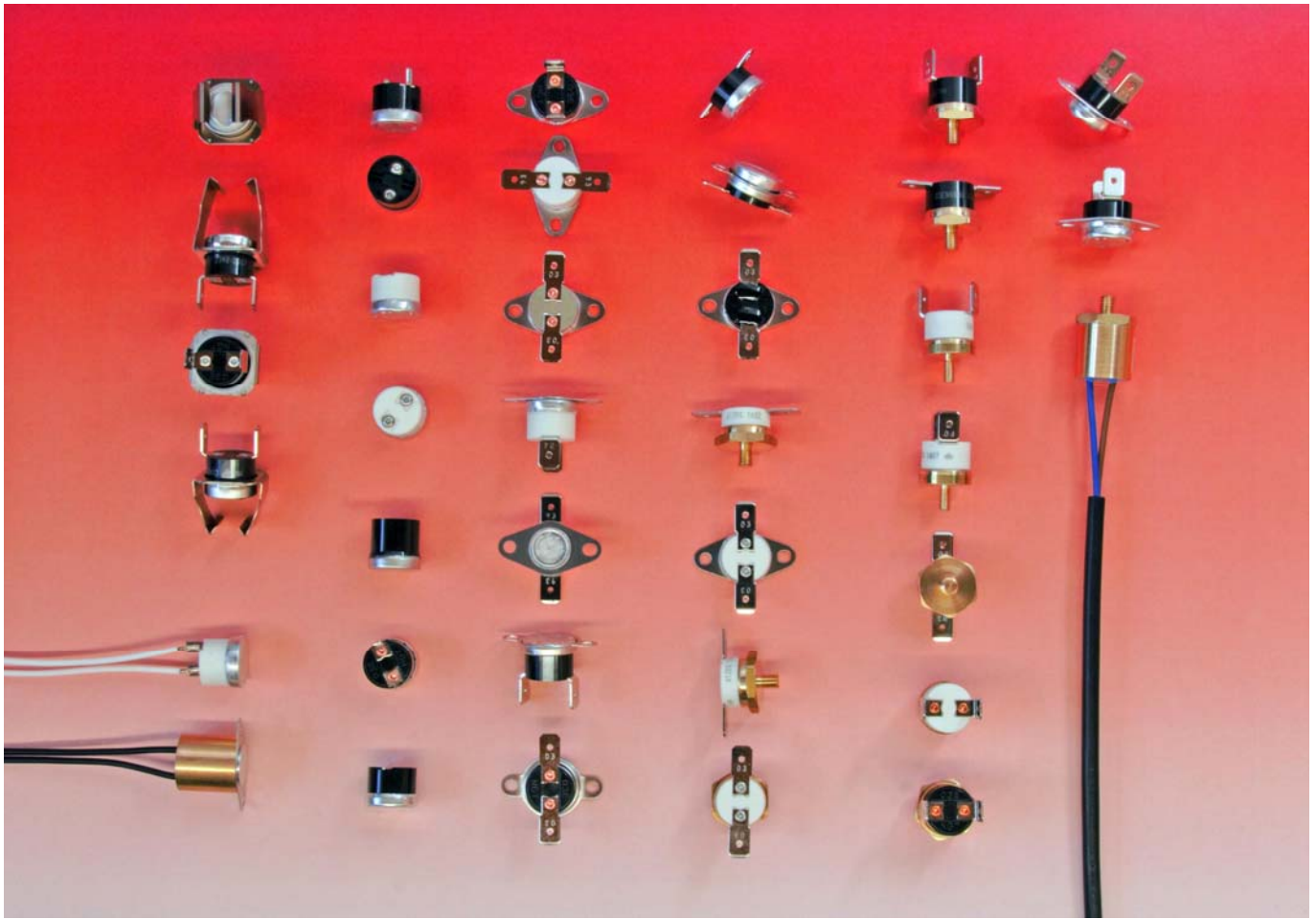


**TEMPERATURE CONTROLS (auto reset 1/2" size)**



temperature controls from **PROTHERM** for applications in

*·MEDICINE ·DOMESTIC·  
·INDUSTRIAL ·ELECTRONIC·  
·AUTOMOTIVE ·TRANSPORTATION·*

**YOU WILL HAVE A SUCCESSFUL PRODUCT**

- we are able to give you the ideal thermostat configuration

**YOU WILL NEED MAXIMUM QUALITY FOR YOUR PRODUCTION LINE**

- our products will be best quality because of certified production (DIN ISO 9001) and high-tech quality department

