

HTR200/201 TEMPERATURE TRANSMITTER

- **MAA TYPE HEAD WITH INTEGRAL TRANSMITTER**
- **INPUT: RTD, SLIDE WIRE, RESISTANCE**
- **USER LINEARIZATION**
- **PC PROGRAMABLE**
- **(4 to 20) mA OUTPUT**

➤ INTRODUCTION

The HTR200 is a cost effective “smart” transmitter integrated into an MAA type connection head that accepts resistance signals including RTD sensors and converts them to a standard industrial (4 to 20) mA transmission signal over a user programmed range. There are two versions available with either 1/8” BSP or M10 probe connections. Its small size (52mm swing diameter), allows for installations where space is critical and being 60% lighter than a conventional transmitter installed in a KNE type alloy head, means smaller stem diameter and head threads can be used in the temperature probe. Temperature probes are sold separately and our style 1 and 2 are the most popular with this product.

➤ FEATURE HIGHLIGHTS

SENSOR REFERENCING (Temperature mode)

The HTR200 sensor referencing via the Windows based USBSpeedlink software allows for close matching to a known reference sensor eliminating possible sensor errors.

CUSTOM LINEARISATION

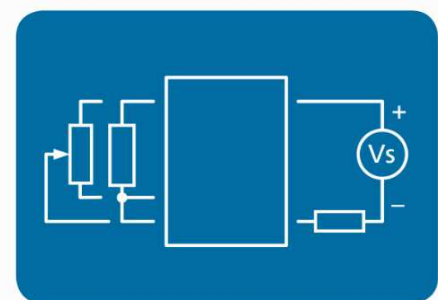
As standard the HTR200 has all common RTD sensors available from its software library. Additionally, the HTR200 can be programmed with up to 22-point custom linearization for ohms and slidewire inputs.

SENSOR BURN OUT DETECTION (Temperature mode)

If a sensor wire is broken or becomes disconnected the HTR200 output will automatically go to its user defined level (upscale or downscale) or a pre-set value.

STABILITY

The HTR200 integral transmitter incorporates the latest digital technology to ensure accurate, low drift performance.



HTR200/201 TEMPERATURE TRANSMITTER

| ELECTRICAL INPUT | | SPECIFICATIONS @20 °C |
|---------------------|--|---|
| Type | Range | Accuracy/ Stability |
| Slide Wire | | |
| (0 to 100) % Travel | Wire resistance (1 to 100) K Ω | $\pm 0.1 \%$ |
| Resistance | | |
| Ohms | (10 to 500) Ω (500 to 2500) Ω (2500 to 10500) Ω | $\pm 0.055 \Omega$ $\pm 0.5 \Omega$ $\pm 10.0 \Omega$ |
| Thermal drift | (10 to 500) Ω (500 to 2500) Ω (2500 to 10500) Ω | $\Omega 0.013 \Omega / ^\circ\text{C}$ $\Omega 0.063 \Omega / ^\circ\text{C}$ $\Omega 0.27 \Omega / ^\circ\text{C}$ |
| Excitation current | | < 200 μA |

| SENSOR INPUT RTD | | SPECIFICATIONS @20 °C |
|--|---|--|
| Type | Range | Accuracy/ Stability |
| Pt100 (IEC) | (-200 to 850) $^\circ\text{C}$ | $\pm 0.2 \text{ } ^\circ\text{C} \pm (0.05\% \text{ of reading})$ (Plus sensor error) |
| Pt500 (IEC) | (-200 to 850) $^\circ\text{C}$ | |
| Pt1000 (IEC) | (-200 to 600) $^\circ\text{C}$ | |
| Ni100 | (-60 to 180) $^\circ\text{C}$ | |
| Ni120 | (-70 to 180) $^\circ\text{C}$ | |
| Ni1000 | (-40 to 150) $^\circ\text{C}$ | |
| Cu53 | (-40 to 180) $^\circ\text{C}$ | |
| Cu100 | (-80 to 260) $^\circ\text{C}$ | |
| Cu1000 | (-80 to 260) $^\circ\text{C}$ | |
| Lead effect | Max lead resistance 20 Ω per leg | |
| Library contains more (standards/types) Including silicon sensors | | |
| Temperature stability: - Refer to resistance stability values for thermal effect | | |

