

On-Off switch, P3, 100 A, flush mounting, 3 pole, Emergency switching off function, with red thumb grip and yellow front plate

Part no. P3-100/E-RT
Catalog No. 007189

Similar to illustration

Delivery program

| | | | |
|--|----------------|-----|---|
| Product range | | | On-Off switch |
| Part group reference | | | P3 |
| Stop Function | | | Emergency switching off function |
| | | | with red thumb grip and yellow front plate |
| Information about equipment supplied | | | Auxiliary contact or neutral conductor fitted by user. |
| Number of poles | | | 3 pole |
| Auxiliary contacts | | | |
| | | N/O | 0 |
| | | N/C | 0 |
| Degree of Protection | | | Front IP65 |
| Design | | | flush mounting |
| Motor rating AC-23A, 50 - 60 Hz | | | |
| 400 V | P | kW | 55 |
| Rated uninterrupted current | I _u | A | 100 |
| Note on rated uninterrupted current I _u | | | Rated uninterrupted current I _u is specified for max. cross-section. |

Technical data

General

| | | | |
|---------------------------------------|------------------|------|--|
| Standards | | | IEC/EN 60947, VDE 0660, IEC/EN 60204, CSA, UL Switch-disconnector according to IEC/EN 60947-3 |
| Climatic proofing | | | Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30 |
| Ambient temperature | | | |
| Open | | °C | -25 - +50 |
| Enclosed | | °C | -25 - +40 |
| Overvoltage category/pollution degree | | | III/3 |
| Rated impulse withstand voltage | U _{imp} | V AC | 6000 |
| Mechanical shock resistance | | g | 15 |
| Mounting position | | | As required |

Contacts

| | | | |
|--|----------------|------------------|---|
| Mechanical variables | | | |
| Number of poles | | | 3 pole |
| Auxiliary contacts | | | |
| | | N/O | 0 |
| | | N/C | 0 |
| Electrical characteristics | | | |
| Rated operational voltage | U _e | V AC | 690 |
| Rated uninterrupted current | I _u | A | 100 |
| Note on rated uninterrupted current I _u | | | Rated uninterrupted current I _u is specified for max. cross-section. |
| Load rating with intermittent operation, class 12 | | | |
| AB 25 % DF | | x I _e | 2 |
| AB 40 % DF | | x I _e | 1.6 |

| | | | |
|--|-----------------|------------------|-----------------------------------|
| AB 60 % DF | | x I _e | 1.3 |
| Short-circuit rating | | | |
| Fuse | | A gG/gL | 100 |
| Rated short-time withstand current (1 s current) | I _{cw} | A _{rms} | 2000 |
| Note on rated short-time withstand current I _{cw} | | | Current for a time of 1 second |
| Rated conditional short-circuit current | I _q | kA | 4 (Load side) 80 (Supply side) |

Switching capacity

| | | | |
|---|----------------|-------------------|-------|
| cos φ rated making capacity as per IEC 60947-3 | | A | 950 |
| Rated breaking capacity cos φ to IEC 60947-3 | | A | |
| 230 V | | A | 760 |
| 400/415 V | | A | 740 |
| 500 V | | A | 880 |
| 690 V | | A | 520 |
| Safe isolation to EN 61140 | | | |
| between the contacts | | V AC | 440 |
| Current heat loss per contact at I _e | | W | 7.5 |
| Lifespan, mechanical | Operations | x 10 ⁶ | > 0.1 |
| Maximum operating frequency | Operations/h | | 1200 |
| AC | | | |
| AC-3 | | | |
| Rating, motor load switch | P | kW | |
| 220 V 230 V | P | kW | 22 |
| 400 V 415 V | P | kW | 37 |
| 500 V | P | kW | 45 |
| 690 V | P | kW | 37 |
| Rated operational current motor load switch | | | |
| 230 V | I _e | A | 71 |
| 400V 415 V | I _e | A | 71 |
| 500 V | I _e | A | 65 |
| 690 V | I _e | A | 23.8 |
| AC-23A | | | |
| Motor rating AC-23A, 50 - 60 Hz | P | kW | |
| 230 V | P | kW | 30 |
| 400 V 415 V | P | kW | 55 |
| 500 V | P | kW | 55 |
| 690 V | P | kW | 55 |
| Rated operational current motor load switch | | | |
| 230 V | I _e | A | 100 |
| 400 V 415 V | I _e | A | 100 |
| 500 V | I _e | A | 96 |
| 690 V | I _e | A | 68 |
| DC | | | |
| DC-1, Load-break switches L/R = 1 ms | | | |
| Rated operational current | I _e | A | 100 |
| Voltage per contact pair in series | | V | 60 |
| DC-23A, motor load switch L/R = 15 ms | | | |
| 24 V | | | |
| Rated operational current | I _e | A | 50 |
| Contacts | | Quantity | 1 |
| 48 V | | | |
| Rated operational current | I _e | A | 50 |
| Contacts | | Quantity | 2 |
| 60 V | | | |

| | | | |
|---|-------------------|----------------|--|
| Rated operational current | I _e | A | 50 |
| Contacts | | Quantity | 2 |
| 120 V | | | |
| Rated operational current | I _e | A | 25 |
| Contacts | | Quantity | 3 |
| Control circuit reliability at 24 V DC, 10 mA | Fault probability | H _F | < 10 ⁻⁵ , < 1 failure in 100,000 switching operations |

