


**Miniature circuit breaker (MCB), 50A, 3p, D-Char**

**Part no.** AZ-3-D50  
**Catalog No.** 211816  
**Alternate Catalog No.** AZ-3-D50



Similar to illustration

**Delivery program**

|                                                 |          |    |                                                                |
|-------------------------------------------------|----------|----|----------------------------------------------------------------|
| Basic function                                  |          |    | Miniature circuit-breakers                                     |
| Number of poles                                 |          |    | 3 pole                                                         |
| Tripping characteristic                         |          |    | D                                                              |
| Application                                     |          |    | Switchgear for industrial and advanced commercial applications |
| Rated current                                   | $I_n$    | A  | 50                                                             |
| 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                |
|                                                 |            | 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 <sup>2</sup> |                                         |
|                          |  | mm <sup>2</sup> | 2.5 ... 50                              |

**Design verification as per IEC/EN 61439**

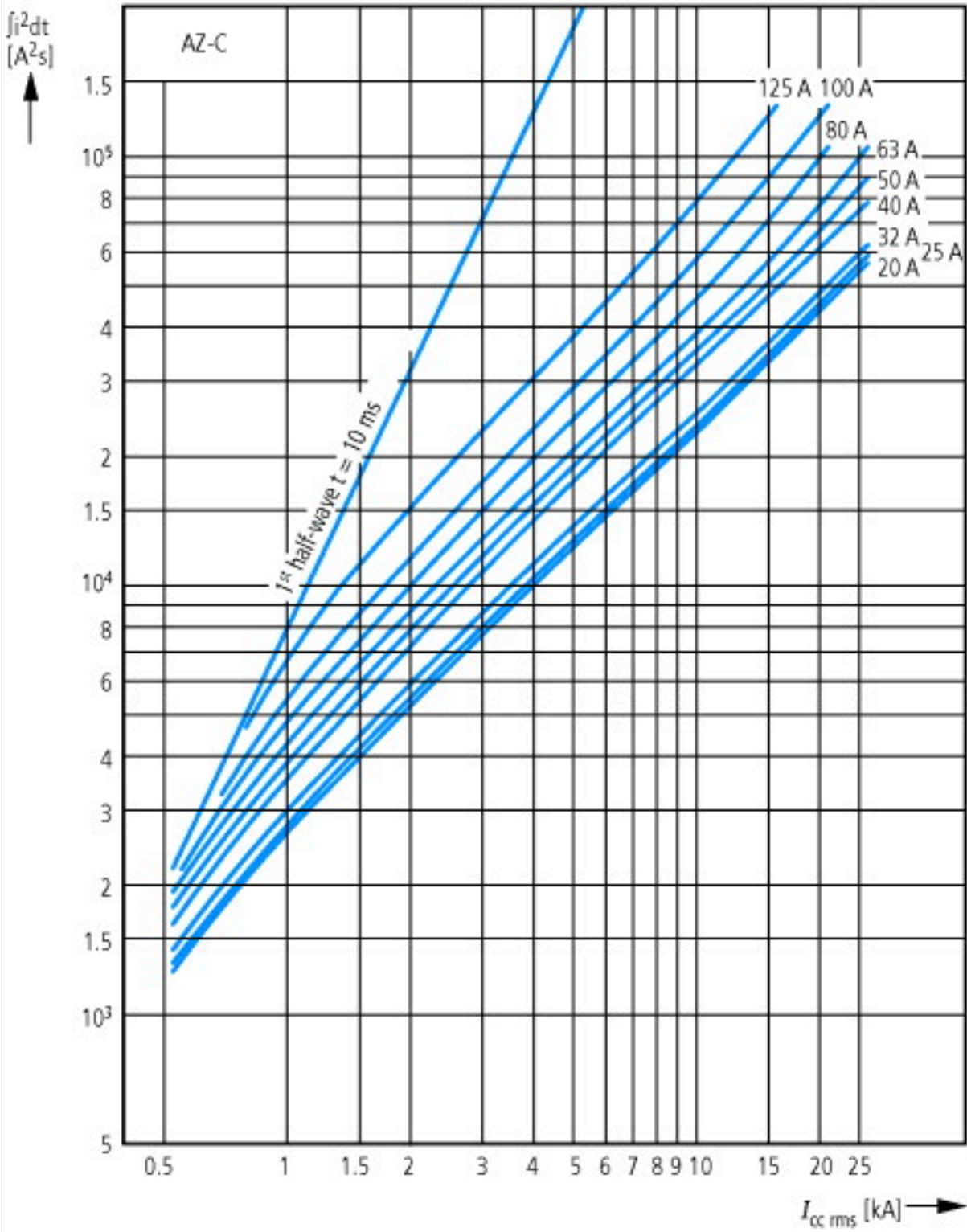
|                                                          |            |    |                                                                             |
|----------------------------------------------------------|------------|----|-----------------------------------------------------------------------------|
| Technical data for design verification                   |            |    |                                                                             |
| Rated operational current for specified heat dissipation | $I_n$      | A  | 50                                                                          |
| Heat dissipation per pole, current-dependent             | $P_{vid}$  | W  | 0                                                                           |
| Equipment heat dissipation, current-dependent            | $P_{vid}$  | W  | 5.1                                                                         |
| 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.                         |

