

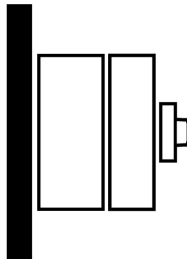
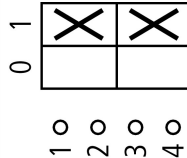
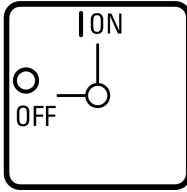


**Main switch, T0, 20 A, surface mounting, 1 contact unit(s), 2 pole,  
Emergency switching off function, With red rotary handle and yellow  
locking ring, Lockable in the 0 (Off) position**

**Part no. T0-1-102/I1/SVB**  
**Catalog No. 207143**

**EL-Nummer 0001417153**  
**(Norway)**

## Delivery program

|                                                    |                |                 |                                                                                      |
|----------------------------------------------------|----------------|-----------------|--------------------------------------------------------------------------------------|
| Product range                                      |                |                 | Main switch<br>maintenance switch<br>Repair switch                                   |
| Part group reference                               |                |                 | T0                                                                                   |
| Stop Function                                      |                |                 | Emergency switching off function                                                     |
|                                                    |                |                 | With red rotary handle and yellow locking ring                                       |
| Number of poles                                    |                |                 | 2 pole                                                                               |
| Locking facility                                   |                |                 | Lockable in the 0 (Off) position                                                     |
| Degree of Protection                               |                |                 | IP65                                                                                 |
|                                                    |                |                 | <b>totally insulated</b>                                                             |
| Design                                             |                |                 | surface mounting                                                                     |
|                                                    |                |                 |   |
| Contact sequence                                   |                |                 |  |
| Switching angle                                    |                | °               | 90                                                                                   |
| Design number                                      |                |                 | 102                                                                                  |
| Function                                           |                |                 |  |
| <b>Motor rating AC-23A, 50 - 60 Hz</b>             |                |                 |                                                                                      |
| 400 V                                              | P              | kW              | 5.5                                                                                  |
| Rated uninterrupted current                        | I <sub>u</sub> | A               | 20                                                                                   |
| Note on rated uninterrupted current I <sub>u</sub> |                |                 | Rated uninterrupted current I <sub>u</sub> is specified for max. cross-section.      |
| Number of contact units                            |                | contact unit(s) | 1                                                                                    |

## Technical data

|                     |  |    |                                                                                         |
|---------------------|--|----|-----------------------------------------------------------------------------------------|
| Standards           |  |    | IEC/EN 60947, VDE 0660, IEC/EN 60204<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 |  |    |                                                                                         |
| 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                                            |                 |                  | 2 pole                                                                          |
| Electrical characteristics                                 |                 |                  |                                                                                 |
| Rated operational voltage                                  | U <sub>e</sub>  | V AC             | 690                                                                             |
| Rated uninterrupted current                                | I <sub>u</sub>  | A                | 20                                                                              |
| 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          | 20                                                                              |
| Rated short-time withstand current (1 s current)           | I <sub>cw</sub> | A <sub>rms</sub> | 320                                                                             |
| 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               | 6                                                                               |

