

**On-Off switch, P1, 32 A, service distribution board mounting, 3 pole + N, 1 N/O, 1 N/C, with black thumb grip and front plate**

**Part no.**                    **P1-32/IVS/N/HI11**  
**045999**

| <b>General specifications</b>                  |  |  |
|--|--|--|
| Product name                                   |  | Eaton Moeller® series P1 On-Off switch   |
| Part no.                                       |  | P1-32/IVS/N/HI11   |
| EAN  |  | 4015080459996  |
| Product Length/Depth                           |  | 90 millimetre  |
| Product height                                 |  | 70 millimetre  |
| Product width                                  |  | 78 millimetre  |
| Product weight                                 |  | 0.223 kilogram   |
| Certifications                                 |  | UL Category Control No.: NLRV<br>IEC/EN 60947-3<br>CSA-C22.2 No. 94<br>CSA<br>CSA File No.: 012528<br>IEC/EN 60947<br>IEC/EN 60204<br>CE<br>UL<br>UL 60947-4-1<br>CSA Class No.: 3211-05<br>UL File No.: E36332<br>VDE 0660<br>CSA-C22.2 No. 60947-4-1-14<br>UL<br>CSA |
| Product Tradename                              |  | P1   |
| Product Type                                   |  | On-Off switch  |
| Product Sub Type                               |  | None   |
| Catalog Notes                                  |  | Rated Short-time Withstand Current (Icw) for a time of 1 second  |
| <b>Features &amp; Functions</b>                |  |  |
| Fitted with:                                   |  | Black thumb grip and front plate   |
| Number of poles                                |  | 4  |
| <b>General information</b>                     |  |  |
| Degree of protection                           |  | NEMA Other   |
| Degree of protection (front side)              |  | IP30   |
| Lifespan, mechanical                           |  | 300,000 Operations   |
| Mounting method                                |  | Service distribution board mounting  |
| Mounting position                              |  | As required  |
| Operating frequency                            |  | 1200 Operations/h  |
| Overvoltage category                           |  | III  |
| Pollution degree                               |  | 3  |
| Rated impulse withstand voltage (Uimp)         |  | 6000 V AC  |
| Safe isolation                                 |  | 440 V AC, Between the contacts, According to EN 61140  |
| Safety parameter (EN ISO 13849-1)              |  | B10d values as per EN ISO 13849-1, table C.1   |
| Shock resistance                               |  | 15 g, Mechanical, According to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms  |
| Suitable for                                   |  | Distribution board installation<br>Branch circuits, suitable as motor disconnect, (UL/CSA)   |
| <b>Climatic environmental conditions</b>       |  |  |
| Ambient operating temperature - min            |  | -25 °C   |
| Ambient operating temperature - max            |  | 50 °C  |
| Ambient operating temperature (enclosed) - min |  | -25 °C   |
| Ambient operating temperature (enclosed) - max |  | 40 °C  |
| Climatic proofing                              |  | Damp heat, cyclic, to IEC 60068-2-30<br>Damp heat, constant, to IEC 60068-2-78   |
| <b>Terminal capacities</b>                     |  |  |

