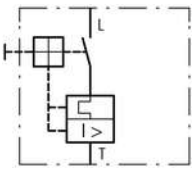
# DATASHEET - PKZM4-25-CB



**Circuit-breaker, Ir= 16 - 25 A, Screw terminals, Terminations: IP2X**

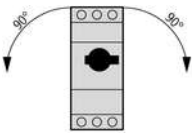
| | |
|---|---|
| **Part no.** | **PKZM4-25-CB** |
| **Catalog No.** | **132592** |
| **Alternate Catalog No.** | **XTPR025DCBNL** |

## Delivery program

| | | | |
|---|---|---|---|
| Product range | | | PKZM4 motor protective circuit-breakers up to 65 A<br>PKZM4 circuit-breakers up to 32 A according to 489 |
| Basic function | | | Line and cable protection |
| Function | | | For protection of cables and conductors |
| Connection technique | | | Screw terminals |
| Contact sequence | | |  |
| Rated uninterrupted current | $I_u$ | A | 25 |
| **Setting range** | | | |
| Overload releases  | $I_r$ | A | 16 - 25 |
| short-circuit release  | | | |
| max. | $I_{rm}$ | A | 388 |
| **Notes** | | | Not usable as a main switch |

## Technical data

### General

| | | | |
|---|---|---|---|
| Standards | | | IEC/EN 60947, VDE 0660,UL, CSA |
| Climatic proofing | | | Damp heat, constant, to IEC 60068-2-78<br>Damp heat, cyclic, to IEC 60068-2-30 |
| Ambient temperature | | | |
| Storage | | °C | - 40 - 80 |
| Open | | °C | -25 - +55 |
| Enclosed | | °C | - 25 - 40 |
| Mounting position | | |  |
| Direction of incoming supply | | | as required |
| Degree of protection | | | |
| Device | | | IP20 |
| Terminations | | | IP2X |
| Protection against direct contact when actuated from front (EN 50274) | | | Finger and back-of-hand proof |
| Mechanical shock resistance half-sinusoidal shock 10 ms to IEC 60068-2-27 | | g | 15 |
| Altitude | | m | Max. 2000 |
| Terminal capacity main cable | | | |
| Screw terminals | | | |
| Solid | | $mm^2$ | 1 x (0.75 - 16)<br>2 x (0.75 - 16) |

| | | | |
|---|---|---|---|
| Flexible with ferrule to DIN 46228 | | $mm^2$ | 1 x (0.75 - 16)<br>2 x (0.75 - 16) |
| Solid or stranded | | AWG | 14 - 6 |
| Flexible with ferrules | | AWG | 14 – 8 |
| Stripping length | | mm | 14 |
| Specified tightening torque for terminal screws | | | |
| Main cable | | Nm | 3.3 |

## Main conducting paths

| | | | |
|---|---|---|---|
| Rated impulse withstand voltage | $U_{imp}$ | V AC | 6000 |
| Overvoltage category/pollution degree | | | III/3 |
| Rated operational voltage | $U_e$ | V AC | 690 |
| Rated uninterrupted current = rated operational current | $I_u = I_e$ | A | 25 |
| Rated frequency | f | Hz | 40 - 60 |
| Current heat loss (3 pole at operating temperature) | | W | 14.7 |
| Lifespan, mechanical | Operations | $x\ 10^6$ | 0.03 |
| Lifespan, electrical (AC-3 at 400 V) | | | |
| Lifespan, electrical | Operations | $x\ 10^6$ | 0.03 |
| Max. operating frequency | | Ops/h | 40 |
| Short-circuit rating | | | |
| DC | | | |
| Notes | | | up to 250 V |
| Motor switching capacity | | | |
| AC-3 (up to 690V) | | A | 25 |
| DC-5 (up to 250V) | | A | 25 (3 contacts in series) |

## Trip blocks

| | | | |
|---|---|---|---|
| Temperature compensation | | | |
| to IEC/EN 60947, VDE 0660 | | °C | - 5 … 40 |
| Operating range | | °C | - 25 … 55 |
| Temperature compensation residual error for T > 40 °C | | | ≦ 0.25 %/K |
| Setting range of overload releases | | $x\ I_u$ | 0.6 - 1 |
| short-circuit release | | | Basic device, fixed: 15.5 x $I_u$ |
| Short-circuit release tolerance | | | ± 20% |
| Phase-failure sensitivity | | | IEC/EN 60947-4-1, VDE 0660 Part 102 |

## Rating data for approved types

| | | | |
|---|---|---|---|
| Short Circuit Current Rating (UL489, CSA 22.2 No. ) | | SCCR | |
| 480Y / 277V | | kA | 65 |