## Switching capacity

|                                                                         |                |                   |       |
|-------------------------------------------------------------------------|----------------|-------------------|-------|
| cos φ rated making capacity as per IEC 60947-3                          |                | A                 | 130   |
| Rated breaking capacity cos φ to IEC 60947-3                            |                | A                 |       |
| 230 V                                                                   |                | A                 | 100   |
| 400/415 V                                                               |                | A                 | 110   |
| 500 V                                                                   |                | A                 | 80    |
| 690 V                                                                   |                | A                 | 60    |
| Safe isolation to EN 61140                                              |                |                   |       |
| between the contacts                                                    |                | V AC              | 440   |
| Current heat loss per contact at I <sub>e</sub>                         |                | W                 | 0.6   |
| Current heat loss per auxiliary circuit at I <sub>e</sub> (AC-15/230 V) |                | CO                | 0.6   |
| Lifespan, mechanical                                                    | Operations     | x 10 <sup>6</sup> | > 0.4 |
| Maximum operating frequency                                             | Operations/h   |                   | 1200  |
| AC                                                                      |                |                   |       |
| AC-3                                                                    |                |                   |       |
| Rating, motor load switch                                               | P              | kW                |       |
| 220 V 230 V                                                             | P              | kW                | 3     |
| 230 V Star-delta                                                        | P              | kW                | 5.5   |
| 400 V 415 V                                                             | P              | kW                | 5.5   |
| 400 V Star-delta                                                        | P              | kW                | 7.5   |
| 500 V                                                                   | P              | kW                | 5.5   |
| 500 V Star-delta                                                        | P              | kW                | 7.5   |
| 690 V                                                                   | P              | kW                | 4     |
| 690 V Star-delta                                                        | P              | kW                | 5.5   |
| Rated operational current motor load switch                             |                |                   |       |
| 230 V                                                                   | I <sub>e</sub> | A                 | 11.5  |
| 230 V star-delta                                                        | I <sub>e</sub> | A                 | 20    |
| 400V 415 V                                                              | I <sub>e</sub> | A                 | 11.5  |
| 400 V star-delta                                                        | I <sub>e</sub> | A                 | 20    |
| 500 V                                                                   | I <sub>e</sub> | A                 | 9     |
| 500 V star-delta                                                        | I <sub>e</sub> | A                 | 15.6  |
| 690 V                                                                   | I <sub>e</sub> | A                 | 4.9   |
| 690 V star-delta                                                        | I <sub>e</sub> | A                 | 8.5   |
| AC-21A                                                                  |                |                   |       |

|                                               |                   |                |                                                                  |
|-----------------------------------------------|-------------------|----------------|------------------------------------------------------------------|
| Rated operational current switch              |                   |                |                                                                  |
| 440 V                                         | I <sub>e</sub>    | A              | 20                                                               |
| AC-23A                                        |                   |                |                                                                  |
| Motor rating AC-23A, 50 - 60 Hz               | P                 | kW             |                                                                  |
| 230 V                                         | P                 | kW             | 3                                                                |
| 400 V 415 V                                   | P                 | kW             | 5.5                                                              |
| 500 V                                         | P                 | kW             | 7.5                                                              |
| 690 V                                         | P                 | kW             | 5.5                                                              |
| Rated operational current motor load switch   |                   |                |                                                                  |
| 230 V                                         | I <sub>e</sub>    | A              | 13.3                                                             |
| 400 V 415 V                                   | I <sub>e</sub>    | A              | 13.3                                                             |
| 500 V                                         | I <sub>e</sub>    | A              | 13.3                                                             |
| 690 V                                         | I <sub>e</sub>    | A              | 7.6                                                              |
| DC                                            |                   |                |                                                                  |
| DC-1, Load-break switches L/R = 1 ms          |                   |                |                                                                  |
| Rated operational current                     | I <sub>e</sub>    | A              | 10                                                               |
| Voltage per contact pair in series            |                   | V              | 60                                                               |
| DC-21A                                        |                   |                |                                                                  |
| Rated operational current                     | I <sub>e</sub>    | A              | 1                                                                |
| Contacts                                      |                   | Quantity       | 1                                                                |
| DC-23A, motor load switch L/R = 15 ms         |                   |                |                                                                  |
| 24 V                                          |                   |                |                                                                  |
| Rated operational current                     | I <sub>e</sub>    | A              | 10                                                               |
| Contacts                                      |                   | Quantity       | 1                                                                |
| 48 V                                          |                   |                |                                                                  |
| Rated operational current                     | I <sub>e</sub>    | A              | 10                                                               |
| Contacts                                      |                   | Quantity       | 2                                                                |
| 60 V                                          |                   |                |                                                                  |
| Rated operational current                     | I <sub>e</sub>    | A              | 10                                                               |
| Contacts                                      |                   | Quantity       | 3                                                                |
| 120 V                                         |                   |                |                                                                  |
| Rated operational current                     | I <sub>e</sub>    | A              | 5                                                                |
| Contacts                                      |                   | Quantity       | 3                                                                |
| 240 V                                         |                   |                |                                                                  |
| Rated operational current                     | I <sub>e</sub>    | A              | 5                                                                |
| Contacts                                      |                   | Quantity       | 5                                                                |
| DC-13, Control switches L/R = 50 ms           |                   |                |                                                                  |
| Rated operational current                     | I <sub>e</sub>    | A              | 10                                                               |
| Voltage per contact pair in series            |                   | V              | 32                                                               |
| 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 - 2,5)<br>2 x (1 - 2,5)       |
| Flexible with ferrules to DIN 46228  |  | mm <sup>2</sup> | 1 x (0.75 - 2.5)<br>2 x (0.75 - 2.5) |
| Terminal screw                       |  |                 | M3.5                                 |
| Tightening torque for terminal screw |  | Nm              | 1                                    |

