



Circuit-breaker, 3 pole, 1600 A, 66 kA, P measurement, IEC, Fixed

Part no. IZMX16H3-P16F-1
Article no. 183468

Delivery programme

| | | | |
|---|-----------------------------|----|---|
| Product range | | | Air circuit-breakers/switch-disconnectors |
| Product range | | | Open circuit-breakers |
| Current Range | | | Up to 4000 A |
| Protective function | | | P measurement |
| Installation type | | | Fixed |
| Construction size | | | IZMX16 |
| Release system | | | Electronic release |
| Standard/Approval | | | IEC |
| Number of poles | | | 3 pole |
| Degree of Protection | | | IP31 with door seals, IP55 with protective cover |
| | | | suitable for zone selectivity suitable for communication with integrated system monitor with integrated test possibility With graphic LCD display optionally fittable by user with comprehensive accessories |
| Rated current = rated uninterrupted current | $I_n = I_u$ | A | 1600 |
| up to 440 V 50/60 Hz | I_{cu} | kA | 66 |
| up to 440 V 50/60 Hz | I_{cs} | kA | 50 |
| Overload release, min. | I_r | A | 640 |
| Overload release, max. | I_r | A | 1600 |
| Non-delayed | $I_i = I_n \times \dots$ | | 2 - 15, OFF |
| | | | |
| Delayed | $I_{sd} = I_r \times \dots$ | | 1,5 - 10 |
| | | | |

Technical data

| | | | |
|------------------------------|----------|----|--|
| General | | | |
| Standards | | | IEC/EN 60947 |
| Ambient temperature | | | |
| Storage | θ | °C | -20 - +70 |
| Operating (open) | | °C | -20 - +70 |
| Mounting position | | | |
| Utilization category | | | B |
| Degree of Protection | | | IP31 with door seals, IP55 with protective cover |
| Direction of incoming supply | | | as required |

Main conducting paths

| | | | |
|---|-------------|------|-------|
| Rated current = rated uninterrupted current | $I_n = I_u$ | A | 1600 |
| Rated uninterrupted current at 50 °C | I_u | A | 1500 |
| Rated uninterrupted current at 60 °C | I_u | A | 1400 |
| Rated uninterrupted current at 70 °C | I_u | A | 1350 |
| Rated impulse withstand voltage | U_{imp} | V AC | 12000 |
| Rated operational voltage | U_e | V AC | 690 |
| Use in IT electrical power networks up to $U = 440$ V | I_{IT} | kA | 0 |
| Use in IT electrical power networks up to $U = 690$ V | I_{IT} | kA | 0 |
| Overvoltage category/pollution degree | | | III/3 |
| Rated insulation voltage | U_i | V | 1000 |

Switching capacity

| | | | |
|---|---------------------------|----|-------|
| Rated short-circuit making capacity | I_{cm} | | |
| up to 440 V 50/60 Hz | I_{cm} | kA | 145 |
| up to 690 V 50/60 Hz | I_{cm} | kA | 88 |
| Rated short-time withstand current 50/60 Hz | | | |
| $t = 1$ s | I_{cw} | kA | 42 |
| Rated short-circuit breaking capacity I_{cn} | I_{cn} | | |
| IEC/EN 60947 operating sequence I_{cu} 0-t-CO | | | |
| up to 240 V 50/60 Hz | I_{cu} | kA | 85 |
| up to 440 V 50/60 Hz | I_{cu} | kA | 66 |
| up to 690 V 50/60 Hz | I_{cu} | kA | 42 |
| IEC/EN 60947 operating sequence I_{cs} 0-t-CO-t-CO | | | |
| up to 240 V 50/60 Hz | I_{cs} | kA | 50 |
| up to 440 V 50/60 Hz | I_{cs} | kA | 50 |
| up to 690 V 50/60 Hz | I_{cs} | kA | 42 |
| Operating times | | | |
| Closing delay via spring release | | ms | 30 |
| Total opening delay via shunt release | | ms | 30 |
| Total opening delay via undervoltage release | | ms | 50 |
| Total opening delay on non-delayed short-circuit release (up to complete arc quenching) | | ms | 27 |
| Lifespan | | S | |
| Lifespan, mechanical | Switching cycles (ON/OFF) | | 12500 |
| Lifespan, mechanical with maintenance | Switching cycles (ON/OFF) | | 25000 |
| Lifespan, electrical | Switching cycles (ON/OFF) | | 10000 |
| Lifespan, electrical with maintenance | Switching cycles (ON/OFF) | | 20000 |
| Maximum operating frequency | Operations/h | | 60 |
| Heat dissipation at rated current I_n | | | |
| Fixed mounting | | W | 235 |

Weight

| | | | |
|----------------|--|----|----|
| Fixed mounting | | | |
| 3-pole | | kg | 19 |

Terminal capacities

| | | | |
|---|--|----|-------------|
| Copper bar | | | |
| Fixed mounting | | | |
| Black | | mm | 2 x 5 x 100 |
| <p>These are values used in separate switchgear. The actual values will depend on the temperature around the circuit-breaker, which is influenced by the ambient temperature, the degree of protection (IP), the mounting height, the partitions, and any external ventilation. Depending on the specific switchgear design, this may</p> | | | |

| | | |
|--------------|--|---|
| | | result in derating, which can then be compensated for by increasing the cross-sectional area. Temperature rise tests in the specific switchgear can provide specific and detailed information. |
| | | Permissible continuous current for circuit-breakers operating in switchboards at various internal ambient temperatures. The switchboard's internal ambient temperature should be estimated using the calculation methods of IEC regulation. |
| Notes | | External IZMX-DTP-PTM-1 voltage measuring module required (1 module is suitable for 16 circuit-breakers) |

Design verification as per IEC/EN 61439

| Technical data for design verification | | | |
|--|-----------|----|--|
| Rated operational current for specified heat dissipation | I_n | A | 1600 |
| Equipment heat dissipation, current-dependent | P_{vid} | W | 235 |
| Operating ambient temperature min. | | °C | -20 |
| Operating ambient temperature max. | | °C | 70 |
| 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) / Power circuit-breaker for trafo/generator/installation prot. (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@ss8.1-27-37-04-09 [AJZ716010]) | | | |
| Rated permanent current I_u | | A | 1600 |
| Rated voltage | | V | 690 - 690 |
| Rated short-circuit breaking capacity I_{cu} at 400 V, 50 Hz | | kA | 65 |
| Overload release current setting | | A | 800 - 1600 |
| Adjustment range short-term delayed short-circuit release | | A | 3200 - 16000 |
| Adjustment range undelayed short-circuit release | | A | 3200 - 19200 |
| Integrated earth fault protection | | | No |
| Type of electrical connection of main circuit | | | Rail connection |
| Device construction | | | Built-in device fixed built-in technique |
| Suitable for DIN rail (top hat rail) mounting | | | No |

| | |
|---|-------------|
| DIN rail (top hat rail) mounting optional | No |
| 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 | 2 |
| Switched-off indicator available | Yes |
| With under voltage release | No |
| Number of poles | 3 |
| Position of connection for main current circuit | Back side |
| Type of control element | Push button |
| Complete device with protection unit | Yes |
| Motor drive integrated | No |
| Motor drive optional | Yes |
| Degree of protection (IP) | IP31 |

Dimensions

