operators | A LCD graphic display
4 push-buttonmechanic | protection degree: IP52 frontal - IP20 enclosure and terminals - weight: about 0,5 kg
connections with screw terminals for cable 2,5 mm²
enclosure thermoplastic self-extinguishing - DIN flush mountingenvironmental | working temperature: -10÷60°C; humidity <90% - storing temperature: -25÷70°C
insulation test: 1 kV for 1 minutestandards | EN 50081-1; EN50082-2
EN 61010-1

NOTE:: At reason of the evolution of standards and products, the company reserves to modify in every time the features of the product described in this document, that it's necessary to verify preventively. The liability of the producer for damage caused by defect of the product "can be reduced or deleted (...) when the damage is caused joint by a defect of product or for blame of the damaged or a person of which the damaged is responsible" (Article 8, 85/374/CEE).



MICROENER

Quartier du Pavé Neuf, 49 rue de l'Université - F-93191 NOISY LE GRAND
Tél : + 33 1 48 15 09 09 - Fax : + 33 1 43 05 08 24 - Email : info@microener.com - <http://www.microener.com>
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