



Main switch, P5, 250 A, flush mounting, 3 pole, Emergency switching off function, With red rotary handle and yellow locking ring, Lockable in the 0 (Off) position



Part no. P5-250/EA/SVB
 Catalog No. 280936

EL-Nummer 1417183
 (Norway)

Delivery program

| | | | |
|--|----------------|-----|---|
| Product range | | | Main switch maintenance switch Repair switch |
| Part group reference | | | P5 |
| Stop Function | | | Emergency switching off function |
| Information about equipment supplied | | | With red rotary handle and yellow locking ring |
| Number of poles | | | 3 pole |
| Auxiliary contacts | | | |
| | | N/O | 0 |
| | | N/C | 0 |
| Locking facility | | | Lockable in the 0 (Off) position |
| Degree of Protection | | | Front IP65 |
| Design | | | flush mounting |
| | | | |
| Contact sequence | | | 1 1 1 0 0 0 1L1 1T1 1L2 1T2 1L3 1T3 1L3 1T3 |
| Function | | | |
| Motor rating AC-23A, 50 - 60 Hz | | | |
| 400 V | P | kW | 90 |
| Rated uninterrupted current | I _u | A | 250 |
| 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 | 8000 |
| 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 | 250 |
| 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 | 250 |
| Rated short-time withstand current (1 s current) | I_{cw} | A_{rms} | 4600 |
| Note on rated short-time withstand current I_{cw} | | | Current for a time of 1 second |
| Rated conditional short-circuit current | I_q | kA | 30 |

Switching capacity

| | | | |
|---|--------------|----------|--------|
| cos ϕ rated making capacity as per IEC 60947-3 | | A | 1700 |
| Rated breaking capacity cos ϕ to IEC 60947-3 | | A | |
| 230 V | | A | 1600 |
| 400/415 V | | A | 1380 |
| 500 V | | A | 1250 |
| 690 V | | A | 400 |
| Safe isolation to EN 61140 | | | |
| between the contacts | | V AC | 440 |
| Current heat loss per contact at I_e | | W | 13 |
| Lifespan, mechanical | Operations | $x 10^6$ | > 0.08 |
| Maximum operating frequency | Operations/h | | 50 |
| AC | | | |
| AC-3 | | | |
| Rating, motor load switch | P | kW | |
| 220 V 230 V | P | kW | 37 |
| 400 V 415 V | P | kW | 55 |
| 500 V | P | kW | 75 |
| 690 V | P | kW | 40 |
| Rated operational current motor load switch | | | |
| 230 V | I_e | A | 126 |
| 400V 415 V | I_e | A | 105 |
| 500 V | I_e | A | 118 |
| 690 V | I_e | A | 45 |
| AC-23A | | | |
| Motor rating AC-23A, 50 - 60 Hz | P | kW | |
| 230 V | P | kW | 37 |
| 400 V 415 V | P | kW | 90 |
| 500 V | P | kW | 110 |
| 690 V | P | kW | 45 |
| Rated operational current motor load switch | | | |

| | | | |
|---|-------------------|----------------|--|
| 230 V | I _e | A | 126 |
| 400 V 415 V | I _e | A | 170 |
| 500 V | I _e | A | 156 |
| 690 V | I _e | A | 50 |
| DC | | | |
| DC-1, Load-break switches L/R = 1 ms | | | |
| Rated operational current | I _e | A | 250 |
| Voltage per contact pair in series | | V | 42 |
| DC-23A, motor load switch L/R = 15 ms | | | |
| 24 V | | | |
| Rated operational current | I _e | A | 250 |
| Contacts | | Quantity | 3 |
| 48 V | | | |
| Rated operational current | I _e | A | 250 |
| Contacts | | Quantity | 3 |
| 60 V | | | |
| Rated operational current | I _e | A | 250 |
| Contacts | | Quantity | 3 |
| 120 V | | | |
| Rated operational current | I _e | A | 80 |
| 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 185 2 x 70 |
| Flexible with ferrules to DIN 46228 | | mm ² | 1 x 120 2 x 50 |
| Copper strip | Number of segments x width x thickness | mm | 1 x 20 x 5 2 x 20 x 3 |
| Terminal screw | | | Allen screw 6 |
| Tightening torque for terminal screw | | Nm | 16 |

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 | 250 |
| Auxiliary contacts | | | |
| General Use | I _U | A | 10 |
| Pilot Duty | | | A 600 |
| Switching capacity | | | |
| Maximum motor rating | | | |
| Single-phase | | | |
| 120 V AC | | HP | 15 |
| 240 V AC | | HP | 30 |
| 277 V AC | | HP | 30 |
| Three-phase | | | |
| 120 V AC | | HP | 30 |
| 240 V AC | | HP | 60 |
| 480 V AC | | HP | 75 |
| 600 V AC | | HP | 75 |
| Short Circuit Current Rating | | SCCR | |

| | | |
|--|-------|---------------|
| Basic Rating | kA | 10 |
| max. Fuse | A | 600 Class RK1 |
| High fault rating | kA | 65 |
| max. Fuse | A | 400, Class J |
| Terminal capacity | | |
| Solid or flexible conductor with ferrule | AWG | 350 MCM |
| Flexible | AWG | 300 MCM |
| Terminal screw | | Allen screw 6 |
| Tightening torque | lb-in | 140 |

Design verification as per IEC/EN 61439

| | | | |
|--|------------|----|--|
| Technical data for design verification | | | |
| Rated operational current for specified heat dissipation | I_n | A | 250 |
| Heat dissipation per pole, current-dependent | P_{vid} | W | 8 |
| 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 7.0

| | | | |
|---|--|--|-----|
| 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 | | | Yes |
| Version as maintenance-/service switch | | | Yes |
| Version as safety switch | | | No |
| Version as emergency stop installation | | | Yes |

| | | |
|---|----|--|
| 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 | 250 |
| Rated permanent current at AC-23, 400 V | A | 170 |
| Rated permanent current at AC-21, 400 V | A | 250 |
| Rated operation power at AC-3, 400 V | kW | 55 |
| Rated short-time withstand current Icw | kA | 4.6 |
| Rated operation power at AC-23, 400 V | kW | 90 |
| Switching power at 400 V | kW | 90 |
| Conditioned rated short-circuit current Iq | kA | 30 |
| 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 ground 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 | | Door coupling rotary drive |
| Interlockable | | Yes |
| Type of electrical connection of main circuit | | Frame clamp |
| Degree of protection (IP), front side | | IP65 |
| Degree of protection (NEMA) | | 12 |

Approvals

| | | |
|-----------------------------|--|---|
| Product Standards | | UL 508; CSA-C22.2 No. 14-05; CSA-C22.2 No. 94; IEC/EN 60947-3; CE marking |
| UL File No. | | E36332 |
| UL Category Control No. | | NLRV, NLRV7 |
| CSA File No. | | 223805 |
| CSA Class No. | | 3211-05 |
| North America Certification | | UL listed, CSA certified |
| Suitable for | | Branch circuits, suitable as motor disconnect |
| Degree of Protection | | IEC: IP65; UL/CSA Type 1, 12 |