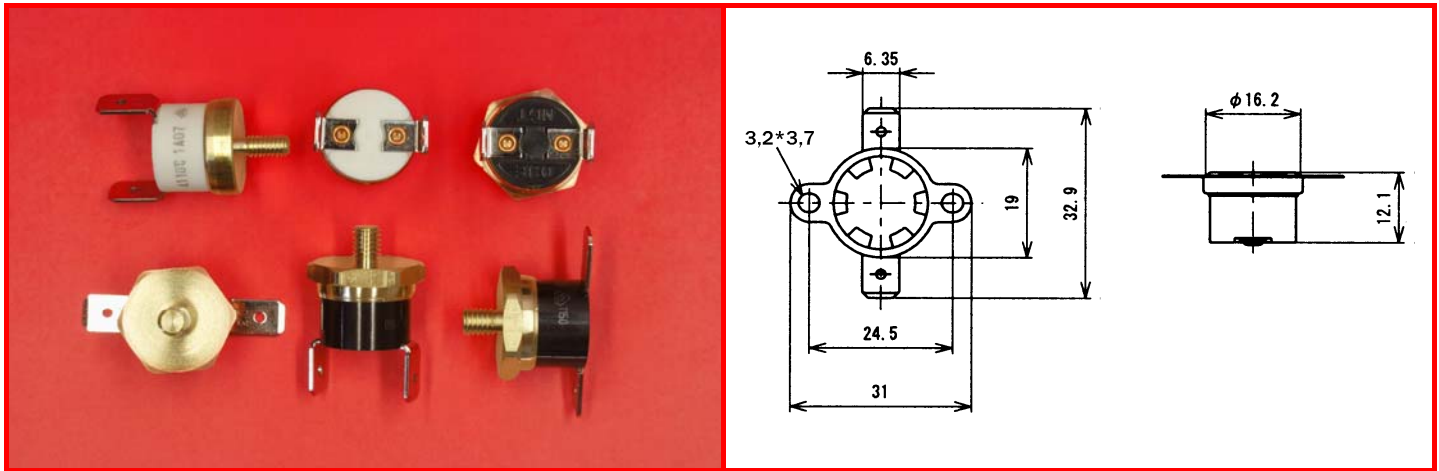
**YOU HAVE NEW INNOVATE CONCEPTS**

- we would give you the best solution. Our exceptionally large standard program already offers you multiple choices

Whether you want to develop a new product or to attain the highest quality standards in your production – do not compromise. Our know-how, as well as your wide range of products will set you nearly no limit.

