

# Programmable, electrically isolated, 4-20 mA universal transmitter GITT01

GITT01 \*1

GITT01 - Ex \*1

(Ex-protection: ATEX II 1G Ex ia IIC T6/T5 /T4)

\*1=Transmitter can either be programmed by customer or by our works - please specify type upon order.  
(e.g. GITT01, NiCr-Ni (type K), 4...20 mA = 0 - 300 °C)


## Accessories:

### Rail adapter

(rail adapter for snap-on to top-hat rail)

### Programming tool for GITT01

The programming tool consists of: configurations software, connection cable USB (approx. 1m long, 9-pin Dsub-plug)

- universally programmable for
  - resistance thermometers
  - thermocouples
  - resistance sensor
  - voltage sensor
- electrically isolated
- output linear to temperature
- high accuracy for the entire ambient temperature range (-40 ... 85 °C)
- available with  - protection
- error messages in case of sensor damage or short-circuit, settings acc. to NAMUR NE43
- configuration can be carried out during measuring



## Specification:

**Input signal:** can be universally programmed to

- Resistance thermometer:	max. meas. range	min. meas. span
Pt100 acc. to IEC 751	-200 ... +850 °C	10 K
Pt500 acc. to IEC 751	-200 ... +250 °C	10 K
Pt1000 acc. to IEC 751	-200 ... +250 °C	10 K
Ni100 acc. to DIN 43760	-60 ... +250 °C	10 K
Ni500 acc. to DIN 43760	-60 ... +150 °C	10 K
Ni1000 acc. to DIN 43760	-60 ... +150 °C	10 K

### - Thermocouples:

Type B, PtRh30-PtRh6	0 ... +1820 °C	500 K
Type C, W5Re-W26Re (ASTME 988)	0 ... +2320 °C	500 K
Type D, W3Re-W25Re (ASTME 988)	0 ... +2495 °C	500 K
Type E, NiCr-CuNi	-270 ... +1000 °C	50 K
Type J, Fe-CuNi (acc. to IEC 584)	-210 ... +1200 °C	50 K
Type K, NiCr-Ni	-270 ... +1372 °C	50 K
Type L, Fe-CuNi (acc. to DIN 43710)	-200 ... + 900 °C	50 K
Type N, NiCrSi-NiSi	-270 ... +1300 °C	50 K
Type R, Pt13Rh-Pt	-50 ... +1768 °C	500 K
Type S, Pt10Rh-Pt	-50 ... +1768 °C	500 K
Type T, Cu-CuNi (acc. to IEC 584)	-270 ... + 400 °C	50 K
Type U, Cu-CuNi (acc. to DIN 43710)	-200 ... + 600 °C	50 K
MoRe5-MoRe41	0 ... +2000 °C	500 K

### - Resistance-type sensor:

Resistance	max. meas. range	min. meas. span
Resistance	10 ... 400 Ohm	10 Ohm
Resistance	10 ... 2000 Ohm	10 Ohm

### - Voltage sensor:

Voltage	max. meas. range	min. meas. span
Voltage	-10 ... 100 mV	5 mV

## Resistance thermometer:

**Sensor connection:** 2-, 3- or 4-wire connection

**Meas. current:** ≤ 0,6 mA

**Max. perm. line resistance:** 11 Ohm / line

**Accuracy:** Pt100, Ni100: ±0.2°C or ±0.08% of meas. span  
Pt500, Ni500: ±0.4°C or ±0.16% of meas. span  
Pt1000, Ni1000: ±0.2°C or ±0.08% of meas. span

**Temperature effect:** Td = ± (15ppm/K \* max. meas. range + 50ppm/K \* meas. span)

## Thermocouples:

**Sensor connection:** 2-wire connection

**Sensor current:** < 350 nA

**Accuracy (typ.):** ±0.5K (types: K, J, E, L, U), ±1.0K (types: N, C, D), ±2.0K (types: S, B, R, MoRe5-MoRe41)

**CJC:** Pt100 internal or external (0...80°C)

**CJC accuracy:** ±1°C

**Temperature effect:** Td = ± (50ppm/K \* max. meas. range + 50ppm/K \* meas. span)

**Output signal:** 4...20 mA or 20...4 mA, 2-wire technology

**Linearisation:** temperature linear, resistance linear or voltage linear

**Auxiliary energy:** V<sub>s</sub> 8 ... 30 V DC (max.ripple factor: 5V<sub>ss</sub> for V<sub>s</sub>>13V)

**Electr. isolation (E/O):** U<sub>eff</sub> = 2 KV AC

**Perm. load R<sub>A</sub>:** R<sub>A</sub> ≤ (V<sub>s</sub> - 8V) / 0,022A [R<sub>A</sub> in Ohm, V<sub>s</sub> in V]

**Supply effects:** ≤ ±0.01% / V deviation from 24V

**Load effect:** ≤ ±0.02% / 100 Ohm

**Digital filter:** 0 to 60 s, configurable

**Switch-on delay:** approx. 4 s

**Response time:** 1 s

**Output limits:** 3.8 ... 20.5 mA

**Signal in case of sensor damage:** 3.6 mA or ≥21.0 mA, configurable

**EMC:** Interference immunity and emission acc. to EN 61326-1 and NAMUR NE21

**Operating temperature:** -40 ... +85 °C

**Climate class:** acc. to EN 60654-1, cl. C; condensation permissible

**Vibration strength:** 4 g / 2...150 Hz acc. to IEC 60 068-2-6

**Electric connection:** via terminals, cross section of connection terminals max. 1.75 mm<sup>2</sup>

**Housing:** PC-housing, suitable for installation in connection head acc. to DIN 43729 form B.

**Dimensions:** Ø 44 mm x 21 mm

**IP-rating** housing: IP54, connection terminals: IP00

**Weight:** approx. 40 g

**Ex-approved:** ATEX II 1G Ex ia IIC T6/T5 /T4

**Power supply set:** U<sub>i</sub> ≤ 30 V DC, I<sub>i</sub> ≤ 100 mA, P<sub>i</sub> ≤ 750 mW  
C<sub>i</sub>, L<sub>i</sub> = negligibly small

**Meas. circuit:** U<sub>o</sub> ≤ 8.2 V DC, I<sub>o</sub> ≤ 4.6 mA, P<sub>o</sub> ≤ 9.35 mW

**Max. connection values:** L<sub>o</sub> = 4.5 mH (ia IIC), 8.5 mA (ia IIB)  
C<sub>o</sub> = 974 nF (ia IIC), 1900 nF (ia IIB)

