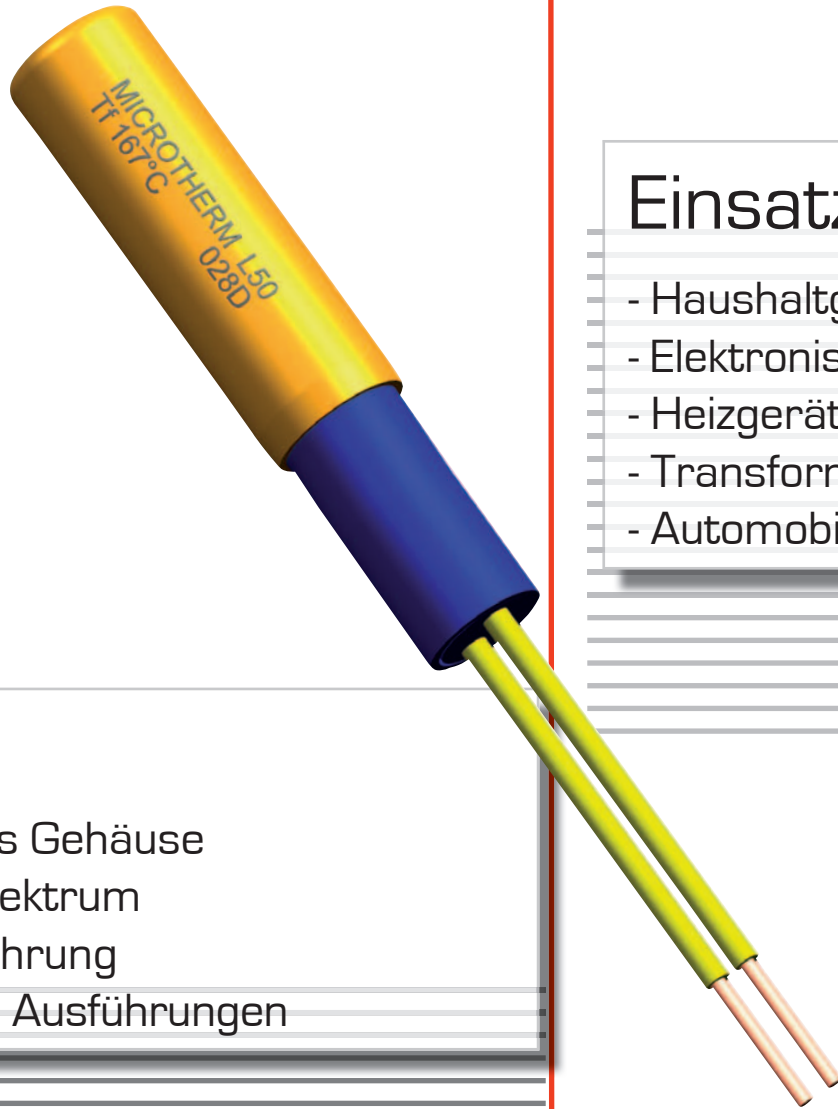


Temperatur-Sicherungen

HDM
L10
L50
MTEF
MTHF
MTKF
MTML
MTNF
MTR1
MTS1
MTTF
MTYF
MWS
SDF
S3M

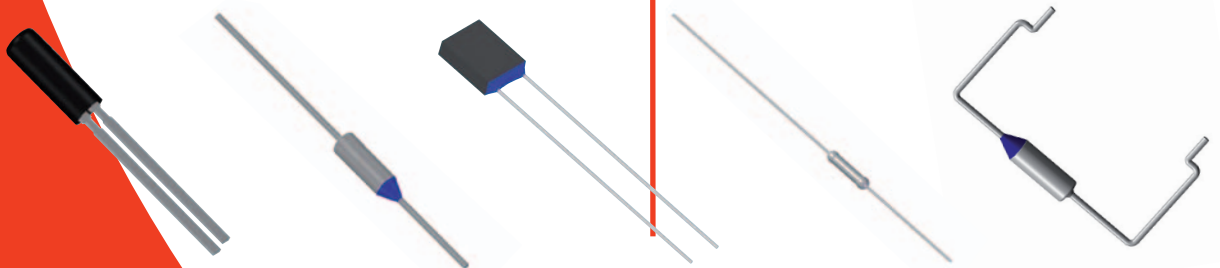


Einsatzgebiete

- Haushaltgeräte
- Elektronische Geräte
- Heizgeräte
- Transformatoren
- Automobil

