

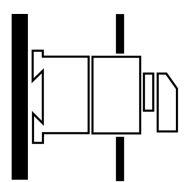
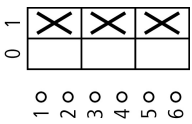
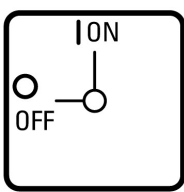


**On-Off switch, 3 pole, 25 A, service distribution board mounting**

**Part no. P1-25/IVS**  
**Catalog No. 052962**

**EL-Nummer (Norway) 0001456102**

**Delivery program**

|   |       |     |  |
|---|-------|-----|--|
| Product range                             |       |     | On-Off switch  |
| Part group reference                      |       |     | P1<br>with black thumb grip and front plate  |
| Information about equipment supplied      |       |     | Auxiliary contact or neutral conductor fitted by user.   |
| Number of poles                           |       |     | 3 pole   |
| <b>Auxiliary contacts</b>                 |       |     |  |
|   |       | N/O | 0  |
|   |       | N/C | 0  |
| Degree of Protection                      |       |     | Front IP30   |
| Design                                    |       |     | service distribution board mounting<br> |
| Contact sequence                          |       |     |                                        |
| Front plate no.                           |       |     | <br><b>FS 908</b>                      |
| <b>Motor rating AC-23A, 50 - 60 Hz</b>    |       |     |  |
| 400 V                                     | P     | kW  | 11   |
| Rated uninterrupted current               | $I_u$ | A   | 25   |
| Note on rated uninterrupted current $I_u$ |       |     | Rated uninterrupted current $I_u$ is specified for max. cross-section.   |

**Technical data**

|                                       |           |      |  |
|---------------------------------------|-----------|------|--|
| <b>General</b>                        |           |      |  |
| Standards                             |           |      | IEC/EN 60947, VDE 0660, IEC/EN 60204, CSA, UL<br>Switch-disconnector according to IEC/EN 60947-3 |
| Climatic proofing                     |           |      | Damp heat, constant, to IEC 60068-2-78<br>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 | 6000   |

|                             |  |   |             |
|-----------------------------|--|---|-------------|
| Mechanical shock resistance |  | g | 15          |
| 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            | 25   |
| 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  |          | $\times I_e$ | 2  |
| AB 40 % DF  |          | $\times I_e$ | 1.6  |
| AB 60 % DF  |          | $\times I_e$ | 1.3  |
| Short-circuit rating                                |          |              |  |
| Fuse  |          | A gG/gL      | 25   |
| Rated short-time withstand current (1 s current)    | $I_{cw}$ | $A_{rms}$    | 640  |
| Note on rated short-time withstand current $I_{cw}$ |          |              | Current for a time of 1 second   |
| Rated conditional short-circuit current             | $I_q$    | kA           | 50   |

## Switching capacity

|   |              |               |       |
|---|--------------|---------------|-------|
| cos $\phi$ rated making capacity as per IEC 60947-3 |              | A             | 240   |
| Rated breaking capacity cos $\phi$ to IEC 60947-3   |              | A             |       |
| 230 V   |              | A             | 190   |
| 400/415 V   |              | A             | 150   |
| 500 V   |              | A             | 170   |
| 690 V   |              | A             | 150   |
| Safe isolation to EN 61140                          |              |               |       |
| between the contacts                                |              | V AC          | 440   |
| Current heat loss per contact at $I_e$              |              | W             | 1.1   |
| Lifespan, mechanical                                | Operations   | $\times 10^6$ | > 0.3 |
| Maximum operating frequency                         | Operations/h |               | 1200  |
| AC  |              |               |       |
| AC-3  |              |               |       |
| Rating, motor load switch                           | P            | kW            |       |
| 220 V 230 V   | P            | kW            | 5.5   |
| 400 V 415 V   | P            | kW            | 7.5   |
| 500 V   | P            | kW            | 7.5   |
| 690 V   | P            | kW            | 7.5   |
| Rated operational current motor load switch         |              |               |       |
| 230 V   | $I_e$        | A             | 19.6  |
| 400V 415 V  | $I_e$        | A             | 15.2  |
| 500 V   | $I_e$        | A             | 12.1  |
| 690 V   | $I_e$        | A             | 8.8   |
| AC-21A  |              |               |       |
| Rated operational current switch                    |              |               |       |
| 440 V   | $I_e$        | A             | 25    |
| AC-23A  |              |               |       |
| Motor rating AC-23A, 50 - 60 Hz                     |              |               |       |
| 230 V   | P            | kW            | 5.5   |
| 400 V 415 V   | P            | kW            | 11    |
| 500 V   | P            | kW            | 11    |
| 690 V   | P            | kW            | 11    |

