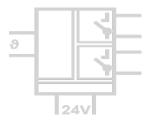
Temperature Alarm Unit DG 3600

Control and Monitor Pt-Temperature Signals



The Alarm Unit DG 3600 is used to monitor limit values and regulate simple automation processes in temperature measuring applications with Pt-Sensors.

High reliability and Protective Separation are essential characteristics that contribute to fault-free equipment operation.

Two switch channels can be separately configured. The switch point and the switch hysteresis can each be adjusted by means of their own 12-turn potentiometer located on the unit's front panel. The switch state is indicated by a yellow LED.

The direction of effect and the mode of operation can be switched by means of DIP switch settings. Both switch outputs can be set up as either MIN or MAX alarms. The relay contacts switch high power loads either as N.O. or N.C. contacts.

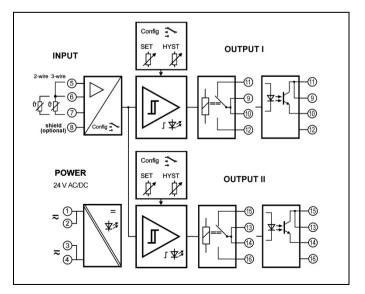
Protective Separation and the 24 V AC/DC power supply make the DG 3600 universally applicable for all measurement and industrial applications, as well as for building automation.

- Easy selection of operating mode MIN / MAX alarm switch selectable, switch point and hysteresis adjustable on front panel
- Relay with high power handling or wearless optocoupler switching output
- True 4-port separation Protection against erroneous measurements due to parasitic voltages or ground loops
- Switch state indicated by LED Easy to adjust the set point and hysteresis
- Protective Separation acc. to EN 50178 Protects service personnel and downstream devices against impermissibly high voltage
- High reliability and long-term stability No maintenance costs
- Unlimited use with 24 V AC/DC power supply Universally applicable for all measurement and industrial applications
- 5 Years Warrant

Defects occurring within 5 years from delivery date shall be remedied free of charge at our plant (carriage and insurance paid by sender)



