

IPAQ®



C202 PC-Programmable 2-wire Transmitter for Pt100 Input



IPAQ C202 is a digital, easy-to-use temperature transmitter developed specifically for measurements with Pt100 sensors. Its robust design and high quality gives excellent performance and accuracy also under harsh conditions. The IPAQ C202 is also available with ATEX and IECEx certificates making it suitable for a wide range of applications.

With the new runtime counter function you can easily supervise the elapsed operational time between calibrations.

Measurements with Pt100 sensors in 3-wire connection

IPAQ C202 accepts inputs from Pt100 sensors in 3-wire connection: Pt100 acc. to IEC 60751 ($\alpha=0.00385$)

Runtime counter

With the runtime counter function you can for example easily supervise the elapsed operational time.

Temperature linear output

Fully temperature linear 4-20 mA output.

High accuracy

With an accuracy of ± 0.1 °C / ± 0.2 °F or ± 0.1 % of span (the largest apply) C202 offers an outstanding performance in its class.

Sensor matching for maximum accuracy

A matching to a calibrated temperature sensor can easily be performed by entering the sensor errors in the low and high ends of the measuring range.

Designed for harsh conditions

Rugged design tested for 10 g vibrations.

Mounting, wiring and testing

C202 is designed to fit inside connection heads type DIN B or larger.

The large centre hole, dia. 7 mm / 0.28 inch, the robust terminals with test connections and the low height greatly simplify the mounting, wiring and testing procedure.

Configuration without external power

Edit or read the configuration off-line, i.e. without power supply, by just connecting the USB-interface to a PC.

ConSoft, easy-to-use Windows configuration software

The simple and user friendly software, ConSoft, is used for transmitter configuration in seconds. In one window all parameters are set, such as measuring range, sensor failure action, error corrections etc.

Specifications

Input RTD

| | | |
|--------------------------------------|-------------------|---------------------------------|
| Pt100 (IEC 60751, $\alpha=0.00385$) | 3-wire connection | -200... +850°C / -328...+1562°F |
| Sensor current | | ≤ 0.5 mA |
| Maximum sensor wire resistance | | 20 Ω /wire |

Monitoring

| | | |
|--|--|--|
| Sensor break and sensor short circuit monitoring | | Upscale (≥ 21.0 mA) or downscale (≤ 3.6 mA) action |
|--|--|--|

Adjustments

| | | |
|---------------------------|--|--|
| Zero adjustment | | Any value within range limits |
| Minimum span | | 20 °C / 36 °F |
| Sensor error compensation | | $\pm 10\%$ of span for span $< 100^\circ\text{C}/180^\circ\text{F}$, otherwise $\pm 10^\circ\text{C}/\pm 18^\circ\text{F}$ |

Output

| | | |
|------------------------------------|------------------|--|
| Output signal | | 4...20 mA, temperature linear |
| NAMUR compliance | | Current limitations and failure currents acc. to NAMUR NE 43 |
| Adjustable filtering level | | 0.13 to 54 s, (default 0.9 s) |
| Permissible load, see load diagram | Standard version | 818 Ω @ 24 VDC |
| | Ex version | 727 Ω @ 24 VDC |

General data

| | | |
|----------------------------------|------------------|---------------------------|
| Isolation | | Not galvanically isolated |
| Power supply, polarity protected | Standard version | 6...32 VDC |
| | Ex version | 8...30 VDC |

Environment conditions

| | | |
|---------------------|-----------------------|--|
| Ambient temperature | Storage and operation | -40...+85°C / -40...+185°F |
| Humidity | | 0...98% RH (non-condensing) |
| Vibrations | | Acc. to IEC 60068-2-6, test Fc, 10...2000 Hz, 10 g |
| Shock | | Acc. to IEC 60068-2-27, test Ea |
| Rough Handling | | Acc. to IEC 60068-2-31:2008, test Ec |
| EMC | Standards | Directive: 2014/30/EU Harmonized standards: EN 61326-1, EN 61326-2-3 |
| | Immunity performance | ESD, Radiated EM-field, Magnetic Fields: Criteria A Burst, conducted RF: Criteria A Surge: standard deviation 1% of span |

Accuracy and stability

| | | |
|--------------------------|------------------------------|---|
| Basic accuracy | | Max of $\pm 0,1\text{K}$ or $\pm 0,1\%$ of span |
| Temperature influence | Deviation from 20 °C / 68 °F | Max. of ± 0.25 °C/25 °C or $\pm 0.25\%$ of span/25 °C Max. of ± 0.5 °F/50 °F or $\pm 0.28\%$ of span/50 °F |
| Sensor wire influence | | $\pm 0.005^\circ\text{C}/\Omega$ / $\pm 0.009^\circ\text{F}/\Omega$, with equal wire resistance |
| Supply voltage influence | | Negligible |
| Long-term stability | | ± 0.1 % of span per year |

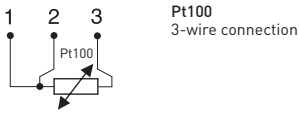
Housing

| | | |
|---------------------------------|--|--|
| Material, Flammability (UL) | | PC/ABS + PA, V0 |
| Mounting | | DIN B-head or larger, DIN rail (with mounting kit) |
| Connection | | Single/stranded wires, Max. 1.5 mm ² , AWG 16 |
| Weight | | 32 g / 0.07 lb |
| Protection, housing / terminals | | IP 65 / IP 00 |

Ex Approvals (IPAQ C202X)

| | | |
|-------|--|-----------------------------|
| ATEX | | II 1 G Ex ia IIC T6...T4 Ga |
| IECEX | | Ex ia IIC T6...T4 Ga |

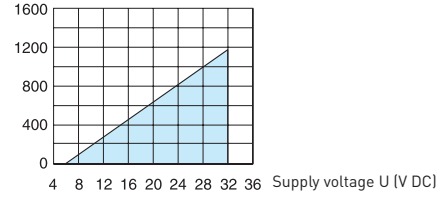
Input connections



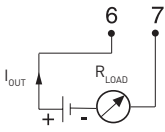
Output load diagram

Standard version

$$R_{LOAD}(\Omega) = [U - 6] / 0.022$$

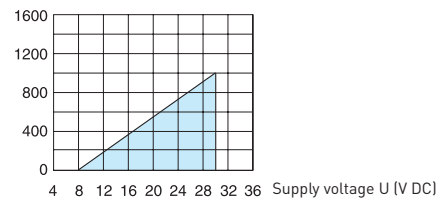


Output connections



Ex version

$$R_{LOAD}(\Omega) = [U - 8] / 0.022$$



Ordering information

| | |
|----------------------------------|------------|
| IPAQ C202 | 70C2020010 |
| IPAQ C202X (Ex-approved version) | 70C202X010 |
| PC configuration kit (USB-conn.) | 70CFGUS001 |
| Head mounting kit | 70ADA00017 |
| Rail mounting kit | 70ADA00015 |

Dimensions

