

# Specifications



Photo is representative

## Eaton 280914

Eaton Moeller® series P5 Main switch, P5, 125 A, rear mounting, 3 pole, Emergency switching off function, With red rotary handle and yellow locking ring, Lockable in the 0 (Off) position

### General specifications

|                             |                                                                                                                                                                                                                                                     |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PRODUCT NAME</b>         | Eaton Moeller® series P5 Main switch                                                                                                                                                                                                                |
| <b>CATALOG NUMBER</b>       | 280914                                                                                                                                                                                                                                              |
| <b>MODEL CODE</b>           | P5-125/V/SVB                                                                                                                                                                                                                                        |
| <b>EAN</b>                  | 4015082809140                                                                                                                                                                                                                                       |
| <b>PRODUCT LENGTH/DEPTH</b> | 115 mm                                                                                                                                                                                                                                              |
| <b>PRODUCT HEIGHT</b>       | 150 mm                                                                                                                                                                                                                                              |
| <b>PRODUCT WIDTH</b>        | 130 mm                                                                                                                                                                                                                                              |
| <b>PRODUCT WEIGHT</b>       | 1.332 kg                                                                                                                                                                                                                                            |
| <b>CERTIFICATIONS</b>       | CSA-C22.2 No. 94<br>CSA File No.: 223805<br>VDE 0660<br>CSA Class No.: 3211-05<br>UL File No.: E36332<br>IEC/EN 60947<br>IEC/EN 60947-3<br>UL Category Control No.: NLRV, NLRV7<br>CE<br>IEC/EN 60204<br>UL 508<br>CSA<br>UL<br>CSA-C22.2 No. 14-05 |
| <b>CATALOG NOTES</b>        | Rated Short-time Withstand Current (Icw) for a time of 1 second                                                                                                                                                                                     |

## Actuator

|                       |                            |
|-----------------------|----------------------------|
| <b>ACTUATOR COLOR</b> | Red                        |
| <b>ACTUATOR TYPE</b>  | Door coupling rotary drive |

## Contacts

|                                                                |                                                                                         |
|----------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| <b>CONTROL CIRCUIT RELIABILITY</b>                             | 1 failure per 100,000 switching operations statistically determined, at 24 V DC, 10 mA) |
| <b>NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)</b>     | 0                                                                                       |
| <b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b> | 0                                                                                       |
| <b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>   | 0                                                                                       |

## Climatic environmental conditions

|                                                       |                                                                                |
|-------------------------------------------------------|--------------------------------------------------------------------------------|
| <b>AMBIENT OPERATING TEMPERATURE - MAX</b>            | 50 °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>CLIMATIC PROOFING</b>                              | Damp heat, constant, to IEC 60068-2-78<br>Damp heat, cyclic, to IEC 60068-2-30 |

## Design verification

|                                                                                         |                                                                                                                                  |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <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>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>            | 3.1 W                                                              |
| <b>HEAT DISSIPATION CAPACITY PDISS</b>                               | 0 W                                                                |
| <b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>             | 3.1 W                                                              |
| <b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b> | 125 A                                                              |
| <b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>            | 0 W                                                                |

