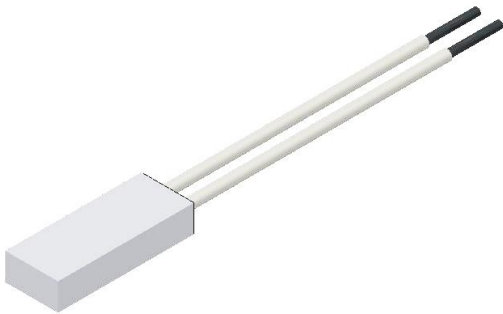


## Thermal protector UK series



- **Very small, compact design**
- **Not sensitive to current**
- **Short response time**
- **High temperature sensitivity**
- **Good heat transfer due to homogeneous design**

### Application

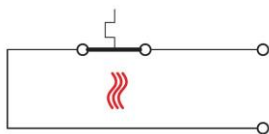
The temperature limiter of the UK-Series used where protection against over temperature is required and an automatic reset of the device to protect desired after cooling down.

### Function

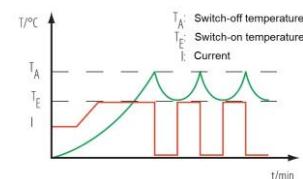
The temperature limiter UK-Series is independent of current.

The temperature measured by means of a continuously operating bimetallic snap-action disk, which previously been dimensioned according to the desired switch-off temperature. When this fixed switch-off temperature reached, the bimetal disc snaps, opens the contact system of 900 silver and thus interrupts the electrical circuit of the device to protect. After cooling and reaching the reset temperature of the bimetal disc, the temperature switch automatically switches back to its initial position. (Automatic reset).

Circuit diagram



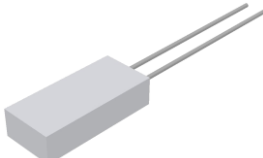
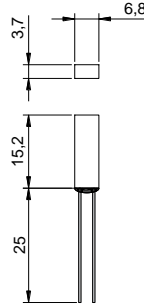
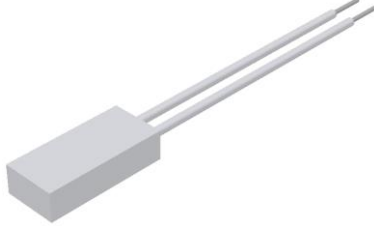
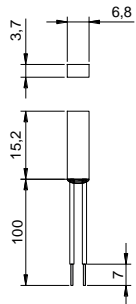
Functional scheme



### Technical data

|                                 |  |
|---------------------------------|--|
| Function                        | Normally closed (NC)   |
| Temperature setting range       | 50°C ... 145°C (VDE) / 50°C ... 140°C (UL)   |
| Tolerance                       | ± 5K   |
| Cycle life / Ratings (res.)     | ≥ 10.000 cycles at AC 250V / 2A (1A ind.) (VDE)<br>≥ 6.000 cycles at AC 125V / 4A (UL recognized)<br>≥ 3.000 cycles at DC 24V / 1A |
| Min. current                    | 50mA   |
| Contact resistance              | < 50mΩ   |
| Insulation resistance           | > 100MΩ  |
| Dielectric strength             | AC 1,5kV / 1 Min.  |
| Stranded wire length (standard) | AWG22 100mm long with 7mm stripped and tinned  |
| Solid wire length (standard)    | ∅ 0,6 x 25mm   |
| Recognized standards            | VDE EN60730-1<br>VDE EN60730-2-2<br>VDE EN60730-2-9<br>UL 873, UL2111  |

## Available designs

| Type | Model | Illustration  | Dimensions ( mm )  | Description                    |
|------|-------|---|--|--------------------------------|
| UK   | 31L   |  |  | with solid wire connections    |
| UK   | 32L   |  |  | with stranded wire connections |