Temperature controls from **PROTHERM**, for best price and service

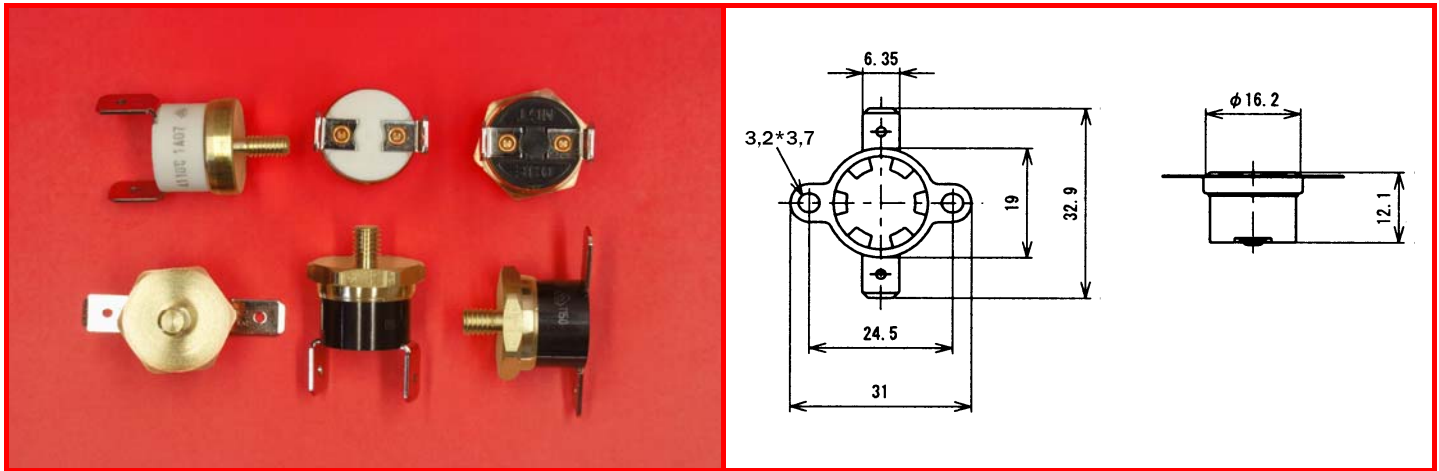
## TEMPERATURE CONTROLS TYPE 03EN



### technical data

version	03EN
contact type	NC = normally close / NO = normally open
insulation	Duroplast-case
nominal switching temperature	-10°C until 150°C
max. ambient temperature (NGT-test)	24h at 150°C and 24h at -30°C
standard-tolerance range	NST < 100°C = ±3K      NST >100°C = ±4K NST > 140°C = ±5K
standard reset temperature (special reset possible)	NST <100°C differential 10K±4K below of NST NST >100°C differential 15K±5K below of NST NST >140°C differential 20K±7K below of NST
rated voltage $U_N$ 50/60Hz (VDE/IEC)	250VAC
rated current with UN ohmic $\cos \varphi = 1,0$	10A at 240VAC for 100.000 cycles (UL) 8A at 250VAC for 100.000 cycles (CSA) 10A at 250VAC for 100.000 cycles (VDE) 16A at 250VAC for 10.000 cycles (VDE)
approvals	VDE, UL, CSA
standard connection	terminal 6,3x0,8mm
High voltage insulation	2,0kV
degree of protection	IP00
contact resistance (MIL-Standard R5757)	<30mΩ
vibration proof (at 10...60Hz)	98m/s <sup>2</sup> ≈ 10G

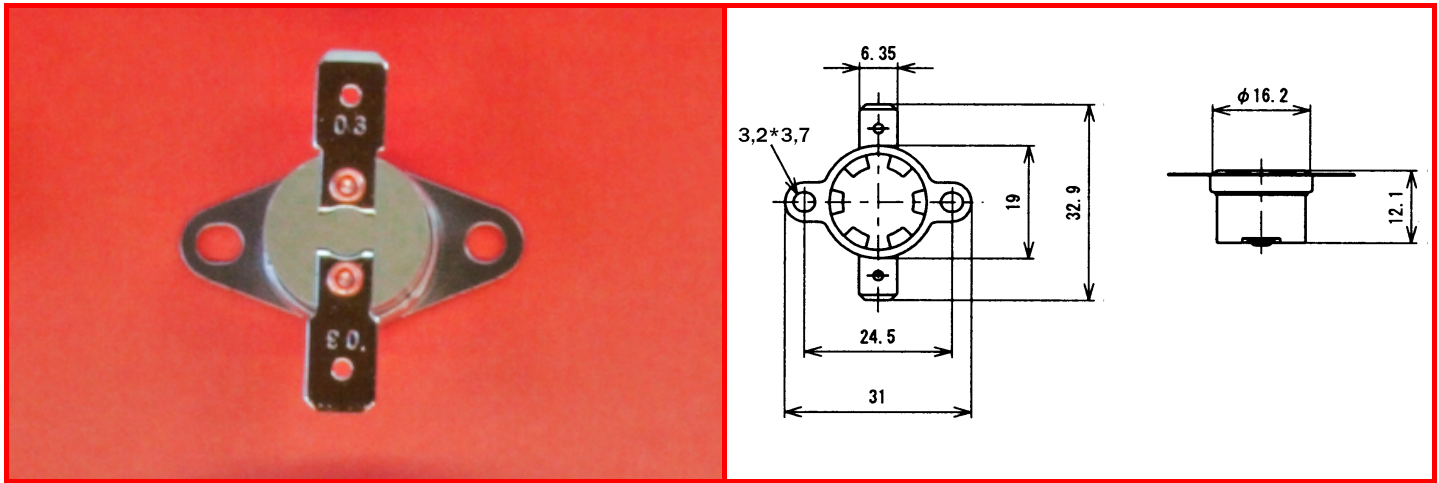
## TEMPERATURE CONTROL TYPE 03EP – special contacts



### technical data

<b>version</b>	03EP
contact type	NC = normally close / NO = normally open
insulation	Duroplast-case
nominal switching temperature	-10°C until 150°C
max. ambient temperature (NGT-test)	24h at 150°C and 24h at -30°C
standard-tolerance range	NST < 100°C = ±3K      NST >100°C = ±4K NST > 140°C = ±5K
standard reset temperature (special reset possible)	NST <100°C differential 10K±4K unter der NST NST >100°C differential 15K±5K unter der NST NST >140°C differential 20K±7K unter der NST
rated voltage $U_N$ 50/60Hz (VDE/IEC)	250VAC
rated current with UN ohmic $\cos \varphi = 1,0$	200mA at 250VAC for 100.000 cycles (VDE, UL) 100mA at 250VAC for 100.000 cycles (CSA) 100mA at 30VDC for 100.000 cycles (CSA) 200mA at 42VDC for 100.000 cycles (VDE, UL)
approvals	VDE, UL, CSA
standard connection	terminal 6,3x0,8mm
High voltage insulation	2kV
degree of protection	IP00
contact resistance (MIL-Standard R5757)	<10mΩ
vibration proof (at 10...60Hz)	98m/s <sup>2</sup> ≈ 10G

