

Miniature Circuit Breakers

E2000 Miniature Circuit Breakers

Technical Data

Section 7

Technical Data–E2000 Miniature Circuit Breakers

| | | | Series | | | | | |
|---|----------------|--|---|--------------------|--------------------|----------------------|------------------|------------------|
| | | | EP60 UL | EP100 UL | EP100 ULH34 | EP100 ULH12 | EP100 UC | |
| Standards | | | UL1077, EN60947-2 | UL1077, EN60947-2 | UL489, EN60947-2 | UL489, EN60947-2 | IEC EN70898-2 | |
| UL file | | | E151139 | E151139 | E256870 | E256870 | – | |
| Nominal voltage acc. UL | | | | | | | | |
| | 1P | | 277VAC/50VDC | 277VAC/50VDC | 277VAC/60VDC | 120VAC/60VDC | | |
| | 2P | | 480VAC/110VDC | 480VAC/110VDC | 480VAC/120VDC | 240VAC/120VDC | | |
| | 3P | | 480VAC/110VDC | 480VAC/110VDC | 480VAC/120VDC | 240VAC/120VDC | | |
| | 4P | | 480VAC/110VDC | 480VAC/110VDC | | | | |
| Tripping characteristics | | | B,C,D | B,C,D | B,C,D | B,C,D | B,C | |
| Nominal current | | | B 6-63, C/D 0.5-63 | B 6-63, C/D 0.5-63 | B 5-40, C/D 0.5-40 | B 0.5-63, C/D 0.5-63 | B 6-63, C 0.5-63 | |
| Calibration temperature | | | °C | 50 | 50 | 50 | 30 | |
| Number of poles | | | (# mod) | 1/2/3/4 | 1/2/3 | 1/2/3 | 1/2 | |
| Nominal voltage Un | | | | | | | | |
| AC | 1P | V | 230/400 | 230/400 | 230/400 | 230/400 | 240/415 | |
| | 2P | V | 400 | 400 | 400 | 400 | 415 | |
| | 3P | V | 400 | 400 | 400 | 400 | 415 | |
| | 3P+N/4P | V | 400 | 400 | 400 | 400 | 415 | |
| DC | 1P | VDC | 48 | 48 | 48 | 48 | 220 | |
| | 2P (in series) | VDC | 110 | 110 | 110 | 110 | 440 | |
| Frequency | | | Hz | 50/60 | 50/60 | 50/60 | 50/60 | |
| Maximum service voltage U _{max} between two wires | | | V | 250/440; 53/120 | 250/440; 53/120 | 250/440; 53/120 | 250/440; 53/120 | 250/440; 250/440 |
| Minimum service voltage U _{min} | | | V | 12 and 12 | 12 and 12 | 12 and 12 | 12 and 12 | 12 and 12 |
| Selectivity class (IEC 60898) | | | | 3 | 3 | 3 | 3 | |
| Isolator application | | | IEC 60947-2 | yes | yes | yes | yes | |
| Rated insulation voltage | | | Pollution degree 2 | 500 | 500 | 500 | 500 | |
| | | | Pollution degree 3 | 440 | 440 | 440 | 440 | |
| Impulse withstand test voltage | | | kV | 6 | 6 | 6 | 6 | |
| Insulation resistance | | | MΩ | 10000 | 10000 | 10000 | 10000 | |
| Dielectric rigidity | | | kV | 2.5 | 2.5 | 2.5 | 2.5 | |
| Mounting position | | | | any | any | any | any | |
| Incoming top or bottom | | | | any | any | any | any | |
| Vibrations resistance (in x, y, z direction) (IEC 77/16.3) | | | | 3g | 3g | 3g | 3g | |
| Endurance | | | electrical at U _n , I _n | 10000 | 10000 | 10000 | 10000 | |
| | | | mechanical | 20000 | 20000 | 20000 | 20000 | |
| Utilisation category (IEC 60947-2) | | | | A | A | A | A | |
| Protection distance (IEC 60947-2) | | | mm | 12 | 12 | 12 | 12 | |
| Protection degree (outside / inside enclosure with door) | | | | IP20/IP40 | IP20/IP40 | IP20/IP40 | IP20/IP40 | |
| Self-extinguish degree (according to UL94) | | | | V0 | V0 | V0 | V2 | |
| Tropicalisation (according to IEC 60068-2 / DIN 40046) | | | °C/RH | +55°C / 95%RH | +55°C / 95%RH | +55°C / 95%RH | +55°C / 95%RH | |
| Operating temperature | | | °C | -25/+55 | -25/+55 | -25/+55 | -25/+55 | |
| Storage temperature | | | °C | -55/+55 | -55/+55 | -55/+55 | -55/+55 | |
| Terminal capacity | | | | | | | | |
| | | Rigid cable min/max (top) | mm ² | 1/35 | 1/35 | 1/35 | 1/35 | |
| | | Flexible cable min*/max (top) | mm ² | 0.75/25 | 0.75/25 | 0.75/25 | 0.75/25 | |
| | | Rigid cable min/max (bottom) | mm ² | 1/35 | 1/35 | 1/35 | 1/35 | |
| | | Flexible cable min*/max (bottom) | mm ² | 0.75/25 | 0.75/25 | 0.75/25 | 0.75/25 | |
| | | (* Flexible cable 0.75/1/1.5 mm ² with cable lug) | | | | | | |
| | | Torque | Nm | max 4.5 | max 4.5 | max 4.5 | max 4.5 | |
| Add-on devices | | | Auxiliary contacts | yes | yes | yes | yes | |
| (side add-on) | | | Tele L | yes | yes | yes | yes | |
| | | | Tele Mp | yes | yes | yes | yes | |
| Dimensions, weights, packaging (HxDxW) 86x68xW ¹ | | | mm/mod. | 18 | 18 | 18 | 18 | |
| Weight/mod. | | | g | 125 | 125 | 130 | 125 | |
| Approvals | | | | UL/CSA/VDE | UL/CSA/VDE | UL | UL | |
| CE marking | | | | yes | yes | yes | yes | |