Vorteile

- Kleines, kompaktes Gehäuse
- Breites Produktspektrum
- Staubdichte Ausführung
- Kundenspezifische Ausführungen


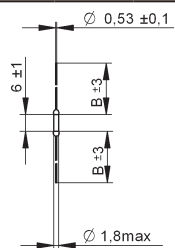
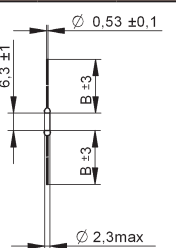
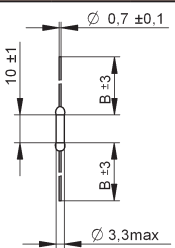


MICROTHERM




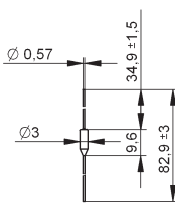
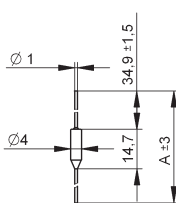
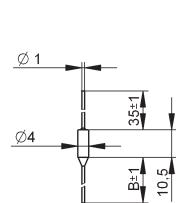
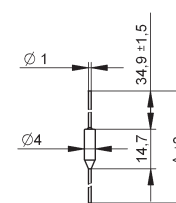
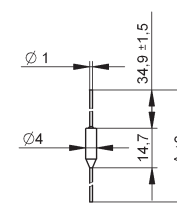
Microtherm International Cooperation

Temperatur-Sicherungen 250 Vac

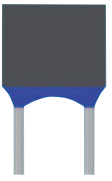
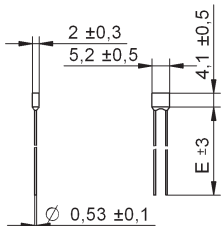
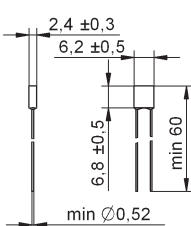
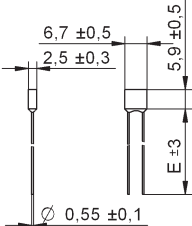
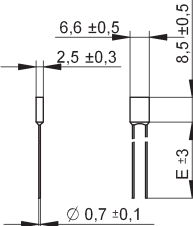
| | MTKF 1A | MTTF 1/2A | MTYF 4/5A | | | | | | |
|---|--|--|--|--------------------------|----------------------|----------------------|--------------------------|----------------------|----------------------|
|  |  |  |  | | | | | | |
| Keramikgehäuse | $\varnothing 0,53 \pm 0,1$ 6 ±1 B ±3 B ±3 $\varnothing 1,8 \text{max}$ Länge B (00): 38 Länge B (01): 68 | $\varnothing 0,53 \pm 0,1$ 6,3 ±1 B ±3 B ±3 $\varnothing 2,3 \text{max}$ Länge B (00): 38 Länge B (01): 68 | $\varnothing 0,7 \pm 0,1$ 10 ±1 B ±3 B ±3 $\varnothing 3,3 \text{max}$ Länge B (00): 38 Länge B (01): 68 | | | | | | |
| Temperatur (°C) | | | | | | | | | |
| T_f | Typ | T_h | T_m | Typ | T_h | T_m | Typ | T_h | T_m |
| 65 | K06F | 55 | 200 | T06F | 50 | 200 | Y06 ¹⁾ | 45 | 200 |
| 76 | - | - | - | T0F | 55 | 200 | Y0F | 55 | 200 |
| 86 | - | - | - | T1F | 60 | 200 | Y1F | 60 | 200 |
| 102 | K2F | 80 | 200 | T2F | 75 | 200 | Y2F | 70 | 200 |
| 115 | K3F | 99 | 200 | T3F | 95 | 200 | Y3F | 90 | 200 |
| 127 | K4F | 110 | 200 | T4F | 110 | 200 | Y4F | 100 | 200 |
| 133 | K13F | 110 | 200 | T13F | 105 | 200 | Y13F | 100 | 200 |
| 136 | K5F | 115 | 200 | T5F | 105 | 200 | Y5F | 105 | 200 |
| 139 | K6F | 120 | 200 | T6F | 120 | 200 | Y6F | 115 | 200 |
| 145 | K7F | 125 | 200 | - | - | - | Y7F | 125 | 200 |
| Toleranz (K) | 0 / -10 | | | 0 / -10 | | | 0 / -10 | | |
| Anschlüsse (mm) | Draht $\varnothing 0,53$ | | | Draht $\varnothing 0,53$ | | | Draht $\varnothing 0,70$ | | |

