DTL III Ex

Features

- ATEX approval
- Optimised for trace heating applications (with service entry)
- Wide-range voltage input
- Sensor surveillance
- In conjunction with Pt100 Ex, it can be used for monitoring temperature in explosion-protected heating circuits

Description

The DTL III Ex digital temperature limiter, which is adapted to (trace) heating applications, serves to monitor heating and heating circuits. The device is installed in the non-hazardous area. The heating or heating circuits can be installed both in media-protected and also in hazardous areas.

Thanks to their integrated power supply unit with wide-range voltage, the devices can be used almost everywhere in the world.

Function

If the temperature at the Pt100 exceeds the set limit value, the DTL III Ex permanently interrupts the normally closed 16 A switch contact. This situation is detected by a volt-free alarm contact (change-over contact) and passes on the signal to the control panel. After a temperature drop of 5 K below the limit set point, or after a fault has been remedied, the limiter can be re-activated by means of a re-set button on the device itself or via a remote re-set control. The DTL will also interrupt the switch contact in the event of a sensor open or short circuit.

Process reliability is increased by additional monitoring functions such as supply voltage monitoring, pre-alarm, measuring circuit monitoring for sensor break, interruption and short-circuit as well as undershooting/overshooting of the measuring range.

A multi-stage password management is available for effective parameter protection. When doing service work on the heating circuit, the load output can be turned off by means of a digital input and the temperature alarms can be disabled.

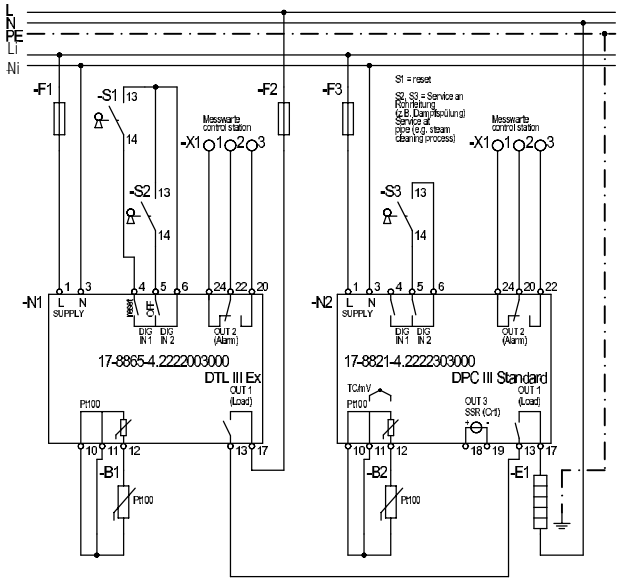
Using the programming interface, the device parameters can be read out with a programming key and transmitted to other devices.

Structure

The DTL III Ex is integrated in a latch-on enclosure for TS 35 mounting rails. The alarm relay is produced as a change-over contact and the limit relay as a normally open contact.

The voltage is supplied to the control device through an integrated power supply unit with wide-range voltage. The electrical connection is established with terminal screws operating on the screw cage clamp principle, ensuring a safe connection that is gentle on conductors.

Circuit diagram



Explosion protection

Ex protection type
Ⓔx II (2)GD [Ex e II]

Certification
TÜV 08 ATEX 554871

Technical data

Mode of Operation
limiting function

Sensor input
Pt100

Measuring range
-200 °C to +850 °C

Measuring accuracy
(± 0.5 % of the actual value or ± 1 °C; the higher level applies) ± digit

Sampling frequency at the sensor input
7.5 Hz

Ambient temperature range
0 °C to +50 °C

Weight
0.2 kg

Electrical data

Digital inputs
Input 1: remote RESET
Input 2: SERVICE
Non-floating, i. e.
floating contact(s) required
(contact loadability minimum 5 V, 5 mA)

Output 1 (load output)
Relay output 1 normally open contact
(AC 250 V, 16 A - cos φ = 1)

Output 2 (alarm output)
Relay output 1 change-over contact
(AC 250 V, 8 A - cos φ = 1)

Electrical service life of the relay outputs
Minimum of 100,000 switching cycles

Protection class
II

Power consumption
Max. 4 VA

Selection chart

Supply voltage	Code no.
AC 100 to 240 V	**7**
AC/DC 24 V	**C**

17-8865-4 ☐ 22/22003000
Complete order no.
Please enter code number.

Technical data subject to change without notice.