### Technical safety parameters:

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

### Rating data for approved types

|                   |  |       |      |
|-------------------|--|-------|------|
| Terminal capacity |  |       |      |
| Terminal screw    |  |       | M3.5 |
| Tightening torque |  | lb-in | 8.83 |

## Design verification as per IEC/EN 61439

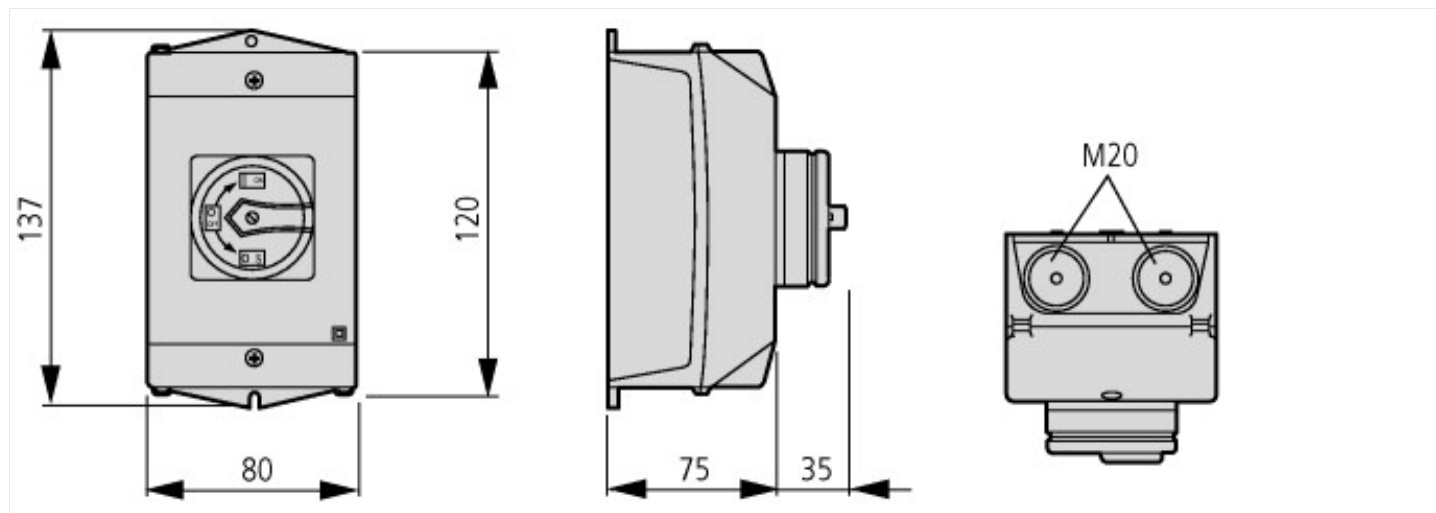
|                                                                                                                        |                   |    |                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------|-------------------|----|----------------------------------------------------------------------------------------------------------------------------------|
| Technical data for design verification                                                                                 |                   |    |                                                                                                                                  |
| Rated operational current for specified heat dissipation                                                               | I <sub>n</sub>    | A  | 20                                                                                                                               |
| Heat dissipation per pole, current-dependent                                                                           | P <sub>vid</sub>  | W  | 0.6                                                                                                                              |
| 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 | 40                                                                                                                               |
| 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 7.0