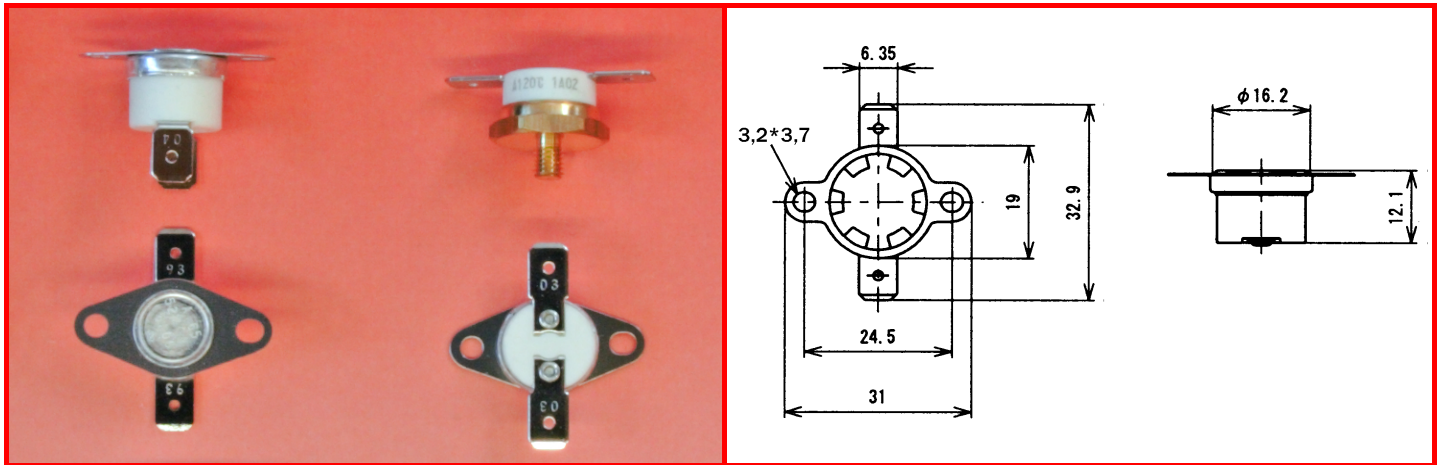
## TEMPERATURE CONTROL TYPE 21EN with Polyester case



### technical data

version	21EN
contact type	NC = normally close / NO = normally open
insulation	Polyester-case
nominal switching temperature	-10°C until 180°C
max. ambient temperature (NGT-test)	24h at 180°C and 24h at -30°C
standard-tolerance range	NST < 100°C = ±3K NST > 100°C = ±4K NST > 150°C = ±6K
standard reset temperature (special reset possible)	NST < 100°C differential = 10K±4K NST > 100°C differential = 15K±5K NST > 150°C differential = 25K±6K
rated voltage $U_N$ 50/60Hz (VDE/IEC)	250VAC
rated current with UN ohmic $\cos \varphi = 1,0$	10A at 250VAC for 100.000 cycles (VDE, UL)
approvals	VDE, UL
standard connection	terminal 6,3x0,8mm
High voltage insulation	2kV
degree of protection	IP00
contact resistance (MIL-Standard R5757)	<30mΩ
vibration proof (at 10...60Hz)	98m/s <sup>2</sup> ≈ 10G