| | |
|----------------------|--|
| T_f | Bemessungsschalttemperatur: Schalttemperatur bei der die Temperatursicherung unter festgelegten Bedingungen ausschaltet. |
| T_h | Dauerbetriebstemperatur: Die höchste Temperatur, bei der die Temperatursicherung den Schaltzustand nicht ändert. |
| T_m | Maximale Grenztemperatur: Oberhalb dieser Temperatur kann die Temperatursicherung wieder kontaktieren. |


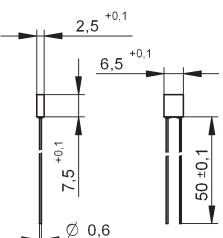
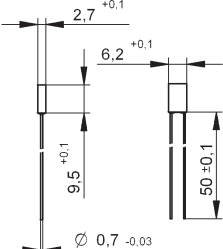
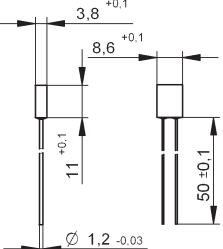
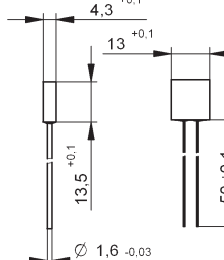
Alle Stromwerte gelten für ohmsche Lasten.

