

# Specifications

Photo is representative

## Eaton 227861

Eaton Moeller® series P1 Main switch, P1, 25 A, surface mounting, 3 pole, STOP function, With black rotary handle and locking ring, Lockable in the 0 (Off) position, hard knockout version

### General specifications

<b>PRODUCT NAME</b>	Eaton Moeller® series P1 Main switch
<b>CATALOG NUMBER</b>	227861
<b>MODEL CODE</b>	P1-25/I2H/SVB-SW
<b>EAN</b>	4015082278618
<b>PRODUCT LENGTH/DEPTH</b>	115 mm
<b>PRODUCT HEIGHT</b>	180 mm
<b>PRODUCT WIDTH</b>	100 mm
<b>PRODUCT WEIGHT</b>	0.455 kg
<b>CERTIFICATIONS</b>	CE IEC/EN 60947-3 CSA-C22.2 No. 60947-4-1-14 UL 60947-4-1 IEC/EN 60947 CSA-C22.2 No. 94 CSA File No.: 012528 CSA Class No.: 3211-05 UL CSA UL File No.: E36332 VDE 0660 UL Category Control No.: NLRV IEC/EN 60204

## Product specifications

<b>PRODUCT CATEGORY</b>	Main switch
<b>FEATURES</b>	Version as main switch Version as maintenance- /service switch
<b>ACTUATOR COLOR</b>	Black
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	UV resistance only in connection with protective shield.
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to be evaluated.

<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>FITTED WITH:</b>	Black rotary handle and locking ring
<b>OPERATING FREQUENCY</b>	1200 Operations/h
<b>POLLUTION DEGREE</b>	3
<b>CLIMATIC PROOFING</b>	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	6000 V AC
<b>RATED PERMANENT CURRENT AT AC-21, 400 V</b>	25 A
<b>RATED PERMANENT CURRENT AT AC-23, 400 V</b>	25 A
<b>RATED UNINTERRUPTED CURRENT (IU)</b>	25 A
<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	0 W
<b>SWITCHING POWER AT 400 V</b>	13 kW

<b>VOLTAGE PER CONTACT PAIR IN SERIES</b>	60 V
<b>ACCESSORIES</b>	Auxiliary contact or neutral conductor fitted by user.
<b>RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ</b>	7.5 kW
<b>DEVICE CONSTRUCTION</b>	Complete device in housing
<b>RATED SHORT-TIME WITHSTAND CURRENT (ICW)</b>	640 A, Contacts, 1 second 0.64 kA
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Screw connection
<b>MOUNTING POSITION</b>	As required
<b>ACTUATOR TYPE</b>	Door coupling rotary drive
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	40 °C
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX</b>	40 °C
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN</b>	-25 °C
<b>ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE</b>	1 HP
<b>ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 1-PHASE</b>	2 HP
<b>ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE</b>	3 HP
<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE</b>	3 HP
<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE</b>	5 HP
<b>ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE</b>	10 HP
<b>ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE</b>	15 HP

<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>	1.1 W
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>	1.1 W
<b>NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)</b>	0
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	0
<b>RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ)</b>	80 kA
<b>OVERVOLTAGE CATEGORY</b>	III
<b>CONTROL CIRCUIT RELIABILITY</b>	1 failure per 100,000 switching operations statistically determined, at 24 V DC, 10 mA)
<b>DEGREE OF PROTECTION (FRONT SIDE)</b>	IP65
<b>NUMBER OF POLES</b>	3
<b>MOUNTING METHOD</b>	Surface mounting
<b>DEGREE OF PROTECTION</b>	NEMA 12
<b>SUITABLE FOR</b>	Ground mounting Branch circuits, suitable as motor disconnect, (UL/CSA)
<b>LOCKING FACILITY</b>	Lockable in the 0 (Off) position
<b>FUNCTIONS</b>	STOP function Interlockable
<b>NUMBER OF SWITCHES</b>	1
<b>SAFE ISOLATION</b>	440 V AC, Between the contacts, According to EN 61140
<b>SCREW SIZE</b>	M4, Terminal screw
<b>SHOCK RESISTANCE</b>	15 g, Mechanical, According to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms
<b>LIFESPAN, MECHANICAL</b>	300,000 Operations
<b>LOAD RATING</b>	1.3 x I <sub>e</sub> (with intermittent operation class 12, 60 % duty factor)

	1.6 x I <sub>e</sub> (with intermittent operation class 12, 40 % duty factor) 2 x I <sub>e</sub> (with intermittent operation class 12, 25 % duty factor)
<b>SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)</b>	10A, IU, (UL/CSA)
<b>SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)</b>	P600 (UL/CSA) A600 (UL/CSA)
<b>TERMINAL CAPACITY</b>	2 x (1.5 - 6) mm <sup>2</sup> , solid or stranded 2 x (1 - 4) mm <sup>2</sup> , flexible with ferrules to DIN 46228 1 x (1 - 4) mm <sup>2</sup> , flexible with ferrules to DIN 46228 14 - 8 AWG, solid or flexible with ferrule 1 x (1.5 - 6) mm <sup>2</sup> , solid or stranded
<b>SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)</b>	20 A, Rated uninterrupted current max. (UL/CSA)
<b>SAFETY PARAMETER (EN ISO 13849-1)</b>	B10d values as per EN ISO 13849-1, table C.1
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>	0
<b>NUMBER OF CONTACTS IN SERIES AT DC-23A, 120 V</b>	3
<b>NUMBER OF CONTACTS IN SERIES AT DC-23A, 24 V</b>	1
<b>NUMBER OF CONTACTS IN SERIES AT DC-23A, 48 V</b>	2
<b>NUMBER OF CONTACTS IN SERIES AT DC-23A, 60 V</b>	2
<b>RATED BREAKING CAPACITY AT 220/230 V (COS PHI TO IEC 60947-3)</b>	190 A
<b>RATED BREAKING CAPACITY AT 400/415 V (COS PHI TO IEC 60947-3)</b>	150 A
<b>RATED BREAKING CAPACITY AT 500 V (COS PHI TO IEC 60947-3)</b>	170 A
<b>RATED BREAKING CAPACITY AT 660/690 V</b>	150 A

