Limit value relay GS 1000

Voltage - current - resistance - Pt100 - thermocouple

Features

- 1 or 2 adjustable limit value relays (SPDT contact)
- High or low alarm switchable
- Transmitter supply for 2-wire-sensors (optional)
- Clearly arranged scales for exact alarm point setting
- True value output 0...10V DC optional 0 ... 20 or 4...20mA
- Power and output state indicator by LED
- Standard case for DIN rail mounting

General information

GS1000 limit value relays can be used for monitoring in process and automation systems. The multipurpose input allows controlling of all physical dimensions which can be converted to standard signal 0/4 ... 20mA, 0/2 ... 10V DC. Devices for temperature monitoring with direct RTD or thermocouple input are available. An optional transmitter supply for 2-wire-transmitters (4...20mA) will offers additional fields of application.

Short information

Multi-purpose device	can be configurated for standard signals and potentiometer input by DIP-switch on the front panel.
RTD (PT100)	temperature measurement for 2- or 3-wire sensors. The true value output is linear to the temperature.
Thermocouple	temperature measurement with Fe-CuNi, NiCr-Ni or PtRh-Pt sensors. Built-in cold junction compensation. The true value output is linear to the input voltage.

Technical data

Power supply

Supply voltage	: U_c +/- 10% (look at table page 4)
Frequency	: 47...63 Hz
Power consumption	: max. 4VA
Working temperature	: -10...+60 °C
Isolation voltage	: 250V according to German VDE 0110 group 3 between input / output and supply
Test voltage	: 4kV~ between input / output and supply
CE -conformity	: EN55022, EN60555-2, IEC1000-4-4/5/11/13,

Accuracy

Scale accuracy	: 2%
Reproduction accuracy	: 0.2%
Temperature coefficient	
- voltage, current resistance	: 5ppm/K
- Pt100	: 35ppm/K
- thermocouple	: 35ppm/K

Input

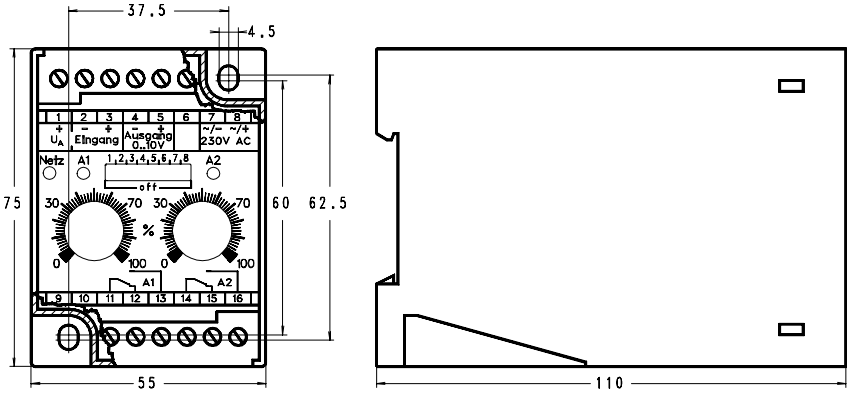
Voltage	: Ri 4kΩ/V, overload capacity max. 4 times the rated voltage
Current	: Ri 125Ω, overload capacity max. 100mA
Resistance	: reference voltage U_A=2.5V DC (multi purpose device A only) load max. 5mA (for potentiometers 1kΩ...100kΩ)
2-wire transmitter	: transmitter supply voltage $U_A \approx$15V DC (multi purpose device B only)
Pt100 sensor current	: 1mA (no self-heating)
Thermocouple	: Ri>1MΩ

Output

Limit value relay SPDT	: 250V AC < 250VA < 2A, 100V DC < 50W < 1A
True-value voltage output	: 0...10V DC, load max. 10mA
Current output (optional)	: 0...20mA or 4...20mA, load max. 500Ω

Case	: standard case, polycarbonate 8020 UL94V-1,
Weight	: approx. 400g
Connection	: screw terminals with pressure plate, max. 4mm^2 wire
Protection	: case IP40, clamps IP20 acc. to German VBG4

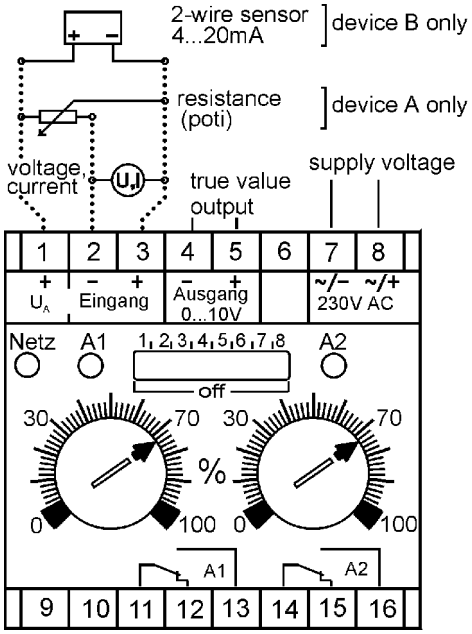
Dimensions



Mounting with 2 screws M4 (DIN 46121 / DIN 43660)
or DIN rail TS 35
(DIN 46277 / DIN EN 50022)