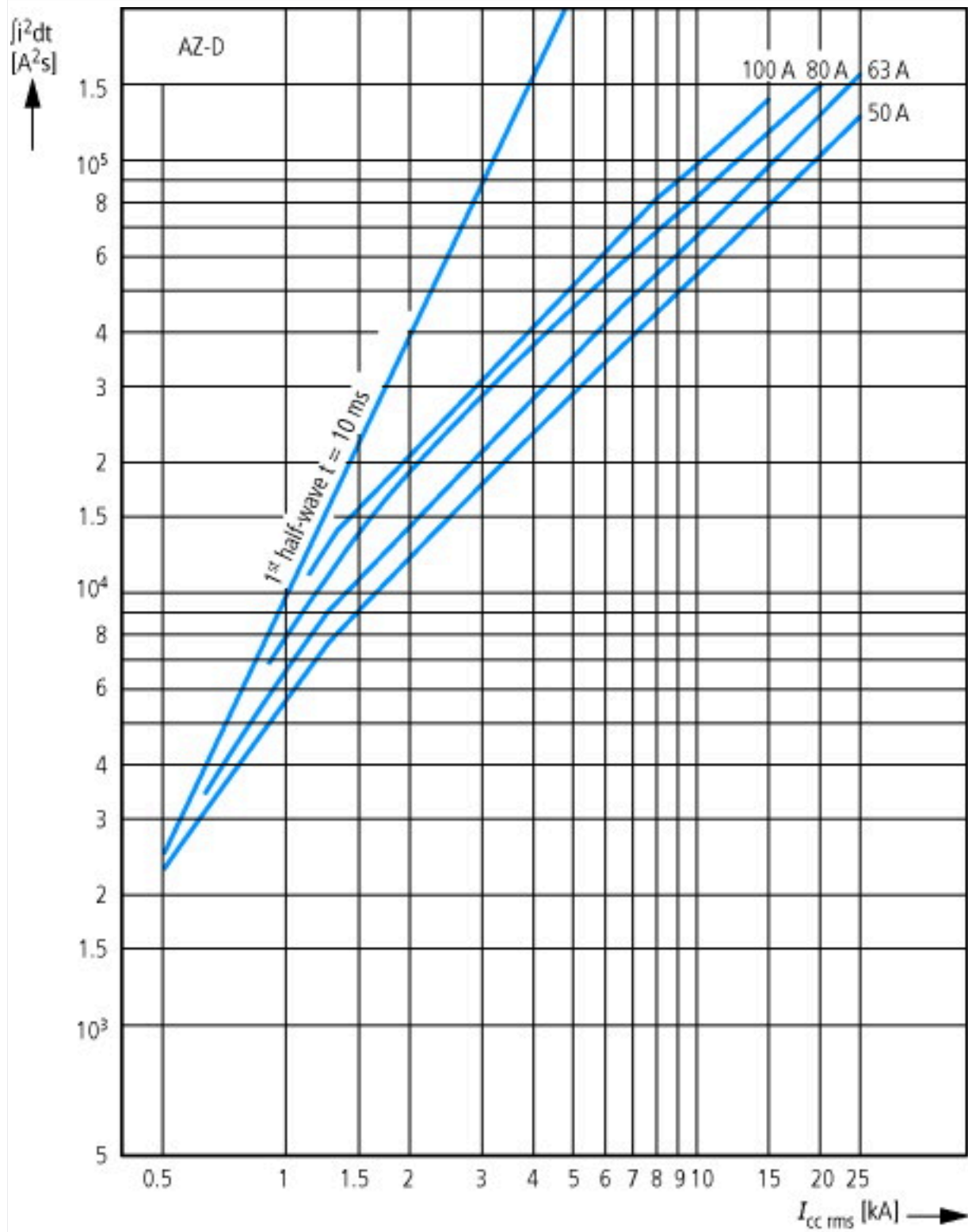
## Technical data ETIM 7.0

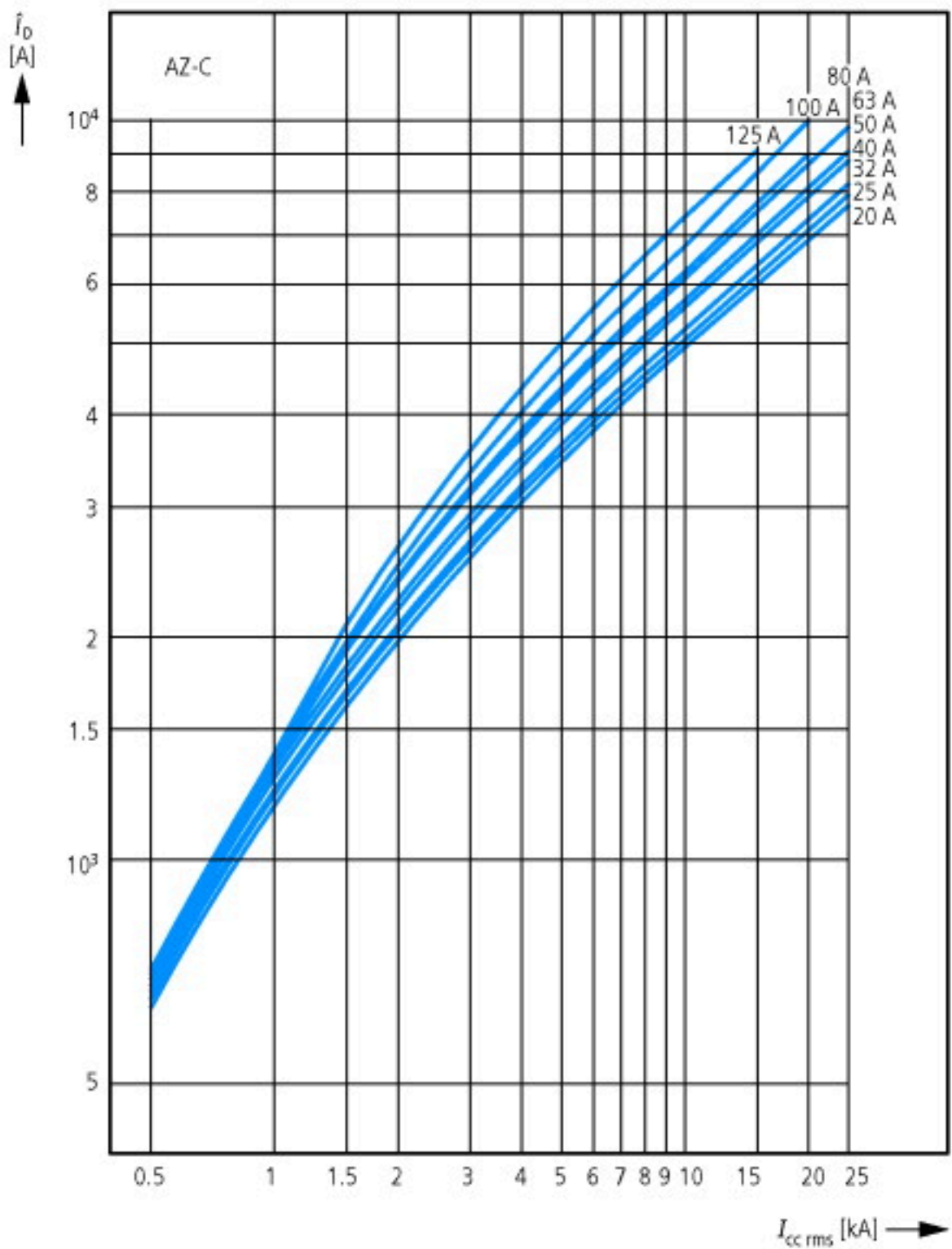
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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------|----------|
| 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) (ecI@ss10.0.1-27-14-19-01 [AAB905014]) |  |                 |          |
| Release characteristic                                                                                                                                                                                            |  |                 | D        |
| Number of poles (total)                                                                                                                                                                                           |  |                 | 3        |
| Number of protected poles                                                                                                                                                                                         |  |                 | 1        |
| Rated current                                                                                                                                                                                                     |  | A               | 50       |
| Rated voltage                                                                                                                                                                                                     |  | V               | 400      |
| Rated insulation voltage Ui                                                                                                                                                                                       |  | V               | 440      |
| Rated impulse withstand voltage Uimp                                                                                                                                                                              |  | kV              | 4        |
| Rated short-circuit breaking capacity Icn EN 60898 at 230 V                                                                                                                                                       |  | kA              | 0        |
| Rated short-circuit breaking capacity Icn EN 60898 at 400 V                                                                                                                                                       |  | kA              | 0        |
| Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V                                                                                                                                                    |  | kA              | 25       |
| Rated short-circuit breaking capacity Icu 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                                                                                                                                                                                  |  |                 | No       |
| Over voltage category                                                                                                                                                                                             |  |                 | 3        |
| Pollution degree                                                                                                                                                                                                  |  |                 | 2        |
| Additional equipment possible                                                                                                                                                                                     |  |                 | Yes      |
| Width in number of modular spacings                                                                                                                                                                               |  |                 | 4.5      |
| Built-in depth                                                                                                                                                                                                    |  | mm              | 75       |
| Degree of protection (IP)                                                                                                                                                                                         |  |                 | IP20     |
| Ambient temperature during operating                                                                                                                                                                              |  | °C              | -25 - 55 |
| Connectable conductor cross section multi-wired                                                                                                                                                                   |  | mm <sup>2</sup> | 2.5 - 50 |
| Connectable conductor cross section solid-core                                                                                                                                                                    |  | mm <sup>2</sup> | 2.5 - 50 |