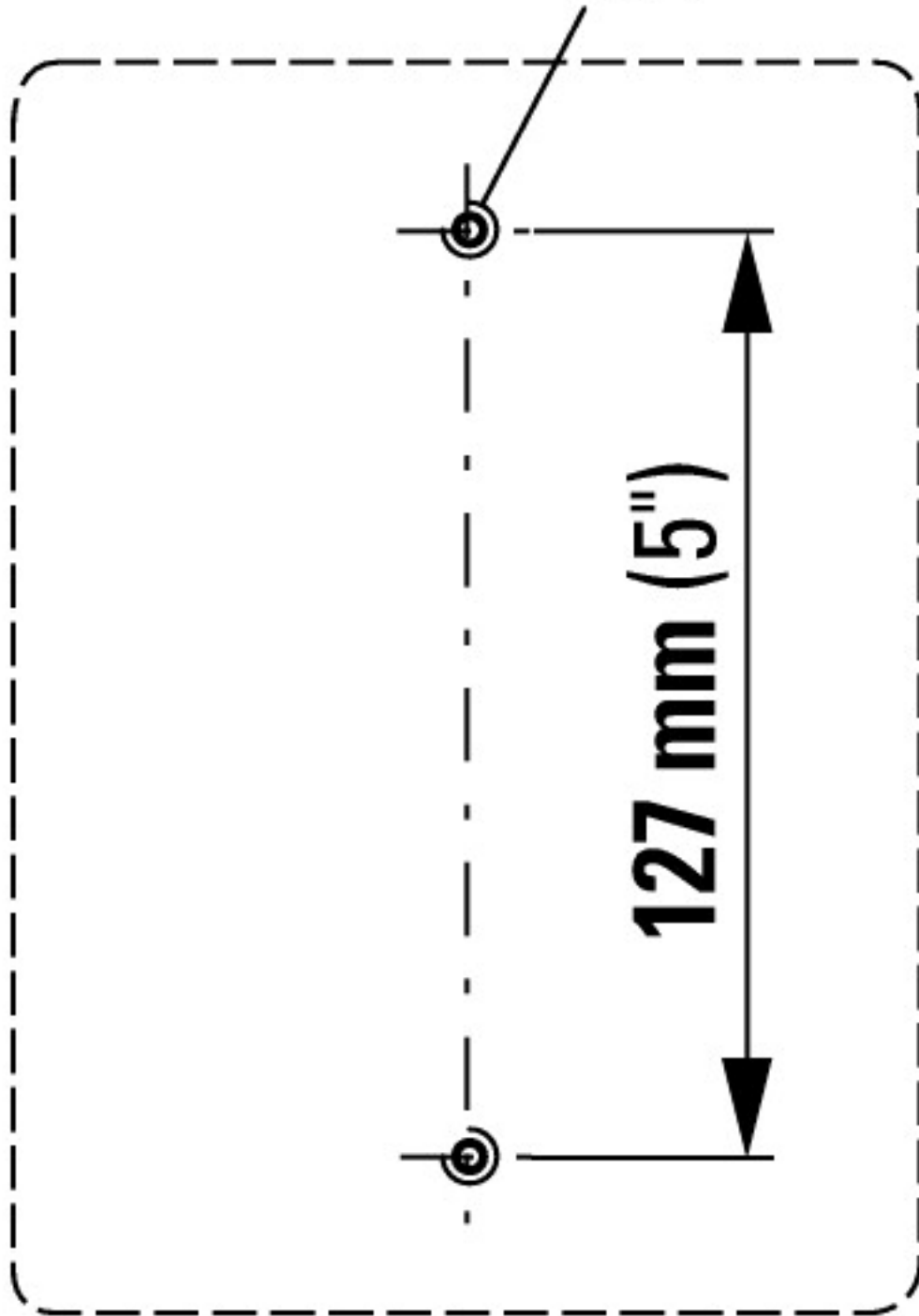
|                                                                                                                                                                                                               |  |    |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----|-----------|
| 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 (ec1@ss10.0.1-27-37-14-03 [AKF060013]) |  |    |           |
| Version as main switch                                                                                                                                                                                        |  |    | Yes       |
| Version as maintenance-/service switch                                                                                                                                                                        |  |    | Yes       |
| Version as safety switch                                                                                                                                                                                      |  |    | Yes       |
| Version as emergency stop installation                                                                                                                                                                        |  |    | Yes       |
| Version as reversing switch                                                                                                                                                                                   |  |    | No        |
| Number of switches                                                                                                                                                                                            |  |    | 1         |
| Max. rated operation voltage U <sub>e</sub> AC                                                                                                                                                                |  | V  | 690       |
| Rated operating voltage                                                                                                                                                                                       |  | V  | 690 - 690 |
| Rated permanent current I <sub>u</sub>                                                                                                                                                                        |  | A  | 20        |
| Rated permanent current at AC-23, 400 V                                                                                                                                                                       |  | A  | 13.3      |
| Rated permanent current at AC-21, 400 V                                                                                                                                                                       |  | A  | 20        |
| Rated operation power at AC-3, 400 V                                                                                                                                                                          |  | kW | 5.5       |
| Rated short-time withstand current I <sub>cw</sub>                                                                                                                                                            |  | kA | 0.32      |
| Rated operation power at AC-23, 400 V                                                                                                                                                                         |  | kW | 5.5       |

