

QF(18) - Series Miniature Circuit Breakers



DIN Mount
1 pole

DIN Mount
2 pole

DIN Mount
3 pole

DIN Mount
3+N

Features

- AC circuit breaker
- Hydraulic-magnetic technology
- 100% rating capability, independent of ambient temperature
- One, two, three pole, 1+N and 3+N
- VC 8036 compliant (SANS 556-1)
- VDE, EAC and CCC approved, CE certified
- UL 1077 recognised (supplementary protector)
- Ratings 1 to 63 A (subject to certification)
- Optional shunt trip (IEC / EN 60947-2)
- Available in various currents and time delays
- Precision tripping characteristics
- Trip indication with mid-trip position
- Reset immediately after overload
- DIN mount product in grey shells
- Suitable to use for electrical isolation

Applications

- AC branch circuit protection (IEC / EN 60947-2)
- Supplementary protection (UL 1077)
- Telecom / datacom equipment
- Lighting control
- UPS equipment
- Alternative energy equipment
- Mobile power generation equipment
- Railway signalling equipment
- Residential equipment
- Industrial equipment

Auxiliary Switch:

Features

- Auxiliary switch
- AC and DC voltages
- UL 489 listed (6 A 250 V AC, 0.5 A 80 V DC)
- IEC 60947-5-1 approved (6 A 240 V AC, 0.5 A 110 V DC)
- Factory fitted
- Attached to right hand side of circuit breaker
- Compact 6.5 mm width

Optional Accessories

- Handle lock
- Surface mounting clips
- Busbar

Approvals

VC 8036



(IEC / EN 60947-2)

UL US (UL 1077)



CE EAC

QF(I8) - Series Miniature Circuit Breakers

Technical Data

| Product Type | Circuit Breaker | | | | |
|---|---|---------|----------|---|---------|
| Approvals | VC 8036 (SANS 556-1) | | | | |
| Number of Poles | 1 | 2 (1+N) | 2 | 3 | 4 (3+N) |
| Operating Voltages | 240 V AC | | 415 V AC | | |
| Minimum Current Rating | 1 A | | | | |
| Maximum Current Rating | 63 A | | | | |
| Specific Ratings (Verify Certification) | 5, 10, 15, 16, 20, 25, 30, 35, 40, 45, 50, 63 A | | | | |
| Interrupting Capacity | 5 kA | | | | |

| Product Type | Circuit Breaker | | | | |
|---|---|---------|----------|---|---------|
| Approvals | IEC / EN 60947-2, VDE, CE, EAC | | | | |
| Number of Poles | 1 | 2 (1+N) | 2 | 3 | 4 (3+N) |
| Operating Voltages | 240 V AC | | 415 V AC | | |
| Minimum Current Rating | 1 A | | | | |
| Maximum Current Rating | 63 A | | | | |
| Specific Ratings (Verify Certification) | 5, 10, 15, 16, 20, 25, 30, 35, 40, 45, 50, 63 A | | | | |
| Interrupting Capacity | 6 kA | | | | |

| Product Type | Supplementary Protector | | |
|---|---|----------|----------|
| Approvals | UL 1077 | | |
| | Tested with and without series fuse | | |
| Number of Poles | 1 | 2 | 3 |
| Operating Voltages | 277 V AC | 480 V AC | 480 V AC |
| Minimum Current Rating | 1 A | | |
| Maximum Current Rating | 60 A | | |
| Specific Ratings (Verify Certification) | 5, 10, 15, 16, 20, 25, 30, 35, 40, 45, 50, 60 A | | |
| Interrupting Capacity | 3 kA | | |

| Product Type | Circuit Breaker | | | | |
|---|---|---------|----------|---|---------|
| Approvals | CCC | | | | |
| Number of Poles | 1 | 2 (1+N) | 2 | 3 | 4 (3+N) |
| Operating Voltages | 240 V AC | | 415 V AC | | |
| Minimum Current Rating | 1 A | | | | |
| Maximum Current Rating | 63 A | | | | |
| Specific Ratings (Verify Certification) | 5, 10, 15, 16, 20, 25, 30, 35, 40, 45, 50, 63 A | | | | |
| Interrupting Capacity | 6 kA | | | | |

