



## IPAQ R330

### Universal Programmable 2-wire transmitter



IPAQ R330 is a universal, isolated, temperature transmitter with additional voltage and resistance input. Its robust design and high quality gives excellent performance and accuracy also under harsh conditions. IPAQ R330 supports communication via NFC® (Near-field communication) and Bluetooth® which makes it possible to configure and monitor the transmitter remotely.

- High accuracy and long term stability
- 50-point Customized Linearization and Callendar-Van Dusen
- Accepts RTD, T/C, mV and  $\Omega$
- Sensor error and system (sensor/transmitter) error correction for highest total accuracy
- Low temperature drift
- Configuration via USB, without external power
- Runtime counter - hour counter for elapsed operational time
- Rugged design tested for 5 g vibrations
- High security - Password protection and date of changes logged
- Accepts mA input signals within -1 to +100 mA when used with Adapter mA
- Acts like a passive isolator (isolation transmitter) with a 2-wire loop-powered 4-20 mA output
- Suitable for direct connection to an active input module of a control system

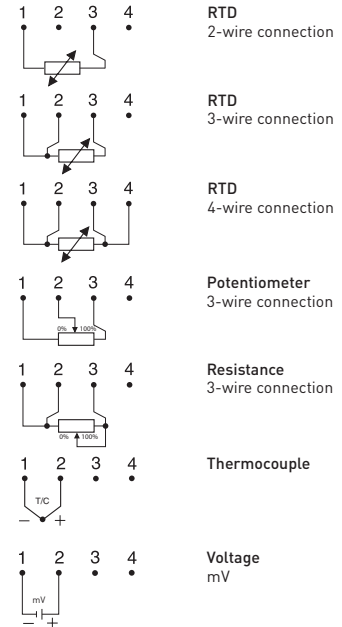
#### Specifications:

|                                                                |                                                                |
|----------------------------------------------------------------|----------------------------------------------------------------|
| <b>Input RTD</b>                                               | 2-, 3-, 4-wire connection                                      |
| Pt100 ( $\alpha = 0.00385$ ) <sup>1)</sup>                     | -200 to +850 °C / -328 to +1562 °F                             |
| PtX 10 $\leq X \leq 1000$ ( $\alpha = 0.00385$ ) <sup>1)</sup> | -200 to +850 °C / -328 to +1562 °F                             |
| Pt100 ( $\alpha = 0.003916$ ) <sup>2)</sup>                    | -200 to +850 °C / -328 to +1562 °F                             |
| Ni100 <sup>3)</sup> , Ni120 <sup>4)</sup>                      | -60 to +250 °C / -76 to +482 °F                                |
| Ni1000 <sup>3)</sup>                                           | -50 to +180 °C / -58 to +356 °F                                |
| Cu10 <sup>5)</sup>                                             | -50 to +200 °C / -58 to +392 °F                                |
| <b>Input Resistance / potentiometer</b>                        | 0 to 10000 $\Omega$ / 100 to 10000 $\Omega$                    |
| <b>Input Thermocouples</b>                                     | Types B, C, D, E, J, K, N, R, S, T                             |
| <b>Input mV</b>                                                | -10 to +1000 mV                                                |
| <b>Sensor failure</b>                                          | Upscale ( $\geq 21.0$ mA) or downscale ( $\leq 3.6$ mA) action |
| <b>Adjustments - Zero</b>                                      | Any value within range limits                                  |
| <b>Adjustments - Minimum spans</b>                             |                                                                |
| Pt100, Pt1000, Ni100, Ni1000                                   | 10 °C / 18 °F                                                  |
| Resistance / potentiometer                                     | 10 $\Omega$ / 10 %                                             |
| T/C, mV                                                        | 2 mV                                                           |
| <b>Output</b>                                                  | 4-20 mA / 20-4 mA, temperature linear                          |
| <b>Operating temperature</b>                                   | -40 to +85 °C / -40 to +185 °F                                 |
| <b>Galvanic isolation</b>                                      | 1500 VAC, 1 min                                                |
| <b>Power supply</b>                                            | IPAQ R330: 8.0...36.0 VDC<br>IPAQ R330X: 8.0...30.0 VDC        |
| <b>Intrinsic safety</b>                                        |                                                                |
| IPAQ R330X ATEX:                                               | II 1 G Ex ia IIC T6...T4 Ga                                    |
| IPAQ R330X IECEx:                                              | Ex ia IIC T6...T4 Ga                                           |
| IPAQ R330X FM US:                                              | IS CL I Div 1 GP A-D, T6...T4 <sup>4)</sup>                    |
| IPAQ R330X FM CA:                                              | CL I Zn 0 AEx/Ex ia IIC T6...T4 Ga <sup>4)</sup>               |
| <b>Typical accuracy</b>                                        | $\pm 0.08$ °C or $\pm 0.08$ % of span                          |
| <b>Mounting</b>                                                | 35 mm DIN rail acc. to EN 60715                                |

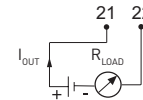
<sup>1)</sup> IEC 60751, <sup>2)</sup> JIS C 1604, <sup>3)</sup> DIN 43760, <sup>4)</sup> Edison No. 7, <sup>5)</sup> Edison No. 15, <sup>6)</sup> T6...T4 are depending on effect

#### Input connections

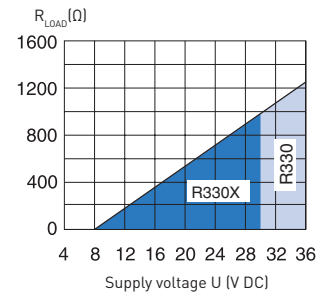
See data sheet for more alternatives



#### Output connections

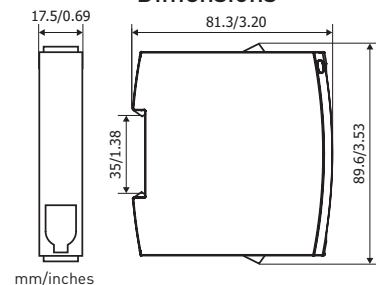


#### Output load diagram



$$R_{LOAD} = (U - 8) / 0.022$$

#### Dimensions



#### Ordering information

|                                         |            |
|-----------------------------------------|------------|
| IPAQ R330                               | 70R3300012 |
| IPAQ R330X (ATEX, IECEx)                | 70R330X012 |
| IPAQ R330X (cFmus, ATEX, IECEx)         | 70R330F012 |
| ICON-X, PC configuration kit            | 70CFGUSX01 |
| ICON-BT, Bluetooth® configuration kit   | 70CFGBT001 |
| Adapter mA, adapter for mA input signal | 70ADA00051 |