## TEMPERATURE CONTROL TYPE 52N – ceramic for high temperature

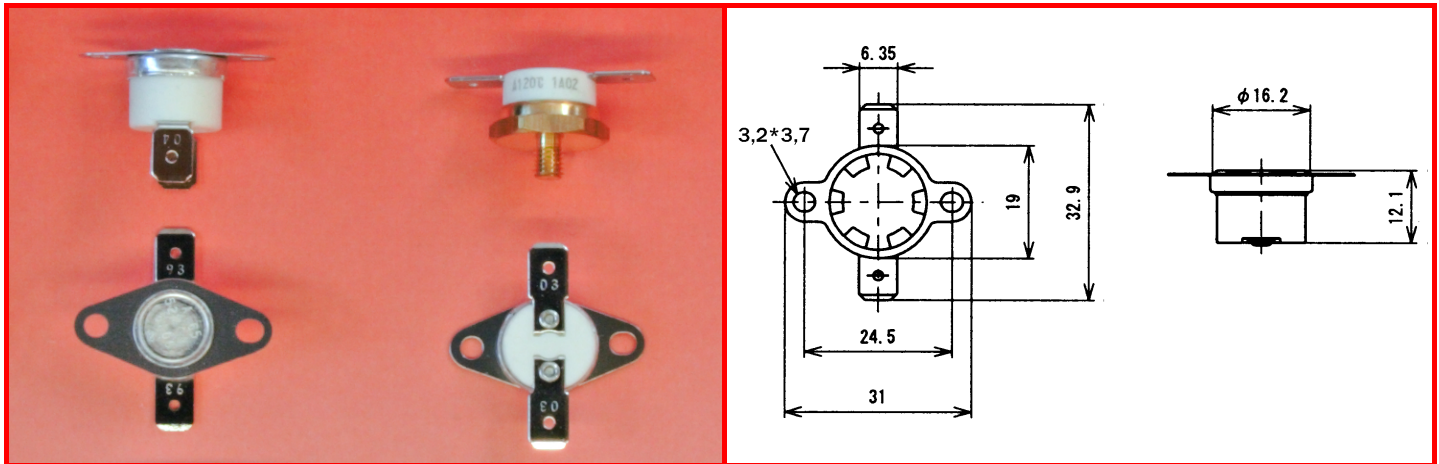


### technical data

version	52N
contact type	NC = normally close / NO = normally open
insulation	ceramic-case
nominal switching temperature	-10°C until 230°C
max. ambient temperature (NGT-test)	24h at 200°C and 24h at -30°C
standard-tolerance range	NST < 100°C = ±3K NST > 100°C = ±4K NST > 150°C = ±6K
standard reset temperature (special reset possible)	NST < 100°C differential = 10K±4K NST > 100°C differential = 20K±5K NST > 150°C differential = 25K±6K
rated voltage $U_N$ 50/60Hz (VDE/IEC)	250VAC
rated current with UN ohmic $\cos \varphi = 1,0$	10A at 250VAC for 100.000 cycles (VDE, UL, CSA) 16A at 250VAC for 10.000 cycles (VDE)
approvals	VDE (230°C) UL / CSA (200°C)
standard connection	terminal 6,3x0,8mm
High voltage insulation	2kV
degree of protection	IP00
contact resistance (MIL-Standard R5757)	<30mΩ
vibration proof (at 10...60Hz)	98m/s <sup>2</sup> ≈ 10G



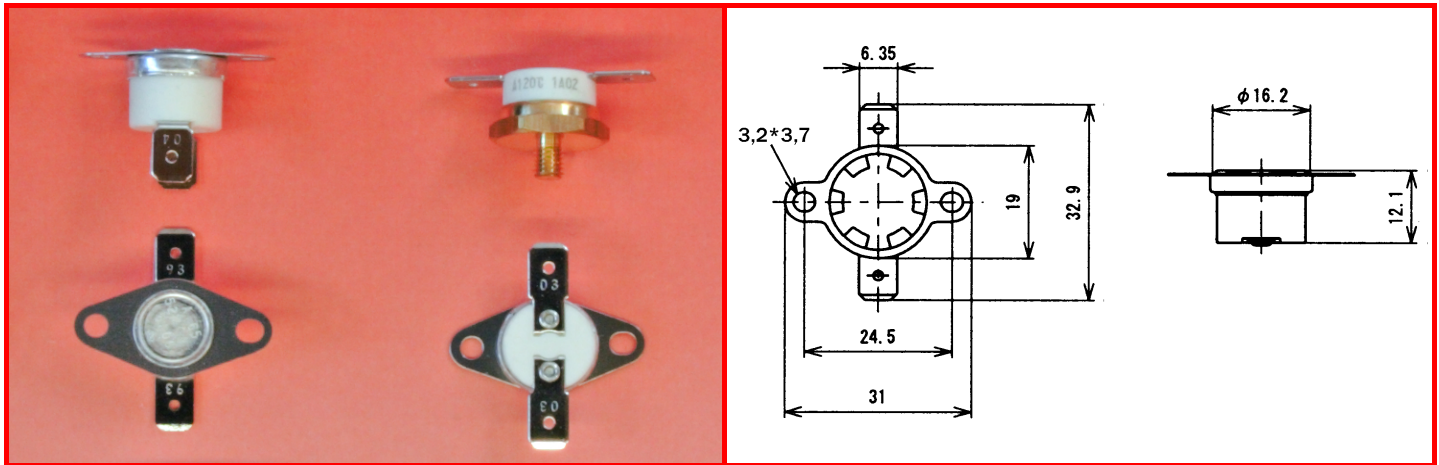
**TEMPERATURE CONTROL TYPE 52P – special contacts & ceramic case**



**technical data**

<b>version</b>	52P
contact type	NC = normally close / NO = normally open
insulation	ceramic-case
nominal switching temperature	-10°C until 230°C
max. ambient temperature (NGT-test)	24h at 230°C and 24h at -30°C
standard-tolerance range	NST < 100°C = ±3K NST >100°C = ±4K NST > 150°C = ±6K
standard reset temperature (special reset possible)	NST <100°C differential = 10K±4K NST >100°C differential = 15K±5K NST >150°C differential = 25K±6K
rated voltage U <sub>N</sub> 50/60Hz (VDE/IEC)	250VAC
rated current with UN ohmic cos φ = 1,0 (certified until 230°C)	200mA at 42VDC for 100.000 cycles (VDE, UL, CSA) 200mA at 250VAC for 100.000 cycles (VDE, UL, CSA)
approvals	VDE, UL, CSA
standard connection	terminal 6,3x0,8mm
High voltage insulation	2kV
degree of protection	IP00
contact resistance (MIL-Standard R5757)	<30mΩ
vibration proof (at 10...60Hz)	98m/s <sup>2</sup> ≈ 10G