Block diagram

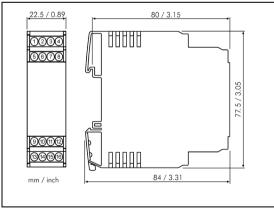


Technical Data

Sensor current in A 0,5 mA 0,2 mA 0,1 mA mA 0,2 mA 0,2 mA 0,2 mA 0,1 mA 0,2 mA 0,	Input								
Sensor connection 3-wire connection / 2-wire connection, switchable Wire resistor < 10 Ω per wire	•			Pt100	Pt200	Pt500	Pt1000	switchable	
Wire resistor < 10 Ω per wire	Sensor current			1 mA	0,5 mA	0,2 mA	0,1 mA		
Temperature measuring rangeZero $-100 {}^\circ$ C $-50 {}^\circ$ C $0 {}^\circ$ C $+50 {}^\circ$ CswitchableSet point range0100 % of input range with 12-turn potentiometer, MIN/MAX-Alarm switchableHysteresis060 % of final value with 12-turn potentiometerOutputDG 3600:Contact type2 SPDT relays, mode of operation switchableRelaySwitching capability AC max250 V / 6 A1500 VASwitching capability DC max250 V / 0,2 A115 V / 0,3 A30 V / 6 ARecommended minimum load 300 mW / 5 V / 5 mADG 3680:Contact type2 optocoupler transistor switches, mode of operation switchableQuotocouplerSwitching capability30 V DC, max. 50 mASwitch state indicatorYellow LEDResponse timeApprox. 20 msGeneral DataSet point errorSet point error< 0.2 % full scale	Sensor connection			3-wire connection / 2- wire connection, switchable					
Span 100 K 200 K 300 K 400 K switchable 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 switchable Relay Switching capability AC max. 250 V / 6 A Switching capability DC max 250 V / 0,2 A 115 V / 0,3 A 30 V / 6 A Recommended minimum load 300 mW / 5 V / 5 mA Recommended minimum load 300 mW / 5 V / 5 mA DG 3680: Contact type 2 optocoupler transistor switchas, mode of operation switchable Switching capability 30 V DC, max. 50 mA Switch state indicator Yellow LED Response time Approx. 20 ms General Data Set point error Set point error < 0.2 % full scale	Wire resistor			$< 10 \Omega$ 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 DG 3600: Contact type 2 SPDT relays, mode of operation switchable Relay Switching capability AC max. 250 V / 6 A 1500 VA DG 3680: Contact type 2 optocoupler transistor switchable Qptocoupler Switching capability AC max. 250 V / 0,2 A 115 V / 0,3 A 30 V / 6 A Recommended minimum load 300 mW / 5 V / 5 mA Contact type 2 optocoupler transistor switches, mode of operation switchable Optocoupler Switching capability 30 V DC, max. 50 mA Switching capability Switch state indicator Yellow LED Performed to the time of th	Temperature measuring range Zero		-100 °C	-50 °C	0 °C	+50 °C	switchable		
Hysteresis 0 60 % of final value with 12-turn potentiometer Output DG 3600: Contact type 2 SPDT relays, mode of operation switchable Relay Switching capability AC max. 250 V / 6 A 1500 VA Switching capability DC max 250 V / 0,2 A 115 V / 0,3 A 30 V / 6 A Relay Switching capability DC max 250 V / 0,2 A 115 V / 0,3 A 30 V / 6 A DG 3680: Contact type 2 optocoupler transistor switches, mode of operation switchable 2000000000000000000000000000000000000			Span	100 K	200 K	300 K	400 K	switchable	
Output Contact type 2 SPDT relays, mode of operation switchable Relay Switching capability AC max. 250 V / 6 A 1500 VA Switching capability DC max. 250 V / 0,2 A 115 V / 0,3 A 30 V / 6 A DG 3680: Contact type 2 optocoupler transistor switches, mode of operation switchable Optocoupler Optocoupler Switching capability 30 V DC, max. 50 mA Switching capability 30 V DC, max. 50 mA Switch state indicator Yellow LED Response time Approx. 20 ms General Data Set point error < 0.2 % full scale	Set point range			0 100 % of input range with 12-turn potentiometer , MIN/MAX-Alarm switchable					
DG 3600: Contact type 2 SPDT relays, mode of operation switchable Relay Switching capability AC max. 250 V / 6 A 1500 VA Switching capability DC max 250 V / 0.2 A 115 V / 0.3 A 30 V / 6 A Bottoching capability DC max 250 V / 0.2 A 115 V / 0.3 A 30 V / 6 A Bottoching capability DC max 20 optocoupler transistor switches, mode of operation switchable DG 3680: Contact type 2 optocoupler transistor switches, mode of operation switchable Optocoupler Switching capability 30 V DC, max. 50 mA Switching capability 30 V DC, max. 50 mA Switch state indicator Yellow LED Yellow LED Response time Approx. 20 ms General Data Set point error < 0.2 % full scale	Hysteresis			0 60 % of final value with 12-turn potentiometer					
DG 3600: Contact type 2 SPDT relays, mode of operation switchable Relay Switching capability AC max. 250 V / 6 A 1500 VA Switching capability DC max 250 V / 0.2 A 115 V / 0.3 A 30 V / 6 A Bottoching capability DC max 250 V / 0.2 A 115 V / 0.3 A 30 V / 6 A Bottoching capability DC max 20 optocoupler transistor switches, mode of operation switchable DG 3680: Contact type 2 optocoupler transistor switches, mode of operation switchable Optocoupler Switching capability 30 V DC, max. 50 mA Switching capability 30 V DC, max. 50 mA Switch state indicator Yellow LED Yellow LED Response time Approx. 20 ms General Data Set point error < 0.2 % full scale									
Relay Switching capability AC max. 250 V / 6 A 1500 VA Switching capability DC max 250 V / 0,2 A 115 V / 0,3 A 30 V / 6 A Recommended minimum load 300 mW / 5 V / 5 mA Recommended minimum load 300 mW / 5 V / 5 mA Recommended minimum load 300 mW / 5 V / 5 mA Optocoupler Switching capability 30 V DC, max. 50 mA Switching capability Switching capability Switch state indicator Yellow LED Yellow LED Switching capability Switching capability Set point error < 0.2 % full scale	Output								
