# Eaton 172877

Eaton Moeller® series P1 Main switch, P1, 25 A, rear mounting, 3 pole + N, Emergency switching off function, Lockable in the 0 (Off) position, With metal shaft for a control panel depth of 400 mm P1-25/M4/SVB/N

| | |
|---|---|
| **PRODUCT NAME** | Eaton Moeller® series P1 Main switch |
| **CATALOG NUMBER** | 172877 |
| **PRODUCT LENGTH/DEPTH** | 340 mm |
| **PRODUCT HEIGHT** | 70 mm |
| **PRODUCT WIDTH** | 72 mm |
| **PRODUCT WEIGHT** | 0.34 kg |
| **CERTIFICATIONS** | CSA Class No.: 3211-05<br>UL 60947-4-1<br>UL Category Control No.: NLRV<br>IEC/EN 60204<br>UL<br>VDE 0660<br>UL File No.: E36332<br>CE<br>CSA-C22.2 No. 94<br>IEC/EN 60947<br>CSA-C22.2 No. 60947-4-1-14<br>CSA File No.: 012528<br>CSA<br>IEC/EN 60947-3 |
| **CATALOG NOTES** | Rated Short-time Withstand Current (Icw) for a time of 1 second |

Powering Business Worldwide

| | |
|---|---|
| **PRODUCT CATEGORY** | Main switch |
| **FEATURES** | Version as main switch<br>Version as maintenance-/service switch<br>Version as emergency stop installation |
| **ACTUATOR COLOR** | Red |
| **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. |
| **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 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. 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** | Does not apply, since the |

| | |
|---|---|
| **DECLARATIONS OF CONFORMITY** | eaton-main-switch-declaration-of-conformity-uk251290en.pdf |
| | eaton-switch-disconnector-p1-metal-shaft-il008007zu.pdf |
| | eaton-rotary-switches-on-off-switch-p3-main-switch-wiring-diagram-002.eps |
| | eaton-rotary-switches-p1-main-switch-dimensions-006.eps |

| | |
|---|---|
| **IMPACT** | 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. |
| **10.9.2 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. |
| **FITTED WITH:** | Metal shaft for a control panel depth of 400 mm<br>Red rotary handle and yellow locking ring |
| **OPERATING FREQUENCY** | 1200 Operations/h |
| **POLLUTION DEGREE** | 3 |
| **CLIMATIC PROOFING** | Damp heat, cyclic, to IEC 60068-2-30<br>Damp heat, constant, to IEC 60068-2-78 |
| **RATED IMPULSE WITHSTAND VOLTAGE (UIMP)** | 6000 V AC |
| **RATED PERMANENT CURRENT AT AC-21, 400 V** | 25 A |
| **RATED PERMANENT CURRENT AT AC-23, 400 V** | 25 A |
| **RATED UNINTERRUPTED CURRENT (IU)** | 25 A |
| **STATIC HEAT DISSIPATION, NON-** | 0 W |

| | |
|---|---|
| **CURRENT-DEPENDENT PVS** | |
| **SWITCHING POWER AT 400 V** | 13 kW |
| **VOLTAGE PER CONTACT PAIR IN SERIES** | 60 V |
| **ACCESSORIES** | Auxiliary contact fitted by user. |
| **RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ** | 7.5 kW |
| **DEVICE CONSTRUCTION** | Built-in device fixed built-in technique |
| **RATED SHORT-TIME WITHSTAND CURRENT (ICW)** | 0.64 kA<br>640 A, Contacts, 1 second |
| **ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT** | Screw connection |
| **MOUNTING POSITION** | As required |
| **ACTUATOR TYPE** | Door coupling rotary drive |
| **AMBIENT OPERATING TEMPERATURE - MAX** | 50 °C |
| **AMBIENT OPERATING TEMPERATURE - MIN** | -25 °C |
| **AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX** | 40 °C |
| **AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN** | -25 °C |
| **ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE** | 1 HP |
| **ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 1-PHASE** | 2 HP |
| **ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE** | 3 HP |
| **ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE** | 3 HP |
| **ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE** | 5 HP |
| **ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE** | 10 HP |

| | |
|---|---|
| **ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE** | 15 HP |
| **EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID** | 0 W |
| **HEAT DISSIPATION CAPACITY PDISS** | 0 W |
| **HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID** | 1.1 W |
| **NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)** | 0 |
| **NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)** | 0 |
| **RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ)** | 80 kA |
| **OVERVOLTAGE CATEGORY** | III |
| **CONTROL CIRCUIT RELIABILITY** | 1 failure per 100,000 switching operations statistically determined, at 24 V DC, 10 mA) |
| **DEGREE OF PROTECTION (FRONT SIDE)** | IP65 |
| **NUMBER OF POLES** | 4 |
| **MOUNTING METHOD** | Rear mounting |
| **DEGREE OF PROTECTION** | NEMA 12 |
| **SUITABLE FOR** | Ground mounting<br>Intermediate mounting<br>Branch circuits, suitable as motor disconnect, (UL/CSA) |
| **LOCKING FACILITY** | Lockable in the 0 (Off) position |
| **FUNCTIONS** | Interlockable<br>Emergency switching off function |
| **NUMBER OF SWITCHES** | 1 |
| **SAFE ISOLATION** | 440 V AC, Between the contacts, According to EN 61140 |
| **SCREW SIZE** | M4, Terminal screw |
| **SHOCK RESISTANCE** | 15 g, Mechanical, According to IEC/EN 60068-2-27, Half- |