|                                                         |    |                            |
|---------------------------------------------------------|----|----------------------------|
| Switching power at 400 V                                | kW | 5.5                        |
| Conditioned rated short-circuit current I <sub>q</sub>  | kA | 6                          |
| Number of poles                                         |    | 2                          |
| 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                                     |    | Complete device in housing |
| Suitable for ground mounting                            |    | Yes                        |
| Suitable for front mounting 4-hole                      |    | No                         |
| Suitable for front mounting centre                      |    | No                         |
| Suitable for distribution board installation            |    | No                         |
| Suitable for intermediate mounting                      |    | No                         |
| Colour control element                                  |    | Red                        |
| Type of control element                                 |    | Door coupling rotary drive |
| Interlockable                                           |    | Yes                        |
| Type of electrical connection of main circuit           |    | Screw connection           |
| Degree of protection (IP), front side                   |    | IP65                       |
| Degree of protection (NEMA)                             |    | Other                      |

## Dimensions



M4



Drilling dimensions base



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

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

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

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

≤ 3 padlocks

### Additional product information (links)

#### IL03801007Z (AWA1150-1687) Cam switch: Surface mounting enclosure

|                                                                   |                                                                                                                                                                                                 |
|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IL03801007Z (AWA1150-1687) Cam switch: Surface mounting enclosure | <a href="https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL03801007Z2018_05.pdf">https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL03801007Z2018_05.pdf</a>               |
| Display flip catalog page.                                        | <a href="http://ecat.moeller.net/flip-cat/?edition=K115A&amp;startpage=40">http://ecat.moeller.net/flip-cat/?edition=K115A&amp;startpage=40</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="https://es-assets.eaton.com/DOCUMENTATION/PDF/MZ008006ZU_Orderform_Customized_Switch.pdf">https://es-assets.eaton.com/DOCUMENTATION/PDF/MZ008006ZU_Orderform_Customized_Switch.pdf</a> |
| Ordering form for SOND switches and SOND front plates(DE_EN)]     | <a href="https://es-assets.eaton.com/DOCUMENTATION/PDF/MZ008005ZU_Orderform_Customized_Switch.pdf">https://es-assets.eaton.com/DOCUMENTATION/PDF/MZ008005ZU_Orderform_Customized_Switch.pdf</a> |