Switching capability DC max 250 V / 0,2 A 115 V / 0,3 A 30 V / 6 A Recommended minimum load 300 mW / 5 V / 5 mA DG 3680: Contact type 2 optocoupler transistor switches, mode of operation switchable Optocoupler Switching capability 30 V DC, max. 50 mA Switching capability 30 V DC, max. 50 mA Switch state indicator Yellow LED Response time Approx. 20 ms Set point error < 0.2 % full scale	DG 3600:			2 SPDT relays, mode of operation switchable					
Recommended minimum load 300 mW / 5 V / 5 mA DG 3680: Contact type 2 optocoupler transistor switches, mode of operation switchable Optocoupler Switching capability 30 V DC, max. 50 mA Switch state indicator Yellow LED Response time Approx. 20 ms General Data Set point error < 0.2 % full scale Temperature coefficient ¹⁾ < 150 ppm/K Test voltage 4 kV AC, 50 Hz, 1 min. input against power supply against both switching outputs Q:s kV AC, 50 Hz, 1 min. switching output I against switching output II Working voltage (Basic Insulation) ²⁾ 600 V AC/DC for overvoltage category III and pollution degree 2 acc. to EN 50178 between input, power supply and switching outputs. Up to 300 V AC/DC for overvoltage category III and pollution degree 2 acc. to EN 50178 between input, power supply and switching outputs. Up to 300 V AC/DC for overvoltage category III and pollution degree 2 between input, power supply and switching outputs. Up to 300 V AC/DC for overvoltage category II and pollution degree 2 between input, power supply and switching outputs. Up to 300 V AC/DC for overvoltage category II and pollution degree 2 between input, power supply and switching outputs 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 switching outputs Protective separation according to EN 50178 by reinforced insulation up to 300 V AC/DC for overvoltage category II and	Relay	Switching capability AC max.		250 V / 6 A 1500 VA					
DG 3680: Contact type 2 optocoupler transistor switches, mode of operation switchable Optocoupler Switching capability 30 V DC, max. 50 mA Switch state indicator Yellow LED Response time Approx. 20 ms General Data		Switching capability DC max		250 V / 0,2 A 115 V / 0,3 A 30 V / 6 A					
Optocoupler Switching capability 30 V DC, max. 50 mA Switch state indicator Yellow LED Response time Approx. 20 ms General Data Set point error Set point error < 0.2 % full scale			Recommended minimum load 300 mW / 5 V / 5 mA						
Switch state indicator Yellow LED Response time Approx. 20 ms General Data Set point error Set point error < 0.2 % full scale	DG 3680:	Contact type		2 optocoupler transistor switches, mode of operation switchable					
Response time Approx. 20 ms General Data Set point error < 0.2 % full scale Temperature coefficient ¹⁾ < 150 ppm/K Test voltage 4 kV AC, 50 Hz, 1 min. input against power supply against both switching outputs 2.5 kV AC, 50 Hz, 1 min. switching output I against switching output II Working voltage (Basic Insulation) ²⁾ 600 V AC/DC for overvoltage category III and pollution degree 2 acc. to EN 50178 between input, power supply and switching outputs. Up to 300 V AC/D between both switching outputs Protection against electrical shock 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 switching outputs Power supply 24 V AC/DC, ± 15 % AC 48 62 Hz, approx. 2 VA DC approx. 1 W Ambient temperature Operation - 20 to + 60 °C (-4 to + 140 °F) Transport and storage - 35 to + 85 °C (-31 to + 185 °F) EMC ³ EN 61326 -1 Construction 22.5 mm (0.89°) housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715 Weight Approx. 100 g Protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715	Optocoupler Switching capability		30 V DC, max. 50 mA						
General Data Set point error < 0.2 % full scale	Switch state indicator			Yellow LED					
Set point error < 0.2 % full scale	Response time			Approx. 20 ms					
Test voltage 4 kV AC, 50 Hz, 1 min. input against power supply against both switching outputs 2.5 kV AC, 50 Hz, 1 min. switching output I against switching output I Working voltage (Basic Insulation) ²⁾ 600 V AC/DC for overvoltage category III and pollution degree 2 acc. to EN 50178 between input, power supply and switching outputs. Up to 300 V AC/D between both switching outputs Protection against electrical shock 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 switching outputs Power supply 24 V AC/DC, ± 15 % AC 48 62 Hz, approx. 2 VA DC approx. 1 W DC approx. 1 W Ambient temperature Operation - 20 to + 60 °C (- 4 to + 140 °F) Transport and storage - 35 to + 85 °C (- 31 to + 185 °F) EMC ³ EN 61326 -1 Construction 22.5 mm (0.89") housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715 Weight Approx. 100 g	General Data	1							