QF(18) - Series Miniature Circuit Breakers

Technical Data

| Auxiliary Module | |
|------------------|-------------|
| Auxiliary Switch | DIN mounted |

| | |
|-----------------------------|--|
| Product Type | QF(18) |
| Operating Temperature Range | -40 °C to +85 °C |
| Mounting Options | DIN Rail, surface mount |
| Time Delay Curves | 1, 2, 9 |
| Endurance | 10000 operations - 1500 electrical at rated current and voltage (IEC 60947-2) 6000 electrical operations (UL 1077) |
| Dielectric Strength | 1480 V (single pole) / 1830 V (multi pole), 50 Hz for one minute after testing |
| Weight | 120 g per pole, 180 g with auxiliary (unpacked) |
| Humidity | 35 to 85% relative |
| Altitude | Certification tests done at altitude ≈ 2000 metres. Will operate at higher altitudes. |
| Shock | 16 G (IEC 60068-2-27) |
| Vibration | 2 G (IEC 60068-2-6) (sinusoidal wave) |
| Flammability | I3 - Ignition does not persist at 850 °C after glow wire is withdrawn with an oxygen index of ≥ 28 |
| Toxicity | F1 - Smoke index of ≤ 20 which determines the fume class |
| Pollution Degree | PD2 - Normally only non-conductive pollution occurs. Temporary conductivity caused by condensation is to be expected. |

| Breaker QF | Wire Size mm ² (IEC) | Wire Gauge (UL) | Torque (IEC) | Torque (UL) | Comments |
|------------------|---------------------------------|-----------------|--------------|-------------|---------------------------|
| 1 Pole to 4 Pole | 0.75 - 35 mm ² | 18 - 2 - AWG | 2.5 Nm | 20 in-lb | Pozidriv #2 Combi head |

QF(18) - Series Miniature Circuit Breakers

Ordering Information

Example Code: QF--A-3(18)-D-2-50A-----

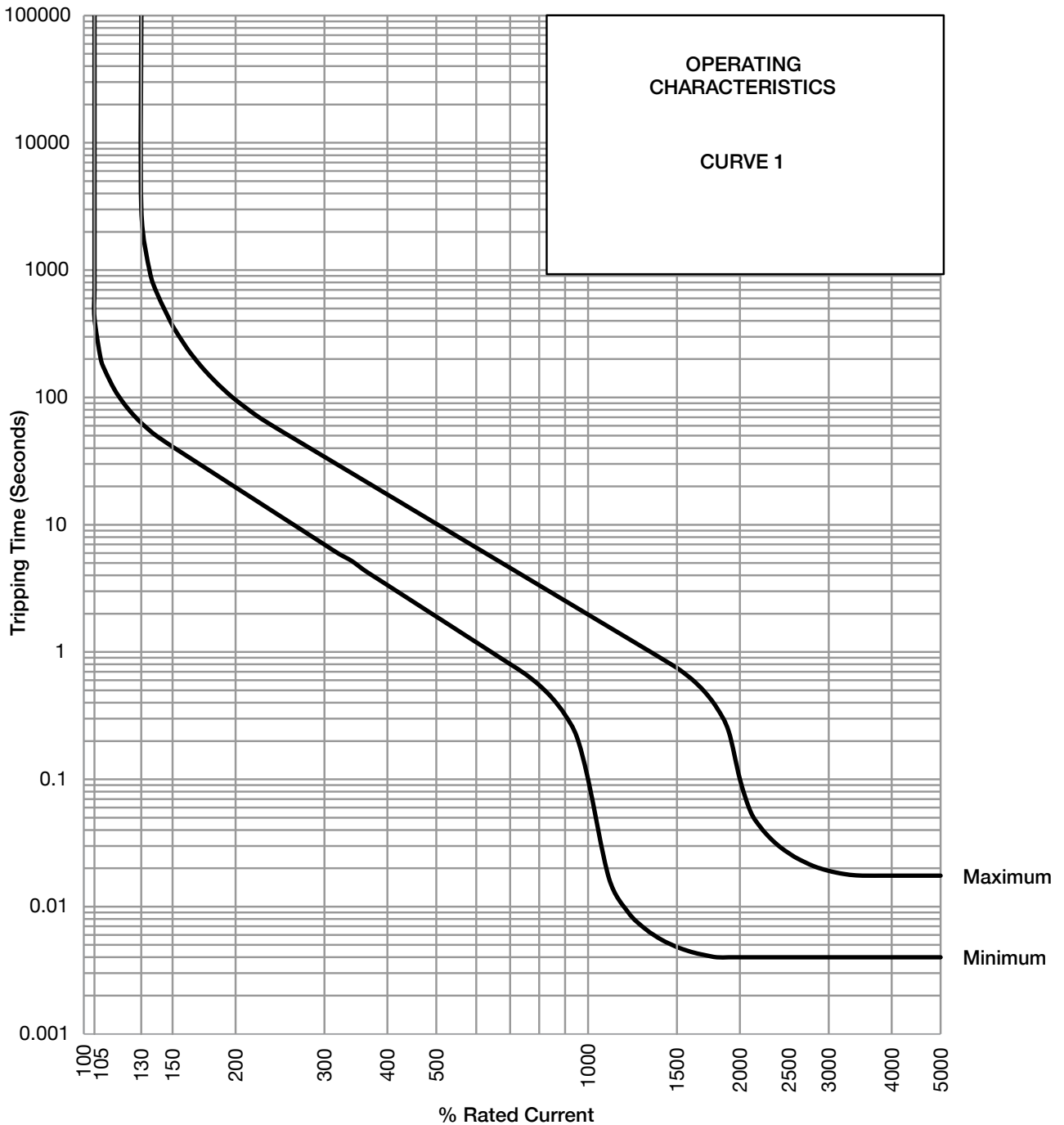
| Group | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|-------------|----------|------------------|------------------|-------------|--------------------|-----------|----------------------|---------------------|------------|------------|------------|
| Requirement | QF Frame | Switch / Neutral | Auxiliary switch | Triple pole | 18 mm module width | DIN Mount | Medium delay curve 2 | Current Rating 50 A | Future use | Shunt trip | Future use |
| Long Code | QF | - | A | 3 | (18) | D | 2 | 50A | - | - | - |