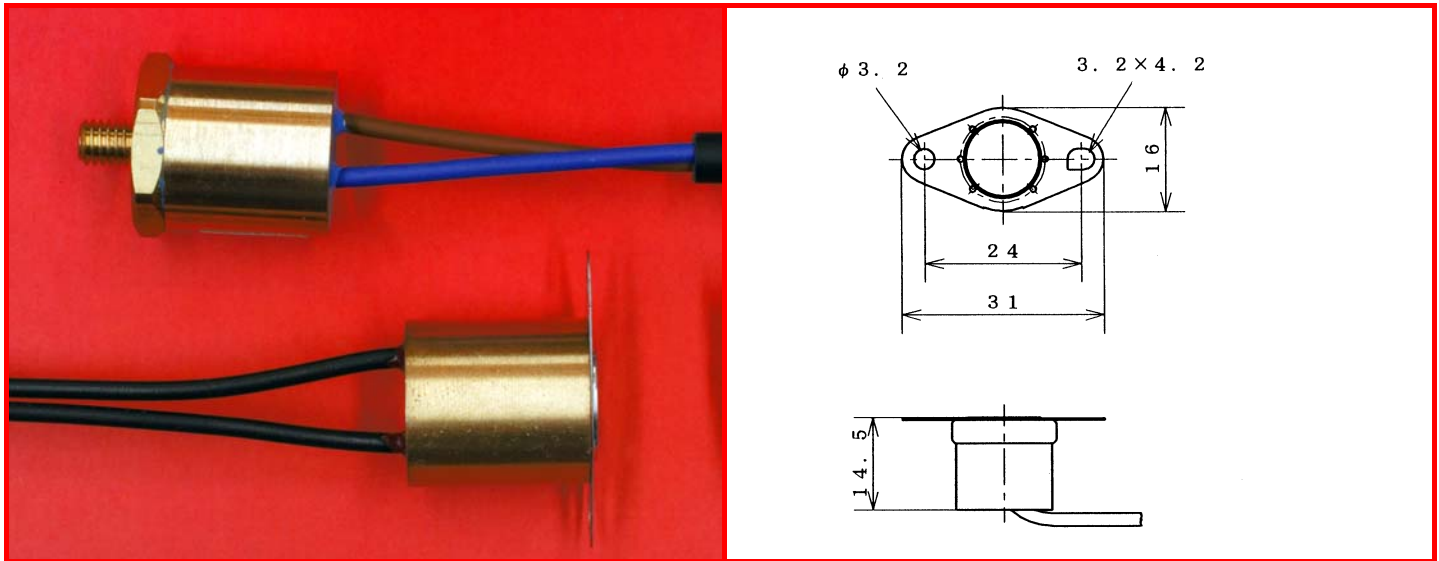
## TEMPERATURE CONTROL TYPE 55H – ceramic for high temperature



### technical data

version	55H
contact type	NC = normally close / NO = normally open
insulation	ceramic-case
nominal switching temperature	150°C until 260°C
max. ambient temperature (NGT-test)	24h at 300°C and 24h at -30°C
standard-tolerance range	NST < 100°C = ±3K NST > 100°C = ±4K NST > 150°C = ±6K
standard reset temperature (special reset possible)	NST < 100°C differential = 10K±4K NST > 100°C differential = 15K±5K NST > 150°C differential = 25K±6K
rated voltage U <sub>N</sub> 50/60Hz (VDE/IEC)	250VAC
rated current with UN ohmic cos φ = 1,0	7A at 250VAC for 30.000 cycles (VDE)
approvals	VDE
standard connection	terminal 6,3x0,8mm
High voltage insulation	2kV
degree of protection	IP00
contact resistance (MIL-Standard R5757)	<30mΩ
vibration proof (at 10...60Hz)	98m/s <sup>2</sup> ≈ 10G