| | S3M7 5A | S3M4 10A | SDFS/SDFL 15A | S3M5 20A | S3M8 25A | | | | | | | | | | | |
|--|--|--|--|--|--|----------------------|-------------------------|----------------------|-------------------------|------------|-------------------------|----------------------|-------------------------|----------------------|----------------------|-----|
|  |  |  |  |  |  | | | | | | | | | | | |
| Metallgehäuse | $\varnothing 0,57$ $34,9 \pm 1,5$ $\varnothing 3$ 9,6 $82,9 \pm 3$ | $\varnothing 1$ $34,9 \pm 1,5$ $\varnothing 4$ 14,7 A ±3 | $\varnothing 1$ 35 ± 1 $\varnothing 4$ B ±1 10,5 | $\varnothing 1$ $34,9 \pm 1,5$ $\varnothing 4$ 14,7 A ±3 | $\varnothing 1$ $34,9 \pm 1,5$ $\varnothing 4$ 14,7 A ±3 | | | | | | | | | | | |
| | | Länge A (00): 63,8 Länge A (01): 82,9 | Länge B (S): 25,4 Länge B (L): 35 | Länge A (00): 63,8 Länge A (01): 82,9 | Länge A (00): 63,8 Länge A (01): 82,9 | | | | | | | | | | | |
| Temperatur (°C) | | | | | | | | | | | | | | | | |
| T_f | Typ | T_h | T_m | Typ | T_h | T_m | Typ | T_h | T_m | Typ | T_h | T_m | Typ | T_h | T_m | |
| 66 | - | - | - | - | - | - | DF | 42 | 110 | 130 | - | - | - | - | - | |
| 70 | E7F | 55 | 125 | E4A | 55 | 130 | - | - | - | - | E5A | 55 | 175 | E8A | 45 | 175 |
| 72 | - | - | - | E4A | 57 | 100 | DF | 50 | 115 | 110 | E5A | 57 | 175 | E8A | 47 | 175 |
| 77 | E7F | 62 | 125 | E4A | 62 | 125 | DF | 55 | 120 | 110 | E5A | 62 | 200 | E8A | 52 | 200 |
| 84 | E7F | 69 | 125 | E4A | 69 | 125 | DF | 60 | 125 | 114 | E5A | 69 | 200 | E8A | 59 | 200 |
| 91 | - | - | - | - | - | - | DF | 67 | 135 | 121 | - | - | - | - | - | - |
| 93 | E7F | 78 | 140 | E4A | 78 | 140 | - | - | - | - | E5A | 78 | 215 | E8A | 68 | 215 |
| 98 | E7F | 83 | 140 | E4A | 83 | 140 | DF | 76 | 140 | 130 | E5A | 83 | 215 | E8A | 73 | 215 |
| 100 | E7F | 85 | 130 | E4A | 85 | 140 | DF | 78 | 135 | 250 | E5A | 85 | 215 | - | - | - |
| 104 | - | - | - | E4A | 89 | 150 | DF | 80 | 150 | 150 | E5A | 89 | 225 | E8A | 79 | 225 |
| 110 | E7F | 95 | 140 | E4A | 95 | 150 | DF | 88 | 140 | 140 | E5A | 95 | 225 | E8A | 85 | 225 |
| 117 | E7F | 102 | 150 | E4A | 102 | 160 | - | - | - | - | E5A | 102 | 235 | E8A | 92 | 235 |
| 119 | - | - | - | - | - | - | DF | 95 | 170 | 170 | - | - | - | - | - | - |
| 121 | E7F | 106 | 150 | E4A | 106 | 160 | - | - | - | - | E5A | 106 | 235 | E8A | 96 | 235 |
| 128 | E7F | 113 | 150 | E4A | 113 | 205 | DF | 106 | 155 | 155 | E5A | 113 | 235 | E8A | 103 | 235 |
| 141 | - | - | - | - | - | - | DF | 117 | 171 | 171 | - | - | - | - | - | - |
| 144 | E7F | 129 | 175 | E4A | 129 | 240 | DF | 120 | 250 | 250 | E5A | 129 | 250 | E8A | 119 | 250 |
| 152 | E7F | 137 | 175 | E4A | 137 | 205 | DF | 128 | 176 | 175 | E5A | 137 | 250 | E8A | 127 | 250 |
| 167 | E7F | 152 | 200 | E4A | 152 | 240 | - | - | - | - | E5A | 152 | 285 | E8A | 142 | 285 |
| 170 | - | - | - | - | - | - | DF | 146 | 300 | 190 | - | - | - | - | - | - |
| 172 | E7F | 157 | 200 | E4A | 157 | 240 | - | - | - | - | E5A | 157 | 350 | - | - | - |
| 184 | E7F | 169 | 200 | E4A | 169 | 210 | DF | 160 | 300 | 214 | E5A | 169 | 350 | E8A | 159 | 350 |
| 190 | E7F | 175 | 270 | E4A | 175 | 310 | - | - | - | - | E5A | 175 | 350 | - | - | - |
| 192 | - | - | - | E4A | 177 | 210 | DF | 162 | 290 | 222 | E5A | 177 | 350 | E8A | 167 | 350 |
| 205 | - | - | - | E4A | 189 | 310 | - | - | - | - | E5A | 189 | 375 | - | - | - |
| 216 | - | - | - | E4A | 200 | 375 | DF ¹⁾ | 191 | 241 | - | E5A | 200 | 375 | - | - | - |
| 228 | - | - | - | - | - | - | DF | 193 | 300 | 300 | - | - | - | - | - | - |
| 229 | - | - | - | E4A | 200 | 375 | - | - | - | - | E5A | 200 | 375 | E8A | 200 | 375 |
| 240 | - | - | - | E4A | 200 | 450 | DF | 200 | 290 | 260 | E5A | 200 | 375 | E8A | 200 | 375 |
| Toleranz (K) | 0 / -5 | | 0 / -5 | | 0 / -5 | | 0 / -5 | | 0 / -5 | | 0 / -5 | | 0 / -5 | | | |
| Anschlüsse (mm) | Draht $\varnothing 0,57$ | | Draht $\varnothing 1,0$ | | Draht $\varnothing 1,02$ / AWG18 | | Draht $\varnothing 1,0$ | | Draht $\varnothing 1,0$ | | Draht $\varnothing 1,0$ | | Draht $\varnothing 1,0$ | | | |