# Design verification as per IEC/EN 61439

| | | | |
|---|---|---|---|
| Technical data for design verification | | | |
| Rated operational current for specified heat dissipation | $I_n$ | A | 25 |
| Heat dissipation per pole, current-dependent | $P_{vid}$ | W | 4.9 |
| Equipment heat dissipation, current-dependent | $P_{vid}$ | W | 14.7 |
| 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 |
| 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. |

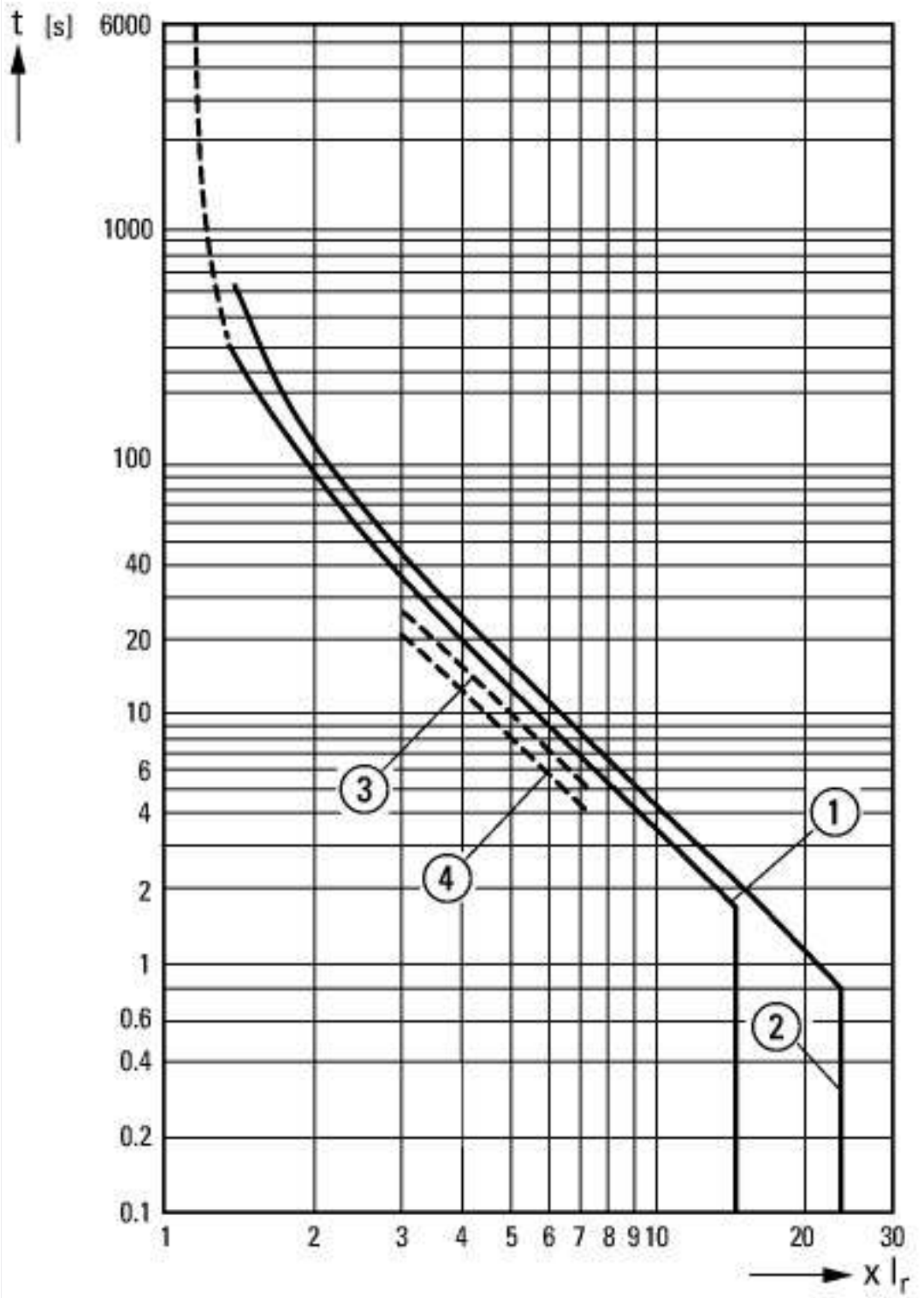
## Technical data ETIM 7.0

| | | |
|---|---|---|
| Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation protection (EC000228) | | |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (ecl@ss10.0.1-27-37-04-09 [AJZ716013]) | | |
| Rated permanent current Iu | A | 25 |
| Rated voltage | V | 600 - 600 |
| Rated short-circuit breaking capacity Icu at 400 V, 50 Hz | kA | 65 |
| Overload release current setting | A | 0 - 25 |
| Adjustment range short-term delayed short-circuit release | A | 0 - 0 |
| Adjustment range undelayed short-circuit release | A | 0 - 350 |
| Integrated earth fault protection | | No |
| Type of electrical connection of main circuit | | Screw connection |