|   |                   |          |  |
|---|-------------------|----------|--|
| Rated operational current motor load switch   |                   |          |  |
| 230 V   | $I_e$             | A        | 25   |
| 400 V 415 V                                   | $I_e$             | A        | 25   |
| 500 V   | $I_e$             | A        | 17.4   |
| 690 V   | $I_e$             | A        | 12.6   |
| DC  |                   |          |  |
| DC-1, Load-break switches L/R = 1 ms          |                   |          |  |
| Rated operational current                     | $I_e$             | A        | 25   |
| Voltage per contact pair in series            |                   | V        | 60   |
| DC-23A, motor load switch L/R = 15 ms         |                   |          |  |
| 24 V  |                   |          |  |
| Rated operational current                     | $I_e$             | A        | 25   |
| Contacts                                      |                   | Quantity | 1  |
| 48 V  |                   |          |  |
| Rated operational current                     | $I_e$             | A        | 25   |
| Contacts                                      |                   | Quantity | 2  |
| 60 V  |                   |          |  |
| Rated operational current                     | $I_e$             | A        | 25   |
| Contacts                                      |                   | Quantity | 2  |
| 120 V   |                   |          |  |
| Rated operational current                     | $I_e$             | A        | 12   |
| Contacts                                      |                   | Quantity | 3  |
| Control circuit reliability at 24 V DC, 10 mA | Fault probability | $H_F$    | $< 10^{-5}$ , < 1 fault in 100000 operations |

### Terminal capacities

|                                      |  |                 |                                |
|--------------------------------------|--|-----------------|--------------------------------|
| Solid or stranded                    |  | mm <sup>2</sup> | 1 x (1,5 - 6)<br>2 x (1,5 - 6) |
| Flexible with ferrules to DIN 46228  |  | mm <sup>2</sup> | 1 x (1 - 4)<br>2 x (1 - 4)     |
| Terminal screw                       |  |                 | M4                             |
| Tightening torque for terminal screw |  | Nm              | 1.6                            |

### Technical safety parameters:

|              |  |  |   |
|--------------|--|--|---|
| <b>Notes</b> |  |  | B10 <sub>d</sub> 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    | 20             |
| Auxiliary contacts               |       |      |                |
| General Use                      | $I_U$ | A    | 10             |
| Pilot Duty                       |       |      | A 600<br>P 600 |
| Switching capacity               |       |      |                |
| Maximum motor rating             |       |      |                |
| Single-phase                     |       |      |                |
| 120 V AC                         |       | HP   | 1              |
| 200 V AC                         |       | HP   | 2              |
| 240 V AC                         |       | HP   | 3              |
| Three-phase                      |       |      |                |
| 200 V AC                         |       | HP   | 3              |
| 240 V AC                         |       | HP   | 5              |
| 480 V AC                         |       | HP   | 10             |
| 600 V AC                         |       | HP   | 15             |
| Short Circuit Current Rating     |       |      |                |
| Basic Rating                     |       | kA   | 5              |
| max. Fuse                        |       | A    | 110            |

|  |  |       |             |
|--|--|-------|-------------|
| High fault rating                        |  | kA    | 10          |
| max. Fuse                                |  | A     | 50, Class J |
| Terminal capacity                        |  |       |             |
| Solid or flexible conductor with ferrule |  | AWG   | 14 - 8      |
| Terminal screw                           |  |       | M4          |
| Tightening torque                        |  | lb-in | 14.1        |

## Design verification as per IEC/EN 61439

|  |            |    |  |
|--|------------|----|--|
| Technical data for design verification   |            |    |  |
| Rated operational current for specified heat dissipation   | $I_n$      | A  | 25   |
| Heat dissipation per pole, current-dependent   | $P_{vid}$  | W  | 1.1  |
| 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   |            |    | 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 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

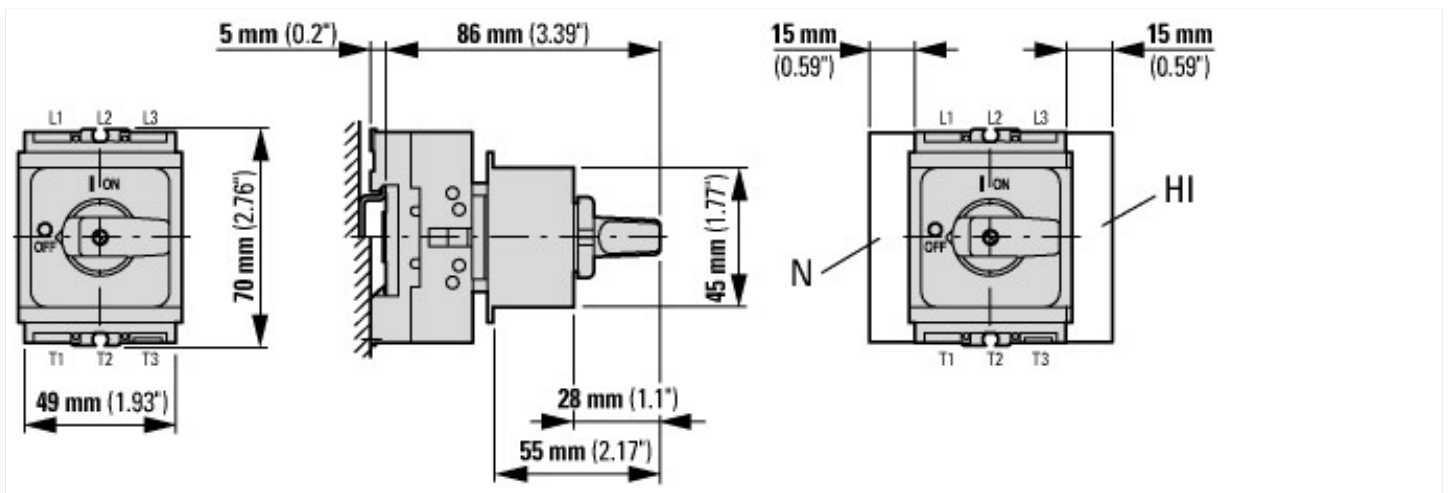
|   |   |     |
|---|---|-----|
| Low-voltage industrial components (EG000017) / Switch disconnecter (EC000216)   |   |     |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnecter (ecl@ss10.0.1-27-37-14-03 [AKF060013]) |   |     |
| Version as main switch  |   | No  |
| Version as maintenance-/service switch  |   | No  |
| Version as safety switch  |   | No  |
| Version as emergency stop installation  |   | No  |
| Version as reversing switch   |   | No  |
| Number of switches  |   | 1   |
| Max. rated operation voltage $U_e$ AC   | V | 690 |

