



Motor-protective circuit-breaker, 3p, Ir=24-32A, screw connection

Part no. PKZM4-32
Article no. 222353
Catalog No. XTPR032DC1NL

Delivery program

| | | | |
|----------------------|--|--|--|
| Product range | | | PKZM4 motor protective circuit-breakers up to 65 A |
| Basic function | | | Motor protection |
| | | | |
| Notes | | | Also suitable for motors with efficiency class IE3. IE3-ready devices are identified by the logo on their packaging. |
| Connection technique | | | Screw terminals |
| Contact sequence | | | |

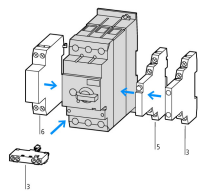
Max. motor rating

| AC-3 | | | | |
|-------------------|---|----|------|--|
| 220 V 230 V 240 V | P | kW | 7.5 | |
| 380 V 400 V 415 V | P | kW | 15 | |
| 440 V | P | kW | 17.5 | |
| 500 V | P | kW | 22 | |
| 660 V 690 V | P | kW | 22 | |

Setting range

| | | | | |
|------------------------|--|----------|---|---------|
| Overload releases | | I_r | A | 24 - 32 |
| Short-circuit releases | | | | |
| max. | | I_{rm} | A | 496 |

Notes



Accessories

- 3 Standard auxiliary contact
- 5 Trip-indicating auxiliary contact
- 6 Shunt release, undervoltage release
- Phase failure sensitivity to IEC/EN 60947-4-1, VDE 0660 part 102
- Can be snap-fitted to IEC/EN 60715 top-hat rail with 7.5 or 15 mm height

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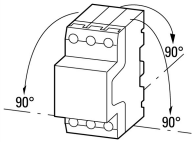


PTB 10 ATEX 3012, see manual

Technical data

General

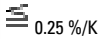
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|---------------------|--|--|--|
| Climatic proofing | | | Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30 |
| Ambient temperature | | | |

| | | | |
|---|---|-----------------|--|
| Storage | θ | °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 | | | IP00 |
| Protection against direct contact | | | Finger and back-of-hand proof |
| Mechanical shock resistance half-sinusoidal shock 10 ms to IEC 60068-2-27 | | g | 15 |
| Altitude | | m | 2000 |
| Terminal capacities | | mm ² | |
| Solid | | mm ² | 1 x (1 - 50) 2 x (1 - 35) |
| Flexible with ferrule | | mm ² | 1 x (1 - 35) 2 x (1 - 35) |
| Solid or stranded | | AWG | 14 - 2 |
| Specified tightening torque for terminal screws | | | |
| Main cable | | Nm | 3.3 |
| Control circuit cables | | Nm | 1 |

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 | 32 open 32 enclosed |
| Rated uninterrupted current = rated operational current | $I_u = I_e$ | A | 32 |
| Rated frequency | f | Hz | 40 - 60 |
| Current heat loss (3 pole at operating temperature) | | W | 18 |
| Lifespan, mechanical | Operations | $\times 10^6$ | 0.03 |
| Lifespan, electrical | Operations | | 30000 |
| Maximum operating frequency | | Ops./h | |
| Max. operating frequency | | Ops/h | 40 |
| Motor switching capacity | | kA _{rms} | |
| DC - 5 | | V | 250/60 kA |
| DC-5 (up to 250 V) | | A | 63 (3 contacts in series) |

Trip blocks

| | | | |
|--|--|----|--|
| Temperature compensation | | °C | -5 - +40 (to IEC/EN 60947, VDE 0660) -25 - +55 (operating range) |
| Temperature compensation residual error for $T > 40^\circ$ | | |  0.25 %/K |
| Setting range of overload releases | | | 0.6 - $1 \times I_u$ |
| short-circuit release | | | Basic device, fixed: $15.5 \times I_u$ |
| Short-circuit release tolerance | | | $\pm 20\%$ |
| Phase-failure sensitivity | | | IEC/EN 60947-1-1, VDE 0660 Part 102 |

