



TWR™-200 THERMAWATCH ROTOR

Fast-Response Non-Contact Rotor Pole Temperature Monitoring

GENERAL SPECIFICATIONS

Measuring Chain

Operation^{1, 2}

- | | |
|---|---|
| • Measuring type | Infrared technology |
| • Temperature measuring range (target only) | 0 to 200 °C [32 to 392 °F] |
| • Accuracy ³ | |
| From 0 to 140 °C [32 to 284 °F] | ± 6 °C [10.8 °F] |
| From 140 to 200 °C [284 to 392 °F] | Deviates from ± 6 °C [10.8 °F] to ± 10 °C [18 °F] |
| • Repeatability | ± 1 °C [1.8 °F] |
| • Rotor rotation speed | Optimized for 100 or 120 poles/sec. without attenuation |
| • Measuring Distance | Up to 12.7 cm [5 in] without attenuation |
| • Viewing Angle | ± 45° |
| • Stator Thickness - Adjustment Range | |
| Option A - Short: | 19 to 34 cm [7.5 to 13.4 in] |
| Option B - Medium: | 29 to 44 cm [11.4 to 17.3 in] |
| Option C - Long: | 39 to 54 cm [15.4 to 21.3 in] |

Environment

- | | |
|---|--------------------------------|
| • Temperature range | |
| Operating | Refer to individual components |
| Storage | -20 to 70 °C [-4 to 158 °F] |
| • Magnetic field immunity (sensor only) | Up to 2 Tesla (50 or 60 Hz) |
| • Humidity | Up to 95%, non-condensing |

Note 1: Each TWR-200 measuring chain is calibrated with a blackbody source. Response varies depending on the infrared emissivity of the target.

Note 2: The components of a TWR-200 measuring chain (sensor, signal conditioner and sensor extension cable) are not calibrated together. Components are therefore readily interchangeable.

Note 3: Standard installation and under normal generator operation conditions

Signal Conditioner

Operation

- | | |
|------------------|-----------|
| • Output | 4 to 20mA |
| • Load at output | 500Ω max. |

Power Requirements

- | | |
|---------------|--------------|
| • Voltage | 24 Vdc ± 15% |
| • Consumption | 75 mA max. |

Connection

- | | |
|---|------------------|
| • Sensor | 8-pin M12 female |
| • Power/Output | 5-pin M12 male |
| • Maximum cable length - power / output cable | 300 m [984 ft] |



Environment

- Operating temperature range 0 to 55 °C [32 to 131 °F]

Physical Characteristics

- Body Aluminum, painted black
- Mounting 4 Slots for (M3.5) [#6] screws
- Status indicator Multicolor LED

Sensor

Environment

- Operating temperature range
 - Stator insertion tip 0 to 100 °C [32 to 212 °F]
 - Integral cable 0 to 80 °C [32 to 176 °F]

Physical Characteristics

- Stator insertion tip - rigid section
 - External body Metallic tube with cross linked polyolefin outer jacket
 - External diameter 5.3 mm max. [0.209 in]
 - Mounting Glued on stator wall, using adjustable mounting support
- Integral cable - flexible section
 - Material PVC outer jacket, with PUR molded head connector
 - Length 30 cm [12 in]
 - Diameter 5 mm [0.20 in]
 - Connectors 4-pin M12 male

Extension Cable

Environment

- Operating temperature range 0 to 80 °C [32 to 176 °F]

Physical Characteristics

- Material PUR outer jacket, with PUR molded head connector
- Length 30 m [98.4 ft] (*can be cut to desired length*)
- Diameter 5 mm [0.20 in]
- Connectors
 - Sensor end 4-pin M12 female
 - Conditioner end 4-pin M12 male (*included - to be installed at site*)