<b>(COS PHI TO IEC 60947-3)</b>	
<b>RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947-3)</b>	240 A
<b>RATED OPERATING VOLTAGE (UE) - MAX</b>	690 V
<b>RATED OPERATING VOLTAGE (UE) - MIN</b>	690 V
<b>RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX</b>	690 V
<b>SHORT-CIRCUIT CURRENT RATING (BASIC RATING)</b>	5 kA, SCCR (UL/CSA) 110A, max. Fuse, SCCR (UL/CSA)
<b>SHORT-CIRCUIT CURRENT RATING (HIGH FAULT)</b>	50 A, Class J, max. Fuse, SCCR (UL/CSA) 10 kA, SCCR (UL/CSA)
<b>SHORT-CIRCUIT PROTECTION RATING</b>	25 A gG/gL, Fuse, Contacts
<b>RATED OPERATIONAL CURRENT (IE) AT AC-21, 440 V</b>	25 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-23A, 230 V</b>	25 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-23A, 400 V, 415 V</b>	25 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-23A, 500 V</b>	17.4 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-23A, 690 V</b>	12.6 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V</b>	19.6 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V</b>	15.2 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V</b>	12.1 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V</b>	8.8 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-1, LOAD-BREAK SWITCHES</b>	25 A

<b>L/R = 1 MS</b>	
<b>RATED OPERATIONAL CURRENT (IE) AT DC-23A, 120 V</b>	12 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-23A, 24 V</b>	25 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-23A, 48 V</b>	25 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-23A, 60 V</b>	25 A
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	25 A
<b>RATED OPERATIONAL POWER AT AC-23A, 220/230 V, 50 HZ</b>	5.5 kW
<b>RATED OPERATIONAL POWER AT AC-23A, 400 V, 50 HZ</b>	13 kW
<b>RATED OPERATIONAL POWER AT AC-23A, 500 V, 50 HZ</b>	11 kW
<b>RATED OPERATIONAL POWER AT AC-23A, 690 V, 50 HZ</b>	11 kW
<b>RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ</b>	7.5 kW
<b>RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ</b>	7.5 kW
<b>RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ</b>	7.5 kW
<b>TIGHTENING TORQUE</b>	1.6 Nm, Screw terminals 14.1 lb-in, Screw terminals
<b>UNINTERRUPTED CURRENT</b>	Rated uninterrupted current I <sub>u</sub> is specified for max. cross-section.
<b>RATED SWITCHING CAPACITY</b>	1 HP at 120 V AC, single-phase 10 HP at 480 V AC, three-phase 15 HP at 600 V AC, three-phase 2 HP at 200 V AC, single-phase



3 HP at 200 V AC, three-phase  
3 HP at 240 V AC, single-phase  
5 HP at 240 V AC, three-phase

## Resources

**BROCHURES** [Brochure - T Rotary Cam switch and P Switch-disconnector](#)

**CATALOGS** [P Switch-disconnectors and T Rotary cam switches catalogue CA042001EN](#)

**DECLARATIONS OF CONFORMITY** [DA-DC-00005061.pdf](#) [DA-DC-00005059.pdf](#)

**DRAWINGS** [eaton-rotary-switches-padlock-t0-main-switch-dimensions.eps](#)  
[eaton-rotary-switches-surface-mounting-p1-main-switch-dimensions.eps](#)  
[eaton-rotary-switches-surface-mounting-t0-main-switch-3d-drawing.eps](#)  
[eaton-rotary-switches-t0-main-switch-symbol.eps](#)  
[eaton-general-switch-t0-main-switch-symbol.eps](#)  
[eaton-general-totally-insulated-t0-main-switch-symbol.eps](#)

**ECAD MODEL** [ETN.227861.edz](#)

**INSTALLATION INSTRUCTIONS** [eaton-switch-discon-p1-insulated-enclosure-il03802001z.pdf](#)

**INSTALLATION VIDEOS** [Eaton's P Switch-disconnectors used in a factory](#)

**MCAD MODEL** [DA-CS-bauform5](#) [DA-CD-bauform5](#)

**PRODUCT NOTIFICATIONS** [MZ008005ZU Orderform Customized Switch.pdf](#)  
[MZ008006ZU Orderform Customized Switch.pdf](#)

**WIRING DIAGRAMS** [eaton-rotary-switches-on-off-switch-p3-main-switch-wiring-diagram.eps](#)

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:



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