## Electrical rating

**RATED BREAKING  
CAPACITY AT 220/230 V  
(COS PHI TO IEC 60947-3)** 800 A

**RATED BREAKING  
CAPACITY AT 400/415 V  
(COS PHI TO IEC 60947-3)** 750 A

**RATED BREAKING  
CAPACITY AT 500 V (COS  
PHI TO IEC 60947-3)** 650 A

**RATED BREAKING  
CAPACITY AT 660/690 V  
(COS PHI TO IEC 60947-3)** 340 A

**RATED OPERATIONAL  
CURRENT (IE) AT AC-21,  
440 V** 125 A

**RATED OPERATIONAL  
CURRENT (IE) AT AC-23A,  
230 V** 96 A

**RATED OPERATIONAL  
CURRENT (IE) AT AC-23A,  
400 V, 415 V** 80 A

**RATED OPERATIONAL  
CURRENT (IE) AT AC-23A,  
500 V** 78 A

**RATED OPERATIONAL  
CURRENT (IE) AT AC-23A,  
690 V** 39 A

**RATED OPERATIONAL  
CURRENT (IE) AT AC-3,  
220 V, 230 V, 240 V** 72 A

**RATED OPERATIONAL  
CURRENT (IE) AT AC-3,  
380 V, 400 V, 415 V** 66 A

**RATED OPERATIONAL  
CURRENT (IE) AT AC-3,  
500 V** 58 A

**RATED OPERATIONAL  
CURRENT (IE) AT AC-3,  
660 V, 690 V** 32 A

**RATED OPERATIONAL  
CURRENT (IE) AT DC-1,  
LOAD-BREAK SWITCHES  
L/R = 1 MS** 125 A

**RATED OPERATIONAL  
CURRENT (IE) AT DC-23A,  
120 V** 40 A

**RATED OPERATIONAL  
CURRENT (IE) AT DC-23A,  
24 V** 125 A

**RATED OPERATIONAL  
CURRENT (IE) AT DC-23A,** 125 A

## Features & functions

### FEATURES

Version as maintenance-  
/service switch  
Version as main switch  
Version as emergency stop  
installation

### FITTED WITH:

Red rotary handle and  
yellow locking ring

### FUNCTIONS

Interlockable  
Emergency switching off  
function

### LOCKING FACILITY

Lockable in the 0 (Off)  
position

### NUMBER OF POLES

3

|                                                            |                                                                                 |
|------------------------------------------------------------|---------------------------------------------------------------------------------|
| <b>48 V</b>                                                |                                                                                 |
| <b>RATED OPERATIONAL CURRENT (IE) AT DC-23A, 60 V</b>      | 125 A                                                                           |
| <b>RATED OPERATIONAL POWER AT AC-23A, 220/230 V, 50 HZ</b> | 30 kW                                                                           |
| <b>RATED OPERATIONAL POWER AT AC-23A, 400 V, 50 HZ</b>     | 45 kW                                                                           |
| <b>RATED OPERATIONAL POWER AT AC-23A, 500 V, 50 HZ</b>     | 55 kW                                                                           |
| <b>RATED OPERATIONAL POWER AT AC-23A, 690 V, 50 HZ</b>     | 37 kW                                                                           |
| <b>RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ</b>   | 37 kW                                                                           |
| <b>RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ</b>       | 37 kW                                                                           |
| <b>RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ</b>       | 45 kW                                                                           |
| <b>RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ</b>       | 30 kW                                                                           |
| <b>RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX</b>          | 690 V                                                                           |
| <b>RATED UNINTERRUPTED CURRENT (IU)</b>                    | 125 A                                                                           |
| <b>UNINTERRUPTED CURRENT</b>                               | Rated uninterrupted current I <sub>u</sub> is specified for max. cross-section. |

## General information

|                                               |                                                                                  |
|-----------------------------------------------|----------------------------------------------------------------------------------|
| <b>ACCESSORIES</b>                            | Auxiliary contact or neutral conductor fitted by user.                           |
| <b>DEGREE OF PROTECTION</b>                   | NEMA 12                                                                          |
| <b>DEGREE OF PROTECTION (FRONT SIDE)</b>      | IP65                                                                             |
| <b>LIFESPAN, MECHANICAL</b>                   | 100,000 Operations                                                               |
| <b>MOUNTING METHOD</b>                        | Rear mounting                                                                    |
| <b>MOUNTING POSITION</b>                      | As required                                                                      |
| <b>OPERATING FREQUENCY</b>                    | 50 Operations/h                                                                  |
| <b>OVERVOLTAGE CATEGORY</b>                   | III                                                                              |
| <b>POLLUTION DEGREE</b>                       | 3                                                                                |
| <b>PRODUCT CATEGORY</b>                       | Main switch                                                                      |
| <b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b> | 8000 V AC                                                                        |
| <b>SAFE ISOLATION</b>                         | 440 V AC, Between the contacts, According to EN 61140                            |
| <b>SAFETY PARAMETER (EN ISO 13849-1)</b>      | B10d values as per EN ISO 13849-1, table C.1                                     |
| <b>SUITABLE FOR</b>                           | Intermediate mounting<br>Branch circuits, suitable as motor disconnect, (UL/CSA) |

