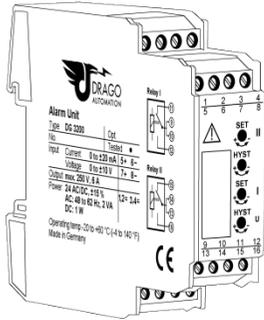


Alarm Unit DG 3600



Read these instructions before using the product and retain for future information.

DG 3600

1. Before Startup



When operating the alarm unit, certain parts of the module can carry dangerous voltage! Ignoring the warnings can lead to serious injury and/or cause damage!

The alarm unit should only be installed and put into operation by qualified staff. The staff must have studied the warnings in these operating instructions thoroughly.

The adjustment with the potentiometer on the front may only be carried out with a screwdriver which is securely insulated against the input voltage! Do not select ranges during operation.

In applications with high operating voltages sufficient distance and isolation as well as shock protection must be ensured.

Safe and trouble-free operation of this device can only be guaranteed if transport, storage and installation are carried out correctly and operation an maintenance are carried out with care.



Appropriate safety measures against electrostatic discharge (ESD) should be taken during range selection and assembly on the alarm unit.

2. Short Description

The alarm unit is used to monitor temperature limit values with RTD sensors. Two switch channels with one SPDT relay each can be separately configured by using DIP switch. The switch point and hysteresis can each be adjusted by means of their own 12-turn potentiometer located on the unit's front. Input, power supply and the relay outputs are protective separated.

3. Functioning

The signal on input will be compared with the adjusted limit value. Depending on setting the output relays react. The switch state is indicated by a yellow LED. Both switch outputs can be set up as either MIN or MAX alarm. Additionally the SPDT relays can be configured as Normally Open (de-energized) or Normally Closed (energized), so it is possible to consider the switch state by power off. The power-detect function (S1-8) set Relay II under proper power conditions independent of the input signal. A green LED on front indicates the auxiliary power.

4. Configuration

Set the DIP switch as indicated in the following table:

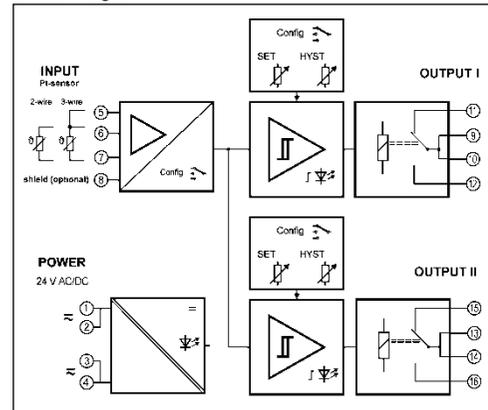
Sensor	S1-			Range			
	1	2	3	S2-			
Connection							
Zero							
2-wire	•			- 100 °C			
3-wire				- 50 °C	•		
Type							
Pt100		•	•	0 °C		•	
Pt200			•	+ 50 °C	•	•	
Pt500		•		Span			
Pt1000				100 K			
				200 K			•
				300 K			•
				400 K			•

S1-	OFF	ON
4	Relay II normal function	Relay II power detect
5	Relay I MAX	Relay I MIN
6	Relay I N.O. (Normally Open)	Relay I N.C. (Normally Closed)
7	Relay II MAX	Relay II MIN
8	Relay II N.O. (Normally Open)	Relay II N.C. (Normally Closed)

• = on, **Boldface: Factory setting**

After configuration switch point and hysteresis will be adjusted with the potentiometers on the front. Connect a RTD Simulator with desired limit values on input terminals and adjust the set point by observe the LED. Note that the LED indicates the state of the comparator, not the state of the relay because it could be inverted as result of the N.O./N.C setting!

