Applications

- Household appliances
- Electronics
- Machinery

Benefits

- Up to 100,000 cycles
- Various terminals on-hand
- Small tolerances and hysteresis available
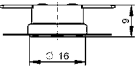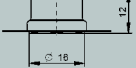- Response temperatures from 0°C up to 260°C

MICROTHERM

MIC
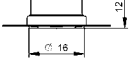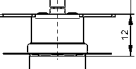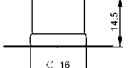
Technical data

ratings / control type		11EN	03EN	52N	60EN[1]	05EN	15N	23EN
function		automatic				manual		
version		normally closed / normally open				normally closed		
VDE	rated current at 250 Vac (cos φ 0,95)	16 A	16 A	16 A	10 A	16 A	16 A	16 A
	switching cycles	10,000	10,000	10,000	100,000	3,000	6,000	3,000
	max. temperature T_a (steps in 5 K)	150 °C	150 °C	230 °C[2]	150 °C	150 °C	40 °C ... 250 °C	150 °C
UL	rated current at 240 Vac (cos φ 1,0)	10 A	10 A	10 A	—	10 A	16 A	10 A
	switching cycles	100,000	100,000	100,000	—	6,000	6,000	6,000
	max. temperature T_a (steps in 5 K)	150 °C	150 °C	230 °C	—	150 °C	250 °C	150 °C
tolerance		T_a <100°C: ± 3 K / T_a >100°C: ± 4 K / T_a >140°C: ± 5 K						
contact resistance		< 30 mΩ						
hysteresis / reset temperature		T_a <100°C: 10 K ± 4 K / T_a >100°C: 15 K ± 5 K / T_a >140°C: 20 K ± 5 K				customer-specific		
degrees of protection provided by enclosures (EN 60529)		IP00 (60EN IP54)						
suitable for use in protection class		I, II						
certifications	VDE	EN 60730-1 / -2-9						
	UL (E43273 / E201152)	UL873 / UL60730-1A / -2-9 [4]						
	CSA	C22.2 No. 24 [3]						

[1] no certification   [2] type 55H up to 260°C   [3] different ratings   [4] type 15N

Standard types

type	nc	no	code	illustration	drawing dimensions (mm)	technical description
R28 11EN	1	3	standard dielectric strength 2,000 Vac			terminals 6.3 x 0.8, housing thermosetting plastic 9mm, moving bracket small, cap aluminium
R28 03EN	1	3	standard dielectric strength 2,000 Vac			terminals 6.3 x 0.8, housing thermosetting plastic 12mm, moving bracket small, cap aluminium
R28 52N	1	3	standard dielectric strength 2,000 Vac			terminals 6.3 x 0.8, housing ceramic 12mm, moving bracket small, cap aluminium
R27 05EN	1		manual dielectric strength 1,800 Vac			terminals 6.3 x 0.8, housing thermosetting plastic, moving bracket small, cap aluminium, reset pin
R27 15N	1		manual dielectric strength 1,800 Vac			terminals 6.3 x 0.8, housing ceramic, moving bracket small, cap aluminium, reset pin ceramic
R29 23EN	1		manual dielectric strength 2,000 Vac			terminals 6.3 x 0.8, housing thermosetting plastic, moving bracket small, cap aluminium, reset pin
R28 60EN	1	3	tight against humidity dielectric strength 1,800 Vac			lead wire 1.25mm², housing thermosetting plastic, fix bracket, cap aluminium, degree of protection IP54

code	used in type	illustration	drawing dimensions (mm)	technical description
4	R27, R28, R29		⌀3.2 x 3.7 · 24,5 · 31	moving bracket, small
3	R27, R28, R29		⌀3.2 x 3.7 · 24,5 · 31	moving bracket
S	R27, R28, R29		SW 17 · (13,7) · 6 · M 5	stud of M5 x 6 brass, SW17 (also other variations available)
B (+A)	R27, R28, R29		⌀3,2 · ⌀3.2 x 4.2 · 24 · 31 · execution of drawing: 135 deg	fix bracket possible angles: 0 / 45 / 90 / 135 deg

