

Temperature probe

Thermal cutout

L

10

50



Applications

- electronic applications
- E-car plug connectors
- Room ventilation and fire protection system sensor
- Heating elements protection

Benefits

- Fully insulated solution
- Plug-in capable
- Direct or indirect shutdown of device
- Smallest and customized design

Description

Thermal cutouts and probes of these types are universally applicable due to their small design and wide range of variations.

Basically, they are divided in the L10 series for applications in the area of signal currents up to max. 8A and the L50 series with up to max. 25A and 240°C. The elements are very easy to apply, characterized by their given constructive electrical insulation, the mechanical robustness and the already existing lead wire connection. When triggered by temperature – thanks to their small size – they react very quickly.

The internal structure of the elements is based on a melting element, which will liquefy when reaching a certain temperature level. The internal contact spring will relax and thus separate the electric contact system.



Standard wire

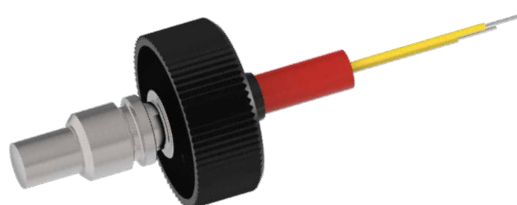
| type | lead | code | temperature max. | operating voltage max. | approx. diameter insulation | approx. cross section / diameter | UL- Style |
|----------|----------------|------|------------------|------------------------|-----------------------------|----------------------------------|-----------|
| L10 | stranded white | L360 | 200°C | 600 V | 1,10 mm | AWG24 / 0,25 mm ² | 10086 |
| L10 G911 | | L370 | | | 1,50 mm | AWG20 / 0,50 mm ² | |
| L50 | | L380 | | | 1,70 mm | AWG18 / 0,82 mm ² | |
| L50 | solid yellow | L440 | | 300 V | 1,54 mm | AWG20 / 0,80 mm | 1332 |

L50: Standard length 240mm, stripped 6 ± 1 mm

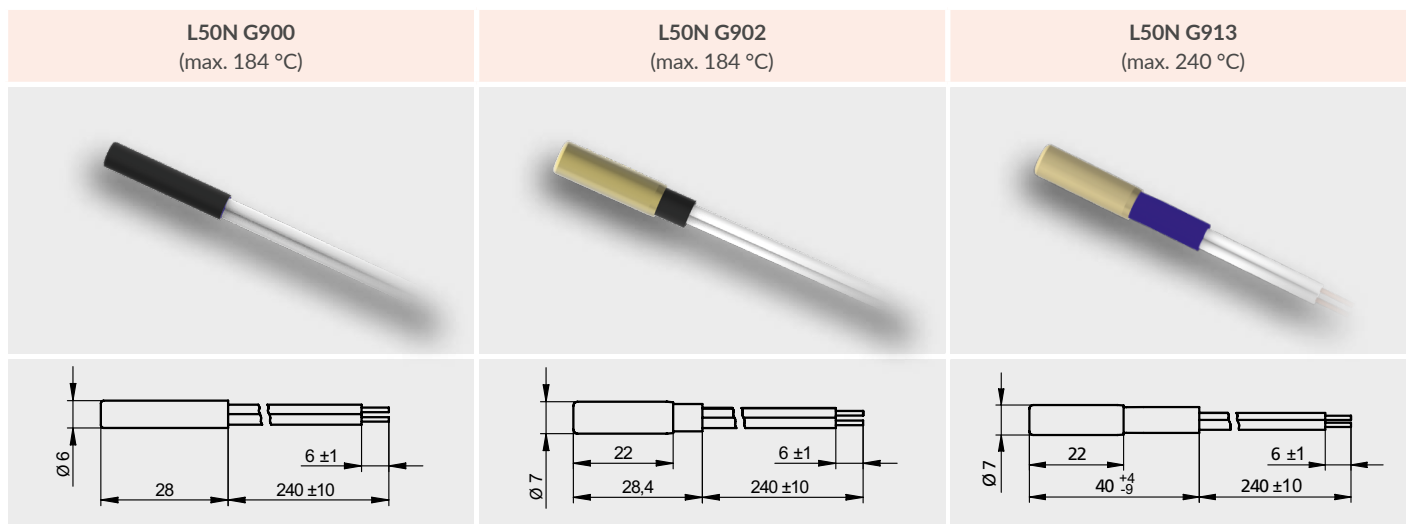
L10: Standard length 40mm, stripped 6 ± 1 mm

| | |
|-------|---|
| T_f | Fuse tripping temperature: The maximum temperature at which the thermal fuse changes its state from closed (= connected) to open (= interrupted). Note: Depending on the current intensity, self-heating of the component occurs, which should be considered to avoid premature tripping. |
| T_h | Continuous operating temperature: Maximum temperature of the fuse, measured at the head end of the component, which can be maintained for a period of 168h (= 1 week) without triggering an unwanted contact opening. Above this temperature, the tripping temperature may drop, causing premature tripping is possible. Note: It is recommended not to expose the fuses to continuous operating temperatures above T_h . |
| T_m | Maximum limit temperature: Maximum temperature above which a defect can occur with the opened thermal fuse. From here on, the function can no longer be guaranteed, which may result in an undesired short circuit (reclosing). |

