



Miniature circuit breaker (MCB), 20A, 1p, C-Char

Part no. **AZ-3N-C20**
 Catalog No. **211773**
 Alternate Catalog No. **AZ-3N-C20**

Similar to illustration

Delivery program

| | | | |
|---|----------|----|--|
| Basic function | | | Miniature circuit-breakers |
| Number of poles | | | 3 pole+N |
| Tripping characteristic | | | C |
| Application | | | Switchgear for industrial and advanced commercial applications |
| Rated current | I_n | A | 20 |
| Rated switching capacity acc. to IEC/EN 60947-2 | I_{cu} | kA | 25 |
| Product range | | | AZ |

Technical data

Electrical

| | | | |
|---|----------|------------|------------------------|
| Standards | | | IEC/EN 60947-2 |
| Rated operational voltage | U_e | V | |
| | U_e | V AC | 230/400 |
| | U_e | V DC | 60 (per pole) |
| Rated switching capacity acc. to IEC/EN 60947-2 | I_{cu} | kA | 25 |
| Operational switching capacity | | kA | 20 |
| Characteristic | | | Similar: D, C |
| Max. back-up fuse | | A gL/gG | 200 |
| Selectivity Class | | | Compliant with Class 3 |
| lifespan | | | |
| | Lifespan | Operations | > 10000 |
| Direction of incoming supply | | | as required |

Mechanical

| | | | |
|--------------------------|--|-----------------|---|
| Standard front dimension | | mm | 45 |
| Enclosure height | | mm | 90 |
| Mounting width per pole | | mm | 27 |
| Mounting | | | IEC/EN 60715 top-hat rail |
| Degree of Protection | | | IP20, IP40 (when fitted) |
| Terminals top and bottom | | | Lift terminals |
| Terminal protection | | | Finger and back-of-hand proof to BGV A2 |
| Terminal capacities | | mm ² | |
| | | mm ² | 2.5 ... 50 |

Design verification as per IEC/EN 61439

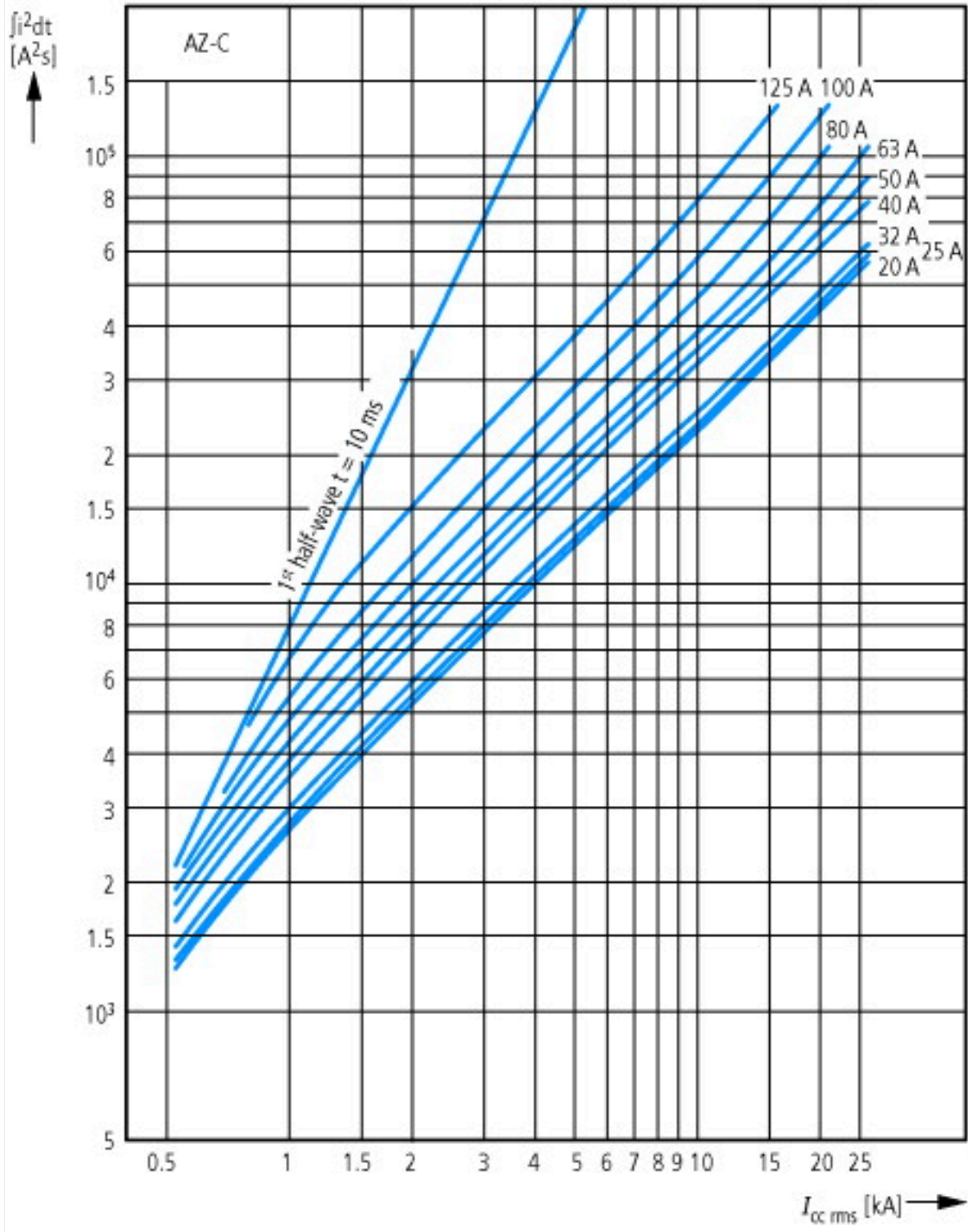
| | | | |
|--|------------|----|---|
| Technical data for design verification | | | |
| Rated operational current for specified heat dissipation | I_n | A | 20 |
| Heat dissipation per pole, current-dependent | P_{vid} | W | 0 |
| Equipment heat dissipation, current-dependent | P_{vid} | W | 18.4 |
| Static heat dissipation, non-current-dependent | P_{vs} | W | 0 |
| Heat dissipation capacity | P_{diss} | W | 0 |
| Operating ambient temperature min. | | °C | -25 |
| Operating ambient temperature max. | | °C | 55 |
| | | | linear, per +1 °C, results in a 0.5% reduction of current carrying capacity |
| IEC/EN 61439 design verification | | | |

