



Rotor Temperature Monitor

RTM-200

FEATURES

- Contactless temperature monitoring
- High speed, allowing rotor instantaneous temperature monitoring during operation
- Reduced Ø 4mm probe diameter for insertion in small ventilation holes
- Adjustable installation depth from 340mm to 480mm
- Integrated Modbus RTU slave for digital interfacing
- 4 to 20mA current output for analogue interfacing
- Measuring temperature range 0°C to 200°C
- Designed for both permanent and temporary installation
- Measuring frequency range 0Hz to 1kHz

Monitoring solution



Rotor Temperature

Typical applications



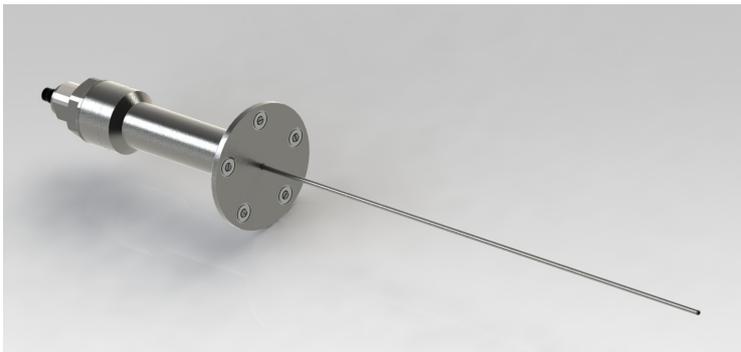
Hydrogenerators



Windturbines



Gearless millsdrives



DESCRIPTION

The RTM-200 is a contactless temperature sensor especially designed for rotor monitoring in generators and motors. The probe of the sensor is designed to be inserted in ventilation holes of such machines.

This cutting edge technology sensor uses the latest technics for remote temperature measurement. This principle allows the probe diameter to be as small as 4mm. Then the well established know-how of MC-monitoring in digital signal processing has allowed to integrate filtering and linearization of the raw signal in order to obtain an accurate and linear output that is proportional to the measured temperature.

Additionally, the RTM-200 integrates a Modbus RTU slave to perform quick analysis of the rotor temperature as well as the sensor itself thanks to the *MCm Sensor Manager* software.

The adjustable installation depth allows the sensor to be installed in various sizes of machines with stator core thickness between 340mm and 480mm. The installation of the sensor can be either for short term measurement thanks to the integrated permanent magnets or for long term measurement with additional adhesive compound. Even in case of permanent installation the sensor can be easily withdrawn from the holder for maintenance.

GLOBAL SPECIFICATION

OPERATION

Measuring range	0°C to 200°C
Output range	4-20mA
Output sensitivity	0.08mA/°C
Measuring accuracy	+/- 5°C from 30°C to 200°C
Measuring repeatability	+/- 1°C
Frequency bandwidth	0Hz to 1kHz (-3dB)

Modbus RTU

Mode	Slave
Baud rate	115200 bps
Start bit	1
Stop bit	1

Power supply

voltage	+24V nominal, 18...36V
current consumption	60mA typ. (current output not connected)

