

## Key Features

- High elastic force with a small spring deflection
- Increased work capacity
- Greater contact stability / greater contact pressure
- Better use of space thanks to circular design (miniaturization)
- Simple geometry: more mechanical strength
- Cost-effective production (uncomplicated tools)
- Longer service life
- Better long-term stability
- Reduced contact resistances
- More precise switching-point accuracy
- No premature switching
- Punctual switching-point response only at ambient temperature



## Specifications

For the following Thermik thermal protector Product Series, frequent customer-requested variations are shown to the right:

**F1 F2 01 02 K1 Z1 P1 W1**

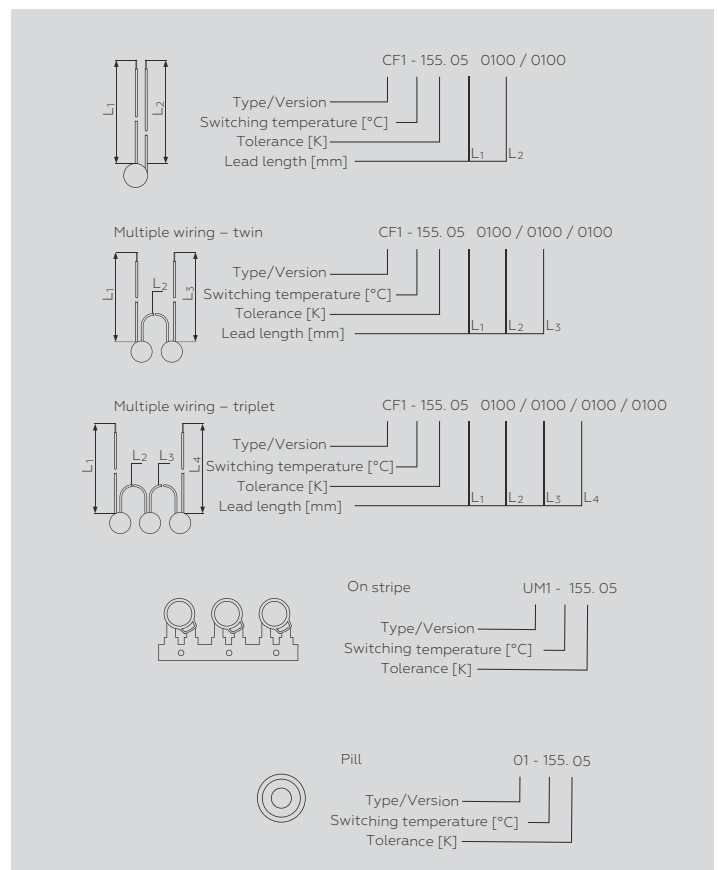
Thermik creates endless customized modifications within this Product Series, including customer-application solutions. Thermik's patented engineering in our standard configurations of this Product Series extends to all our custom solutions.

Our rigorous quality processes ensure precision-engineering consistency – in design and manufacture – plant-to-plant, worldwide – and on each order, for both standard and custom specifications.

By design, Thermik's selection of materials, and their composition, requires only the highest-quality materials enter Thermik's supply chain and are used in Thermik products. We source for quality and reliability, over price. From experience, the quality of our precision engineering products depends on it!

Due to their superior electromechanical properties, the use of precious metals is necessary for Thermik products. Thermik's Engineering Center of Excellence sources locally, within Europe, to assure our quality standards, and further assure our compliance with the international "Conflict-Free Minerals Directive" for special metals! Thermik's eco-friendly products also comply fully with EU Directives on RoHS and REACH.

## Ordering instructions:

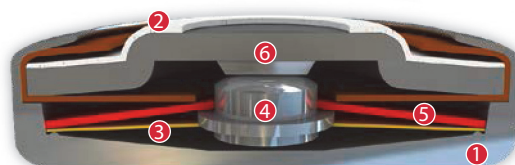


The listed products are an extract from our standard range. Other versions and customised manufacturing are available upon request.



## Construction and Function

The switchgear of type series 01 is fixed in a positive lock and is self-aligning between the floor of a conductive housing (1) and a contact cap which is made of steel (2) and insulated from it, plus an integrated stationary silver contact (6) which closes the housing like a button cell. At the same time, the spring snap-in disc (3) which forms the current transfer element bears the movable contact (4) and discharges the flow of current and self-heating from the bimetallic disc (5) by exercising consistent, steady contact pressure. The bimetallic disc (5) is held on the one movable contact (4) which sticks out through this without having to be welded or fixed. As such, it can continually work (exposed) and only reacts to the ambient temperature in the device to be protected. When the rated switching temperature is reached, the bimetallic disc (5) snaps into its inverted position and pushes the spring snap-in disc (3) downwards. The contact is abruptly opened and the temperature rise of the device to be protected is disrupted. If the ambient temperature now falls, the bimetallic disc (5) snaps back into its start position when reaching the defined reset temperature and the contact is closed again.



### S01

Type: Normally closed; resets automatically; with connector cables; with or without epoxy; insulation: Mylar®-Nomex®

Nominal switching temperature (NST) in 5 °C increments	60 °C – 200 °C
Tolerance (standard)	±2,5 K / ±5 K
Reverse Switch Temperature (defined RST is possible at the customer's request)	UL $\geq 35 \text{ °C}$ ( $\leq 80 \text{ °C}$ NST) $-35 \text{ K} \pm 15 \text{ K}$ ( $\geq 85 \text{ °C} \leq 180 \text{ °C}$ NST) $-65 \text{ K} \pm 15 \text{ K}$ ( $\geq 185 \text{ °C} \leq 200 \text{ °C}$ NST) VDE $\geq 35 \text{ °C}$
Installation height	from 4.7 mm
Diameter	9.5 mm
Length of the insulation cap	15.0 mm
Resistance to impregnation *	suitable
Suitable for installation in protection class	I + II
Pressure resistance to the switch housing *	450 N
Standard connection	Lead wire 0.25 mm <sup>2</sup> / AWG22
Available approvals (please state)	IEC; ENEC; VDE; UL; CSA; CQC; CMJ
Operational voltage range AC / DC	up until 500.0 V AC / 14.0 V DC
Rated voltage AC	250.0 V (VDE) 277.0 V (UL)
Rated current AC cos $\Phi$ = 1.0 / cycles	2.5 A / 10,000
Rated current AC cos $\Phi$ = 0.6 / cycles	1.6 A / 10,000
Max. switching current AC cos $\Phi$ = 1.0 / cycles	6.3 A / 3,000 7.5 A / 300
Rated current AC cos $\Phi$ = 0.4 / cycles	1.8 A / 10,000
Max. switching current AC cos $\Phi$ = 0.4 / cycles	7.2 A / 1,000
Rated voltage DC	12.0 V (VDE, UL)
Max. switching current DC / cycles	40.0 A / 5,000
High voltage resistance	2.0 kV
Total bounce time	< 1 ms
Contact resistance (according to MIL-STD. R5757)	$\leq 50 \text{ m}\Omega$
Vibration resistance at 10 ... 60 Hz	100 m / s <sup>2</sup>

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