Current and Temperature Limiter Y
(Self-holding and current sensitivity)

**Area of Application**
The current and temperature limiter Y is used wherever, on one hand, protection against overtemperatures as well as against overcurrents is required, and, on the other hand, automatic reset function of the device to be protected - subsequent to a follow-on cooling down period - is undesirable or not permissible.

**Function**
The current and temperature limiter Y operates dependent on 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. 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.

**Current sensitivity**
If the current increase to the double or more (for example: blocking current or short-circuit current), an additional resistor inside the limiter heats the bimetal disk to its cut-off temperature $T_A$ very quickly. The bimetal disk snaps suddenly and breaks the contacts of the switch. In order to achieve an optimum adaptation to the specific current value the resistor values are graded.

**Self-holding**
Caused of a high value resistor, connected in parallel to the contact system, the bimetal disk is heated after breaking the contact. This prevents any decrease in temperature below the value of the closing temperature $T_E$, preventing any automatic reset function of the device to be protected. Only after the operating voltage has been switched off, followed by a relatively short cooling phase, the bimetal disk will return to its original position and close the contact.

### Configuration examples
- very compact constructional size
- mould-proof housing
- fast response time due to current sensitivity
- permanent cut-out due to self-holding function
Technical Data
The housing of this switch consists of a single part bag housing which is closed at its end by resin (Y8 housing type); this makes the switch mould-proof. This mould-proof switch may thus also be used in "tough" environments subject to the detrimental influences of humidity or dirt. Alternative housing types: unsealed version (Y5) or plate bar version (Y1). All housing types are voltage-free. Due to its constructional size the Y 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. The housing is resistant against temperatures (permanent temperature: 160°C), with a temporary increase in temperature up to 200°C max. being permissible for a short period only. The standard version is equipped with 100 mm long (length of stripped isolation: 10 mm) insulated leads or wire connection (AWG 24).

Special leads or wire (larger diameter to AWG 22) or different lengths available on request.

Type reference Y switch (current and temperature limiter, self-holding and current sensitivity)

Example for type reference:

Y 8 2 - Z - 100 - B20 - 100

- current sensitive thermal switch with electrical self-holding function
- insulated lead (standard AWG 24)
- holding resistor 30 kΩ
- 100°C cut-off temperature
- tolerance ± 5 K
- 100 mm lead length
- (10 mm stripped length)

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