¹EP100ULH executions 2P and 3P: H = 16 mm



Miniature Circuit Breakers

E2000 Miniature Circuit Breakers with UL 489 Approval

EP100 ULH Series (Branch Circuit Protection)

Section 7

Short Circuit Capacity—E2000 Miniature Circuit Breakers

| | | Series | | | | |
|--------------------------------------|-----------|----------|----------|-------------|-------------|----------|
| | | EP60 UL | EP100 UL | EP100 ULH34 | EP100 ULH12 | EP100 UC |
| Interrupting capacity acc. to | | | | | | |
| | kA | UL1077 | UL1077 | UL489 | UL489 | |
| 1P/2P | 277VAC | 6 | 10 | 10 | - | |
| 3P/4P | 480VAC | 6 | 10 | 10 | - | |
| 1P | 120VAC | 6 | 10 | - | 10 | |
| 2P/3P | 240VAC | - | - | - | 10 | |
| 1P | 50VDC | 6 | 10 | 10 | 10 | |
| 2P | 110VDC | 6 | 10 | 10 | 10 | |
| Short-circuit capacity AC | | | | | | |
| Icu (ultimate) | | | | | | |
| 1 P | 127 V | 20 | 30 | 30 | 30 | |
| | 240 V | 10 | 15 | 15 | 15 | |
| | 415 V | 3 | 4 | 4 | 4 | |
| 1+N /2P | 127 V | 30 | 40 | 40 | 40 | |
| | 240 V | 20 | 30 | 30 | 30 | |
| 2 P | 415 V | 10 | 15 | 15 | 15 | |
| 3/3+N/4P | 240 V | 20 | 30 | 30 | 30 | |
| | 415 V | 10 | 15 | 15 | 15 | |
| | 440 V | 6 | 10 | 10 | 10 | |
| Ics (service) | | 75% Icu | 50% Icu | 50% Icu | 50% Icu | |
| Short-circuit capacity DC | | | | | | |
| Icu (ultimate) | | | | | | |
| 1 P | ≤ 60 V | 20 | 25 | 25 | 25 | |
| | ≤ 220 V | - | - | - | - | 6 |
| 2 P | ≤ 125 V | 25 | 30 | 30 | 30 | |
| | ≤ 440 V | - | - | - | - | 6 |
| Ics (service) | | 100% Icu | 100% Icu | 10% Icu | 10% Icu | |