|   |    |  |
|---|----|--|
| Rated operating voltage                                 | V  | 690 - 690                                |
| Rated permanent current I <sub>u</sub>                  | A  | 25                                       |
| Rated permanent current at AC-23, 400 V                 | A  | 25                                       |
| Rated permanent current at AC-21, 400 V                 | A  | 25                                       |
| Rated operation power at AC-3, 400 V                    | kW | 7.5                                      |
| Rated short-time withstand current I <sub>cw</sub>      | kA | 0.64                                     |
| Rated operation power at AC-23, 400 V                   | kW | 13                                       |
| Switching power at 400 V                                | kW | 13                                       |
| Conditioned rated short-circuit current I <sub>q</sub>  | kA | 80                                       |
| 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                      |    | 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                                 |    | Toggle                                   |
| Interlockable   |    | No                                       |
| Type of electrical connection of main circuit           |    | Screw connection                         |
| Degree of protection (IP), front side                   |    | IP30                                     |
| Degree of protection (NEMA)                             |    | Other                                    |

## Approvals

|                             |  |  |
|-----------------------------|--|--|
| Product Standards           |  | UL 60947-4-1; CSA - C22.2 No. 60947-4-1-14; CSA-C22.2 No. 94; IEC/EN 60947-3; CE marking |
| UL File No.                 |  | E36332   |
| UL Category Control No.     |  | NLRV   |
| CSA File No.                |  | 12528  |
| CSA Class No.               |  | 3211-05  |
| North America Certification |  | UL listed, CSA certified   |
| Suitable for                |  | Branch circuits, suitable as motor disconnect  |
| Degree of Protection        |  | IEC: IP30; UL/CSA Type: –  |

## Dimensions





**$d = 4 - 8 \text{ mm}$**

**$b + d \leq 47 \text{ mm}$**

**$d = 0.16 - 0.31''$**

**$b + d \leq 1.85''$**

≤ 3 padlocks

### Additional product information (links)

#### IL03802004Z (AWA1150-1891) Switch-Disconnectors for rear mounting

|   |   |
|---|---|
| IL03802004Z (AWA1150-1891) Switch-Disconnectors for rear mounting | <a href="ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03802004Z2018_05.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03802004Z2018_05.pdf</a>                           |
| Technical overview cam switch, switch-disconnector                | <a href="http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.2">http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.2</a>                                     |
| System overview cam switch T                                      | <a href="http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.4">http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.4</a>                                     |
| System overview switch-disconnector P                             | <a href="http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.6">http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.6</a>                                     |
| Key to part numbers Cam switch                                    | <a href="http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.8">http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.8</a>                                     |
| Key to part numbers Switch-disconnector                           | <a href="http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.8">http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.8</a>                                     |
| Switches for ATEX   | <a href="http://www.coopercrouse-hinds.eu/en/products/25-ex-safety-and-main-current-switches.html">http://www.coopercrouse-hinds.eu/en/products/25-ex-safety-and-main-current-switches.html</a> |
| Ordering form for SOND switches and SOND front plates(DE_EN)      | <a href="ftp://ftp.moeller.net/DOCUMENTATION/PDF/MZ008005ZU_Orderform_Customized_Switch.pdf">ftp://ftp.moeller.net/DOCUMENTATION/PDF/MZ008005ZU_Orderform_Customized_Switch.pdf</a>             |
| Ordering form for SOND switches and SOND front plates(DE_EN)      | <a href="ftp://ftp.moeller.net/DOCUMENTATION/PDF/MZ008006ZU_Orderform_Customized_Switch.pdf">ftp://ftp.moeller.net/DOCUMENTATION/PDF/MZ008006ZU_Orderform_Customized_Switch.pdf</a>             |