| Device construction | | Built-in device fixed built-in technique |
| Suitable for DIN rail (top hat rail) mounting | | Yes |
| DIN rail (top hat rail) mounting optional | | Yes |
| Number of auxiliary contacts as normally closed contact | | 0 |
| Number of auxiliary contacts as normally open contact | | 0 |
| Number of auxiliary contacts as change-over contact | | 0 |
| With switched-off indicator | | No |
| With under voltage release | | No |
| Number of poles | | 3 |
| Position of connection for main current circuit | | Other |
| Type of control element | | Turn button |
| Complete device with protection unit | | Yes |
| Motor drive integrated | | No |
| Motor drive optional | | No |
| Degree of protection (IP) | | IP20 |

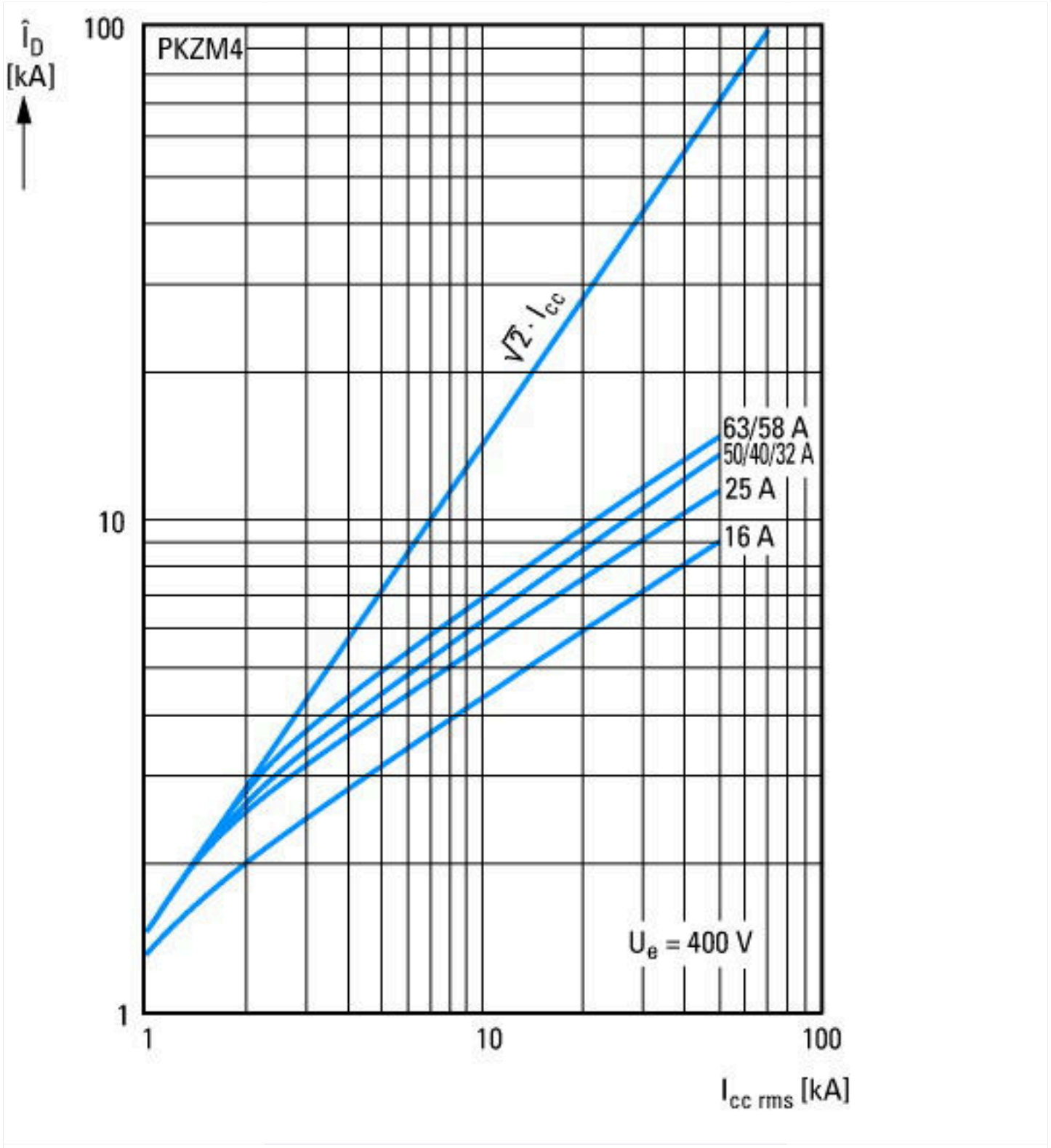
## Approvals

| | |
|---|---|
| Product Standards | UL 489; CSA-C22.2 no. 5-09; IEC60947-4-1; CE marking |
| UL File No. | E31593 |
| UL Category Control No. | DIVQ |
| CSA File No. | 165628 |
| CSA Class No. | 1432-01 |
| North America Certification | UL listed, CSA certified |
| Specially designed for North America | Yes |
| Suitable for | Feeder and branch circuit as BCPD |

