



- ATEX approved limiter
- Optimised for trace heating applications (with service contact)
- In conjunction with Pt100 Ex, it can be used for monitoring temperature in explosion-protected heating circuits

The digital temperature limiter DTL III Ex is designed for trace heating applications and is used for temperature monitoring of heating systems or 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.

**Explosion protection**

Marking	⊕ II (2)GD [Ex e GB]
Certification	TÜV 08 ATEX 554871
Ambient temperature range	Ta 0 °C bis + 50 °C
Other approvals and certificates, see www.bartec.de	

**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
Operating temperature range	0 °C to +50 °C
Weight	0.2 kg
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

**Ordering information**

Supply voltage	Order no.
AC 100 to 240 V	<b>17-8865-4722/22003000</b>
AC/DC 24 V	<b>17-8865-4C22/22003000</b>
Technical data subject to change without notice.	

**Function**

If the temperature at the Pt100 exceeds the set limit value, the DTL III Ex permanently interrupts the normally open 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 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. Through the programming interface, the device parameters can be transferred to other devices by using a special programming key.

**Structure**

The DTL III Ex is designed for TS35 mounting rails. The alarm relay is designed as a change-over contact, the limitation relay as a normally open contact. The controller is powered by an integrated power supply unit with a wide voltage range. The electrical connection is made via screw terminals with cage clamp principle, which ensure a safe, conductor-friendly connection.

**Circuit diagram**