Design verification as per IEC/EN 61439

| | | | |
|--|------------|---|----|
| Technical data for design verification | | | |
| Rated operational current for specified heat dissipation | I_n | A | 32 |
| Heat dissipation per pole, current-dependent | P_{vid} | W | 6 |
| Equipment heat dissipation, current-dependent | P_{vid} | W | 18 |
| 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. |

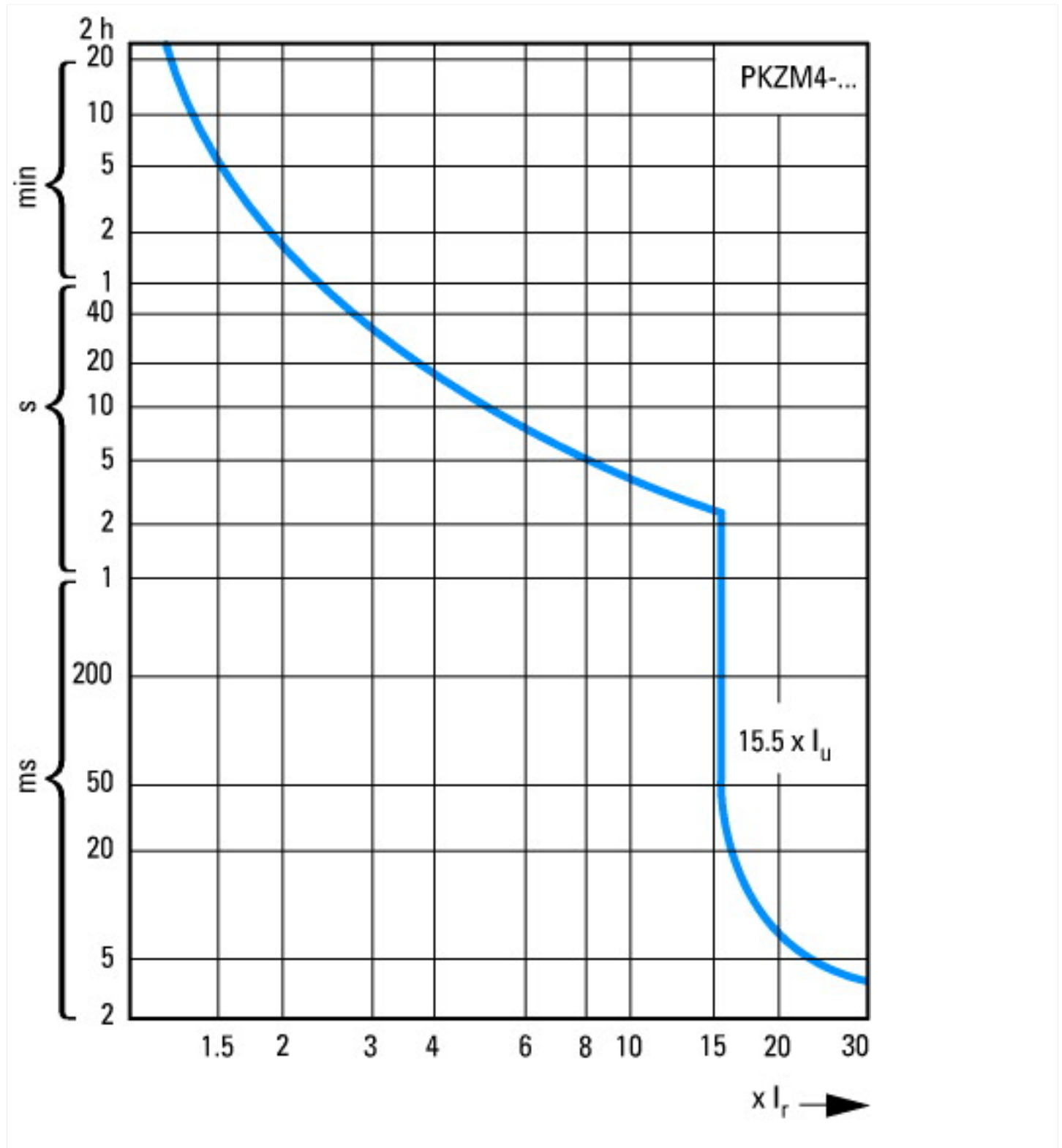
Technical data ETIM 6.0

| | | |
|--|----|--|
| Low-voltage industrial components (EG000017) / Motor protection circuit-breaker (EC000074) | | |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Motor protection circuit-breaker (ecl@ss8.1-27-37-04-01 [AGZ529013]) | | |
| Overload release current setting | A | 25 - 32 |
| Adjustment range undelayed short-circuit release | A | 496 - 496 |
| Thermal protection | | No |
| Phase failure sensitive | | Yes |
| Switch off technique | | Thermomagnetic |
| Rated operating voltage | V | 690 - 690 |
| Rated permanent current I _u | A | 32 |
| Rated operation power at AC-3, 230 V | kW | 7.5 |
| Rated operation power at AC-3, 400 V | kW | 15 |
| Type of electrical connection of main circuit | | Screw connection |
| Type of control element | | Turn button |
| Device construction | | Built-in device fixed built-in technique |
| With integrated auxiliary switch | | No |
| With integrated under voltage release | | No |
| Number of poles | | 3 |
| Rated short-circuit breaking capacity I _{cu} at 400 V, AC | kA | 50 |
| Degree of protection (IP) | | IP20 |
| Height | mm | 140 |
| Width | mm | 55 |
| Depth | mm | 160 |

