

RTD-831-Series

Bolt-On RTD Sensor with Aluminum Flag Housing

Omega's RTD-831 series 3-wire RTD sensor features an improved barrel and flag design on the aluminum housing which gives improved durability. The flag is machined to accept various size screws for easy installation on flat surfaces by either being bolted or cemented onto the surface. This is available in 100 Ω or 1000 Ω Platinum RTD element and is available in a high temperature (-HT) version. Connection options available are miniature 3-pin connector (-MTP), standard 3-pin connector (-OTP), stripped ends (-SE), and spade lugs (-LUG). For other connector types, please contact Sales. Applications for this type of sensor include product performance testing; climate control/HVAC; monitoring and control of processes; hot plate equipment, and process pipes.



Features

- Updated housing design for improved strain relief
- Standard hole for #3 and #4 screw. Other holes sizes available
- Small aluminum housing allows for installation on most flat surfaces
- Sensor can be bolted or cemented into place
- Class A or Class B RTD element conforming to IEC 60751
- Temperature range -60 to 230°C (-76 to 446°F) for standard item. “-HT” (high temp) range -60 to 450°C (-76 to 842°F)
- Resistance value: PT100 Ω or PT1000 Ω
- Connection options available including female connectors

Specifications

| | |
|-------------------------------|---|
| Process Temperature Range | -60 to 230°C (-76 to 446°F) -60 TO 450°C (-76 to 842°F) -HT units |
| Resistance and Accuracy | PT100 Ω or PT1000 Ω Class A or Class B accuracy per IEC 60751 |
| Connection Type | Four available: Miniature, Standard, Stripped ends, Spade Lugs |
| Dimensions and mounting screw | Barrel dimensions: 0.562 in. by 0.190 in. Mounting body dimension: 0.31 in. x 0.31 in. Screw sizes: #3, #4, #5, #6 and #8 (dimensions shown on next page) |
| Cable length | 1-meter standard. Other cable lengths available |
| Cable material | Standard, PFA coated leads. For -HT (high temp), fiberglass with stainless steel overbraid |
| Mounting Style | Bolt-on or Cement-on |

Ordering Example: RTD-831-MTP: 100 Ω , Class A Surface RTD with 0.116 in. hole for #3 or #4 screw, 1-meter leads, 3-pin mini connector.

| RTD-831 Termination Options | | |
|-----------------------------|-----------------------|-------------------------|
| Suffix | Connector Part Number | Termination Description |
| -MTP | MTP-U-M | 3-pin male miniature |
| -OTP | OTP-U-M | 3-pin male standard |
| -LUG | n/a | Spade lugs |
| -SE | n/a | Stripped ends |

Ordering Example: RTD-831-LUG: 100 Ω , Class A Surface RTD, 1-meter leads, 0.116 in. hole dimension for #3 and #4 screw, with spade lug termination.

| RTD-831 Screw size Designation | | |
|--------------------------------|----------------|------------|
| Suffix | Hole Dimension | Screw size |
| None | 0.116 in. | #3 and #4 |
| -H147 | 0.147 in. | #5 and #6 |
| -H170 | 0.170 in. | #8 |

Ordering Example: RTD-831-MTP-H147: 100 Ω , Class A Surface RTD, 1-meter leads, 0.147 in. hole dimension for #5 and 6 screw, with mini connector.

RTD-831-Series Drawing

| REVISIONS | | | | | | |
|-----------|-----------------|-----|----------|----|-----|-----|
| SYM | REVISION RECORD | ECN | DATE | DR | CHK | ENG |
| A | INITIAL RELEASE | | 3/9/2021 | MA | EM | EL |

STANDARD:

H147:

H170:

ALL DIMENSIONS FOR REFERENCE ONLY

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| PROPRIETARY NOTICE UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED DIMENSIONS ARE FOR REFERENCE ONLY REMOVE BURRS, BREAK EDGES ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED DUAL DIMENSION ARE FOR REFERENCE ONLY © 2021 OMEGA ENGINEERING, INC. PART NO: 080-0177 Rev. 1 (1/20/21) | TOLERANCES UNLESS OTHERWISE SPECIFIED: DECIMAL: | APPROVALS DATE: 03/08/2021 DR: MA CHK: KM APP'D: EL 03/08/2021 | |
| | SPECIES: | DATE: 03/08/2021 | TITLE: |
| | SPEC: | DATE: 03/08/2021 | RTD-831 HOLE SIZE DRAWING |
| | SPEC: | DATE: 03/08/2021 | PART NO: 080-0177 REV: A |
| SPEC: | DATE: 03/08/2021 | PART NO: 080-0177 REV: A | PROJECT: 200408 SHEET: 1 of 1 |