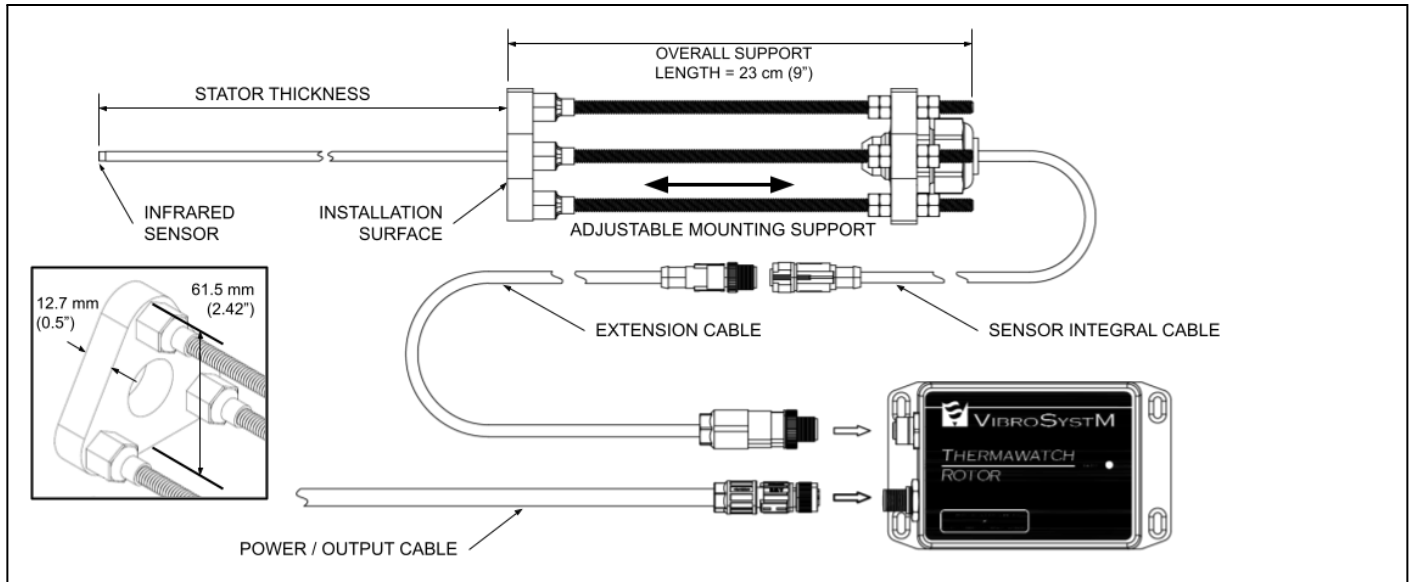
Adjustable Mounting Support

Physical Characteristics

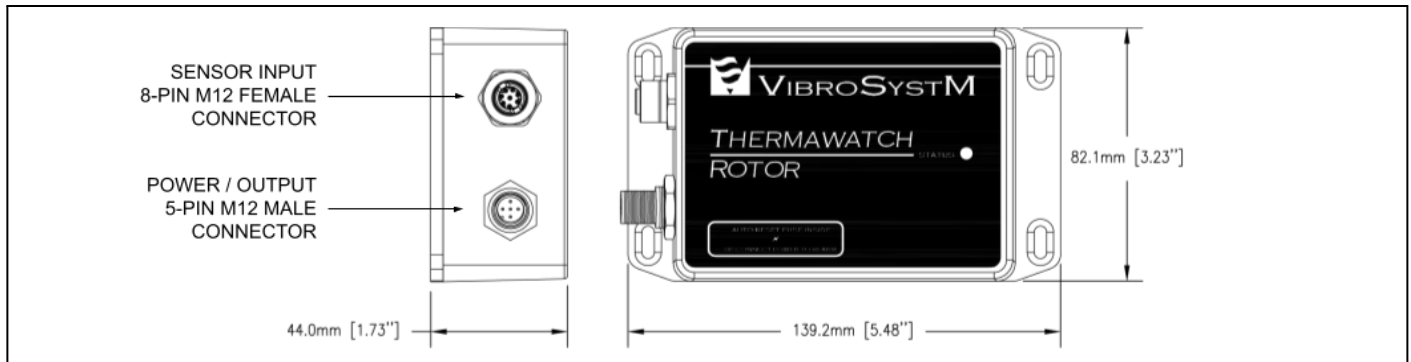
- Material FR4 support with brass threaded rods and nuts
- Length 23 cm [9 in]
- Adjustment range 15 cm [5.9 in]



TWR-200 MEASURING CHAIN OVERVIEW



TWR-200 SIGNAL CONDITIONER



TWR-200 PRODUCT INFORMATION

Product Number	Description
VSM-TWR200- (S,M or L)	TWR-200 ThermoWatch Rotor Temperature sensor (short, medium, or long)
VSM-SUPP-TWR200	TWR-200 ThermoWatch Rotor Adjustable mounting support (15cm)
VSM-L50H-TWR200	TWR-200 ThermoWatch Rotor Signal conditioner (50Hz)
VSM-L60H-TWR200	TWR-200 ThermoWatch Rotor Signal conditioner (60Hz)
VSM-CBL-TWR200-30	TWR-200 ThermoWatch Rotor 30m Extension cable