| Group | Code | Description | Comments |
|--------------------------|------|---|---|
| Group 1: Frame Type | QF | 18 mm wide miniature circuit breaker DIN mount | |
| | | | |
| Group 2: Switch/Neutral | - | Not applicable | Overload poles do not have any further coding |
| | S | Switch | Green handle |
| | N | Neutral | Green handle |
| Group 3: Auxiliary | - | Not applicable | Use this code if no auxiliary used |
| | A | Auxiliary switch (1 x Aux in 1 module) | 6.5 mm module fitted on right-hand side |
| Group 4: No of Poles | 1 | Single pole | |
| | 2 | Double pole | 2 pole or 1+N |
| | 3 | Triple pole | |
| | 4 | Four pole | 3+N only |
| Group 5: Module Width | (18) | 18 mm module width | |
| Group 6: Mounting | D | DIN mount | DIN mount supplied in grey body only - 45 mm escutcheon |
| | | | |
| Group 7: Time Delays | 1 | Long time delay, high instantaneous trip | Instantaneous Trip Point (x In) 10 – 20 Comments Orange handle |
| | 2 | Medium time delay | 5 – 10 White handle |
| | 9 | Long time delay | 7 – 12 White handle |
| Group 8: Current Ratings | | Code / Description | Comments |
| | | 1, 2, 5, 10, 15, 16, 20, 25, 30, 32, 35, 40, 45, 50, 60, 63A | Ratings available vary depending on certification * Other ratings are available as special orders. Check availability. |
| Group 9: | Code | For future use (-) | |
| Group 10: Shunt Trip | Code | Description | Comments |
| | - | Not applicable | Use this code if no shunt trip is used |
| | V0 | 100 – 480 V AC | Fly leads (approximately 60 mm long) |
| | V5 | 100 – 480 V AC | Internally connected |
| | | Other voltages are available as special orders. Check availability. Voltage on the Shunt Trip up to 240 V AC. | |
| Group 11 | Code | For future use (-) | |

