



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

The TL Ex safety temperature limiter is a constituent part of the MPC<sup>net</sup> system and is used to monitor heatings and heating circuits. The device is for installation in non-hazardous areas. The heatings or heating circuits can be installed both in media-protected and also in hazardous (potentially explosive) areas.

### Explosion protection

|  |                  |
|--|------------------|
| Marking  | ⊕ II (2)G [Ex e] |
| Certification  | VTT 13 ATEX 043X |
| Other approvals and certificates, see <a href="http://www.bartec.de">www.bartec.de</a> |                  |

### Technical data

|                                   |   |
|-----------------------------------|---|
| Enclosure material                | Polyamide PA  |
| Protection class (EN 60529)       | IP 20   |
| Electrical connections            | plug-in screw-type terminals, 3-pole<br>Clamping range 0.2 to 2.5 mm <sup>2</sup> |
| Attachment onto mounting rail     | TH 35-15 DIN EN 60715 (metal)   |
| Dimensions (W x H x D)            | 22.5 mm x 100 mm x 114.5 mm   |
| Weight                            | 156 g   |
| Storage and transport temperature | -40 °C to +70 °C  |
| Operating temperature             | -20 °C to +40 °C  |
| Degree of contamination           | 2   |
| SIL Level                         | SIL 1   |

### Electrical data

|                     |   |
|---------------------|---|
| Voltage supply      | DC 24 V   |
| Current consumption | 105 mA, maximum 2.7 W   |
| Input               | temperature 3-wire Pt100<br>alarm suppression AC 70 to 230 V                              |
| Contact loadability | direct switching 8 A - AC 1, 250 V<br>by means of power contactor<br>0.7 A - AC 15, 250 V |
| Measurement         | accuracy +/-1 °C<br>measuring range -50 °C to +600 °C<br>hysteresis < 2 K                 |

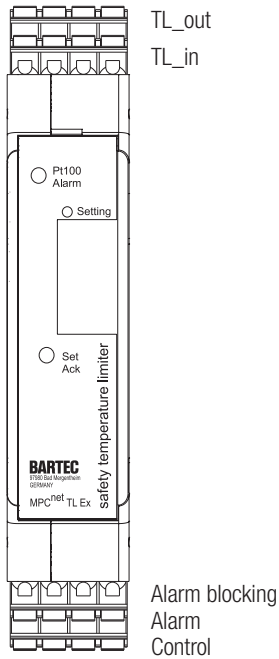
### Function

If the temperature at the Pt100 sensor exceeds the set limit value, the TL Ex disconnects the load output permanently. At the same time a floating alarm contact is triggered. The alarm contact status is detected and processed by means of the digital inputs in the 8DI and 16DI modules and the digital input in the TR16, TR36 and TR38 power modules in the MPC<sup>net</sup>. Once the temperature drops by 2 K below the switch-off point or after a fault has been remedied, the limiter can be reactivated by means of a reset button on the device. The TL Ex can transmit the temperature detected at the measuring input to the MPC<sup>net</sup> by means of an integrated sequential system with a signal that is proportional to the actual value measured. This allows the temperature at the limiter to be evaluated in the control system also. The limiter function can be suppressed by a digital input when carrying out servicing work on the heating circuit, e.g. steam cleaning.

### Construction

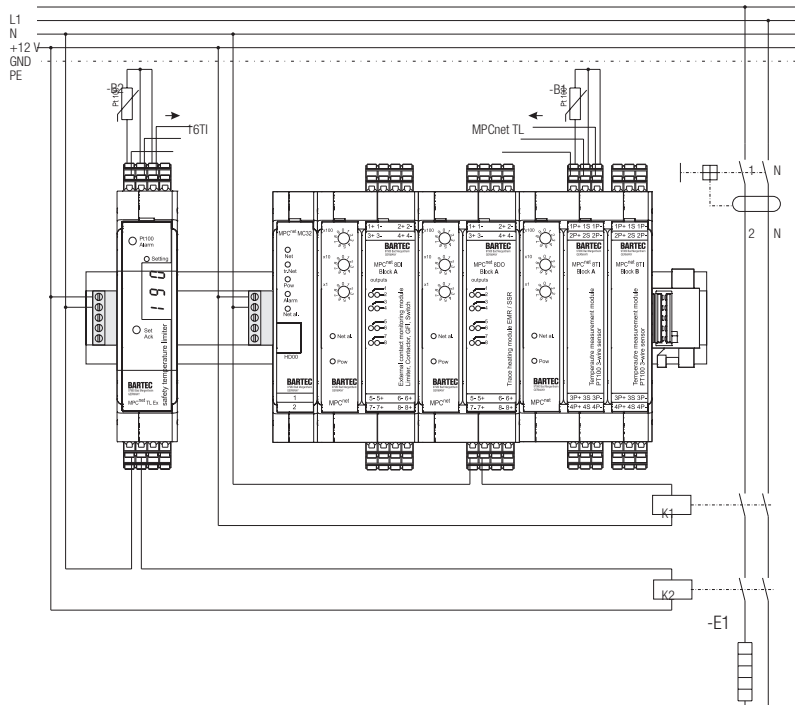
The TL Ex is installed in a clip-on enclosure for TS35 mounting rails. The alarm relay and the limit relay are produced as change-over contacts. The DC 24 V voltage is supplied through the use of a top-hat rail on the underside. The electrical connection is established by means of screw-type terminals operating on the screw cage clamp principle, which ensures a reliable connection and is also gentle on conductors.

**Terminal assignment**



| Terminal block | Terminal | Description  |
|----------------|----------|--------------|
| TL_out         | 1        | not assigned |
|                | 2        | Supply +     |
|                | 3        | Signal       |
|                | 4        | Supply -     |
| TL_in          | 5        | not assigned |
|                | 6        | Supply +     |
|                | 7        | Signal       |
|                | 8        | Supply -     |
| Alarm blocking | 9        | N/signal     |
|                | 10       | L/signal     |
|                | 11       | not assigned |
|                | 12       | not assigned |
| Alarm          | 13       | COM          |
|                | 14       | NO contact   |
|                | 15       | NC contact   |
|                | 16       | not assigned |
| Control        | 17       | COM          |
|                | 18       | NO contact   |
|                | 19       | NC contact   |
|                | 20       | not assigned |

**Wiring diagram**



**Ordering information**

MPC<sup>net</sup> TL Ex

17-8851-0030/0000

Technical data subject to change without notice.