

Bimetal Cutouts Temperature Regulators Temperature Limiters

ADVANTAGES

- high pressure resistance
- high response sensitivity
- numerous applications
- various housings, connections and mounting styles

KSD301

KSD302

DESCRIPTION

Types KSD301 KSD302 are bimetal detectors and temperature regulators.

Types R 30/R 32 are **temperature limiters** (manual reset) without tripfree mechanism.

The thermal response works via a bimetal snap element electrically connected to the switch contact.

The switch system is current insensitive.

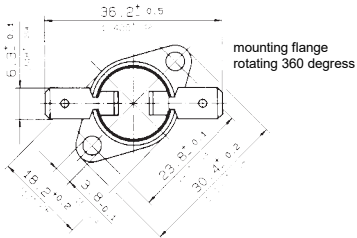
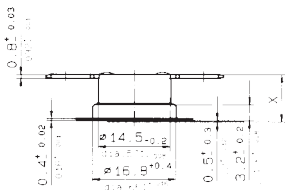
The thermal switches react only to external thermal effects. Double contacts ensure high switch performance and long service life.

The housing, base, and the mounting brackets are **voltage-free** (Standard version: base and mounting brackets are aluminium-plated steel).

Heat transfer occurs directly through the metallic base via convection, radiation and conduction in gaseous and solid media.

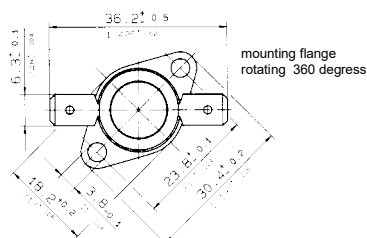
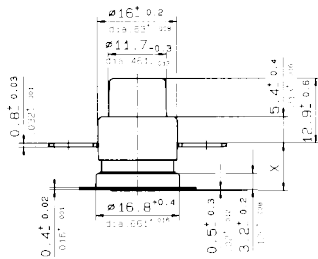
DIMENSIONS

KSD301 KSD302

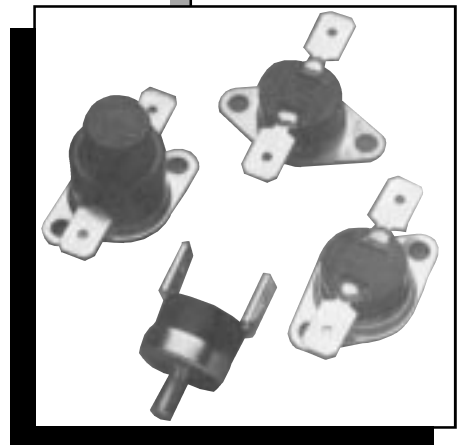


Standard version

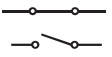

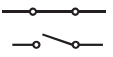
R 30 / R 32



Standard version



TECHNICAL DATA

Type	KSD301 and KSD302	R 30 and R 32	R 40
Voltage rating	* 250 V 50–60 Hz	250 V 50–60 Hz	* 250 V 50–60 Hz
Current rating at $\cos \varphi = 1.0$	* 10.0 A / * 16.0 A	16.0 A	* 10.0 A
Current rating at $\cos \varphi = 0.6$	6.3 A	6.3 A	* 6.3 A
Max. load at $\cos \varphi = 1.0$ 250 V 50–60 Hz 110 V 50–60 Hz 60 V DC 42 V DC 6, 12, 24 V DC	16.0 A / 20.0 A 6.0 A 7.2 A 8.5 A	20.0 A	16.0 A 6.0 A 7.2 A 8.5 A
Contacts Normally closed Normally open			
Switch operations at I_N	* 10 000 0–170 °C / 16 A — * 100 000 50–160 °C / 10 A	* 200	* 30 000
Contact resistance	< 50 mΩ	< 50 mΩ	< 50 mΩ
Nominal temperature range	0 °C to +170 °C	+30 °C to +160 °C	+50 °C to +160 °C
Tolerance but at least	±3% ±6% ±10% ±3 K ±5 K ±10 K	±3% ±6% ±10% ±3 K ±5 K ±10 K	±3% ±6% ±10% ±3 K ±5 K ±10 K
Max. permanent temperature	* 175 °C	* 175 °C	* 175 °C
Dielectric strength Housing to earth	KSD301/302: 3000 V 50–60 Hz	R 30: 3000 V _{eff} 50–60 Hz R 32: 4000 V _{eff} 50–60 Hz	3000 V _{eff} 50–60 Hz
Dielectric strength across open contacts	1500 V _{eff} 50/60 Hz	1500 V _{eff} 50/60 Hz	1500 V _{eff} 50/60 Hz
Housing material	Duroplast	Duroplast	Duroplast
Housing insulation	on request	on request	on request
Overall height (mm)	KSD301/302 9.5 ^{+0.2}	R 30 9.5 ^{+0.2} R 32 11.5 ^{+0.2}	R 40 12.0 ^{+0.2}

Note: * Approved nominal values. Other specific values on request.

AREAS OF APPLICATION

Temperature regulation, temperature monitoring, temperature limiting and indication in electric appliances and industrial equipment, machinery and process engineering.

Examples:

Vacuum cleaners	Electrical house-
Ironing machines	hold appliances
Cooking equipment	Electronic circuits
Dampers	Machinery
Heat radiators	Process engineering
Hot water heaters	Industrial electric
Coffee machines	elements
Egg boilers	Electrical components
Electric appliances	

RESPONSE TEMPERATURE, TOLERANCE, CODE-NO.

Nominal temperatures between 50 and 160 °C in 5 °C steps.

Nominal temperatures in geometrical series as per DIN 323 in °C.

For tolerance, see above – Technical Data.

Temperature code – 3 digits

Minimum rate of temperature change

0.1 K/min., max. 1.0 K/min.

RESET TEMPERATURES

Reset temperature will be between 5 °C and 50 °C below the standard response temperatures.

INSTALLATION/MOUNTING INFORMATION

Incorporation of the thermo-switch directly in the heat source or attachment to it, is possible without additional insulation.

Slightest changes in temperature are conducted through the metallic housing cap directly to the bimetal snap disc of the thermo-switch. This ensures that time delays of thermal control systems are kept very small: insensitive to installation position. The dust-proof and damp-proof construction of the thermo-switch allows various methods of attachment to, and incorporation in appliances.

To ensure the best heat transition, the cap respectively the mounting bracket should be soldered, rivetted, screwed or spot-welded to the heat source.

Fastron
Electronics

9B Lakewood Blvd
Braeside VIC 3195 Australia

- Power Semiconductors
- Electrical Measurement
- Process Control

Web: www.fastron.com.au
Email: sales@fastron.com.au
Telephone: + 61- 3 - 97635155
Facsimile: + 61- 3 - 97635206