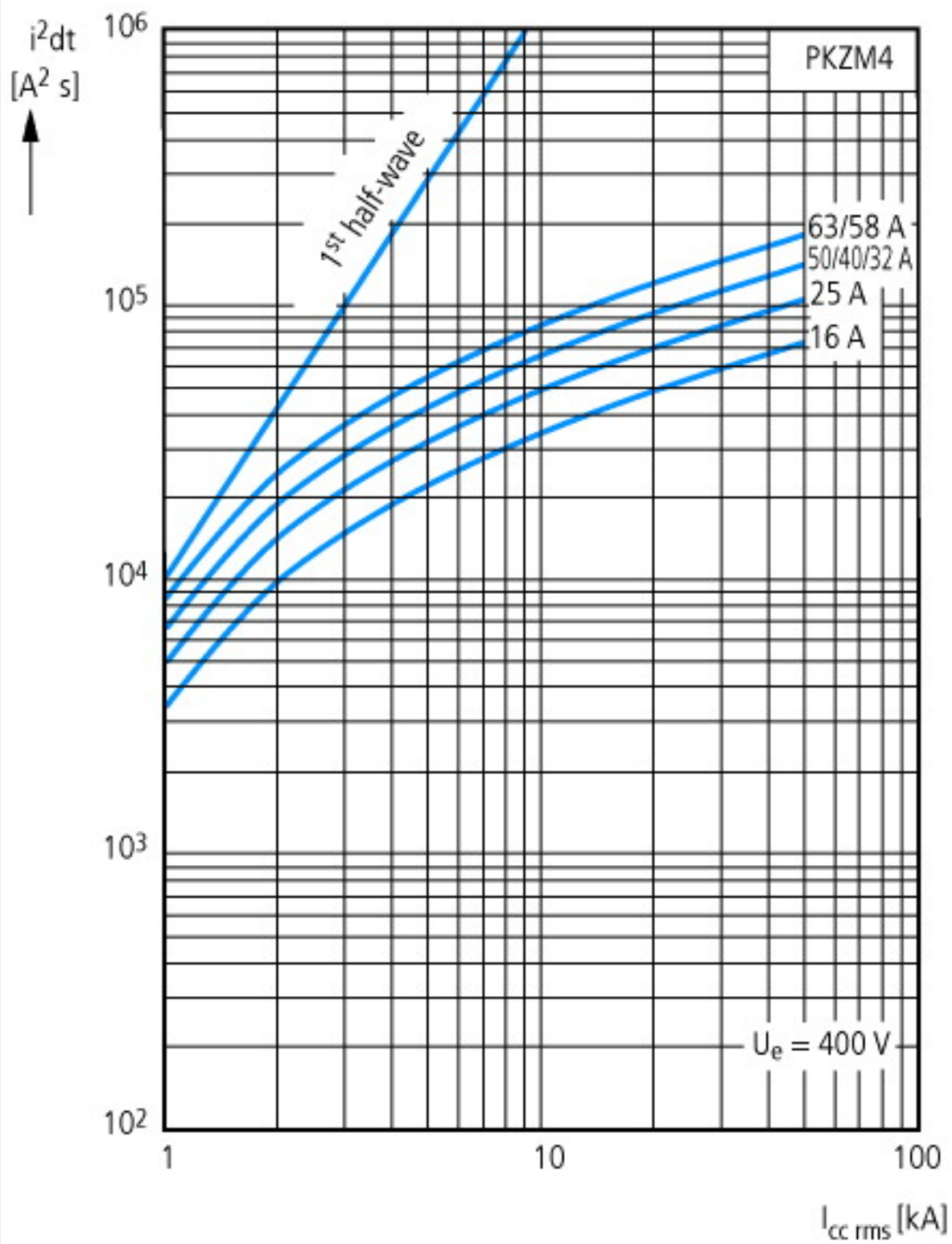
Approvals

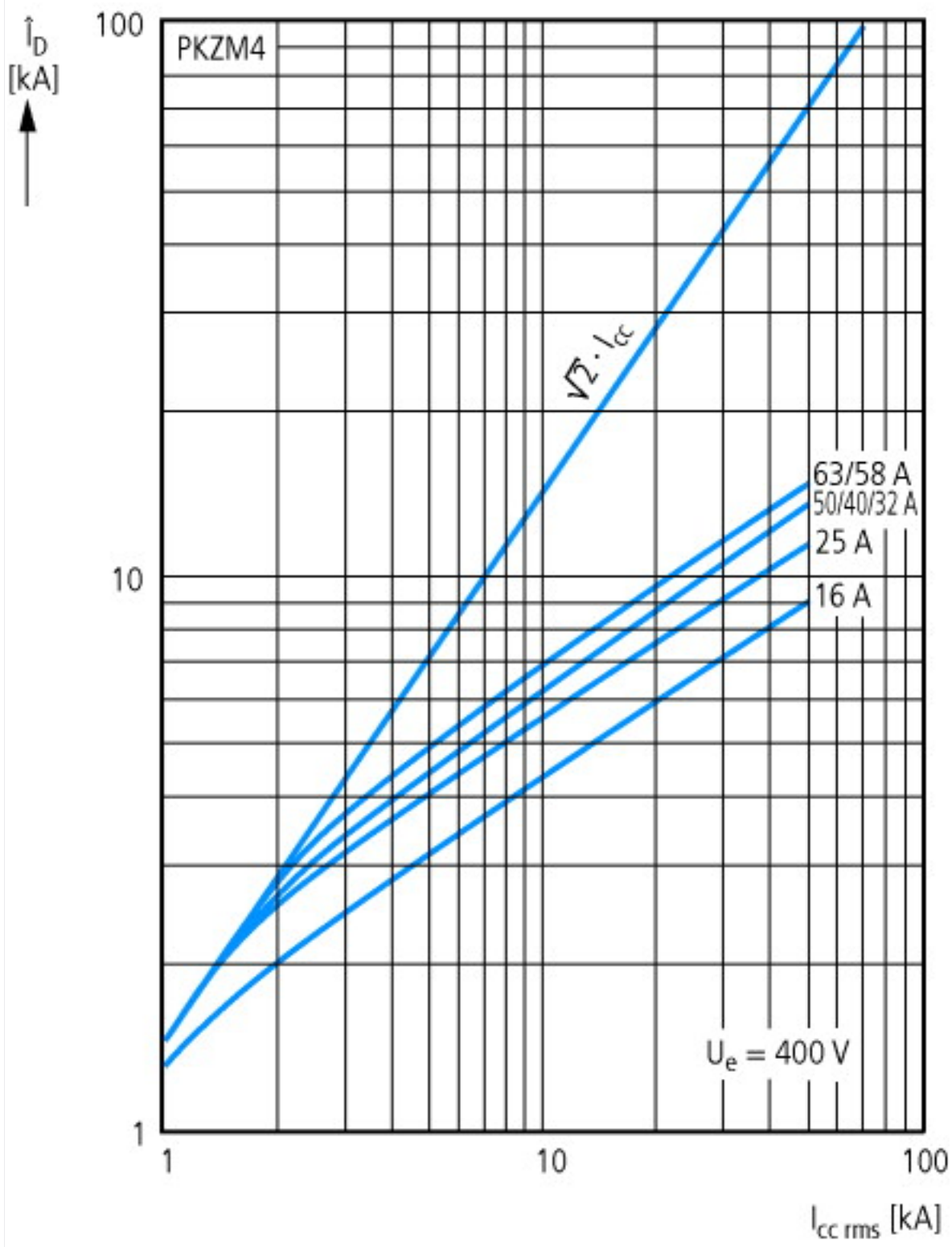
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| Product Standards | UL 508; CSA-C22.2 No. 14; IEC60947-4-1; CE marking |
| UL File No. | E36332 |
| UL Category Control No. | NLRV |
| CSA File No. | 165628 |
| CSA Class No. | 3211-05 |
| North America Certification | UL listed, CSA certified |
| Specially designed for North America | No |
| Suitable for | Branch circuit: Manual type E if used with terminal, or suitable for group installations |