For options not listed, please contact CBI

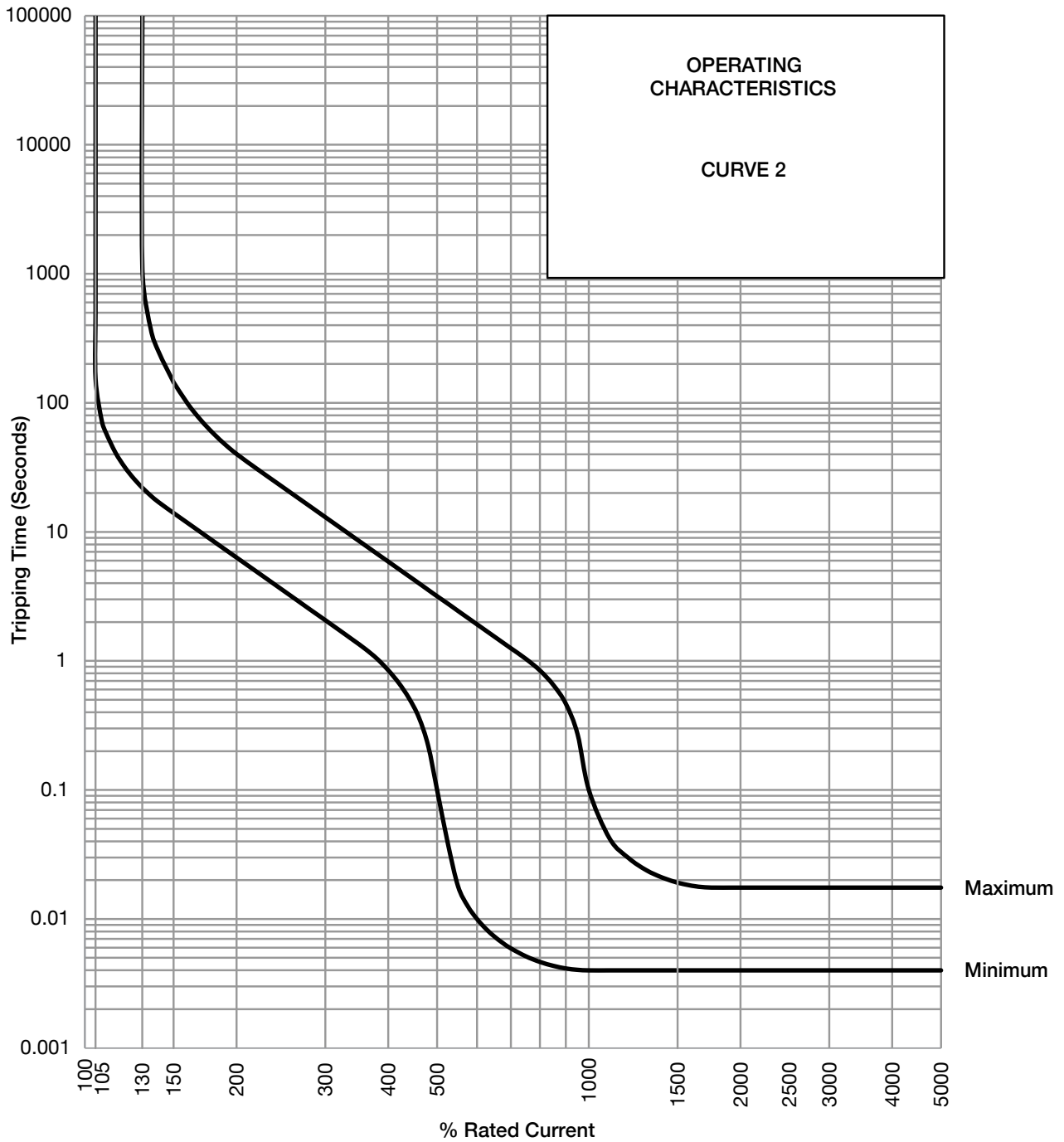
QF(18) - Series Miniature Circuit Breakers

