

Product Information

Safety Temperature Limiter STL50Ex
 (acc. to DIN EN 14597, SIL 2)



- Useful as Temperature Limiter/-Guard and Exhaust gas Temperature Limiter
- Certified according to DIN EN 14597 SIL 2
- Inputs RTD Pt100 or double-thermocouple
- Alarm output 1 relay SPDT
- Programming via backlit LCD-graphic-Display

Characteristics

The STL50Ex safety temperature limiter is used where ever thermal processes must be monitored and the system must be transferred into a safe operational state in case of fault. If the permissible temperature limit value is reached, or if a fault occurs within the permissible temperature range on the monitoring equipment (sensor open, sensor short-circuit, failure of a component part in the device, fault in the software, failure or inadmissible value of the supply voltage etc.), the STL50Ex switches off without delay. The alarm contact is activated, the LED ALARM on the front panel and the back-lighting of the display light up, and the error cause is indicated as plain text on the display. In addition, there is a 24 V DC signal present on the terminals 17-18 for an external alarm signal.

Description

Programming

The device is programmable via front side buttons in connection with the graphic display.

Operating modes

The device can be used as:

- STB → Maximum- or minimum-monitoring with hold. Reset possible after omission of the fault with the external or internal button.
- ASTB → as before, but monitoring the exhaust gas temperature
- STW → Maximum- or minimum-monitoring without hold. Automatic reset after leaving the dangerous range.

Switching hysteresis always acts in the direction of safe range. The last fault is stored as plain text and can be called up in the working level and deleted.

Temperature sensor ⚠

The device may be operate only with temperature probes which are certified according to DIN EN 14597!

Technical data

Power supply

- Supply voltage : 230 V AC ±10 %
115 V AC ±10 %
24 V DC ±15 %
- Power consumption : < 4 VA
- CE-conformity : EN 55022, EN 60555
IEC 61000-4-2/3/4/5/6/11/13

Ambient conditions

- Operating temperature : -10..+55 °C
- Storage temperature : -30..+60 °C
- Relative humidity : < 95 %
- Condensation : not permitted, operation only in vibration less ambient

Approvals

- EN 14597:2005 : temperature control devices and temperature limiters for heat-generating systems
- EN 61508:2001 SIL2 : Functional security safety-related electrical/electronic/programmable electronic systems

Input

- Explosion protection : II (1) G [Ex ia] IIC/IIB or II (1) D [Ex iaD]
- Approval : TÜV 07 ATEX 554295
- Pt100 : -100.0..+600.0 °C, 3-wire, 3-wire, max. line resistance 4 Ω each line, sensor current < 1 mA (non self heating)

Data in case of an error

- Max. voltage no load U_0 : 1.4 V
- Max. short circuit current I_0 : 6 mA
- Max. power loss P_0 : 7 mW
- Min. internal resistor R : 1.6 kΩ (curve trapezoidal)

Explosion protection

- Max. external inductivity : 100mH
- Max. external capacity : 110µF
- Internal capacity : negligible
- Internal inductivity : negligible

Thermocouple

- Type J : Fe-CuNi, -100.0..+800.0°C
- Type K : NiCr-Ni, -150..+1200 °C
- Type N : NiCrSi-NiSi, -150..+1200°C
- Type S : Pt10Rh-Pt, 0..1600 °C cold junction compensation integrated

Data in case of an error

- Max. voltage no load U_0 : 0.7 V
- Max. short circuit current I_0 : 2 mA
- Max. power loss P_0 : 1.5 mW
- Min. internal resistor R : 5 kΩ (curve trapezoidal)

Explosion protection

- Max. external inductivity : 100mH
- Max. external capacity : 240µF
- Internal capacity : negligible
- Internal inductivity : negligible

Accuracy

- Temperature coefficient : < 0.5 %, ±2 Digit
- Display : 0.01 %/K
- Display : graphic LCD-display 28 x 64 Pixel, with white LCD-backlight

Output

- Relay : SPDT <250 V AC <200 VA <2 A cos Phi ≥ 0.7 <250 VDC <80 W <2 A, internal fused 2 A (slow-blow)

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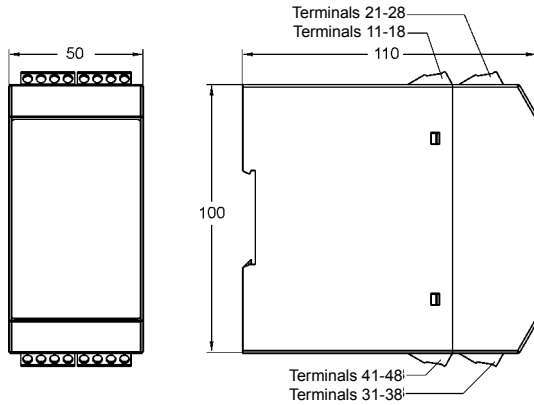
Product Information

Case : Polyamide (PA) 6.6 , UL94V-0, TS35 acc. to DIN EN 60715:2001-09
Weight : approx. 450 g
Connection : screw terminals 0.14..2.5 mm² (AWG 26 .. 14)
Protection class : IP20, DIN EN 60529, BGV A3

Ordering code

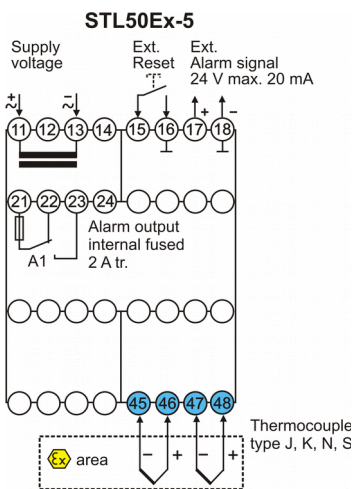
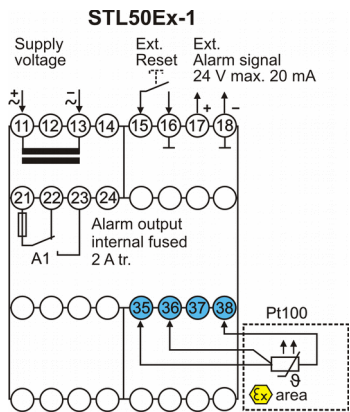
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Dimensions



1. Device type/input	
1	Pt100, 3-wire, -100.0..+600.0 °C
5	Thermocouple J (Fe-CuNi), -100.0..+800.0 °C K (NiCr-Ni), -150..+1200 °C N (NiCrSi-NiSi), -150..+1200 °C S (Pt10Rh-Pt), 0..1600 °C
2. Output	
1R	1 alarm output relay
3. Supply voltage	
0	230 V AC, ± 10 % 50-60 Hz
1	115 V AC, ± 10 % 50-60 Hz
5	24 V DC, ± 15 %
4. Options	
00	without option

Connection diagrams



... professional Instruments "MADE IN GERMANY"