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|--|--|
| Terminal capacity  | 2 x (1.5 - 6) mm <sup>2</sup> , solid or stranded<br>2 x (1 - 4) mm <sup>2</sup> , flexible with ferrules to DIN 46228<br>1 x (1.5 - 6) mm <sup>2</sup> , solid or stranded<br>1 x (1 - 4) mm <sup>2</sup> , flexible with ferrules to DIN 46228<br>14 - 8 AWG, solid or flexible with ferrule |
| Screw size   | M4, Terminal screw   |
| Tightening torque  | 1.6 Nm, Screw terminals<br>14.1 lb-in, Screw terminals   |
| <b>Electrical rating</b>   |  |
| Rated breaking capacity at 220/230 V (cos phi to IEC 60947-3)          | 260 A  |
| Rated breaking capacity at 400/415 V (cos phi to IEC 60947-3)          | 300 A  |
| Rated breaking capacity at 500 V (cos phi to IEC 60947-3)              | 290 A  |
| Rated breaking capacity at 660/690 V (cos phi to IEC 60947-3)          | 250 A  |
| Rated operational current (Ie) at AC-3, 220 V, 230 V, 240 V            | 26.4 A   |
| Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V            | 26.4 A   |
| Rated operational current (Ie) at AC-3, 500 V                          | 23.4 A   |
| Rated operational current (Ie) at AC-3, 660 V, 690 V                   | 14.7 A   |
| Rated operational current (Ie) at AC-21, 440 V                         | 32 A   |
| Rated operational current (Ie) at AC-23A, 230 V                        | 32 A   |
| Rated operational current (Ie) at AC-23A, 400 V, 415 V                 | 32 A   |
| Rated operational current (Ie) at AC-23A, 500 V                        | 30 A   |
| Rated operational current (Ie) at AC-23A, 690 V                        | 19.8 A   |
| Rated operational current (Ie) at DC-1, load-break switches I/r = 1 ms | 32 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 (Ie) at DC-23A, 120 V                        | 12 A   |
| Rated operational power at AC-3, 380/400 V, 50 Hz                      | 13 kW  |
| Rated operational power at AC-3, 415 V, 50 Hz                          | 13 kW  |
| Rated operational power at AC-3, 690 V, 50 Hz                          | 15 kW  |
| Rated operational power at AC-23A, 220/230 V, 50 Hz                    | 7.5 kW   |
| Rated operational power at AC-23A, 400 V, 50 Hz                        | 15 kW  |
| Rated operational power at AC-23A, 500 V, 50 Hz                        | 18.5 kW  |
| Rated operational power at AC-23A, 690 V, 50 Hz                        | 15 kW  |
| Rated operational voltage (Ue) at AC - max                             | 690 V  |
| Rated uninterrupted current (Iu)                                       | 32 A   |
| Uninterrupted current  | Rated uninterrupted current Iu is specified for max. cross-section.  |
| <b>Short-circuit rating</b>  |  |
| Rated conditional short-circuit current (Iq)                           | 80 kA  |
| Rated short-time withstand current (Icw)                               | 0.64 kA<br>640 A, Contacts, 1 second   |
| 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  | 50 A gG/gL, Fuse, Contacts   |
| <b>Switching capacity</b>  |  |
| Load rating  | 1.6 x I# (with intermittent operation class 12, 40 % duty factor)<br>1.3 x I# (with intermittent operation class 12, 60 % duty factor)<br>2 x I# (with intermittent operation class 12, 25 % duty factor)  |
| 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  |
| Number of contacts in series at DC-23A, 120 V                          | 3  |
| Switching capacity (main contacts, general use)                        | 30 A, Rated uninterrupted current max. (UL/CSA)  |
| Switching capacity (auxiliary contacts, general use)                   | 10A, IU, (UL/CSA)  |
| Switching capacity (auxiliary contacts, pilot duty)                    | A600 (UL/CSA)<br>P600 (UL/CSA)   |
| Rated making capacity up to 690 V (cos phi to IEC/EN 60947-3)          | 320 A  |

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| Voltage per contact pair in series   |  | 60 V   |
| <b>Motor rating</b>  |  |  |
| 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                                |  | 7.5 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  |
| <b>Contacts</b>  |  |  |
| Control circuit reliability  |  | 1 failure per 100,000 switching operations statistically determined, at 24 V DC, 10 mA)  |
| Number of auxiliary contacts (change-over contacts)                              |  | 0  |
| Number of auxiliary contacts (normally closed contacts)                          |  | 1  |
| Number of auxiliary contacts (normally open contacts)                            |  | 1  |
| <b>Actuator</b>  |  |  |
| Actuator color   |  | Black  |
| Actuator type  |  | Short thumb-grip   |
| <b>Design verification</b>   |  |  |
| Equipment heat dissipation, current-dependent Pvid                               |  | 0 W  |
| Heat dissipation capacity Pdis   |  | 0 W  |
| Heat dissipation per pole, current-dependent Pvid                                |  | 1.8 W  |
| Rated operational current for specified heat dissipation (In)                    |  | 32 A   |
| Static heat dissipation, non-current-dependent Pvs                               |  | 0 W  |
| 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                                 |  | Meets the product standard's requirements.   |
| 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.   |
| 10.9.2 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 9.0

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| Low-voltage industrial components (EG000017) / Switch disconnecter (low voltage) (EC000216)   |  |    |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnecter (ec!@ss13-27-37-14-03 [AKF060018]) |  |    |
| Version as main switch  |  | No |
| Version as maintenance-/service switch  |  | No |
| Version as safety switch  |  | No |

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|---|----|--|
| 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  | 32                                       |
| Rated permanent current at AC-23, 400 V                 | A  | 32                                       |
| Rated permanent current at AC-21, 400 V                 | A  | 32                                       |
| Rated operation power at AC-3, 400 V                    | kW | 13                                       |
| Rated short-time withstand current Icw                  | kA | 0.64                                     |
| Rated operation power at AC-23, 400 V                   | kW | 15                                       |
| Switching power at 400 V                                | kW | 15                                       |
| Conditioned rated short-circuit current Iq              | kA | 80                                       |
| Number of poles   |    | 4  |
| Number of auxiliary contacts as normally closed contact |    | 1  |
| Number of auxiliary contacts as normally open contact   |    | 1  |
| 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                      |    | No                                       |
| Suitable for front mounting centre                      |    | No                                       |
| Suitable for distribution board installation            |    | Yes                                      |
| Suitable for intermediate mounting                      |    | No                                       |
| Colour control element                                  |    | Black                                    |
| Type of control element                                 |    | Short thumb-grip                         |
| Interlockable   |    | No                                       |
| Type of electrical connection of main circuit           |    | Screw connection                         |
| With pre-assembled cabling                              |    | No                                       |
| Degree of protection (IP), front side                   |    | IP30                                     |
| Degree of protection (NEMA)                             |    | Other                                    |
| Width   | mm | 78                                       |
| Height  | mm | 70                                       |
| Depth   | mm | 90                                       |
| Width in number of modular spacings                     |    |  |