G2TI1 PT100

- Temperature measurement with PT100 sensors (2- and 3-wire connection)
- Sensor failure detection
- Reinforced insulation of the input circuit
- Measured value transmitting via standard bus
- Modular monitoring system
- Width 22.5mm
- Industrial design

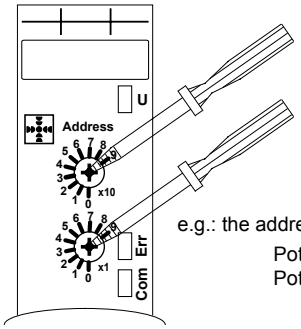
Technical data

1. Functions

WatchDog pro module for temperature measurement with PT100 sensors (2- and 3-wire connection).

2. Address adjustment

Address range: 1-99
Deactivation (Off): address 0



Potentiometer 1:
To adjust the **DECADES**

Potentiometer 2:
To adjust the **UNITS**

e.g.: the address **43** will be adjusted as follows:
Potentiometer 1 on position **4**
Potentiometer 2 on position **3**

3. Indicators

Green LED U ON: module is supplied via local interface
Yellow LED Com ON / flashes: data exchange over standard bus is in progress
Red LED Err ON: indication of failure

4. Mechanical design

Self-extinguishing plastic housing, IP rating IP20
Mounted on DIN-rail TS 35 according to EN 50022
Mounting position: any
Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20
Tightening torque: max. 1Nm
Terminal capacity:
- 1 x 0.5 to 2.5mm² with/without multicore cable end
- 1 x 4mm² without multicore cable end
- 2 x 0.5 to 1.5mm² with/without multicore cable end
- 2 x 2.5mm² flexible without multicore cable end

5. Supply

Rated voltage:	24V DC from local interface
Tolerance:	-17.5% to +16.5%
Rated consumption:	1W
Rated current:	39.5mA
Max. supply current:	55mA
Ripple and noise:	< 150mV$_{PP}$
Duty cycle:	100%
Start-up time:	2.2s typ.
Drop-out voltage:	> 60% of supply voltage

6. Businterface

Standard bus:

Data link:	RS485; yellow LED Com ON
Interface parameter:	115.2kBd, 9 bits data
Number of extension modules:	
Local interface:	24* (width 22.5mm)

* dependent on the max. permissible current through local interface of the Central Unit (CU)
(additional extension is possible by the remote bus!)

7. Isolation

Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	6kV between input circuit and local interface

8. Input circuit

1 potential free input for circuit with a temperature sensor of the type PT100

Measuring method:	3-wire / 2-wire with external jumper
Measuring input:	-50 to +200°C
Terminals:	T1-T2-T3
Open circuit voltage:	5V
Sensor current:	approx. 1mA
Resistance of sensor line:	max. 10Ω / line
Disconnection (short circuit sensor):	< 70Ω
Recognition of sensor error:	yes

9. Accuracy

Base accuracy:	± 3°C of upper range value
Frequency response:	-
Repetition accuracy:	± 2%
Voltage influence:	-
Temperature influence:	≤ 0.02% / °C
Switching point correction necessary (only 2-wire connection):	2.6°C / Ω line resistance

10. Ambient conditions

Ambient temperature:	-25 to +55°C (in accordance with IEC 68-1) -25 to +40°C (in accordance with UL 508)
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Absolute humidity:	1g to 25g H_2O/m^3 (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	2 (in accordance with IEC 60664-1)
Vibration resistance:	10 to 55Hz 0.35mm (in accordance with IEC 68-2-6)
Shock resistance:	15g 11ms (in accordance with IEC 68-2-27)

Operator accessibility of clamps and connectors

The table shows which terminals and connectors can be touched by the operator during normal operation.