¹⁾ nur VDE-approbiert

| | MTNF 1A | MTML 2A | MTHF 2A | MTEF 3A |
|---|---|---|---|---|
|  |  |  |  |  |
| Kunststoffgehäuse | Länge E (S): 36 Länge E (L): 68 | weißes Gehäuse | Länge E (S): 36 Länge E (L): 68 | Länge E (S): 36 Länge E (L): 65 |

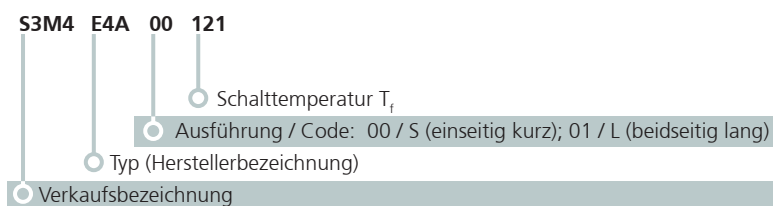
| Temperatur (°C) | | | | | | | | | | | | |
|-----------------|--------------------|----------------|----------------|--------------|----------------|----------------|--------------------|----------------|----------------|--------------|----------------|----------------|
| T _f | Typ | T _h | T _m | Typ | T _h | T _m | Typ | T _h | T _m | Typ | T _h | T _m |
| 65 | N06F ¹⁾ | 50 | 200 | - | - | - | H06F | 50 | 200 | E06F | 50 | 200 |
| 76 | N0F | 50 | 200 | - | - | - | H0F | 50 | 200 | E0F | 55 | 200 |
| 86 | N1F | 60 | 200 | - | - | - | H1F | 60 | 200 | E1F | 65 | 200 |
| 102 | N2F | 75 | 200 | L10 | 75 | 165 | H2F | 75 | 200 | E2F | 70 | 200 |
| 115 | N3F | 95 | 200 | L20 | 85 | 165 | H3F | 95 | 200 | E3F | 90 | 200 |
| 125 | - | - | - | L30 | 90 | 165 | - | - | - | - | - | - |
| 127 | N4F | 105 | 200 | - | - | - | H4F | 100 | 200 | E4F | 95 | 200 |
| 130 | - | - | - | L33 | 100 | 165 | - | - | - | - | - | - |
| 133 | N13F | 105 | 200 | - | - | - | H13F ¹⁾ | 100 | 200 | E13F | 95 | 200 |
| 136 | N5F | 100 | 200 | - | - | - | H5F | 100 | 200 | E5F | 95 | 200 |
| 139 | N6F | 110 | 200 | - | - | - | H6F | 110 | 200 | E6F | 105 | 200 |
| 145 | N7F | 125 | 200 | - | - | - | H7F | 110 | 200 | E7F | 115 | 200 |
| Toleranz (K) | 0 / -10 | | | 0 / -10 | | | 0 / -10 | | | 0 / -10 | | |
| Anschlüsse (mm) | Draht Ø 0,53 | | | Draht Ø 0,52 | | | Draht Ø 0,55 | | | Draht Ø 0,70 | | |

| | MTR1 3A ²⁾ | MTS1 5A | MWS1 15A | MWS2 20A |
|--|--|--|---|--|
|  |  |  |  |  |
| Kunststoffgehäuse | | | | |