code	used in type	illustration	drawing dimensions (mm)	technical description
brass: 05 (0 deg) brass: 10 (45 deg) brass: 06 (90 deg) steel: 95 (0 deg)	R27, R28, R29		(31) · (15,5) · 90° · 45° · 0° · 4.8 x 0.5 · (7,6)	terminals 4.8 x 0.5 brass nickel plated up to T_a max. 150°C >150°C steel nickel plated also available: angle 45 / 90 deg
brass: 45 (0 deg) brass: 46 (90 deg)	R27, R28, R29		(31) · (15,5) · 90° · 0° · 4.8 x 0.8 · (8,1)	terminals 4.8 x 0.8 brass nickel plated up to T_a max.150°C also available: angle 90 deg
brass: 03 (0 deg) brass: 09 (45 deg) brass: 04 (90 deg) steel: 93 (0 deg) steel: 94 (90 deg)	R27, R28, R29		(32,9) · (9,3) · (15,5) · 90° · 45° · 0° · 6.3 x 0.8	terminals 6.3 x 0.8 brass nickel plated up to T_a max. 150°C >150°C steel nickel plated also available: angle 45 / 90 deg
00	R27, R28		(⌀ 4)	solder terminals T_a max. 140°C
41 (0 deg) 42 (90 deg)	R27, R28, R29		(27,5) · (15,5) · 90° · 0° · (5,5) · 5 x 0,5	solder terminals, nickel plated, also available: angle 90 deg T_a max. 140°C
SA	R27, R28		(4 x 0,5) · (3)	PCB terminals solder terminals T_a max. 140°C

MICROTHERM

MIC ® Microtherm International Cooperation

Caps

Cap Code 1 in standard execution (T_a 50°C – 199°C), material aluminium

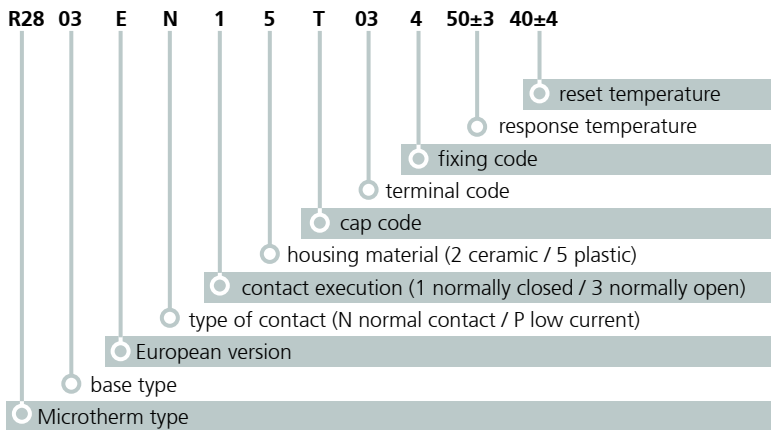Cap Code T (T_a 0°C – 50°C and $T_a \geq$ 200°C and all normally open types), material aluminium

Deviations from standard controls (caps, terminals, fixings) on request.

Especially for electronic applications with voltage 6…120 Vac / 6…30 Vdc and current 10…100 mA, there are switches with crossbar- contacts available.

Controls as single operation device (SOD) up to 150°C and reset temperature minus 35°C are available (type 81ES).

Ordering and marking example

Ordering example

R28 03 E N 1 5 T 03 4 50±3 40±4

- reset temperature
- response temperature
- fixing code
- terminal code
- cap code
- housing material (2 ceramic / 5 plastic)
- contact execution (1 normally closed / 3 normally open)
- type of contact (N normal contact / P low current)
- European version
- base type
- Microtherm type

Marking example

A100	norm. closed (B norm. open) response temperature
03EN XXXX	type manufacture code
XXXX	date of manufacture

RoHS compliant product

Representation office:

Deviations from standard controls on request.

MICROTHERM

MIC
Microtherm International Cooperation

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Board Mount Temperature Sensors *category:*

Click to view products by Microtherm *manufacturer:*

Other Similar products are found below :

5962-8757102XA 66F115 MCP9808-EMS MCP98242T-BEMNY MCP9843T-BEMC EMC1063-1-ACZL-TR NCT218FCT2G O53GAB175A-160Y OH10/62,112 3610085020002 389049M9527 TC622EAT TC6501P095VCTTR TC6501P105VCTTR TC6501P125VCTTR MCP9802A0T-M/OT MCP9803T-M/SN MCP9843-BEST TC6501P115VCTTR TC6502P065VCTTR ADM1023ARQZ-REEL ADM1024ARUZ-REEL ADM1032ARMZ-1RL AT30TS74-U1FMBB-T AT30TS74-U1FMAB-T AT30TS74-U1FMCB-T AT30TS74-U1FMDB-T ADT7483AARQZ-RL ADT7481ARMZ-REEL ADT7463ARQZ-REEL MCP98243T-BEMNY MCP98243T-BE/MC 66L080-0226 MAX31820MCR+T MAX1452CAEC8H DS1780E TMP05BKSZ-REEL7 5962-8757103XA WTK-14-36/N E52-CA6D-N 4M MCP98244T-BEMNY MCP9802A5T-MOT MAX6581TG9A+T DS75S-C11+T&R S-58LM20A-I4T1U MAX6501UKP120+T MCP98243T-BE/ST AT30TS01-MAA5M-T NCT375DR2G DS18S20-SL+T&R