| | | |
|--|--|--|
| 10.2 Strength of materials and parts | | |
| 10.2.2 Corrosion resistance | | Meets the product standard's requirements. |
| 10.2.3.1 Verification of thermal stability of enclosures | | Meets the product standard's requirements. |
| 10.2.3.2 Verification of resistance of insulating materials to normal heat | | Meets the product standard's requirements. |
| 10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects | | Meets the product standard's requirements. |
| 10.2.4 Resistance to ultra-violet (UV) radiation | | Meets the product standard's requirements. |
| 10.2.5 Lifting | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.2.6 Mechanical impact | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.2.7 Inscriptions | | Meets the product standard's requirements. |
| 10.3 Degree of protection of ASSEMBLIES | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.4 Clearances and creepage distances | | Meets the product standard's requirements. |
| 10.5 Protection against electric shock | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.6 Incorporation of switching devices and components | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.7 Internal electrical circuits and connections | | Is the panel builder's responsibility. |
| 10.8 Connections for external conductors | | Is the panel builder's responsibility. |
| 10.9 Insulation properties | | |
| 10.9.2 Power-frequency electric strength | | Is the panel builder's responsibility. |
| 10.9.3 Impulse withstand voltage | | Is the panel builder's responsibility. |
| 10.9.4 Testing of enclosures made of insulating material | | Is the panel builder's responsibility. |
| 10.10 Temperature rise | | The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices. |
| 10.11 Short-circuit rating | | Is the panel builder's responsibility. The specifications for the switchgear must be observed. |
| 10.12 Electromagnetic compatibility | | Is the panel builder's responsibility. The specifications for the switchgear must be observed. |
| 10.13 Mechanical function | | The device meets the requirements, provided the information in the instruction leaflet (IL) is observed. |