Characteristics

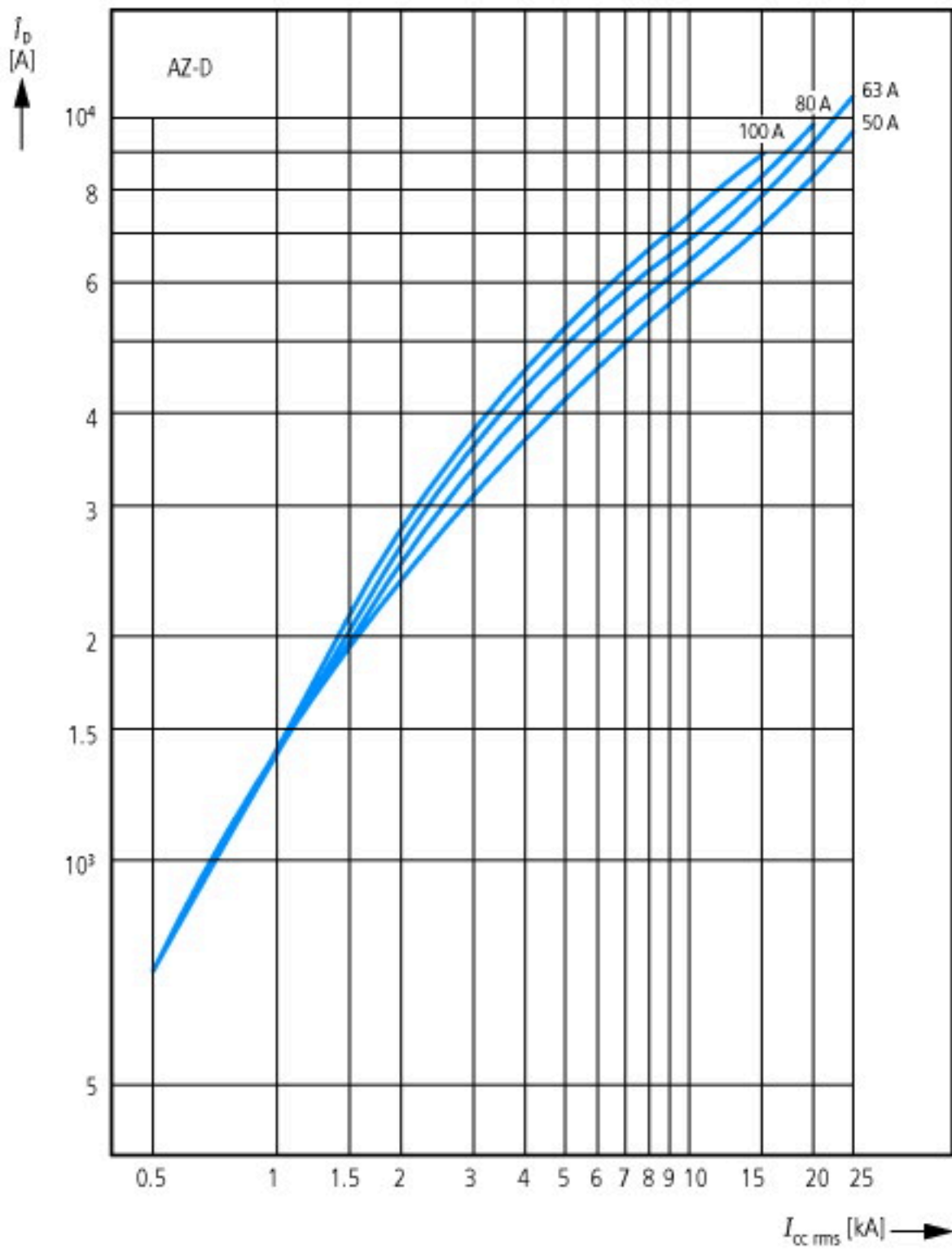


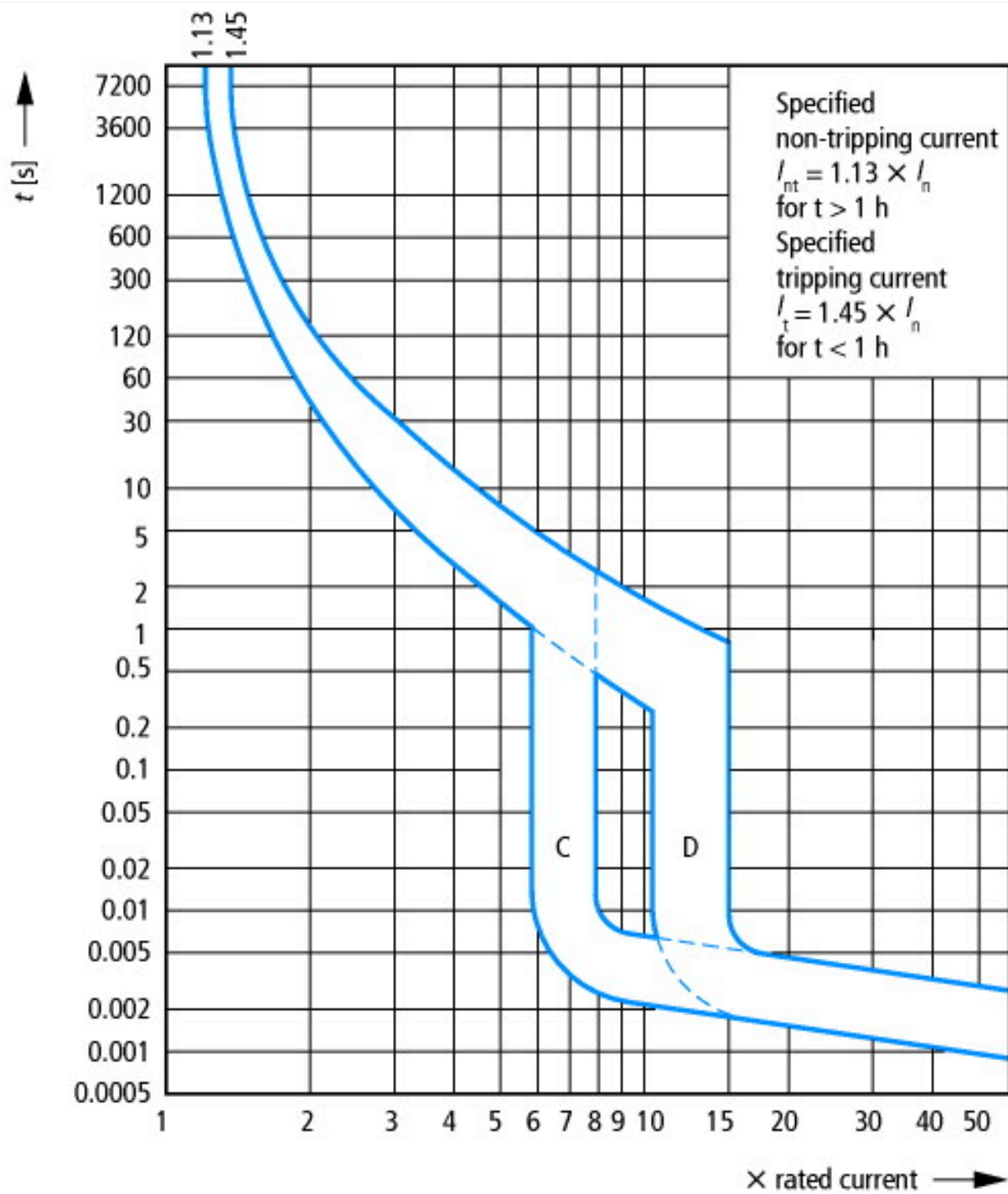
Let-through energy  $I^2t$



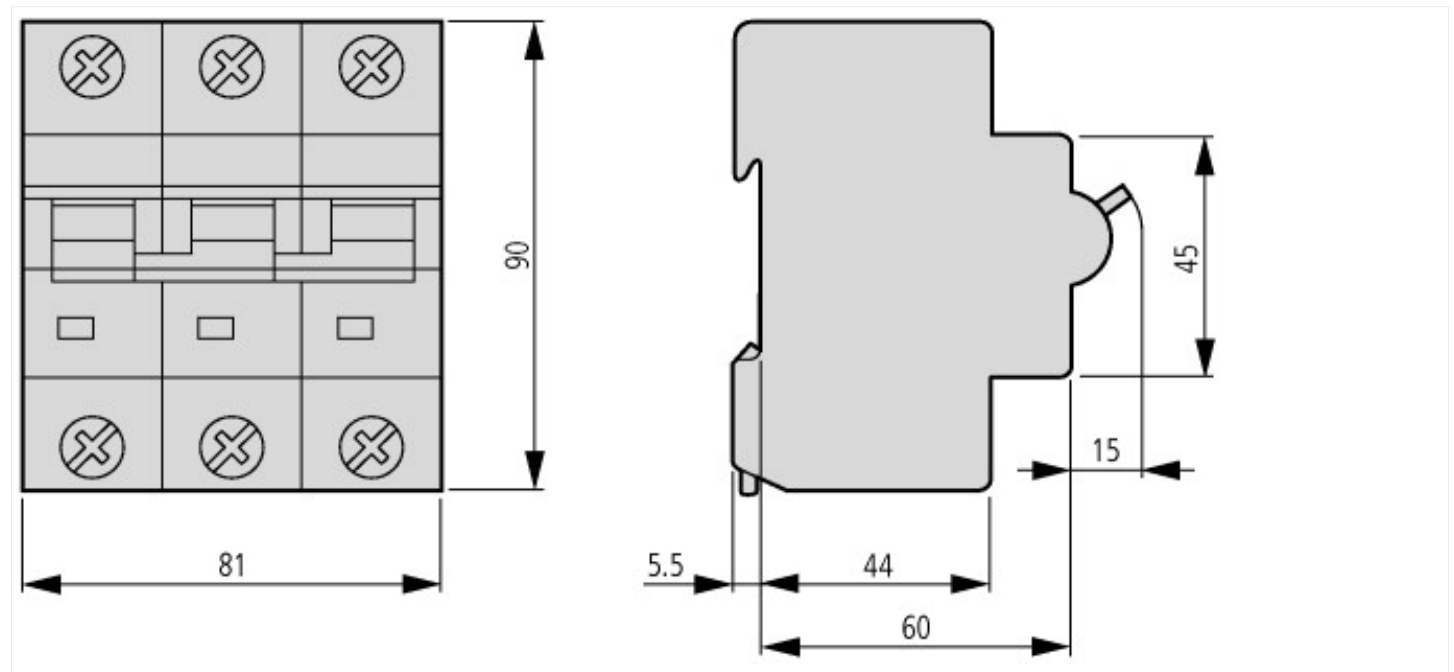


Let-through current  $i_D$





## Dimensions



## Additional product information (links)

### AWA1220-1755 Miniature circuit-breakers

AWA1220-1755 Miniature circuit-breakers [https://es-assets.eaton.com/DOCUMENTATION/AWA\\_INSTRUCTIONS/17550701.pdf](https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/17550701.pdf)