ENVIRONMENTAL

Temperature range

Probe	0°C to 100°C (120°C for short term)
Sensor	0°C to 100°C

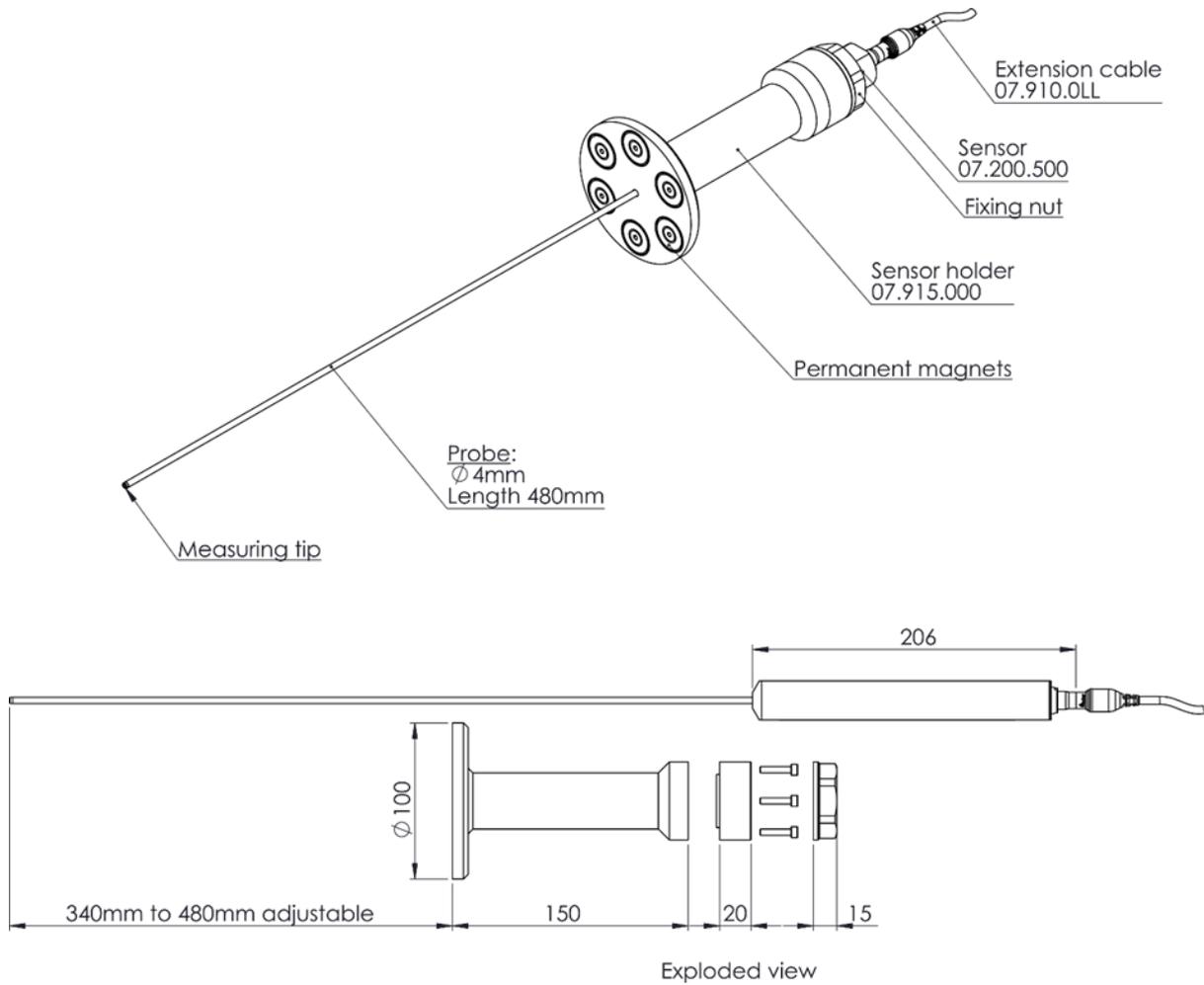
EMC

	EN 61326-1:2013
Emission	EN 55011:2007
Immunity	EN 61000-4-2 to EN 61000-4-6

PHYSICAL

Probe length	480mm ±10mm
Probe diameter	4mm
Sensor weight (flange not included)	0.7 Kg
Flange weight	1.2 Kg

MECHANICAL DRAWING



CAUTION

The RTM-200 senses the temperature by optical way, therefore the following recommendations must be observed:

- Ensure that the measuring tip is always clean
- No not apply mechanical stress on the probe
- Avoid mechanical contact between the measuring tip and the rotor
- Follow the installation procedure

ELECTRICAL WIRING

Contact number	Wire color	Description
1	Grey	4-20mA current output
2	Brown	Power supply +24V
3	White	Power supply 0V
4	Green	Modbus RTU D+
5	Yellow	Modbus RTU D-
-	Clear	Output cable shield (not internally connected)

ORDERING INFORMATION

Part type RTM-200

Ordering code 07. 200. 5 00

07: Rotor Temperature Monitor 200: Measuring range 0...200°C 5: Probe length 0.5m 00: Frequency range 0 to 1kHz

Measuring range, probe length and frequency range can be customized upon request.

Description Rotor Temperature Monitor without installation flange and without installation cable

Part type RTM-910

Ordering code 07.910.010

Description Extension cable for RTM-200 monitoring system. Total length 10m

Part type RTM-915

Ordering code 07.915.000

Description Installation flange

Part type RTM-990

Ordering code 07.990.000

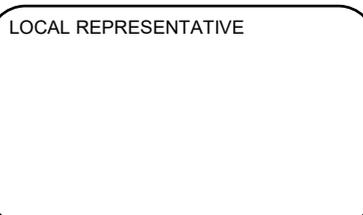
Description Stator depth measurement ruler

Part type RTM-200 Complete set

Ordering code 77.200.500

Description RTM-200 complete installation set including the sensor, the holder, the extension cable and the stator depth measurement ruler

MC-monitoring Quality certifications



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