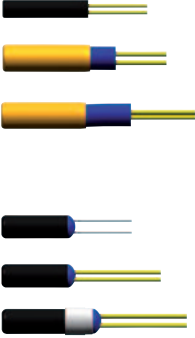
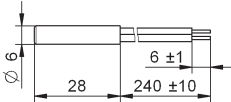
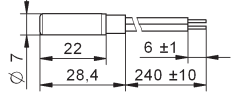
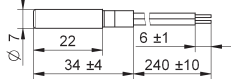
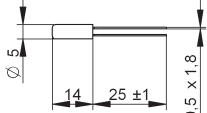
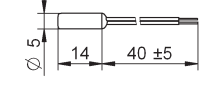
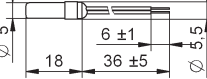

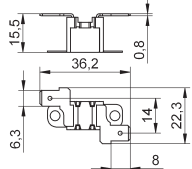
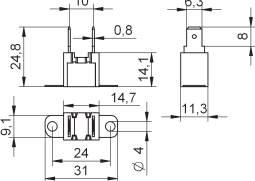
| Temperatur (°C) | | | | | | | | | | | | |
|--------------------------|--------------|----------------|----------------|--------------------|----------------|----------------|---------------------|----------------|----------------|--------------------|----------------|----------------|
| T _f | Typ | T _h | T _m | Typ | T _h | T _m | Typ | T _h | T _m | Typ | T _h | T _m |
| 98 | R-95 | 70 | 180 | - | - | - | - | - | - | - | - | - |
| 100 | - | - | - | S95 ³⁾ | 70 | 180 | S95H ³⁾ | 70 | 180 | S95 ³⁾ | 70 | 180 |
| 108 | R-105 | 80 | 180 | - | - | - | - | - | - | - | - | - |
| 110 | - | - | - | S105 ²⁾ | 80 | 180 | S105H ²⁾ | 80 | 180 | S105 ³⁾ | 80 | 180 |
| 130 | R-125 | 100 | 180 | S125 ²⁾ | 100 | 180 | S125H ³⁾ | 100 | 180 | - | - | - |
| 143 | - | - | - | S138 ²⁾ | 110 | 180 | - | - | - | - | - | - |
| 150 (nicht RoHS-konform) | - | - | - | - | - | - | S145H ³⁾ | 120 | 180 | S145 ³⁾ | 120 | 180 |
| Toleranz (K) | 0 / -10 | | | 0 / -10 | | | 0 / -10 | | | 0 / -10 | | |
| Anschlüsse (mm) | Draht Ø 0,60 | | | Draht Ø 0,70 | | | Draht Ø 1,20 | | | Draht Ø 1,60 | | |

1) nur VDE-approbiert 2) nur UL-approbiert 3) nicht approbiert

Bestellbeispiel



Temperatur-Sicherungen 250 Vac

| | L50N ¹⁾ 5/10/20/25A | L10N ¹⁾ 3/8A | | HDMV, HDMH 15A ²⁾ |
|--|---|---|---|---|
|  <p>Kunststoff- oder Metallgehäuse</p> | <p>L50NG900 (max. 184 °C)</p>  <p>L50NG902 (max. 184 °C)</p>  <p>L50NG913 (max. 240 °C)</p>  | <p>L10N</p>  <p>L10N</p>  <p>L10NG911</p>  |  | <p>HDMV</p>  <p>HDMH</p>  |

