

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



UNIVERSALLY PROGRAMMABLE FOR  
RESISTANCE THERMOMETERS / THERMOCOUPLES  
RESISTANCE SENSOR / VOLTAGE SENSOR

### 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)

Specification:			
<b>Input signal: can be universally programmed to</b>			
<b>- Resistance thermometer:</b>		max. meas. range	min. meas. span
<b>Pt100</b>	acc. to IEC 751	-200 ... +850 °C	10 K
<b>Pt500</b>	acc. to IEC 751	-200 ... +250 °C	10 K
<b>Pt1000</b>	acc. to IEC 751	-200 ... +250 °C	10 K
<b>Ni100</b>	acc. to DIN 43760	-60 ... +250 °C	10 K
<b>Ni500</b>	acc. to DIN 43760	-60 ... +150 °C	10 K
<b>Ni1000</b>	acc. to DIN 43760	-60 ... +150 °C	10 K
<b>- Thermocouples:</b>		max. meas. range	min. meas. span
<b>Type B</b>	PtRh30-PtRh6	0 ... +1820 °C	500 K
<b>Type C</b>	W5Re-W26Re (ASTME 988)	0 ... +2320 °C	500 K
<b>Type D</b>	W3Re-W25Re (ASTME 988)	0 ... +2495 °C	500 K
<b>Type E</b>	NiCr-CuNi	-270 ... +1000 °C	50 K
<b>Type J</b>	Fe-CuNi (acc. to IEC 584)	-210 ... +1200 °C	50 K
<b>Type K</b>	NiCr-Ni	-270 ... +1372 °C	50 K
<b>Type L</b>	Fe-CuNi (acc. to DIN 43710)	-200 ... + 900 °C	50 K
<b>Type N</b>	NiCrSi-NiSi	-270 ... +1300 °C	50 K
<b>Type R</b>	Pt13Rh-Pt	-50 ... +1768 °C	500 K
<b>Type S</b>	Pt10Rh-Pt	-50 ... +1768 °C	500 K
<b>Type T</b>	Cu-CuNi (acc. to IEC 584)	-270 ... + 400 °C	50 K
<b>Type U</b>	Cu-CuNi (acc. to DIN 43710)	-200 ... + 600 °C	50 K
	MoRe5-MoRe41	0 ... +2000 °C	500 K
<b>- Resistance-type sensor:</b>		max. meas. range	min. meas. span
<b>Resistance</b>		10 ... 400 Ohm	10 Ohm
<b>Resistance</b>		10 ... 2000 Ohm	10 Ohm
<b>- Voltage sensor:</b>		max. meas. range	min. meas. span
<b>Voltage</b>		-10 ... 100 mV	5 mV

Resistance thermometer:	
<b>Sensor connection:</b>	2-, 3- or 4-wire connection
<b>Meas. current:</b>	< 0,6 mA
<b>Max. perm. line resistance:</b>	11 Ohm / line
<b>Accuracy:</b>	
<b>Pt100, Ni100:</b>	±0.2 °C or ±0.08 % of measuring span
<b>Pt500, Ni500:</b>	±0.4 °C or ±0.16 % of measuring span
<b>Pt1000, Ni1000:</b>	±0.2 °C or ±0.08 % of measuring span
<b>Temperature effect:</b>	Td = ± (15ppm/K * max. meas. range + 50ppm/K * meas. span)

- electrically isolated
- output linear to temperatur
- high accuracy for the entire ambient temperature range (-40 ... 85 °C)
- available with  $\text{Ex}$  - protection
- error messages in case of sensor damage or short-circuit, settings acc. to NAMUR NE43
- configuration can be carried out during measuring

Thermocouples:	
<b>Sensor connection:</b>	2-wire connection
<b>Sensor current:</b>	< 350 nA
<b>Accuracy (typ.):</b>	±0.5 K (types: K, J, E, L, U), ±1,0 K (types: N, C, D), ±2.0 K (types: S, B, R, MoRe5-MoRe41)
<b>CJC:</b>	Pt100 internal or external (0 ... 80 °C)
<b>CJC accuracy:</b>	±1 °C
<b>Temperature effect:</b>	Td = ± (50ppm/K * max. meas. range + 50ppm/K * meas. span)
<b>Output signal:</b>	4 ... 20 mA or 20 ... 4 mA, 2-wire technology
<b>Linearisation:</b>	temperature linear, resistance linear or voltage linear
<b>Auxiliary energy: U<sub>B</sub></b>	8 ... 30 V DC (max. ripple factor: 5 Vss for Ub>13 V)
<b>Electr. isolation (E/O):</b>	Ueff = 2 KV AC
<b>Permitted load R<sub>A</sub>:</b>	R <sub>A</sub> ≤ (U <sub>B</sub> - 8 V) / 0.022 A [R <sub>A</sub> in Ohm, U <sub>B</sub> in V]
<b>Supply effects:</b>	≤ ±0.01 % / V deviation from 24 V
<b>Load effect:</b>	≤ ±0.02 % / 100 Ohm
<b>Digital filter:</b>	0 ... 60 s, configurable
<b>Switch-on delay:</b>	approx. 4 s
<b>Response time:</b>	1 s
<b>Output limits:</b>	3.8 ... 20.5 mA
<b>Signal in case of sensor damage:</b>	3.6 mA or ≥21.0 mA, configurable
<b>EMC:</b>	Interference immunity and emission acc. to EN 61326-1 and NAMUR NE21
<b>Operating temperature:</b>	-40 ... +85 °C
<b>Climate class:</b>	acc. to EN 60654-1, class C; condensation permissible
<b>Vibration strength:</b>	4 g / 2 ... 150 Hz acc. to IEC 60 068-2-6
<b>Electric connection:</b>	via terminals, cross section of connection terminals max. 1.75 mm <sup>2</sup>
<b>Housing:</b>	PC-housing, suitable for installation in connection head acc. to DIN 43729 form B.
<b>Dimensions:</b>	Ø 44 mm x 21 mm
<b>IP-rating:</b>	housing: IP54, connection terminals: IP00
<b>Weight:</b>	approx. 40 g
<b>Ex-approved:</b>	ATEX II 1G Ex ia IIC T6/T5/T4
<b>Power supply set:</b>	Ui ≤ 30 V DC, Ii ≤ 100 mA, Pi ≤ 750 mW Ci, Li = negligibly small
<b>Measuring circuit:</b>	Uo ≤ 8.2 V DC, Io ≤ 4.6 mA, Po ≤ 9.35 mW
<b>Max. connection values:</b>	Lo = 4.5 mH (ia IIC), 8.5 mA (ia IIB) Co = 974 nF (ia IIC), 1900 nF (ia IIB)

#### Accessories and spare parts:

**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

