



- ▶ **Very compact size**
- ▶ **Mould-proof housing**
- ▶ **Excellent thermal conduction characteristics due to homogenous constructional size**
- ▶ **High temperature sensitivity**
- ▶ **Permanent cut-off by self-holding**

### Area of application

The temperature limiter Q is used wherever protection against overtemperature is required as well as an automatic restart of the device to be protected after subsequent cooling is undesirable or not permitted.

### Function

The temperature limiter Q operates independent from any current supply. Temperature detection is effected by means of a bimetal disk which was first dimensioned in accordance with the required cut-off temperature  $T_A$ . When this fixed cut-off temperature  $T_A$  is reached, this bimetal disk will snap over, breaking a contact system and thereby interrupting the electric circuit of the device to be protected.

In order to prevent any automatic reset function of the device when the switch cools down again, the switch is equipped with an electrical self-holding resistor inside.

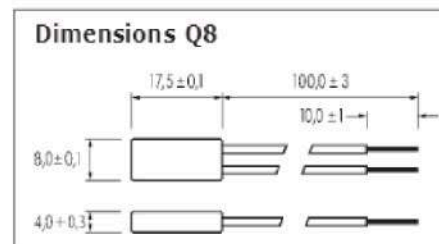
### Self-holding

By means of a high-load resistor parallel to the contact system, heat is generated by the applied supply voltage after the contact is opened. This heat prevents the switch-on temperature  $T_E$  from falling below the switch-on temperature  $T_E$  required for the bimetal disc to snap back. The switch therefore keeps its contact open regardless of its ambient temperature. Switching on the switch and thus closing the circuit is only possible after disconnection from the supply voltage and a relatively short cooling phase.

Technical specifications	
Nom. breaking capacity	250 V 2.5 A (1.6 A inductive)
Min. current	5 V / 20mA
Max. breaking capacity	100 cycles (6,5 A switch off)
	1000 cycles (4 A switch off)
	max. current value taking into account the tripping resistor value (see tripping resistor table)
Operating temperature	40 °C - 120 °C (150°C) (±5 K)
Type of action	1.C (3000 cycles)
	2.C (max. drift ±5 K)
Max. ambient temperature	160 °C / 200 °C 1 minute
Self-Hold Resistor	0,1 kΩ - 60 kΩ (*please take note of the safety instruction)
Approvals	VDE (EN 60730) UL 2111, conform to RoHS

#### \* Safety instruction

Adjusting right hold resistor value on its final assembly position under real heat conduction, otherwise risk of overheating. (see selfhold resistor value table).



alternativ:

Q5 housing type:

**L** 4,0 x **W** 8,0 x **H** 16,0

Q1 housing type:\*\*

**L** 3,6 x **W** 8,0 x **H** 14,5

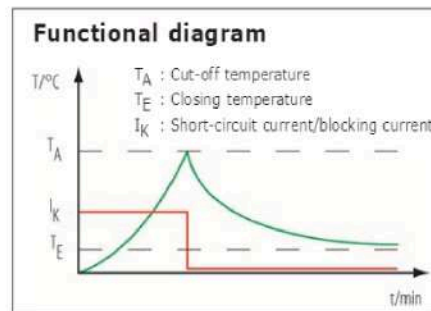
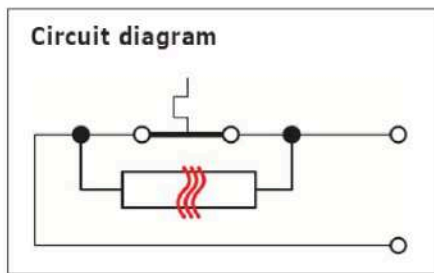
\*\*Use with mounting bracket 506 000



## Technical data

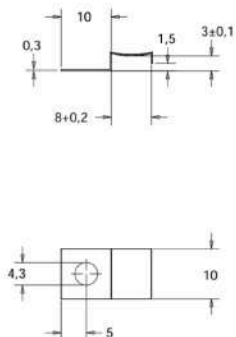
All housing types are voltage-free. Due to its constructional size the Q switch is one of the most compact thermostats available. This ensures a very fast response rate.

Its rectangular homogenous constructional size provides excellent thermal conduction characteristics.

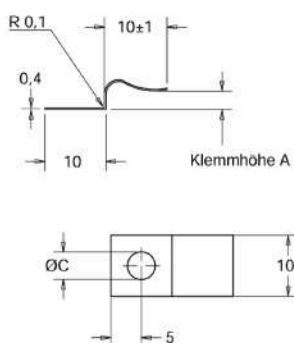


## Accessories

Mounting brackets 506005



Mounting brackets



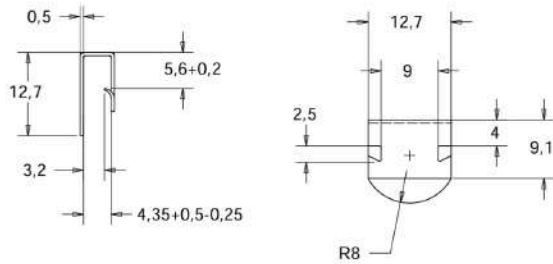
Part nr.	Name	A	Ø C
506 003	KL 0350 0430	3,5mm	4,3mm
506 002	KL 0350 0350	3,5mm	3,5mm
506 001*	KL 0250 0430	2,2mm	4,3mm
506 000*	KL 0250 0350	2,2mm	3,5mm

\* Exclusively suitable for housing type "I"

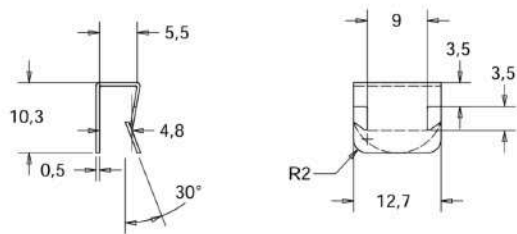




U-Clip 506100



U-Clip 506101







## Self-Hold Resistors, Code letter

Use of different values ( $\Omega$ ) depending on operating temperature and operating voltage.

Operating Temperature range	50°C - 90°C	95°C - 120°C	125°C - 150°C
Operating voltage 230 VAC	<b>H</b> (50k $\Omega$ )	<b>A</b> (40k $\Omega$ )	<b>Z</b> (30k $\Omega$ )
Operating voltage 120 VAC	<b>S</b> (15k $\Omega$ )	<b>T</b> (10k $\Omega$ )	<b>X</b> (7,5k $\Omega$ )
Operating voltage 24 V	<b>K</b> (990 $\Omega$ )	<b>K</b> (990 $\Omega$ ) / <b>Q</b> (330 $\Omega$ )	<b>Q</b> (330 $\Omega$ )
Operating voltage 12 V	<b>W</b> (220 $\Omega$ )	<b>W</b> (220 $\Omega$ ) / <b>M</b> (110 $\Omega$ )	<b>M</b> (110 $\Omega$ )

Please note:

The specifications are guide values and may vary depending on the installation conditions.

Please contact our sales team for more detailed reconciliation on your application.