

## USER INSTRUCTIONS

# Compact, PC-programmable 2-wire Transmitter with integrated M12 connectors for Pt100 Input

## IPAQ<sup>®</sup> CT20



The user instruction must be read prior to adjustment and/or installation.  
All information subject to change without notice.

### MEASURE OF SUCCESS



# INOR

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This product should not be mixed with other kind of scrap, after usage.  
It should be handled as an electronic/electric device.

### MEASURE OF SUCCESS

## GENERAL INFORMATION

IPAQ CT20 is a compact, analog, non-isolated, 2-wire temperature transmitter for Pt100 3W input with a temperature linear 4-20 mA output signal. The transmitter has integrated M12 connectors for both input and output connections.

The transmitter is configured from a PC via a USB port, connected via the INOR USB Interface, by using the ConSoft configuration program. All necessary hardware and software for configuration are included in the ICON configuration kit, except the M12 adapter cable USB Interface that must be ordered separately.

Inor offers a wide range of sensors for connection to the compact transmitter.

## DATA (shortform)

<b>Input</b>	3-wire Pt100 IEC 60751, $\alpha=0.00385$
<b>Output</b>	Analog, 4-20 mA, temperature linear
<b>Response time (90%)</b>	< 10 ms
<b>Measuring range limits</b>	-50...+800°C
<b>Zero limits</b>	-50°C to +50°C
<b>Minimum span</b>	50°C or 20°C, If the zero point is set at -40 °C, -20 °C, 0 °C, +20 °C or +40°C the minimum span is 20 °C, otherwise it is 50 °C.
<b>Sensor break</b>	Selectable, Upscale ( $\geq 21.0$ mA) or downscale ( $\leq 3.6$ mA) action
<b>Sensor short-circuit</b>	Fixed, downscale ( $\leq 3.6$ mA) action
<b>Ambient temperature</b>	-40 to +85 °C (storage and operation)
<b>Humidity</b>	0 to 100 %RH
<b>General data</b>	
<b>Galvanic isolation</b>	No
<b>Power supply</b>	7.5 to 32 VDC, polarity protected
<b>Basic accuracy</b>	Max. of $\pm 0.2$ °C or $\pm 0.2$ % of span
<b>Process connection input</b>	M12x1, 4-pin, A-coded, Female
<b>Process connection output</b>	M12x1, 4-pin, A-coded, Male

## CONFIGURATION

### Installation of software and driver

Before making a configuration of IPAQ CT20 you need to do following:

1. Install ConSoft 3 or higher and drivers for the USB Interface.
2. Connect the USB Interface to a free USB port of your PC and wait for automatic installation of the USB Interface.

Please refer to "Quick Installation Guide for ConSoft 3" for installation instructions.

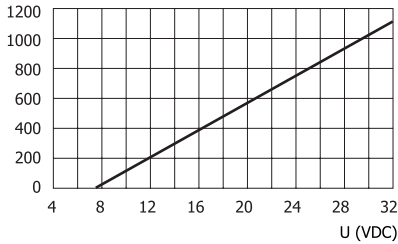
### Configuration procedure:

1. Connect the output M12 connector on IPAQ CT20 to the PC via the M12 adapter cable and USB Interface, LED indicator "DEV" on the USB Interface becomes green. (The transmitter is powered from the USB interface during configuration so no external power supply is needed)
2. In ConSoft 3, click on the "Read" button. The software will recognize the connected transmitter, upload the transmitter's configuration and open the configuration window.
3. In the configuration window you can configure:
  - a. measuring range
  - b. measurement unit
  - c. upscale or downscale action at sensor break
  - d. input sensor compensation for known sensor errors
  - e. TAG-number (16 characters)
4. The selected configuration is downloaded to the transmitter by clicking the "Write" button. When the data transfer is complete, the transmitter begins using the new parameters directly.

## OUTPUT LOAD DIAGRAM

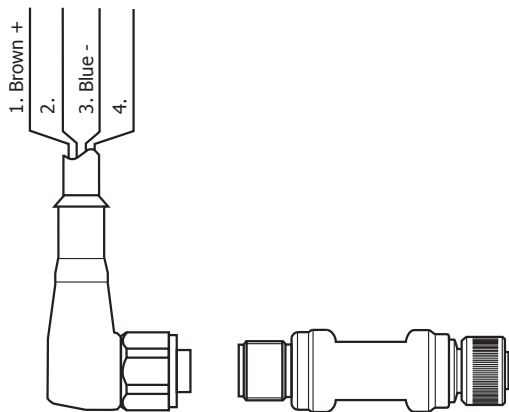
$$R_{LOAD} (\Omega) = (U - 7.5) / 0.022$$