## Available switch-off & switch-on temperatures

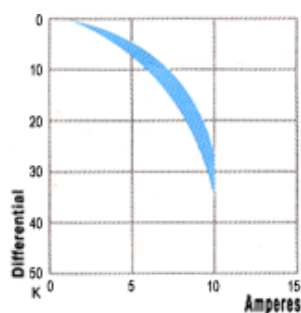
| Switch-off temperature | Reset temperature |
|------------------------|-------------------|
| 50°C ± 5K              | 35°C ± 10K        |
| 55°C ± 5K              | 40°C ± 10K        |
| 60°C ± 5K              | 40°C ± 10K        |
| 65°C ± 5K              | 45°C ± 10K        |
| 70°C ± 5K              | 50°C ± 10K        |
| 75°C ± 5K              | 55°C ± 10K        |
| 80°C ± 5K              | 50°C ± 15K        |
| 85°C ± 5K              | 55°C ± 15K        |
| 90°C ± 5K              | 60°C ± 15K        |
| 95°C ± 5K              | 65°C ± 15K        |

| Switch-off temperature | Reset temperature |
|------------------------|-------------------|
| 100°C ± 5K             | 70°C ± 15K        |
| 105°C ± 5K             | 75°C ± 15K        |
| 110°C ± 5K             | 80°C ± 15K        |
| 115°C ± 5K             | 85°C ± 15K        |
| 120°C ± 5K             | 90°C ± 15K        |
| 125°C ± 5K             | 95°C ± 15K        |
| 130°C ± 5K             | 100°C ± 15K       |
| 135°C ± 5K             | 105°C ± 15K       |
| 140°C ± 5K             | 110°C ± 15K       |
| 145°C ± 5K             | 115°C ± 15K       |

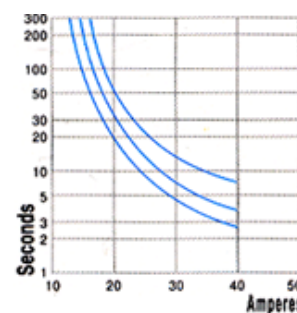
## Current dependency

During normal use, the current in the circuit has a minimal influence on the set switch-off temperature. If a current above the rated current is flowing the shutdown temperature and Response time as shown in the graphic below.

Open temperature / current



Trip time / current (at 25°C)



## Order code

|  | UK   | 32L | 120 | 05 | 100 | 90 |
|--|--|-----|-----|----|-----|----|
| <b>Model:</b>                          | UK   |     |     |    |     |    |
| <b>Function:</b>                       | 31L = wire connections<br>32L = lead wire connection   |     |     |    |     |    |
| <b>Rated operating temperature:</b>    | 50°C ... 145°C<br>in 5K steps  |     |     |    |     |    |
| <b>Tolerance:</b>                      | 05 (± 5K)  |     |     |    |     |    |
| <b>Lead wire length / wire length:</b> | lead wire = 100mm (Standard)<br>wire = 25mm (Standard)<br>Special lengths are available upon request |     |     |    |     |    |
| <b>Reset temperature:</b>              | See table above  |     |     |    |     |    |

**Example:** UK-32L.120.05.100.90

## Available wire / lead wire specifications

| Insulation material | Temperature max. | Size    | UL-Style |
|---------------------|------------------|---------|----------|
| Bare wire           | > 200°C          | Ø 0,6mm | ---      |
| PVC                 | 105°C            | AWG 22  | 1569     |
| PE                  | 150°C            | AWG 22  | 3398     |

The standard lead wire length is 100mm with 7mm stripped and tinned.  
The standard wire length is 25mm.

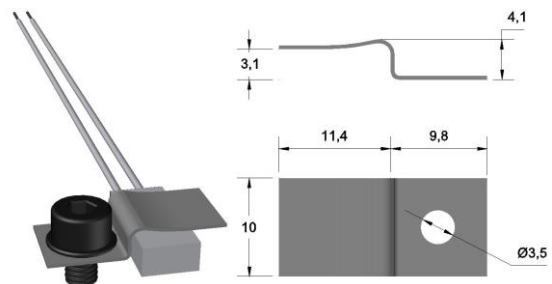
White PVC with AWG 22 wire is used up to 105°C as standard. ( UL1569 )

White PE with AWG 22 wire is used up to 150°C as standard. ( UL3398 )

## Accessories

The mounting bracket with borehole Ø 3,5mm is especially suitable for mounting thermal protectors or other components of electronics and electrical engineering on smooth surfaces such as heat sinks or housings with a screw or rivet.

Made of spring steel C75 quality, the mounting brackets are tumbled and hardened. Subsequently, the surface is thick-layer passivated (3-5µ).



Changes and errors excepted