In addition to the executions shown below, many other customized solutions are available, e.g. with clip or screw-in housings. Please contact us.



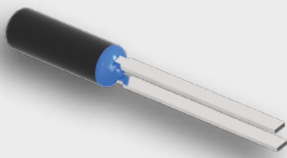
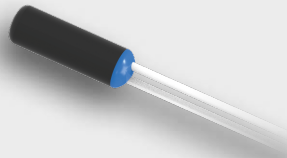
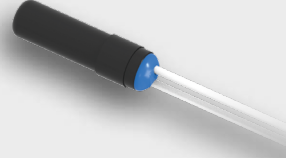
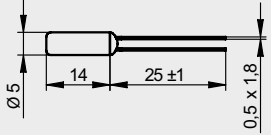
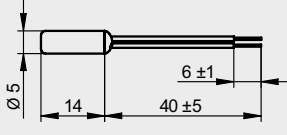
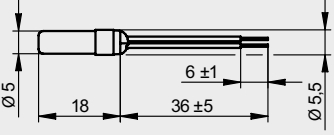
L50 Series



| | L50N 10A (Standard) | | L50N 20A | |
|---------------------------------|---------------------|-------|----------|-------|
| T_f (Tolerance +0 / -10°C) | T_h | T_m | T_h | T_m |
| 72 | 57 | 100 | 57 | 175 |
| 77 | 62 | 125 | 62 | 200 |
| 84 | 69 | 125 | 69 | 200 |
| 93 | 78 | 140 | 78 | 215 |
| 98 | 83 | 140 | 83 | 215 |
| 104 | 89 | 150 | 89 | 225 |
| 110 | 95 | 150 | 95 | 225 |
| 117 | 102 | 160 | 102 | 235 |
| 121 | 106 | 160 | 106 | 235 |
| 128 | 113 | 205 | 113 | 235 |
| 144 | 129 | 240 | 129 | 250 |
| 152 | 137 | 205 | 137 | 250 |
| 167 | 152 | 240 | 152 | 285 |
| 172 | 157 | 240 | 157 | 350 |
| 184 | 169 | 210 | 169 | 350 |
| 190 | 175 | 310 | 175 | 350 |
| 192 | 177 | 210 | 177 | 350 |
| 205 | 190 | 310 | 190 | 375 |
| 216 | 200 | 375 | 200 | 375 |
| 229 | 200 | 375 | 200 | 375 |
| 240 | 200 | 450 | 200 | 375 |

Note: For the technical selection of temperature cutouts in the L50 series, especially in applications with high currents, it is necessary to consider the self-heating of the components. This self-heating effect depends on the thermal connection of the cutout to the environment. The inner cutout elements are UL and VDE approved. Details on request.

L10 Series

| L10N (Lead frame terminals, 8A) | L10N (Leads or solid wires, 3A) | L10N G911 (Add. mechan. support, leads or solid wires, 8A) |
|---|---|---|
|  |  |  |
|  |  |  |

| | L10N 3A, 8A | |
|---------------------------------|-------------|-------|
| T_f (Tolerance +0 / -10°C) | T_h | T_m |
| 71 | 55 | 175 |
| 77 | 55 | 175 |
| 85 | 55 | 175 |
| 90 | 60 | 175 |
| 100 | 70 | 175 |
| 108 | 78 | 175 |
| 118 | 88 | 175 |
| 130 | 100 | 175 |
| 140 | 110 | 175 |
| 150 | 120 | 175 |

Ordering example

| | | | | | | | |
|------|-----|----------|------|-----|------|-----|---------------|
| L50N | 072 | +0 / -10 | L360 | 500 | G900 | 10A | |
| | | | | | | | ampere |
| | | | | | | | housing |
| | | | | | | | length 500 mm |
| | | | | | | | lead wire |
| | | | | | | | tolerance |
| | | | | | | | temperature |
| | | | | | | | type |

Marking

| | |
|--------|--|
| L50N | type |
| Tf 072 | rated functioning temperature (72°C) |
| 056D | date of production (may 2016) country (D = germany) |

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