Characteristics



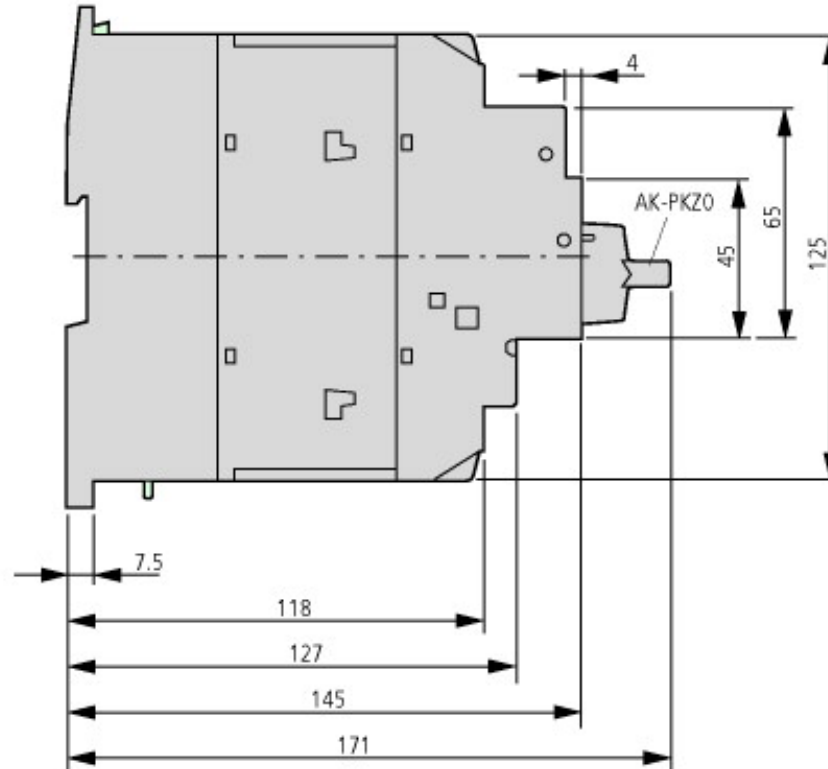
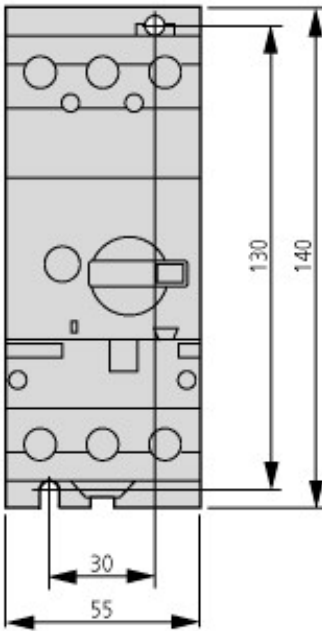
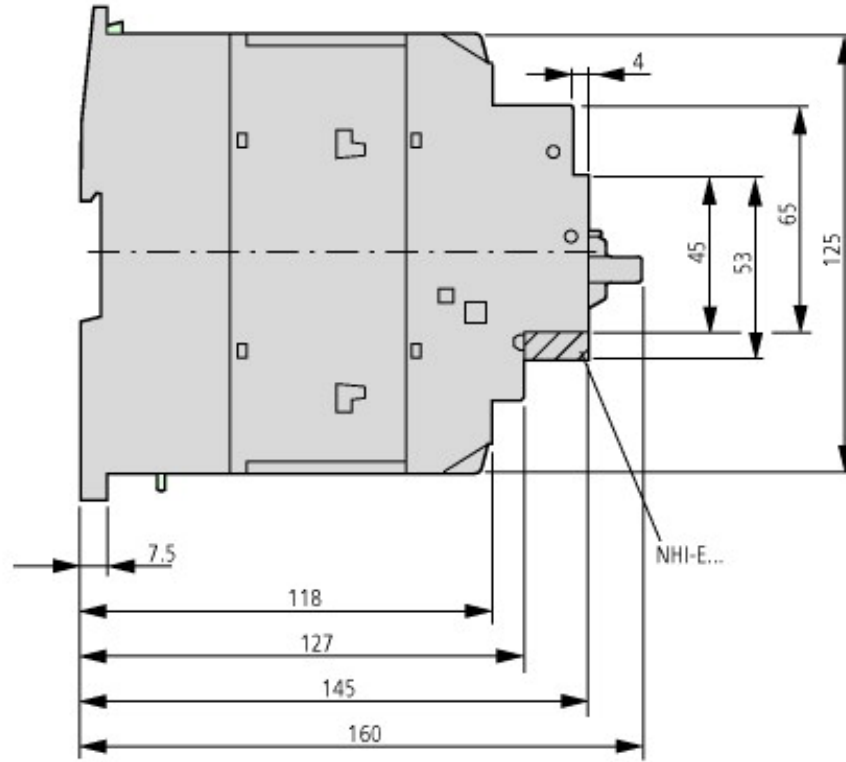
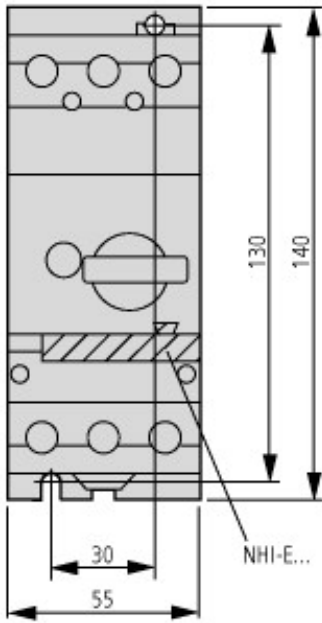
Tripping characteristics





Let-through characteristics

Dimensions



PKZM4-... +AK-PKZO

Additional product information (links)

IL03407012Z (AWA1210-1859) Motor-protective circuit-breaker

IL03407012Z (AWA1210-1859) Motor-protective circuit-breaker ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407012Z2014_02.pdf

MN03402002Z (AWB1210-1457) PKZM4 motor-protective circuit-breakers, overload monitoring of Ex e motors

MN03402002Z (AWB1210-1457) PKZM4 motor-protective circuit-breakers, overload monitoring of Ex e motors - Deutsch / English ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN03402002Z_DE_EN.pdf

switching capacity of the circuit-breakers <http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=7.36>

Motor starters and "Special Purpose Ratings" for the North American market http://www.moeller.net/binary/ver_techpapers/ver953en.pdf

Busbar Component Adapters for modern Industrial control panels http://www.moeller.net/binary/ver_techpapers/ver960en.pdf