Terminal capacities

| | | | |
|--------------------------------------|--|-----------------|----------------------------------|
| Solid or stranded | | mm ² | 1 x (2,5 - 35) 2 x (2,5 - 10) |
| Flexible with ferrules to DIN 46228 | | mm ² | 1 x (1.5 - 25) 2 x (1.5 - 6) |
| Terminal screw | | | M5 |
| Tightening torque for terminal screw | | Nm | 3 |

Technical safety parameters:

| | | | |
|-------|--|--|---|
| Notes | | | B10 _d values as per EN ISO 13849-1, table C1 |
|-------|--|--|---|

Rating data for approved types

| | | | |
|--|----------------|-------|--|
| Contacts | | | |
| Rated operational voltage | U _e | V AC | 600 |
| Rated uninterrupted current max. | | | |
| Main conducting paths | | | |
| General use | | A | 100 |
| Notes | | | If used with neutral conductor: I _U = max. 90 A |
| Auxiliary contacts | | | |
| General Use | I _U | A | 10 |
| Pilot Duty | | | A 600 P 600 |
| Switching capacity | | | |
| Maximum motor rating | | | |
| Single-phase | | | |
| 120 V AC | | HP | 5 |
| 200 V AC | | HP | 10 |
| 240 V AC | | HP | 15 |
| Three-phase | | | |
| 200 V AC | | HP | 20 |
| 240 V AC | | HP | 25 |
| 480 V AC | | HP | 60 |
| 600 V AC | | HP | 75 |
| Short Circuit Current Rating | | SCCR | |
| Basic Rating | | kA | 10 |
| max. Fuse | | A | 150 |
| Terminal capacity | | | |
| Solid or flexible conductor with ferrule | | AWG | 14 - 2 |
| Terminal screw | | | M5 |
| Tightening torque | | lb-in | 26.5 |

Design verification as per IEC/EN 61439

| | | | |
|--|-------------------|----|-----|
| Technical data for design verification | | | |
| Rated operational current for specified heat dissipation | I _n | A | 100 |
| Heat dissipation per pole, current-dependent | P _{vid} | W | 7.5 |
| Equipment heat dissipation, current-dependent | P _{vid} | W | 0 |
| 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 | 50 |
| 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 | | UV resistance only in connection with protective shield. |
| 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 8.0

| | | |
|---|----|--|
| Low-voltage industrial components (EG000017) / Switch disconnecter (EC000216) | | |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnecter (ecI@ss10.0.1-27-37-14-03 [AKF060013]) | | |
| Version as main switch | | No |
| Version as maintenance-/service switch | | No |
| Version as safety switch | | No |
| Version as emergency stop installation | | No |
| Version as reversing switch | | No |
| Number of switches | | 1 |
| Max. rated operation voltage Ue AC | V | 690 |
| Rated operating voltage | V | 690 - 690 |
| Rated permanent current Iu | A | 100 |
| Rated permanent current at AC-23, 400 V | A | 100 |
| Rated permanent current at AC-21, 400 V | A | 100 |
| Rated operation power at AC-3, 400 V | kW | 37 |
| Rated short-time withstand current Icw | kA | 2 |
| Rated operation power at AC-23, 400 V | kW | 55 |
| Switching power at 400 V | kW | 55 |
| Conditioned rated short-circuit current Iq | kA | 80 |
| Number of poles | | 3 |
| 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 |
| Motor drive optional | | No |
| Motor drive integrated | | No |
| Voltage release optional | | No |
| Device construction | | Built-in device fixed built-in technique |
| Suitable for floor mounting | | No |
| Suitable for front mounting 4-hole | | Yes |

| | | |
|---|--|------------------|
| Suitable for front mounting centre | | No |
| Suitable for distribution board installation | | No |
| Suitable for intermediate mounting | | No |
| Colour control element | | Red |
| Type of control element | | Short thumb-grip |
| Interlockable | | No |
| Type of electrical connection of main circuit | | Screw connection |
| Degree of protection (IP), front side | | IP65 |
| Degree of protection (NEMA) | | 12 |