## TEMPERATURE CONTROL TYPE 60EN – drip proof version

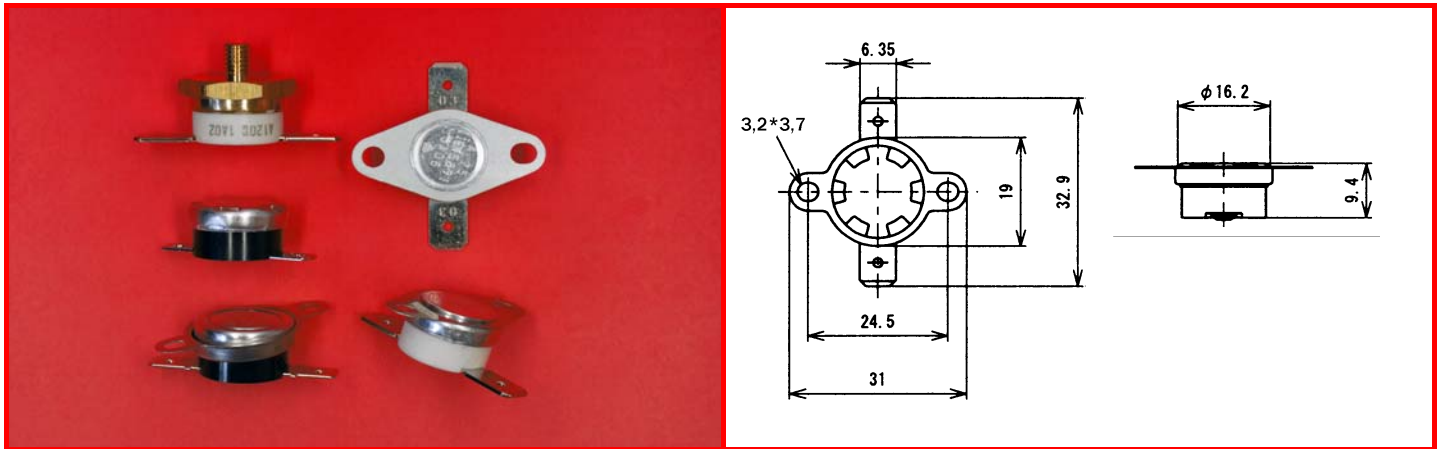


### technical data

version	60EN
contact type	NC = normally close / NO = normally open
insulation	Duroplast-case / drip-proof (according to IP40)
nominal switching temperature	40°C until 80°C
max. ambient temperature (NGT-test)	24h at 150°C and 24h at -30°C
standard-tolerance range	NST <100°C = ±3K NST >100°C = ±4K
standard reset temperature (special reset possible)	NST <100°C differential = 10K±4K NST >100°C differential = 15K±5K
rated voltage U <sub>N</sub> 50/60Hz (VDE/IEC)	250VAC
rated current with UN ohmic cos φ = 1,0	7A at 250VAC for 10.000 cycles (VDEI)
approvals	VDE, MITI
standard connection	wire 1,25mm <sup>2</sup>
High voltage insulation	1,8kV
degree of protection	Angelehnt an IP40
contact resistance (MIL-Standard R5757)	<30mΩ
vibration proof (at 10...60Hz)	98m/s <sup>2</sup> ≈ 10G



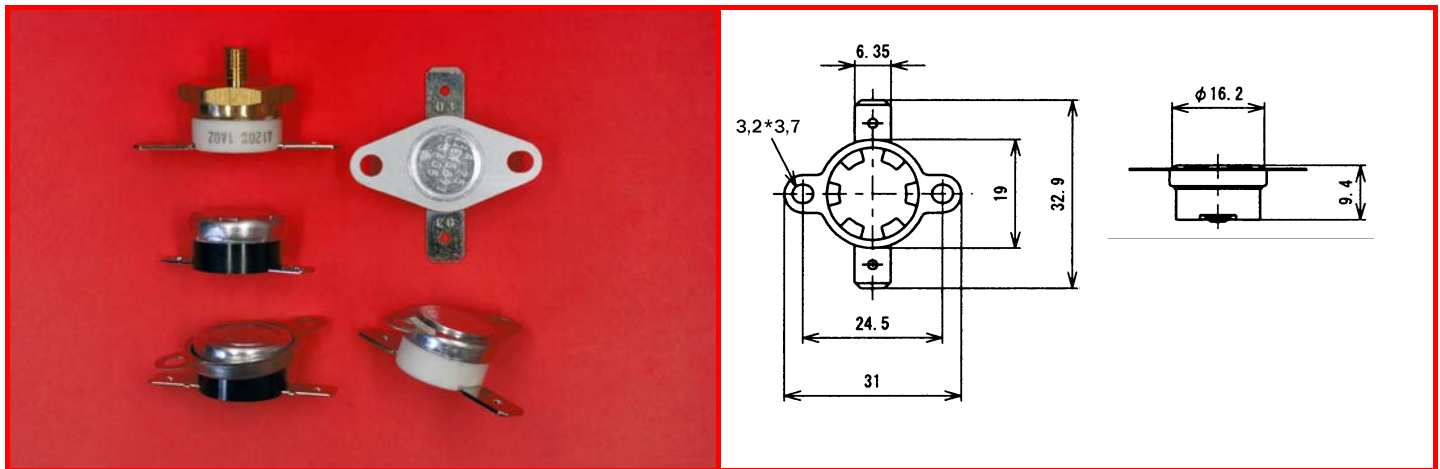
## TEMPERATURE CONTROL TYPE 11EN – low dimension case