## Short-circuit rating

|                                                     |                                                                  |
|-----------------------------------------------------|------------------------------------------------------------------|
| <b>RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ)</b> | 30 kA                                                            |
| <b>RATED SHORT-TIME WITHSTAND CURRENT (ICW)</b>     | 2,5 kA, Contacts, 1 second<br>2.5 kA                             |
| <b>SHORT-CIRCUIT CURRENT RATING (BASIC RATING)</b>  | 10 kA, SCCR (UL/CSA)<br>350A Class RK1, max. Fuse, SCCR (UL/CSA) |
| <b>SHORT-CIRCUIT CURRENT RATING (HIGH FAULT)</b>    | 300 A, Class J, max. Fuse, SCCR (UL/CSA)<br>65 kA, SCCR (UL/CSA) |
| <b>SHORT-CIRCUIT PROTECTION RATING</b>              | 125 A gG/gL, Fuse, Contacts                                      |

## Motor rating

**ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE** 7.5 HP

**ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 3-PHASE** 15 HP

**ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE** 20 HP

**ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE** 30 HP

**ASSIGNED MOTOR POWER AT 277 V, 60 HZ, 1-PHASE** 20 HP

**ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE** 60 HP

**ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE** 60 HP

## Switching capacity

**LOAD RATING** 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)

**NUMBER OF CONTACTS IN SERIES AT DC-23A, 120 V** 3

**NUMBER OF CONTACTS IN SERIES AT DC-23A, 24 V** 3

**NUMBER OF CONTACTS IN SERIES AT DC-23A, 48 V** 3

**NUMBER OF CONTACTS IN SERIES AT DC-23A, 60 V** 3

**RATED MAKING CAPACITY UP TO 690 V** 850 A

(COS PHI TO IEC/EN  
60947-3)

**SWITCHING CAPACITY  
(AUXILIARY CONTACTS,  
GENERAL USE)** 10A, IU, (UL/CSA)

**SWITCHING CAPACITY  
(AUXILIARY CONTACTS,  
PILOT DUTY)** A600 (UL/CSA)

**SWITCHING CAPACITY  
(MAIN CONTACTS,  
GENERAL USE)** 150 A, Rated  
uninterrupted current  
max. (UL/CSA)

**VOLTAGE PER CONTACT  
PAIR IN SERIES** 42 V

## Terminal capacities

**SCREW SIZE** 5 mm AF, Hexagon socket-  
head spanner, Terminal  
screw

**TERMINAL CAPACITY** 2/0 AWG, flexible  
3/0 AWG, solid or flexible  
conductor with ferrule  
2 x 35 mm<sup>2</sup>, solid or  
stranded  
2 x 13 x 1.5 mm Number  
of segments x width x  
thickness, copper strip  
1 x 95 mm<sup>2</sup>, solid or  
stranded  
2 x 25 mm<sup>2</sup>, flexible with  
ferrules to DIN 46228  
1 x 13 x 3 mm Number of  
segments x width x  
thickness, copper strip  
1 x 70 mm<sup>2</sup>, flexible with  
ferrules to DIN 46228

**TIGHTENING TORQUE** 14 Nm, Screw terminals  
125 lb-in, Screw terminals

## Resources

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

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

**DECLARATIONS OF  
CONFORMITY** [eaton-main-switch-  
declaration-of-conformity-  
eu250816en.pdf](#)

[eaton-main-switch-  
declaration-of-conformity-  
uk251299en.pdf](#)

[eaton-rotary-switches-  
mounting-p5-main-switch-  
dimensions-004.eps](#)

[eaton-rotary-switches-  
padlock-t0-main-switch-  
dimensions.eps](#)

**DRAWINGS** [eaton-rotary-switches-t0-  
main-switch-symbol.eps](#)

[eaton-general-mounting-  
p1-main-switch-symbol-  
002.eps](#)

[eaton-rotary-switches-  
mounting-p1-main-switch-  
3d-drawing-002.eps](#)

**ECAD MODEL** [ETN.280914.edz](#)

**INSTALLATION  
INSTRUCTIONS** [IL03802011Z2021\\_10.pdf](#)

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

**MCAD MODEL** [eaton-erd-mcad-3d-  
models-p5-125-160-v-  
svb.stp](#)

|                 |                                                                                                                                                          |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <a href="#">eaton-enclosed-rotary-disconnects-mcad-drawings-p5-125-160-v-svb.dwg</a><br><br><a href="#">eaton-erd-mcad-drawings-p5-125-160-v-svb.dwg</a> |
| WIRING DIAGRAMS | <a href="#">eaton-rotary-switches-p5-main-switch-wiring-diagram.eps</a>                                                                                  |

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



**Eaton Corporation plc** Eaton House  
 30 Pembroke Road  
 Dublin 4, Ireland  
 Eaton.com

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