5. Block Diagram



6. Technical Data

Input	
Input	Pt100 / Pt200 / Pt500 / Pt1000 (switch selectable)
Sensor current	1.0 / 0.5 / 0.2 / 0.1 mA
Standard	IEC 60751, $\alpha=0.00385$
Measuring range	Zero: -100 / -50 / 0 / +50 °C
	Span: 100 / 200 / 300 / 400 °C
Sensor connection	
Sensor connection	2-wire, 3-wire (switch selectable)
Sensor wire resistor	≤ 10 Ω per wire
Set point range	0 ... 100 % of input range with 12-turn potentiometer, MIN/MAX-Alarm switchable
Hysteresis	0 ... 60 % of final value with 12-turn potentiometer
Output	
Contact type	2 SPDT relays, mode of operation switch selectable
Switching capability	250 V AC/DC, max. 6 A, max. 1500 VA
Switch state indicator	Yellow LED
Response time	Approx. 20 ms
General data	
Set point error	0.2 % of final value
Temperature coefficient ¹⁾	150 ppm/K of final value.
Test voltage	4 kV, 50 Hz, input against power supply against both relays; 2.5 kV, 50 Hz, relay I against relay II
Working voltage ²⁾ (Basic insulation)	600 V AC/DC for overvoltage category III and pollution degree 2 acc. to EN 50178 between input, power supply and relay outputs. Up to 300 V AC/DC between both relay outputs.
Protection against dangerous body currents ²⁾	Protective separation according to EN 50178 by reinforced insulation up to 300 V AC/DC for overvoltage category II and pollution degree 2 between input, power supply and relay outputs.
Power supply	24 V AC/DC, ± 15 % AC: 48 ... 62 Hz, appr. 2 VA; DC: appr. 1 W
Ambient temperature	Operation -20 °C to +60 °C (-4 to +140 °F) Transport and storage -35 °C to +85 °C (-31 to +185 °F)
EMC ³⁾	EN 61326 -1
Construction	22.5 mm housing, protection class: IP 20 77,5 x 84 x 22,5 mm (H x D x W)
Weight	approx. 100 g

- Average TC in specified operating temperature range
- As far as relevant the standards and rules mentioned above are considered by development and production of our devices. In addition relevant assembly rules are to be considered by installation of our devices in other equipments. For applications with high working voltages, take measures to prevent accidental contact and make sure that there is sufficient distance or insulation between adjacent situated devices.
- Minor deviations possible during interference

7. Mounting, Electrical Connection

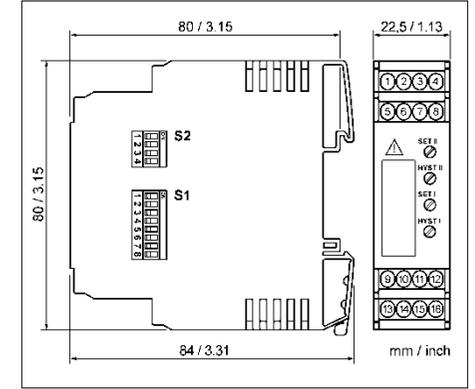
The alarm unit is mounted on standard 35 mm DIN rail.

Terminal assignments			
1, 2	Power supply ≙	5	Pt Input
3, 4	Power supply ≙	6	Pt Input
		7	Pt Input
		8	Input GND
9, 10	Relay I Common	13, 14	Relay II Common
11	Normally-Closed	15	Normally-Closed
12	Normally-Open	16	Normally-Open

8. Order Information

Product	Order No.
Alarm Unit	DG 3600

9. Dimensions



LIMITED WARRANTY

DRAGO Automation GmbH 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 DRAGO's option and is effective only for the first end-user of the Product. This Limited Warranty applies only if the Product:

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

Delivery conditions are based upon the „GENERAL CONDITIONS FOR THE SUPPLY OF PRODUCTS AND SERVICES OF THE ELECTRICAL AND ELECTRONICS INDUSTRY“ recommended by the Zentralverband Elektrotechnik- und Elektronikindustrie (ZVEI) e.V. .

Subject to change!

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