### technical data

<b>version</b>	11EN
contact type	NC = normally close / NO = normally open
insulation	Duroplast-case
nominal switching temperature	-10°C until 150°C
max. ambient temperature (NGT-test)	24h at 150°C and 24h at -30°C
standard-tolerance range	NST < 100°C = ±3K NST > 100°C = ±4K NST > 150°C = ±6K
standard reset temperature (special reset possible)	NST < 100°C differential = 10K±4K NST > 100°C differential = 15K±5K NST > 150°C differential = 25K±6K
rated voltage $U_N$ 50/60Hz (VDE/IEC)	250VAC
rated current with UN ohmic $\cos \varphi = 1,0$	10A at 250VAC for 100.000 cycles (UL, CSA) 16A at 250VAC for 10.000 cycles (VDE)
approvals	VDE, UL, CSA
standard connection	terminal 6,3x0,8mm
High voltage insulation	2kV
degree of protection	IP00
contact resistance (MIL-Standard R5757)	<30mΩ
vibration proof (at 10...60Hz)	98m/s <sup>2</sup> ≈ 10G

**TEMPERATURE CONTROL TYPE 10N – ceramic, low dimension case**



**technical data**

version	10N
contact type	NC = normally close / NO = normally open
insulation	ceramic case
nominal switching temperature	-10°C until 200°C (CSA) -10°C until 175°C (UL) -10°C until 230°C as type 10Z- (without certification)
max. ambient temperature (NGT-test)	24h at 200°C and 24h at -30°C
standard-tolerance range	NST < 100°C = ±3K NST >100°C = ±4K NST > 150°C = ±6K
standard reset temperature (special reset possible)	NST <100°C differential = 10K±4K NST >100°C differential = 15K±5K NST >150°C differential = 25K±6K
rated voltage U <sub>N</sub> 50/60Hz (VDE/IEC)	250VAC
rated current with UN ohmic cos φ = 1,0	10A at 250VAC for 100.000 cycles (UL, CSA)
approvals	UL, CSA
standard connection	terminal 6,3x0,8mm
High voltage insulation	1,8kV
degree of protection	IP00
contact resistance (MIL-Standard R5757)	<30mΩ
vibration proof (at 10...60Hz)	98m/s <sup>2</sup> ≈ 10G

## Temperature Controls (auto reset 1/2" size)

### Benefits & Advantages

The outstanding quality level of our Temperature Controls satisfies highest demands for safety and reliability. They are provided with an patented, fully developed and reliable switching device system.

Best geometric stable	1/2" standard-size
Save, Reliable & Durable	100% tests while production process
Temperature sensitive	Reproducible Switching-Temperature induced by mechanical unstressed and electrically unloaded bimetallic disk
Fast reaction	excellent thermal coupling induced by a ideal placed bimetallic disk
Flexible	much terminal and mountings will be aviable

### Functions & Types

#### Bimetal switch

After reaching its factory-adjusted NominalSwitchingTemperature (NST) the bimetal disc suddenly turns over from ist stable initial position into a stable end position and thereby activates the switching device.

#### Normally closed (NC)

Contacts open and switch off the supply ⇒ direct disconnection

#### Normally open (NO)

Contacts close and activate the supply (switching on of signal units)

#### Resetting

After cooling down to below its factory-adjusted Ressettingtemperature the switching device suddenly snaps back into its initial position.

### Technical Data

The listed specifications and information are based on tests and test series. They are of a standard nature and therefore deviations may occur in connection with specific applications. The suitability for a specific application must be individually tested by the user. Please contact us for advise and support.

### Configuration with our article number

Sample 1 is for a 03EN NC-type, open at 100°C ±3K with terminal 6,3x0,8mm and flexible mounting bracket

Sample 2 is for a 52N- NO-type, close at 160°C ±3K with 90°angeled terminal and skrew-mounting M5\*6

I.count	2-4	5	6-9.	10	11	12	13-14	15	specials
A=NC-type B=NO-type	Reaction temperature	Bindestrich	Type	Config.	case	cap	terminal	mounting	
<b>A</b>	<b>100</b>	-	<b>03EN</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>03</b>	<b>4</b>	
<b>B</b>	<b>160</b>	-	<b>52N-</b>	<b>3</b>	<b>2</b>	<b>S</b>	<b>04</b>	<b>0</b>	<b>-S5</b>

**THE THERMOSTAT-PRODUCTION IS DIN EN ISO 9001 CERTIFIED.**

Our friendly team would give you detailed information's for all the products. Of course, we want to help you, to find the best solution for your application. Please call us for further information.

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samples for different configuration