Time Delay Curves



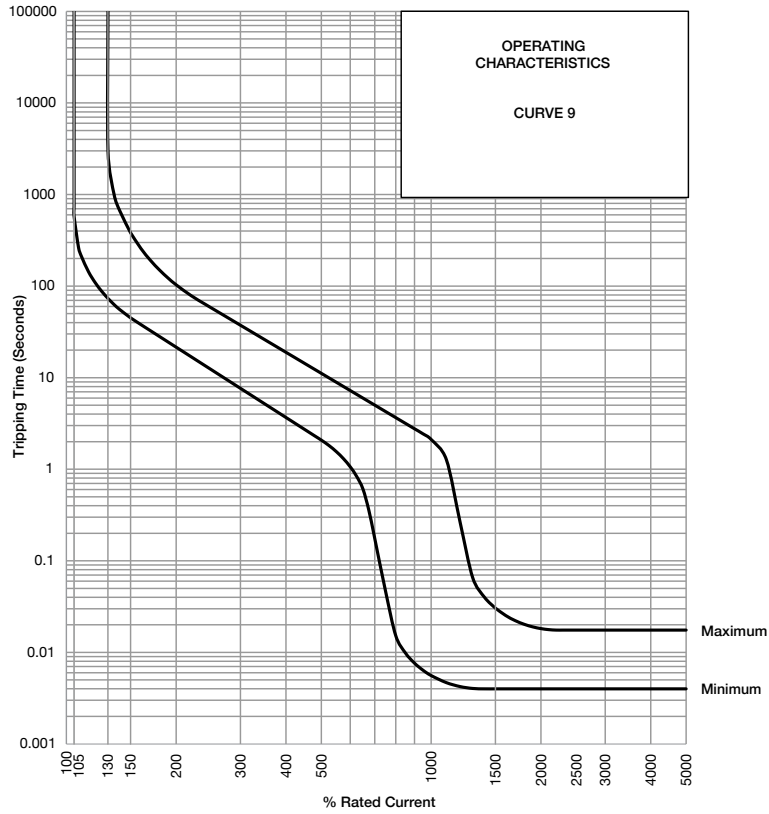
QF(18) - Series Miniature Circuit Breakers

Time Delay Curves



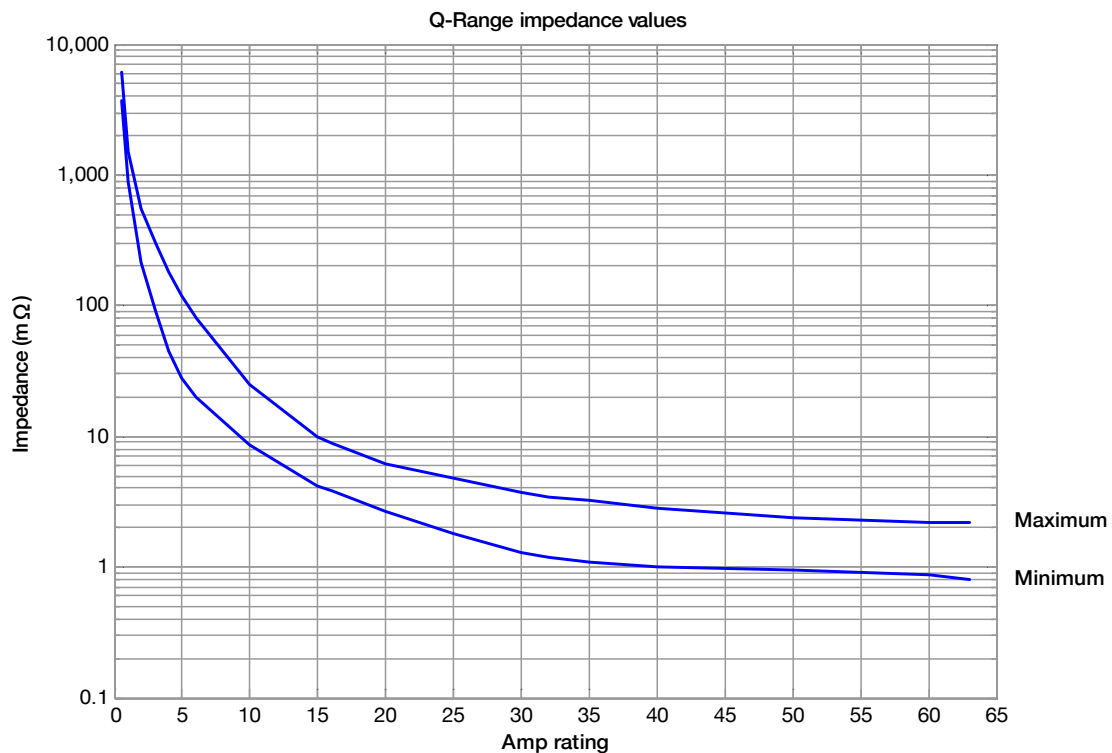
QF(18) - Series Miniature Circuit Breakers

