

**On-Off switch, P1, 25 A, flush mounting, 3 pole, with black thumb grip and front plate**

**Part no.** P1-25/E  
**Catalog No.** 038724

**EL-Nummer (Norway)** 1456100

## Delivery program

|                                                    |                |     |                                                                                 |
|----------------------------------------------------|----------------|-----|---------------------------------------------------------------------------------|
| Product range                                      |                |     | On-Off switch                                                                   |
| Part group reference                               |                |     | P1                                                                              |
|                                                    |                |     | 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 IP65                                                                      |
| Design                                             |                |     | flush mounting                                                                  |
| <b>Motor rating AC-23A, 50 - 60 Hz</b>             |                |     |                                                                                 |
| 400 V                                              | P              | kW  | 11                                                                              |
| Rated uninterrupted current                        | I <sub>u</sub> | A   | 25                                                                              |
| Note on rated uninterrupted current I <sub>u</sub> |                |     | Rated uninterrupted current I <sub>u</sub> is specified for max. cross-section. |

## Technical data

### General

|                                       |                  |      |                                                                                                  |
|---------------------------------------|------------------|------|--------------------------------------------------------------------------------------------------|
| 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 <sub>imp</sub> | 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 <sub>e</sub> | V AC             | 690                                                                             |
| Rated uninterrupted current                        | I <sub>u</sub> | A                | 25                                                                              |
| Note on rated uninterrupted current I <sub>u</sub> |                |                  | Rated uninterrupted current I <sub>u</sub> is specified for max. cross-section. |
| Load rating with intermittent operation, class 12  |                |                  |                                                                                 |
| AB 25 % DF                                         |                | x I <sub>e</sub> | 2                                                                               |
| AB 40 % DF                                         |                | x I <sub>e</sub> | 1.6                                                                             |
| AB 60 % DF                                         |                | x I <sub>e</sub> | 1.3                                                                             |
| Short-circuit rating                               |                |                  |                                                                                 |

|                                                            |                 |                   |                                |
|------------------------------------------------------------|-----------------|-------------------|--------------------------------|
| Fuse                                                       |                 | A gG/gL           | 25                             |
| Rated short-time withstand current (1 s current)           | I <sub>cw</sub> | A <sub>rms</sub>  | 640                            |
| Note on rated short-time withstand current I <sub>cw</sub> |                 |                   | Current for a time of 1 second |
| Rated conditional short-circuit current                    | I <sub>q</sub>  | kA                | 50                             |
| <b>Switching capacity</b>                                  |                 |                   |                                |
| cos φ rated making capacity as per IEC 60947-3             |                 | A                 | 240                            |
| Rated breaking capacity cos φ 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 <sub>e</sub>            |                 | W                 | 1.1                            |
| Lifespan, mechanical                                       | Operations      | x 10 <sup>6</sup> | > 0.3                          |
| Maximum operating frequency                                | Operations/h    |                   | 1200                           |
| <b>AC</b>                                                  |                 |                   |                                |
| <b>AC-3</b>                                                |                 |                   |                                |
| 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 <sub>e</sub>  | A                 | 19.6                           |
| 400V 415 V                                                 | I <sub>e</sub>  | A                 | 15.2                           |
| 500 V                                                      | I <sub>e</sub>  | A                 | 12.1                           |
| 690 V                                                      | I <sub>e</sub>  | A                 | 8.8                            |
| <b>AC-23A</b>                                              |                 |                   |                                |
| Motor rating AC-23A, 50 - 60 Hz                            | P               | kW                |                                |
| 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 <sub>e</sub>  | A                 | 25                             |
| 400 V 415 V                                                | I <sub>e</sub>  | A                 | 25                             |
| 500 V                                                      | I <sub>e</sub>  | A                 | 17.4                           |
| 690 V                                                      | I <sub>e</sub>  | A                 | 12.6                           |
| <b>DC</b>                                                  |                 |                   |                                |
| <b>DC-1, Load-break switches L/R = 1 ms</b>                |                 |                   |                                |
| Rated operational current                                  | I <sub>e</sub>  | A                 | 25                             |
| Voltage per contact pair in series                         |                 | V                 | 60                             |
| <b>DC-23A, motor load switch L/R = 15 ms</b>               |                 |                   |                                |
| 24 V                                                       |                 |                   |                                |
| Rated operational current                                  | I <sub>e</sub>  | A                 | 25                             |
| Contacts                                                   |                 | Quantity          | 1                              |
| 48 V                                                       |                 |                   |                                |
| Rated operational current                                  | I <sub>e</sub>  | A                 | 25                             |
| Contacts                                                   |                 | Quantity          | 2                              |
| 60 V                                                       |                 |                   |                                |
| Rated operational current                                  | I <sub>e</sub>  | A                 | 25                             |
| Contacts                                                   |                 | Quantity          | 2                              |
| 120 V                                                      |                 |                   |                                |

|                                               |                   |                |                                                                  |
|-----------------------------------------------|-------------------|----------------|------------------------------------------------------------------|
| Rated operational current                     | I <sub>e</sub>    | A              | 12                                                               |
| Contacts                                      |                   | Quantity       | 3                                                                |
| Control circuit reliability at 24 V DC, 10 mA | Fault probability | H <sub>F</sub> | < 10 <sup>-5</sup> , < 1 failure in 100,000 switching 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:

|       |  |  |                                                         |
|-------|--|--|---------------------------------------------------------|
| Notes |  |  | B10 <sub>d</sub> values as per EN ISO 13849-1, table C1 |
|-------|--|--|---------------------------------------------------------|

Rating data for approved types

|                                          |                |       |                |
|------------------------------------------|----------------|-------|----------------|
| Contacts                                 |                |       |                |
| Rated operational voltage                | U <sub>e</sub> | V AC  | 600            |
| Rated uninterrupted current max.         |                |       |                |
| Main conducting paths                    |                |       |                |
| General use                              |                | A     | 20             |
| Auxiliary contacts                       |                |       |                |
| General Use                              | I <sub>U</sub> | 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             |                | SCCR  |                |
| 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 <sub>n</sub>    | A  | 25                                         |
| Heat dissipation per pole, current-dependent             | P <sub>vid</sub>  | W  | 1.1                                        |
| Equipment heat dissipation, current-dependent            | P <sub>vid</sub>  | W  | 0                                          |
| Static heat dissipation, non-current-dependent           | P <sub>vs</sub>   | W  | 0                                          |
| Heat dissipation capacity                                | P <sub>diss</sub> | 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                                                                       |  |  | 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 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 8.0

|                                                                                                                                                                                                               |  |    |                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----|------------------------------------------|
| 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 (ecI@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 Ue AC                                                                                                                                                                            |  | V  | 690                                      |
| Rated operating voltage                                                                                                                                                                                       |  | V  | 690 - 690                                |
| Rated permanent current Iu                                                                                                                                                                                    |  | 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 Icw                                                                                                                                                                        |  | 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 Iq                                                                                                                                                                    |  | 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 floor mounting                                                                                                                                                                                   |  |    | No                                       |
| Suitable for front mounting 4-hole                                                                                                                                                                            |  |    | Yes                                      |
| Suitable for front mounting centre                                                                                                                                                                            |  |    | No                                       |
| Suitable for distribution board installation                                                                                                                                                                  |  |    | No                                       |

|                                               |  |                  |
|-----------------------------------------------|--|------------------|
| 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 |
| Degree of protection (IP), front side         |  | IP65             |
| Degree of protection (NEMA)                   |  | 12               |