| | |
|---|---|
| | sinusoidal shock 20 ms |
| **LIFESPAN, MECHANICAL** | 300,000 Operations |
| **LOAD RATING** | 2 x $I_e$ (with intermittent operation class 12, 25 % duty factor)<br>1.3 x $I_e$ (with intermittent operation class 12, 60 % duty factor)<br>1.6 x $I_e$ (with intermittent operation class 12, 40 % duty factor) |
| **SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)** | 10A, IU, (UL/CSA) |
| **SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)** | P600 (UL/CSA)<br>A600 (UL/CSA) |
| **TERMINAL CAPACITY** | 2 x (1 - 4) $mm^2$, flexible with ferrules to DIN 46228<br>2 x (1.5 - 6) $mm^2$, solid or stranded<br>1 x (1.5 - 6) $mm^2$, solid or stranded<br>1 x (1 - 4) $mm^2$, flexible with ferrules to DIN 46228<br>14 - 8 AWG, solid or flexible with ferrule |
| **SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)** | 20 A, Rated uninterrupted current max. (UL/CSA) |
| **SAFETY PARAMETER (EN ISO 13849-1)** | B10d values as per EN ISO 13849-1, table C.1 |
| **NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)** | 0 |
| **NUMBER OF CONTACTS IN SERIES AT DC-23A, 120 V** | 3 |
| **NUMBER OF CONTACTS IN SERIES AT DC-23A, 24 V** | 1 |
| **NUMBER OF CONTACTS IN SERIES AT DC-23A, 48 V** | 2 |
| **NUMBER OF CONTACTS IN SERIES AT DC-23A, 60 V** | 2 |
| **RATED BREAKING CAPACITY AT 220/230 V (COS PHI TO IEC 60947-3)** | 190 A |
| **RATED BREAKING CAPACITY AT 400/415 V (COS PHI TO IEC 60947-3)** | 150 A |

| | |
|---|---|
| **RATED BREAKING CAPACITY AT 500 V (COS PHI TO IEC 60947-3)** | 170 A |
| **RATED BREAKING CAPACITY AT 660/690 V (COS PHI TO IEC 60947-3)** | 150 A |
| **RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947-3)** | 240 A |
| **RATED OPERATING VOLTAGE (UE) - MAX** | 690 V |
| **RATED OPERATING VOLTAGE (UE) - MIN** | 690 V |
| **RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX** | 690 V |
| **SHORT-CIRCUIT CURRENT RATING (BASIC RATING)** | 5 kA, SCCR (UL/CSA)<br>110A, max. Fuse, SCCR (UL/CSA) |
| **SHORT-CIRCUIT CURRENT RATING (HIGH FAULT)** | 10 kA, SCCR (UL/CSA)<br>50 A, Class J, max. Fuse, SCCR (UL/CSA) |
| **SHORT-CIRCUIT PROTECTION RATING** | 25 A gG/gL, Fuse, Contacts |
| **RATED OPERATIONAL CURRENT (IE) AT AC-21, 440 V** | 25 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-23A, 230 V** | 25 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-23A, 400 V, 415 V** | 25 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-23A, 500 V** | 17.4 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-23A, 690 V** | 12.6 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V** | 19.6 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V** | 15.2 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V** | 12.1 A |
| **RATED OPERATIONAL** | 8.8 A |

| | |
|---|---|
| **CURRENT (IE) AT AC-3, 660 V, 690 V** | |
| **RATED OPERATIONAL CURRENT (IE) AT DC-1, LOAD-BREAK SWITCHES L/R = 1 MS** | 25 A |
| **RATED OPERATIONAL CURRENT (IE) AT DC-23A, 120 V** | 12 A |
| **RATED OPERATIONAL CURRENT (IE) AT DC-23A, 24 V** | 25 A |
| **RATED OPERATIONAL CURRENT (IE) AT DC-23A, 48 V** | 25 A |
| **RATED OPERATIONAL CURRENT (IE) AT DC-23A, 60 V** | 25 A |
| **RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)** | 25 A |
| **RATED OPERATIONAL POWER AT AC-23A, 220/230 V, 50 HZ** | 5.5 kW |
| **RATED OPERATIONAL POWER AT AC-23A, 400 V, 50 HZ** | 13 kW |
| **RATED OPERATIONAL POWER AT AC-23A, 500 V, 50 HZ** | 11 kW |
| **RATED OPERATIONAL POWER AT AC-23A, 690 V, 50 HZ** | 11 kW |
| **RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ** | 7.5 kW |
| **RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ** | 7.5 kW |
| **RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ** | 7.5 kW |
| **TIGHTENING TORQUE** | 1.6 Nm, Screw terminals<br>14.1 lb-in, Screw terminals |
| **UNINTERRUPTED CURRENT** | Rated uninterrupted current Iu is specified for max. cross-section. |
| **HOUSING MATERIAL** | Plastic |

| | |
|---|---|
| **PROJECT NAME:** | |
| **PROJECT NUMBER:** | |
| **PREPARED BY:** | |
| : | |

Eaton House
30 Pembroke Road
Dublin 4,
Eaton.com



Follow us on social media to get the latest product and support information.