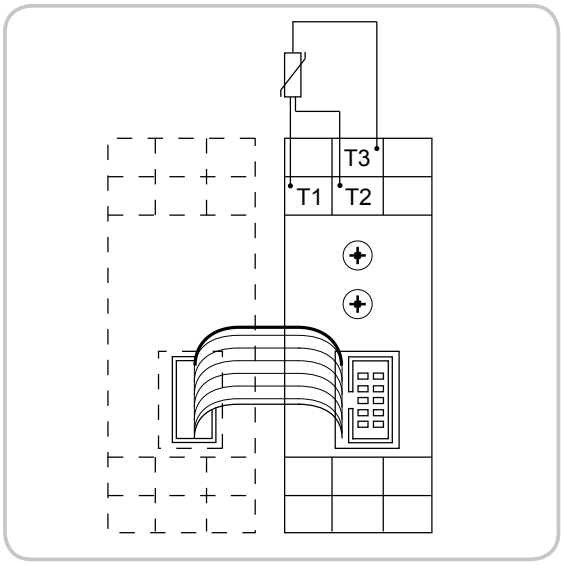
Nr.	Type	Terminal	Touchable
1	AI	Communication interface for local input-/output-extension device	YES
2	Ar	Communication interface for remote input-/output unit	YES
3	Be	Open communication interface, open to external devices as well	YES
4	Bi	Internal communication interface for peripheral modules	NO
5	C	Interface for digital and analog input signals	NO
6	D	Interface for digital and analog output signals	NO
7	E	Serial or parallel communication interface for data communication with external devices	YES
8	F	Terminal for line power supply	NO
9	H	Functional Earth terminal	YES
10	J	Input-/output interface for power supply of sensors and actuators	NO
11	K	Interface for auxiliary supply output and auxiliary supply input	NO

Temperaturme measurement for one PT100-element: **G2TI1 PT100** - Definition of circuits:

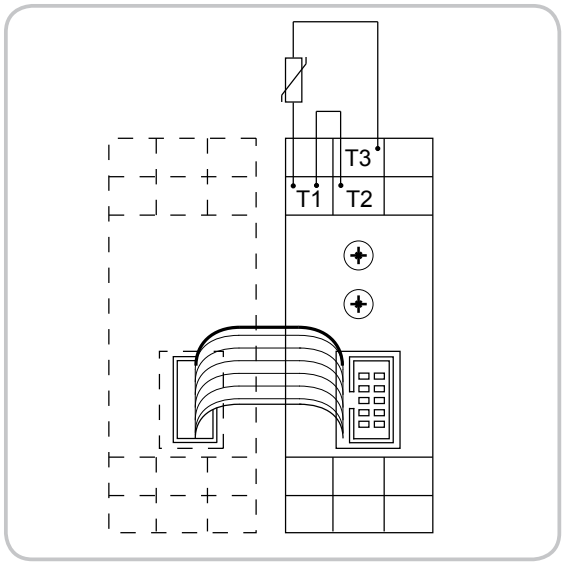
Name	Type	Nr.	Terminals related to the Circuit
Temperature sensor (2- and 3-wire connection)	C	5	T1, T2, T3
Local interface	AI	1	LI Box header; LI plug connector with ribbon cable

Connections

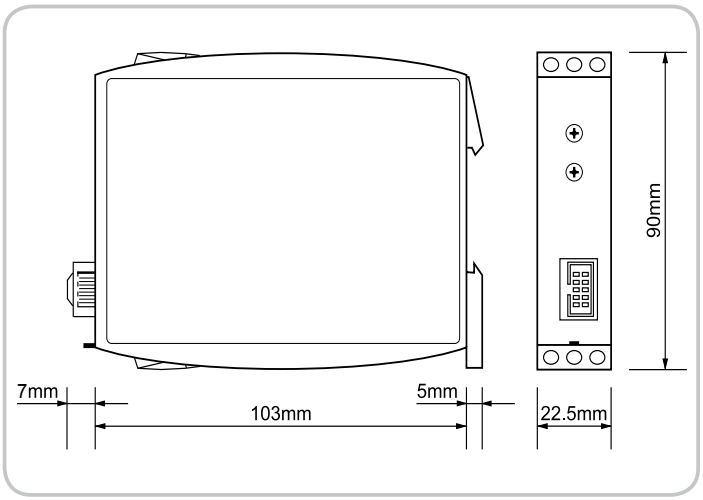
3-wire measuring method



2-wire measuring method



Dimensions



Ordering information

Type	Address range	LEDs	Part Nr. (PQ 1)
G2TI1 PT100	1 to 99	U, Err, Com	2500150