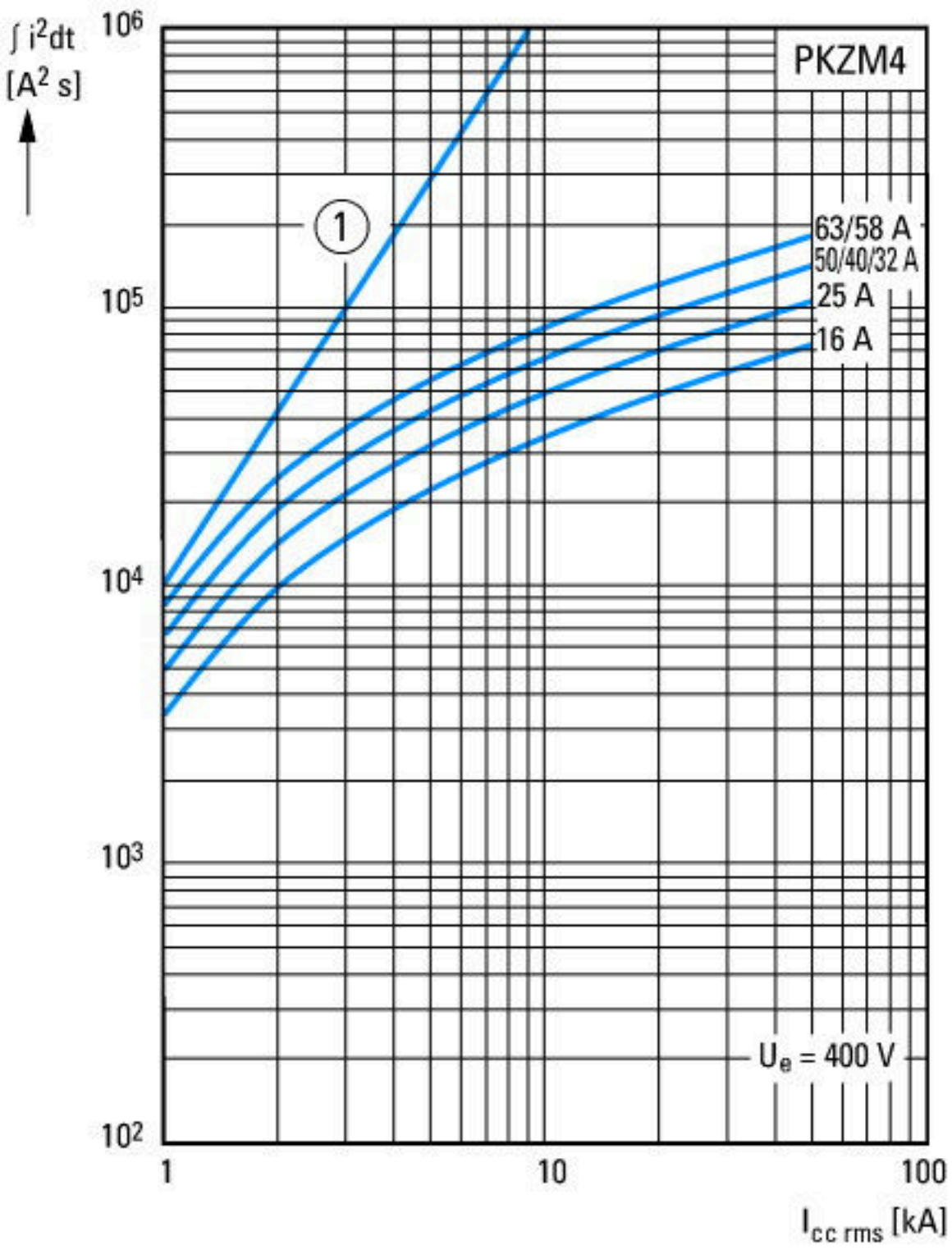
## Characteristics




Tripping characteristics motor-protective circuit breaker PKZM4-...
1: Minimum level, 3-phase
2: Maximum level, 3-phase
3: Minimum marker, 2-phase
4: Highest marker, 2-phase




Let-through current




① 1 half-cycle
Let-through energy

## Assets (links)

### Declaration of CE Conformity
00002860

### Instruction Leaflets
IL03402025Z2018_06

### Manuals
MN03402002Z_DE_EN (German)
MN03402002Z_DE_EN (English)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