Temperatur (°C)

| T _i | Typ | T _h | T _m | Typ | T _h | T _m | T _i | Typ | T _h | T _m | | |
|----------------|--------------------|----------------------------------|----------------|------|----------------------------|----------------|----------------|-----|----------------|------------------|-----|-----|
| 71 | - | Werte siehe: S3M4, S3M5, S3M8 | | L10N | 55 | 175 | 78 | DM | 62 | 250 | | |
| 72 | L50N | | | - | - | - | - | 90 | DM | 68 | 250 | |
| 77 | L50N | | | - | - | L10N | 55 | 175 | 110 | DM | 86 | 250 |
| 84 | L50N | | | - | - | - | - | - | 120 | DM | 96 | 250 |
| 85 | - | | | - | - | L10N | 55 | 175 | 130 | DM | 112 | 250 |
| 90 | - | | | - | - | L10N | 60 | 175 | 140 | DM | 125 | 250 |
| 93 | L50N | | | - | - | - | - | - | 150 | DM | 135 | 250 |
| 98 | L50N | | | - | - | - | - | - | 170 | DM ¹⁾ | 145 | 250 |
| 100 | L50N | | | - | - | L10N | 70 | 175 | 182 | DM | 163 | 250 |
| 104 | L50N | | | - | - | - | - | - | 190 | DM | 170 | 250 |
| 108 | - | | | - | - | L10N | 78 | 175 | | | | |
| 110 | L50N | | | - | - | - | - | - | | | | |
| 117 | L50N | | | - | - | - | - | - | | | | |
| 118 | - | | | - | - | L10N | 88 | 175 | | | | |
| 121 | L50N | | | - | - | - | - | - | | | | |
| 128 | L50N | | | - | - | - | - | - | | | | |
| 130 | - | | | - | - | L10N | 100 | 175 | | | | |
| 140 | - | | | - | - | L10N | 110 | 175 | | | | |
| 144 | L50N | | | - | - | - | - | - | | | | |
| 150 | - | | | - | - | L10N | 120 | 175 | | | | |
| 152 | L50N | | | - | - | - | - | - | | | | |
| 165 | - | | | - | - | L10N | 135 | 175 | | | | |
| 167 | L50N | | | - | - | - | - | - | | | | |
| 172 | L50N | | | - | - | - | - | - | | | | |
| 184 | L50N | - | - | - | - | - | | | | | | |
| 190 | L50N | - | - | - | - | - | | | | | | |
| 192 | L50N | - | - | - | - | - | | | | | | |
| 205 | L50N ³⁾ | - | - | - | - | - | | | | | | |
| 216 | L50N ³⁾ | - | - | - | - | - | | | | | | |
| 229 | L50N ³⁾ | - | - | - | - | - | | | | | | |
| 240 | L50N ³⁾ | - | - | - | - | - | | | | | | |
| Toleranz (K) | | 0 / -5 | | | 0 / -5 | | | | 0 / -7 | | | |
| Anschlüsse | | siehe nachfolgende Tabelle | | | siehe nachfolgende Tabelle | | | | 6,3 x 0,8 mm | | | |

| Typ | Leiterart | Bezeichnung | Temperatur max. | Betriebsspannung max. | Durchmesser Isolation | Querschnitt Durchmesser | UL-Style |
|-----------|------------|-------------|-----------------|-----------------------|-----------------------|------------------------------|----------|
| L10N | Litze weiß | L330 | 200 °C | 600 V | 0,90 mm | AWG24 / 0,24 mm ² | 3557 |
| L10N G911 | Litze weiß | L340 | 200 °C | 600 V | 1,26 mm | AWG20 / 0,61 mm ² | 3557 |
| L50N | Litze weiß | L350 | 200 °C | 600 V | 1,50 mm | AWG18 / 0,96 mm ² | 3557 |
| L50N | Draht gelb | L440 | 200 °C | 300 V | 1,51 mm | AWG20 / 0,81 mm | 1332 |

¹⁾ nicht approbiert ²⁾ nur UL-approbiert ³⁾ T_i > 200 °C auf Anfrage

Abweichungen von Standardausführungen auf Anfrage.

Microtherm Vertretung:

Microtherm GmbH
Taschenwaldstraße 3
Postfach 1208
D-75112 Pforzheim

Fon: +49 (0)7231 787-0
Fax: +49 (0)7231 787-155
E-Mail: mic-pforzheim@microtherm.de
Internet: www.microtherm.de

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