

- **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.

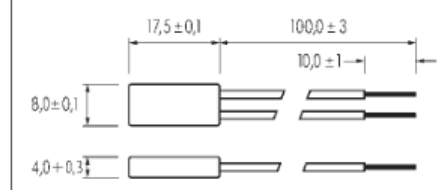
## Self-holding

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

## Technical specifications

Nom. breaking capacity	250V 2.5A (1.0A) / 60Hz
Min. current	5 V / 20mA
Max. breaking capacity	2,5A cos $\Phi$ 1,00 / 250V, 150°C, 3000 cycles
	3,0A cos $\Phi$ 0,45 / 230V, 135°C, 3000 cycles
	4,0A cos $\Phi$ 0,45 / 230V, 135°C, 2000 cycles
	6,5A cos $\Phi$ 1,00 / 120V, 120°C, 100 cycles
Operating temperature	40°C - 120°C (150°C) ( $\pm 5K$ )
Type of action	1.C (3000 cycles)
	2.C (max. drift $\pm 5K$ )
Max. ambient temperature	160°C / 200°C 1 minute
Self-Hold Resistor	0,1 k $\Omega$ - 60 k $\Omega$ (*please take note of the safety instruction)
Approvals	VDE (EN 60730) UL 2111, conform to RoHS

## Dimensions Q8



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**

*\* 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)*

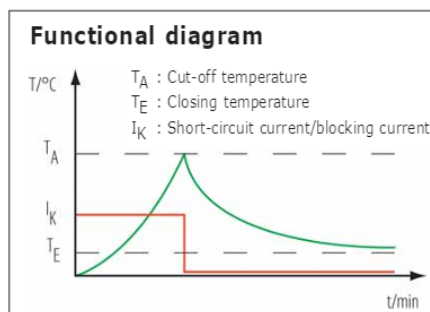
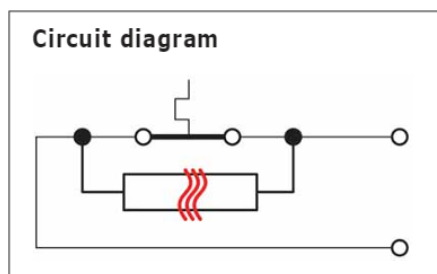
# TEMPERATURE LIMITER Q (SELF HOLDING)



## Technical data

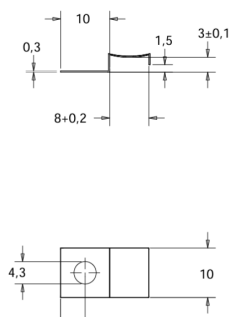
All housing types are voltage-free. Due to its constructional size the Q switch is one of the most compact thermostats available. This ensures a very fast response rate.

Its rectangular homogenous constructional size provides excellent thermal conduction characteristics.

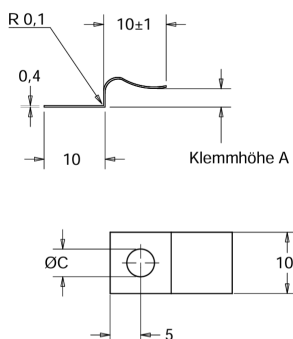


## Accessories

### Mounting brackets 506005

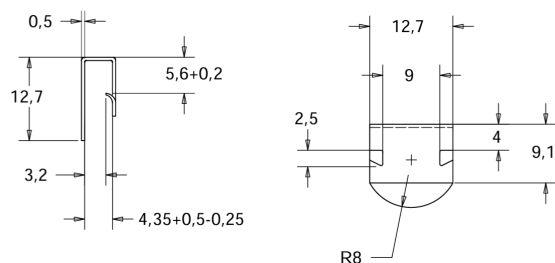


### Mounting brackets

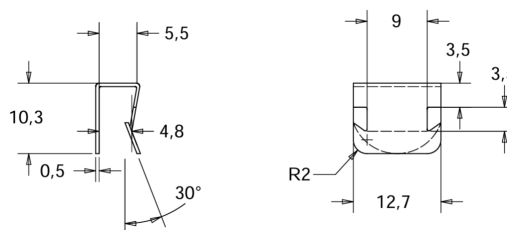


Part nr.	Name	A	Ø C
506 003	KL 0350 0430	3,5mm	4,3mm
506 002	KL 0350 0350	3,5mm	3,5mm
506 001	KL 0250 0430	2,2mm	4,3mm
506 000	KL 0250 0350	2,2mm	3,5mm

### U-Clip 506100



### U-Clip 506101



# TEMPERATURE LIMITER Q (SELF HOLDING)



Ordering information (Please use the characters in the chart below to construct your product code)

Sample Code Q - 8 2 - A - 80 - 5 - 100 - 10A

## Housing

0	Semi-Enclosure
1	PCB-Version
5	Unsealed housing
8	Sealed housing (Standard)

## Electrical connections

K	Spring steel contact silver plated
1	Bare solid wire AWG 24
2	Stranded wire double tinned AWG 24 (Standard)
3	Insulated solid wire AWG 24
4	Bare solid wire AWG 22
5	Stranded wire AWG 24
6	Insulated solid wire AWG 22
7	Stranded wire AWG 22
9	Customized electrical connections

## Self-Hold Resistor

See table below	
e.g.:	
A	40 kOhm

## Operating temperature

Temperature range 40°C - 130°C	
Selectable in 5° steps	
e.g.:	
110	110°C

## Tolerance Operating Temperature

05	± 5 Kelvin
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## Lead Wire Length

100	100mm (Standard)
3	3 - 9999 mm

## Lead specification

Only with connection option "stranded wire"			
10 mm	(Standard)	A	Fully stripped (Standard)
Other lengths upon request		HA	Half stripped



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.