Test voltage 4 kV AC, 50 Hz, 1 min. input against power supply against both switching outputs 2.5 kV AC, 50 Hz, 1 min. switching output I against switching output I Working voltage (Basic Insulation) ²⁾ 600 V AC/DC for overvoltage category III and pollution degree 2 acc. to EN 50178 between input, power supply and switching outputs. Up to 300 V AC/D between both switching outputs Protection against electrical shock 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 switching outputs Power supply 24 V AC/DC, ±15% AC 48 62 Hz, approx. 2 VA DC approx. 1 W Ambient temperature Operation - 20 to + 60 °C (-4 to + 140 °F) Transport and storage - 35 to + 85 °C (-31 to + 185 °F) EMC ³ EN 61326 -1 Construction 22.5 mm (0.89") housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715 Weight Approx. 100 g	Set point error			< 0.2 % full scale					
2.5 kV AC, 50 Hz, 1 min. switching output I against switching output I Working voltage (Basic Insulation) ²¹ 600 V AC/DC for overvoltage category III and pollution degree 2 acc. to EN 50178 between input, power supply and switching outputs. Up to 300 V AC/D between both switching outputs Protection against electrical shock ²¹ 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 switching outputs Power supply 24 V AC/DC, ± 15 % AC 48 62 Hz, approx. 2 VA DC approx. 1 W Ambient temperature Operation - 20 to + 60 °C (-4 to + 140 °F) Transport and storage - 35 to + 85 °C (-31 to + 185 °F) EMC ³¹ EN 61326 -1 Construction 22.5 mm (0.89") housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715 Weight Approx. 100 g	Temperature coefficient ¹⁾			< 150 ppm/K					
Working voltage (Basic Insulation) ²) 600 V AC/DC for overvoltage category III and pollution degree 2 acc. to EN 50178 between input, power supply and switching outputs. Up to 300 V AC/D between both switching outputs Protection against electrical shock 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 switching outputs Power supply 24 V AC/DC, ± 15 % AC 48 62 Hz, approx. 2 VA DC approx. 1 W Ambient temperature Operation - 20 to + 60 °C (- 4 to + 140 °F) Transport and storage - 35 to + 85 °C (- 31 to + 185 °F) EMC ³) EN 61326 -1 Construction 22.5 mm (0.89") housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715 Weight Approx. 100 g	Test voltage			4 kV AC, 50 Hz, 1 min. input against power supply against both switching outputs					
power supply and switching outputs. Up to 300 V AC/D between both switching outputs Protection against electrical shock 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 switching outputs Power supply 24 V AC/DC, ± 15 % AC 48 62 Hz, approx. 2 VA DC approx. 1 W Ambient temperature Operation - 20 to + 60 °C (-4 to + 140 °F) Transport and storage - 35 to + 85 °C (-31 to + 185 °F) EMC ³ EN 61326 -1 Construction 22.5 mm (0.89") housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715 Weight Approx. 100 g									
Protection against electrical shock 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 switching outputs Power supply 24 V AC/DC, ± 15 % AC 48 62 Hz, approx. 2 VA DC approx. 1 W Ambient temperature Operation - 20 to + 60 °C (-4 to + 140 °F) Transport and storage - 35 to + 85 °C (-31 to + 185 °F) EMC ³ EN 61326 -1 Construction 22.5 mm (0.89") housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715 Weight Approx. 100 g	Working voltage (Basic Insulation) ²⁾								
overvoltage category II and pollution degree 2 between input, power supply and switching outputs Power supply 24 V AC/DC, ± 15 % AC 48 62 Hz, approx. 2 VA DC approx. 1 W Ambient temperature Operation - 20 to + 60 °C (- 4 to + 140 °F) Transport and storage - 35 to + 85 °C (- 31 to + 185 °F) EMC ³) EN 61326 -1 Construction 22.5 mm (0.89") housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715 Weight Approx. 100 g									
Power supply 24 V AC/DC, ± 15 % AC 48 62 Hz, approx. 2 VA DC approx. 1 W Ambient temperature Operation - 20 to + 60 °C (- 4 to + 140 °F) Transport and storage - 35 to + 85 °C (- 31 to + 185 °F) EMC ³) EN 61326 -1 Construction 22.5 mm (0.89") housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715 Weight Approx. 100 g	Protection against electrical shock ²⁾								
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Ambient temperature Operation - 20 to + 60 °C (- 4 to + 140 °F) Transport and storage - 35 to + 85 °C (- 31 to + 185 °F) EMC ³⁾ EN 61326 -1 Construction 22.5 mm (0.89") housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715 Weight Approx. 100 g	Power supply								
Transport and storage - 35 to + 85 °C (- 31 to + 185 °F) EMC ³⁾ EN 61326 -1 Construction 22.5 mm (0.89") housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715 Weight Approx. 100 g									
EMC ³ EN 61326 -1 Construction 22.5 mm (0.89") housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715 Weight Approx. 100 g	Ambient temper	ature					- (/	
Construction22.5 mm (0.89") housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715WeightApprox. 100 g					U U	- 35 to + 85	°C (- 31 to -	+ 185 °F)	
Weight Approx. 100 g									

Average TC related to full scale value in specified operating temperature range, reference temperature 23 °C
 For applications with high working voltages, ensure there is sufficient spacing or isolation from neighboring devices and protection against electric shocks.
 Minor deviations possible during interference

Dimensions



Subject to change!

Product line

Device	Order No.
Temperature Alarm Unit with relay contacts	DG 3600
Temperature Alarm Unit with transistor switches	DG 3680