Time Delay Curves



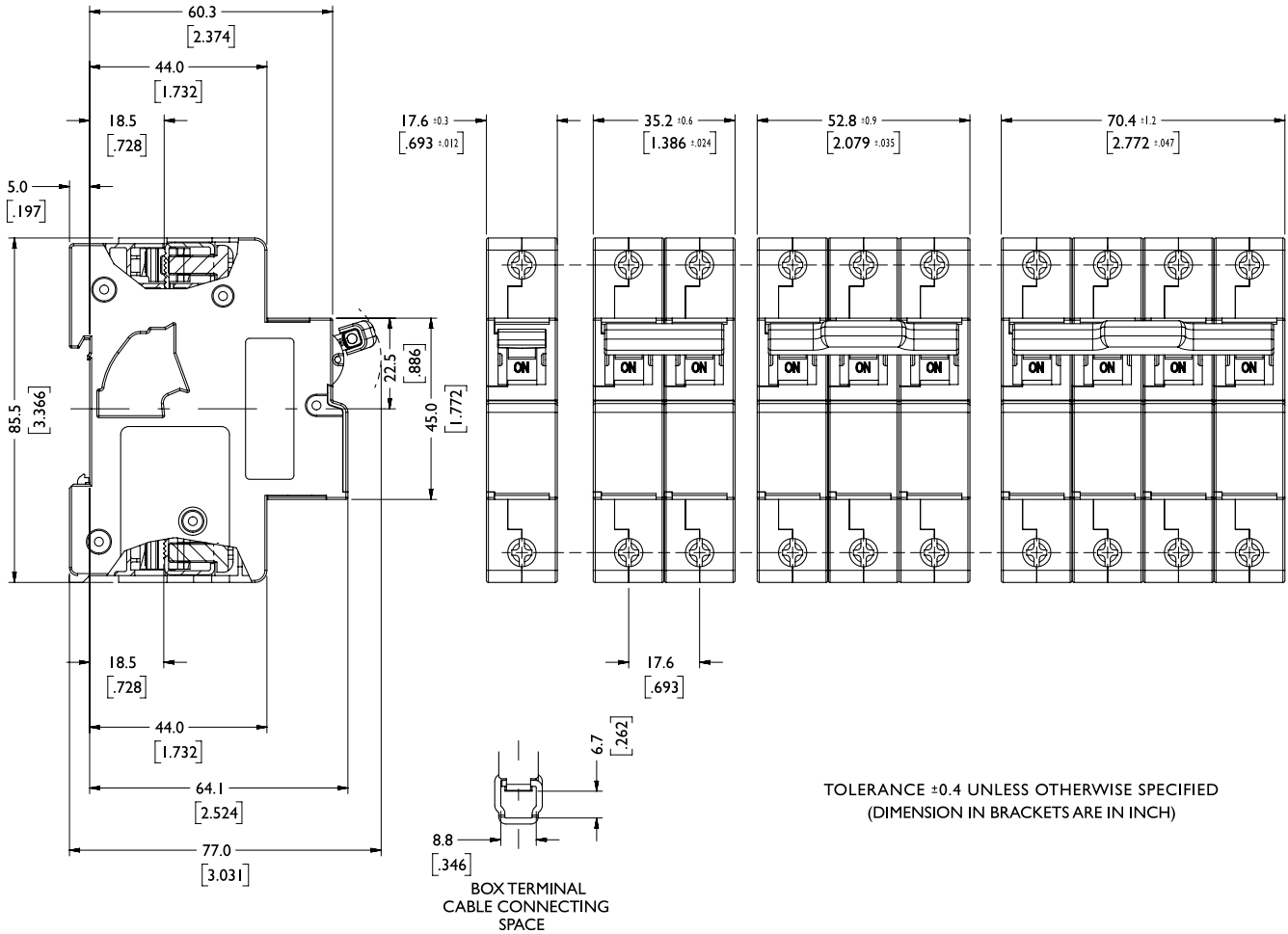
* The published time delay curves are generated at 30°C ambient temperature with the Circuit Breaker mounted in the up-right position. The “must hold”, “must trip” and “instantaneous trip” current values are not affected by temperature, although delay time for the other operating current values may have to be adjusted using the temperature compensation curve which is available on request.

Internal Impedance vs Current Rating



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Outline Dimensions: DIN Mount



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