Technical data ETIM 7.0

| | | |
|---|-----------------|----------|
| Circuit breakers and fuses (EG000020) / Miniature circuit breaker (MCB) (EC000042) | | |
| Electric engineering, automation, process control engineering / Electrical installation, device / Miniature circuit breaker system (MCB) / Miniature circuit breaker (MCB) (ec@ss10.0.1-27-14-19-01 [AAB905014]) | | |
| Release characteristic | | C |
| Number of poles (total) | | 4 |
| Number of protected poles | | 3 |
| Rated current | A | 20 |
| Rated voltage | V | 400 |
| Rated insulation voltage U_i | V | 440 |
| Rated impulse withstand voltage U_{imp} | kV | 4 |
| Rated short-circuit breaking capacity I_{cn} EN 60898 at 230 V | kA | 0 |
| Rated short-circuit breaking capacity I_{cn} EN 60898 at 400 V | kA | 0 |
| Rated short-circuit breaking capacity I_{cu} IEC 60947-2 at 230 V | kA | 25 |
| Rated short-circuit breaking capacity I_{cu} IEC 60947-2 at 400 V | kA | 25 |
| Voltage type | | AC |
| Frequency | Hz | 50 - 60 |
| Current limiting class | | 3 |
| Suitable for flush-mounted installation | | No |
| Concurrently switching N-neutral | | Yes |
| Over voltage category | | 3 |
| Pollution degree | | 2 |
| Additional equipment possible | | Yes |
| Width in number of modular spacings | | 6 |
| Built-in depth | mm | 75 |
| Degree of protection (IP) | | IP20 |
| Ambient temperature during operating | °C | -25 - 55 |
| Connectable conductor cross section multi-wired | mm ² | 2.5 - 50 |
| Connectable conductor cross section solid-core | mm ² | 2.5 - 50 |

Characteristics



Let-through energy $\int i^2 t$





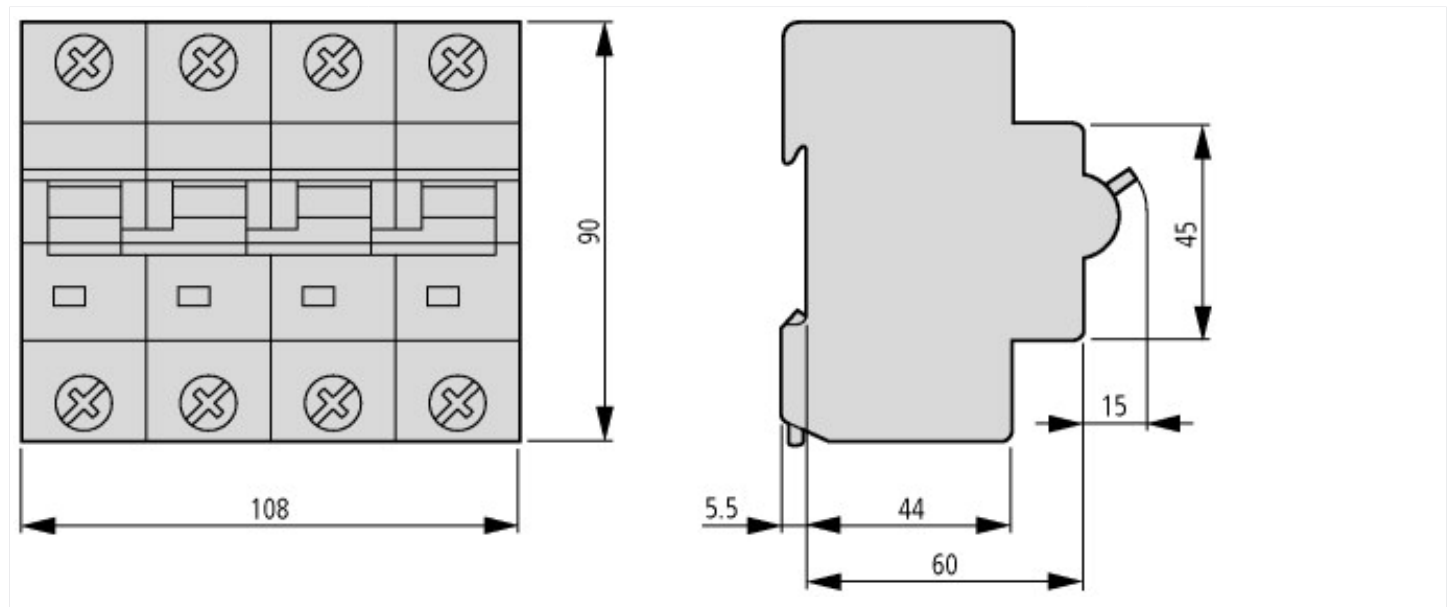
Let-through current i_D





Tripping characteristic at 30 °C:
 C, D according to IEC/EN 60898

Dimensions



Additional product information (links)

AWA1220-1755 Miniature circuit-breakers

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ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/17550701.pdf