| OUTPUT | | SPECIFICATIONS @20 °C |
|------------------------|---------------------------------|---|
| Type/ Function | Range/ Description | Accuracy/ Stability/ Notes |
| Two wire current | (4 to 20) mA | (mA output /2000) or 5 μA (Whichever is the greater) |
| Thermal drift | Zero at 20 $^\circ\text{C}$ | 2 $\mu\text{A} / ^\circ\text{C}$ |
| Maximum output current | 21.5 mA | In high burnout condition |
| Minimum output current | < 3.9 mA | In low burnout condition |
| Loop voltage effect | 0.2 $\mu\text{A} / \text{V}$ | |
| Maximum output load | [(V supply - 10)/20] K Ω | 700 Ω @ 24 V DC |
| Loop supply | (10 to 30) V DC | SELV |
| Power | < 1 W full power | |

| USB USER INTERFACE | | |
|--------------------------------|---|---|
| Type/ Function | Range/ Description | Notes |
| Configuration hardware | USB configuration module | USB-CONFIG-MKII |
| Configuration software | USBSpeedLink | Download www.status.co.uk |
| Temperature mode configuration | Sensor type | RTD list |
| | Temperature range for (4 to 20) mA retransmission | $^\circ\text{C}$ or $^\circ\text{F}$ |
| | Sensor offset | $^\circ\text{C}$ or $^\circ\text{F}$ |
| | Burnout current | Upscale, downscale or user set |

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| Type/ Function | Range/ Description | Notes |
|----------------------------|---|---------------------------------------|
| Process mode configuration | Input type | Ohms or slide wire |
| | Process range for (4 to 20) mA retransmission | User engineering units, 4 characters |
| | User linearisation | (2 to 22) segments |
| Tag number | | 20 characters |
| Filter | (0 to 100) s time constant | Adjustable |
| Read live data | Temperature / process output | °C or °F or user units for process mA |
| Save/ open configuration | From file | |

| GENERAL | |
|-----------------------|--------------------------------------|
| Function | Description |
| Update time | 500 ms |
| Response time | 0.5 s (160 ms input update rate) |
| Start-up time | 5 |
| Warm up time | 120 s to full accuracy |
| Default configuration | PT100 (0 to 100) °C, upscale burnout |

| ENVIRONMENTAL | |
|---------------------------|---|
| Function | Description |
| Ambient temperature | Operating/Storage (-40 to 85) °C Full accuracy only between (-30 to 75) °C |
| Ambient Humidity | Operating/Storage (10 to 90) %RH non-condensing |
| Protection | IP66 |
| USB configuration ambient | (10 to 30) °C |

| MECHANICAL | |
|-------------|--|
| Function | Description |
| Dimensions | 52 mm height |
| Probe entry | See order codes below |
| Cable entry | M16 x 1.5 (use IP66 cable gland to maintain full protection) |
| Connections | 2-part connectors |
| Weight | Approximately 80 g (encapsulated) without probe |

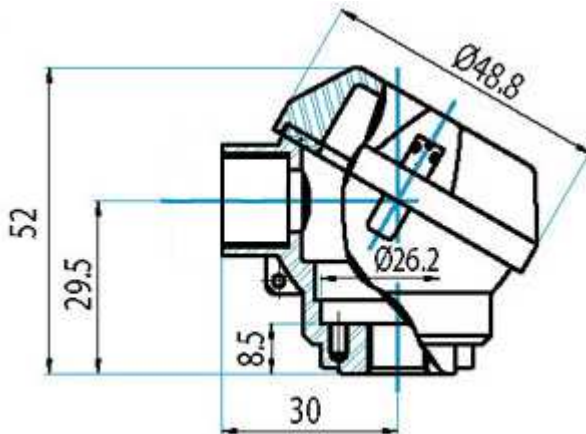
| APPROVALS | |
|--------------------|--|
| EMC | BS EN 61326: Note - Sensor input wires to be less than 3 m to comply |
| Ingress protection | BS EN 60529 |
| RoHS | Directive 2011/65/EU |



HTR200/2001 TEMPERATURE TRANSMITTER

| ORDER CODE | |
|------------|-----------------------|
| HTR200 | Probe entry M10 x 1.0 |
| HTR201 | Probe entry 1/8" BSP |

Dimensions in mm



| ACCESSORIES | |
|----------------------------|---|
| USB configuration software | USBSpeedLink free of charge from www.status.co.uk |
| Configuration device | USB-CONFIG-MKII |
| Probe options | Refer to www.status.co.uk |

To maintain full accuracy annual calibration is required contact support@status.co.uk for details

The data in this document is subject to change. Status Instruments assumes no responsibility for errors