$R_{Load} (\Omega)$

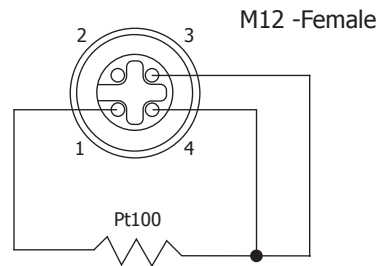


Supply voltage U (V DC)

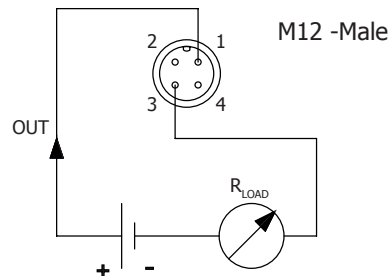
## CONNECTION



## INPUT CONNECTIONS



## OUTPUT CONNECTIONS



## CALIBRATION

Due to the low long-term drift of max  $\pm 0.1\%$  of span per year, a recalibration of the transmitter is normally not needed. Should you for any reason require a recalibration, the transmitter must be returned to the factory.

## LIMITED WARRANTY

INOR Process AB, or any other affiliated company within the Inor Group (hereinafter jointly referred to as "Inor"), hereby warrants that the Product will be free from defects in materials or workmanship for a period of five (5) years from the date of delivery ("Limited Warranty"). This Limited Warranty is limited to repair or replacement at Inor's option and is effective only for the first end-user of the Product. Upon receipt of a warranty claim, Inor shall respond within a reasonable time period as to its decision concerning:

- 1 Whether Inor acknowledges its responsibility for any asserted defect in materials or workmanship; and, if so,
- 2 the appropriate cause of action to be taken (i.e. whether a defective product should be replaced or repaired by Inor).

This Limited Warranty applies only if the Product:

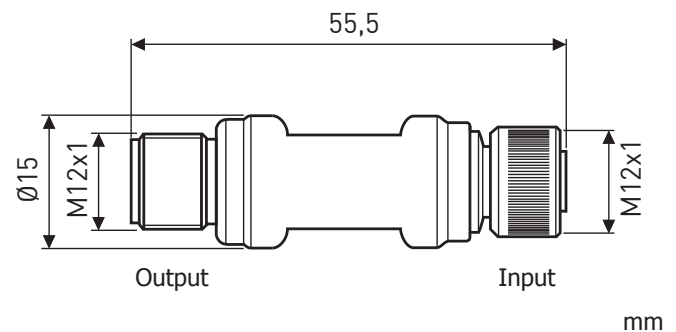
- 1 is installed according to the instructions furnished by Inor;
- 2 is connected to a proper power supply;
- 3 is not misused or abused; and
- 4 there is no evidence of tampering, mishandling, neglect, accidental damage, modification or repair without the approval of Inor or damage done to the Product by anyone other than Inor.

This Limited Warranty is provided by Inor and contains the only express warranty provided.

**INOR SPECIFICALLY DISCLAIMS ANY EXPRESS WARRANTY NOT PROVIDED HEREIN AND ANY IMPLIED WARRANTY, GUARANTEE OR REPRESENTATION AS TO SUITABILITY FOR ANY PARTICULAR PURPOSE, PERFORMANCE, QUALITY AND ABSENCE OF ANY HIDDEN DEFECTS, AND ANY REMEDY FOR BREACH OF CONTRACT, WHICH BUT FOR THIS PROVISION, MIGHT ARISE BY IMPLICATION, OPERATION OF LAW, CUSTOM OF TRADE OR COURSE OF DEALING, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. EXCEPT AS PROVIDED HEREIN, INOR FURTHER DISCLAIMS ANY RESPONSIBILITY FOR LOSSES, EXPENSES, INCONVENIENCES, SPECIAL, DIRECT, SECONDARY OR CONSEQUENTIAL DAMAGES ARISING FROM OWNERSHIP OR USE OF THE PRODUCT.**

Products that are covered by the Limited Warranty will either be repaired or replaced at the option of Inor. Customer pays freight to Inor, and Inor will pay the return freight by post or other "normal" way of transport. If any other type of return freight is requested, customer pays the whole return cost.

## DIMENSIONS



## ORDERING INFORMATION

IQAQ CT20	70CT200010
ICON Configuration kit *	70CFGUS001
M12 adapter cable for USB Interface	4004430401
Output connecting cable with angled M12 connector, length 2 m	4003211501
Output connecting cable with angled M12 connector, length 5 m	4003211502

\* M12 adapter not included in the kit, must be ordered separately