Connection diagrams

Multi-purpose devices (scale 0...100%)



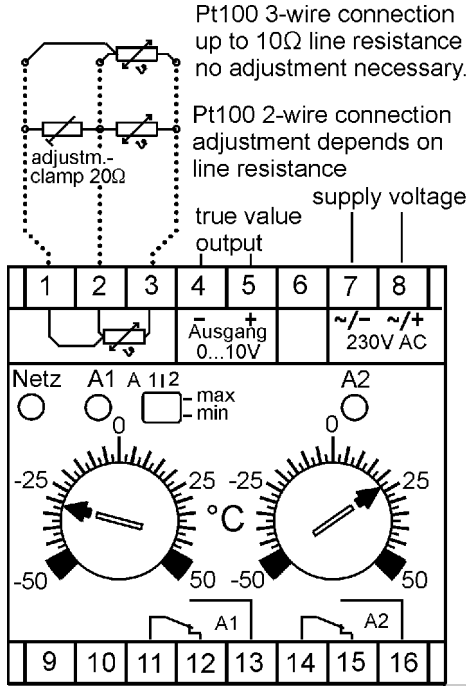
Relay activation programmable by DIP-switch 1,2:

contact type	S1	S2
A1 HI, A2 HI	on	on
A1 LO, A2 HI	off	on
A1 HI, A2 LO	on	off
A1 LO, A2 LO	off	off

Measuring range programmable by DIP-switch 3...8:

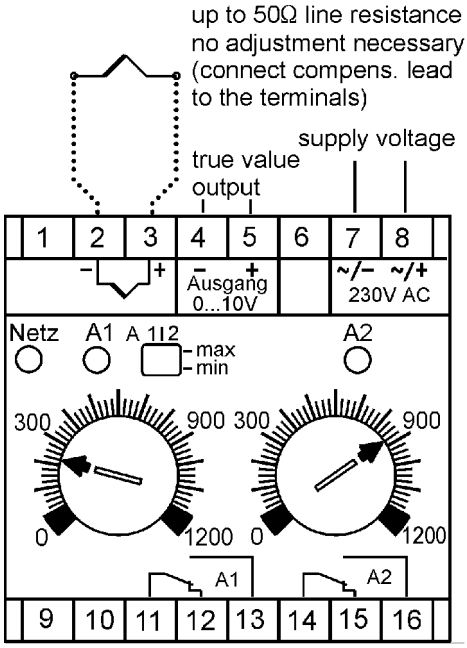
measuring range	S3	S4	S5	S6	S7	S8
0...10V	on	off	off	off	off	off
0...5V	off	on	off	off	off	off
0...2.5V	off	off	on	off	off	off
4...20mA	off	off	off	off	on	on
0...20mA	off	off	off	off	off	on
resistance	off	off	off	off	off	off

Pt100 (scale °C)



-50...50°C
0...50°C
0...100°C
0...150°C
0...200°C
0...300°C
0...400°C
0...600°C

Thermocouple (scale °C)



Fe-CuNi	NiCr-Ni	PtRh-Pt
0...300°C	0...600°C	0...1200°C
0...450°C	0...900°C	0...1600°C
0...600°C	0...1200°C	

Order code

	1.		2.		3.		4.
GS1000	-		-		-		

1.

Limit values relays		
1:	1	limit value relay activation HI or LO programmable
2:	2	limit values relay activation HI or LO programmable
factory setting " HI "		

2.

True value output		
1:	0...10V	max. 10mA (default)
2:	0...20mA	load ≤500Ω
3:	4...20mA	load ≤500Ω
The current output can not be combined with 2 limit value relays and 20mA transmitter supply (multi purpose device B)		

3.

Supply voltage		
0:	230V	50/60Hz
1:	115V	50/60Hz
4:	24V	50/60Hz
5:	20...28V DC with isolation ripple voltage < 5%	

4.

Measuring input / scale	
10:	**Multipurpose device A** measuring range programmable by DIP-switch: 0...10V, 0...5V, 0...2,5V 0...20mA; 4...20mA resistance (Poti) min 1kΩ max. 100kΩ
20:	**Multi purpose device B** supply for 2-wire transmitter $U_A \approx$ 15V DC measuring range programmable by DIP-switch: 0...10V, 0...5V, 0...2,5V 0...20mA; 4...20mA
RTD - Pt100	
535:	-50...50°C
536:	0...50°C
537:	0...100°C
535:	0...150°C
54:	0...200°C
55:	0...300°C
56:	0...400°C
57:	0...600°C
Thermocouple Fe-CuNi	
61:	0...300°C
62:	0...450°C
63:	0...600°C
Thermocouple NiCr-Ni	
71:	0...600°C
72:	0...900°C
73:	0...1200°C
Thermocouple PtRh-Pt	
81:	0...1200°C
82:	0...1600°C
other ranges or scales on request	