



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
- Multiple installation depth ranges:
 - 50mm to 190mm
 - 190mm to 330mm
 - 330mm to 470mm
 - 470mm to 610mm
- Integrated Modbus RTU slave for digital interfacing
- 4 to 20mA current output for analogue interfacing
- Measuring temperature range 0°C to 200°C

Monitoring solution



Rotor Temperature

Typical applications



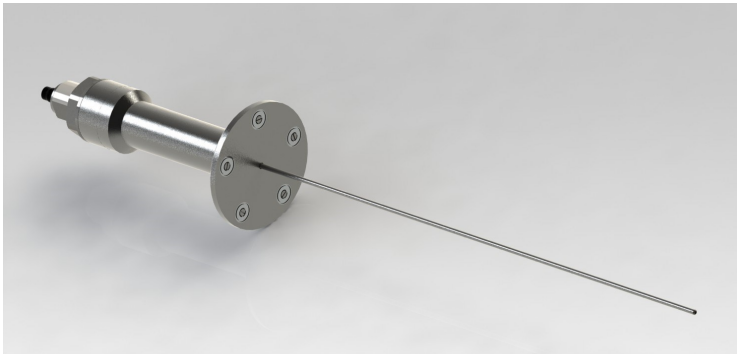
Hydrogenerators



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 size of machines with stator cores thickness comprised between 50mm and 610mm according to the order code. 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 Even in case of permanent installation the sensor can be easily withdrawn from the holder for maintenance.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
Load resistor range	0 to 1kΩ
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)
Angle of view	±17°
Modbus RTU	
Mode	Slave
Baud rate	115200 bps
Start bit	1
Stop bit	1
Refresh Rate [s]	1
Power supply	
voltage	+24V nominal, 18...36V
current consumption	60mA typ. (current output not connected)

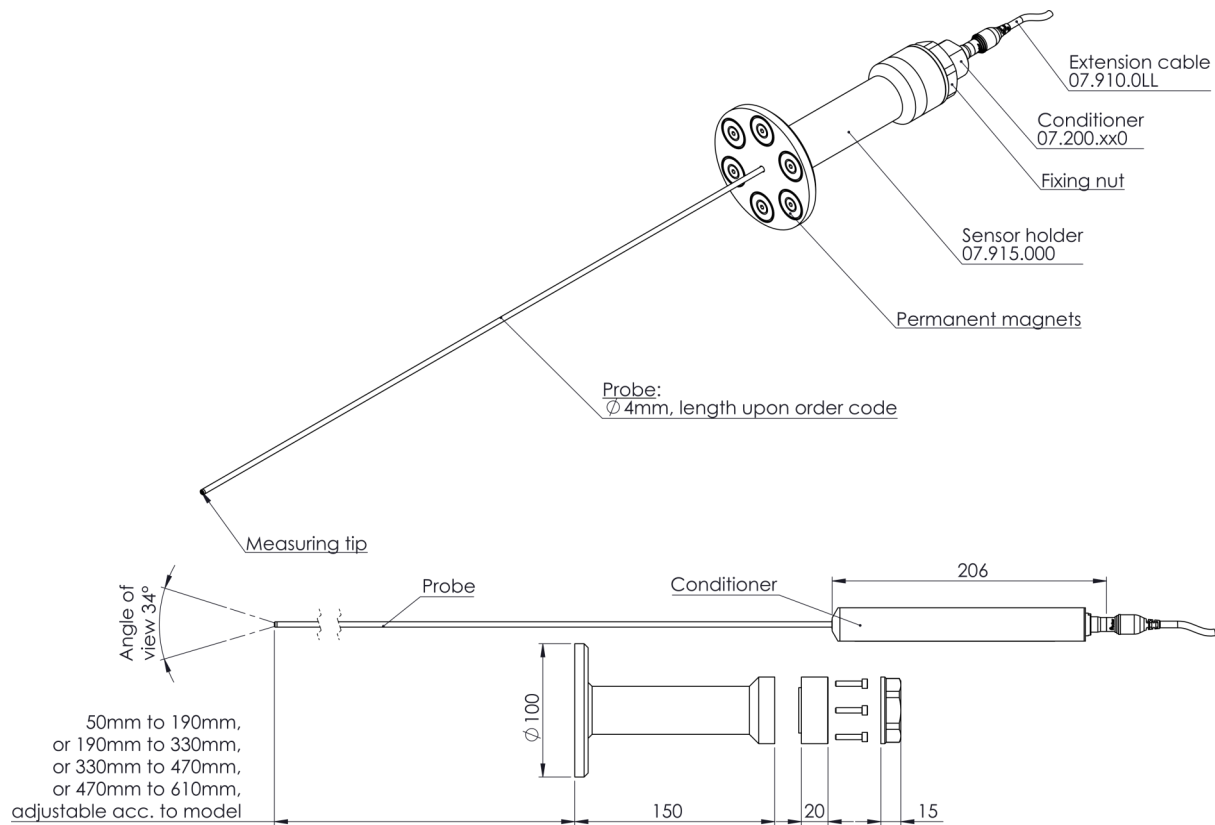
ENVIRONMENTAL

Temperature range	
Probe	0°C to 155°C (200°C for short term)
Conditioner	0°C to 85°C (100°C for short term)
Magnetic field	
Probe	Max. 2 Tesla at 50Hz
Conditioner	According to EN 60000-6-5
Humidity	Max. 90% non condensing
Electromagnetic Compatibility	EN 61326-1:2013

PHYSICAL

Probe length	
p/n: 07.200.220	220mm ±5mm
p/n: 07.200.360	360mm ±5mm
p/n: 07.200.500	470mm ±5mm
p/n: 07.200.600	610mm ±5mm
Probe diameter	4mm
Sensor weight (flange not included)	0.7 Kg
Flange weight	1.2 Kg

MECHANICAL DRAWING



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.	500
	<u>07</u> : Rotor Temperature Monitor	<u>200</u> : Measuring range 0...200°C	<u>220</u> : Installation depth 50 to 190mm <u>360</u> : Installation depth 190 to 330mm <u>500</u> : Installation depth 330 to 470mm <u>600</u> : Installation depth 470 to 610mm

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 77.200.220

Description RTM-200 complete installation set including the sensor for 50-190mm, the holder, the extension cable and the stator depth measurement ruler.

Ordering code 77.200.360

Description RTM-200 complete installation set including the sensor for 190-330mm, the holder, the extension cable and the stator depth measurement ruler

Ordering code 77.200.500

Description RTM-200 complete installation set including the sensor for 330-470mm, the holder, the extension cable and the stator depth measurement ruler

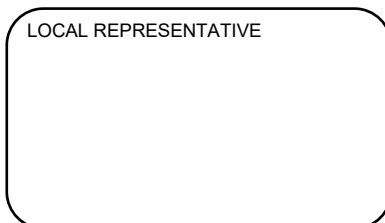
Ordering code 77.200.600

Description RTM-200 complete installation set including the sensor for 470-610mm, the holder, the extension cable and the stator depth measurement ruler

MC-monitoring Quality certifications



LOCAL REPRESENTATIVE



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