



**Non-standard switch, T0, 20 A, rear mounting, 3 contact unit(s), STOP function, With black rotary handle and locking ring**

**Part no. T0-3-SOND\*/V/SVB-SW**  
**Catalog No. 908056**

### Delivery program

|   |       |                 |  |
|---|-------|-----------------|--|
| Product range                             |       |                 | Non-standard switch  |
| Part group reference                      |       |                 | T0   |
| Stop Function                             |       |                 | STOP function  |
|   |       |                 | With black rotary handle and locking ring                              |
| <b>Notes</b>                              |       |                 | customized version according to form                                   |
| Degree of Protection                      |       |                 | Front IP65   |
| Design                                    |       |                 | rear mounting  |
|   |       |                 |  |
| <b>Motor rating AC-23A, 50 - 60 Hz</b>    |       |                 |  |
| 400 V                                     | P     | kW              | 5.5  |
| Rated uninterrupted current               | $I_u$ | A               | 20   |
| Note on rated uninterrupted current $I_u$ |       |                 | Rated uninterrupted current $I_u$ is specified for max. cross-section. |
| Number of contact units                   |       | contact unit(s) | 3  |

### Technical data

#### General

|                                       |           |      |   |
|---------------------------------------|-----------|------|---|
| 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                   |           |      |   |
| 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

|   |          |           |  |
|---|----------|-----------|--|
| Electrical characteristics                          |          |           |  |
| Rated operational voltage                           | $U_e$    | V AC      | 690  |
| Rated uninterrupted current                         | $I_u$    | A         | 20   |
| 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  |          | $x I_e$   | 2  |
| AB 40 % DF  |          | $x I_e$   | 1.6  |
| AB 60 % DF  |          | $x I_e$   | 1.3  |
| Short-circuit rating                                |          |           |  |
| Fuse  |          | A gG/gL   | 20   |
| Rated short-time withstand current (1 s current)    | $I_{cw}$ | $A_{rms}$ | 320  |
| Note on rated short-time withstand current $I_{cw}$ |          |           | Current for a time of 1 second   |
| Rated conditional short-circuit current             | $I_q$    | 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  | I <sub>e</sub> | A                 |       |
| 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                     | $I_e$             | A        | 10  |
| Contacts                                      |                   | Quantity | 1   |
| 48 V  |                   |          |   |
| Rated operational current                     | $I_e$             | A        | 10  |
| Contacts                                      |                   | Quantity | 2   |
| 60 V  |                   |          |   |
| Rated operational current                     | $I_e$             | A        | 10  |
| Contacts                                      |                   | Quantity | 3   |
| 120 V   |                   |          |   |
| Rated operational current                     | $I_e$             | A        | 5   |
| Contacts                                      |                   | Quantity | 3   |
| 240 V   |                   |          |   |
| Rated operational current                     | $I_e$             | A        | 5   |
| Contacts                                      |                   | Quantity | 5   |
| DC-13, Control switches L/R = 50 ms           |                   |          |   |
| Rated operational current                     | $I_e$             | A        | 10  |
| Voltage per contact pair in series            |                   | V        | 32  |
| Control circuit reliability at 24 V DC, 10 mA | Fault probability | $H_F$    | $< 10^{-5}$ , < 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 |

## Design verification as per IEC/EN 61439

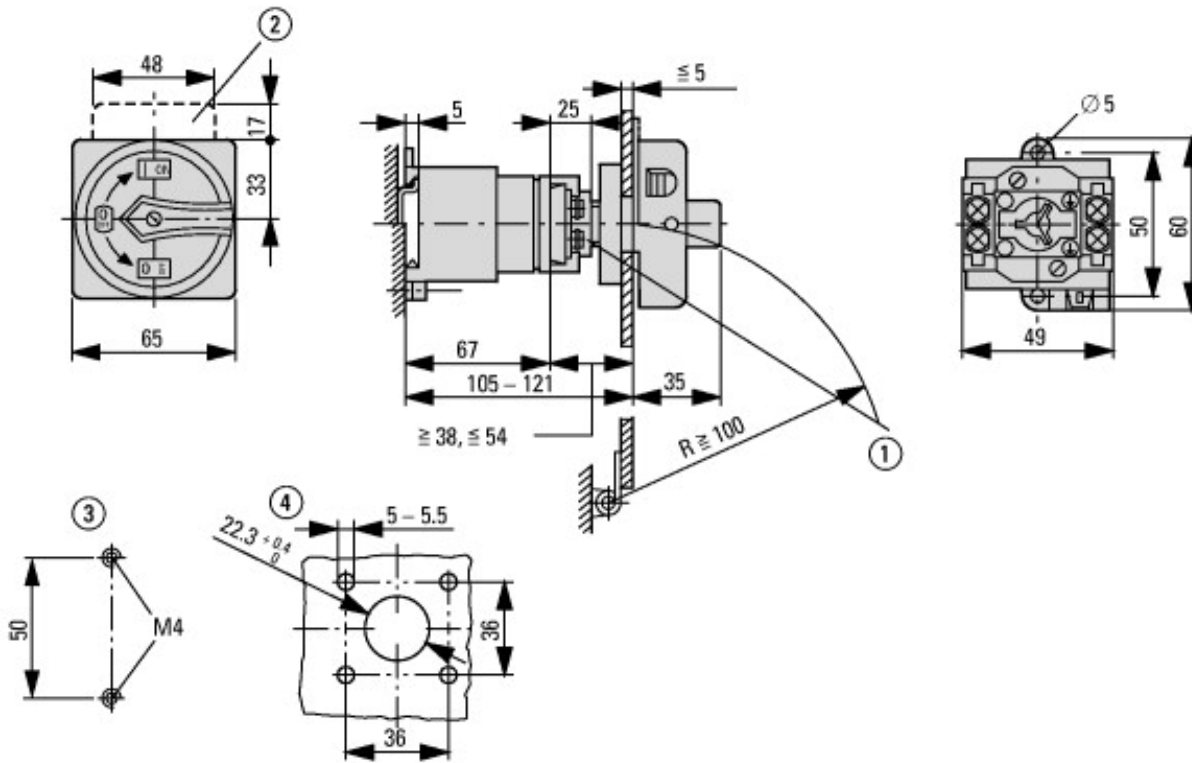
|  |            |    |  |
|--|------------|----|--|
| Technical data for design verification   |            |    |  |
| Rated operational current for specified heat dissipation   | $I_n$      | A  | 20   |
| Heat dissipation per pole, current-dependent   | $P_{vid}$  | W  | 0.6  |
| Equipment heat dissipation, 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   |            |    | 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.                         |

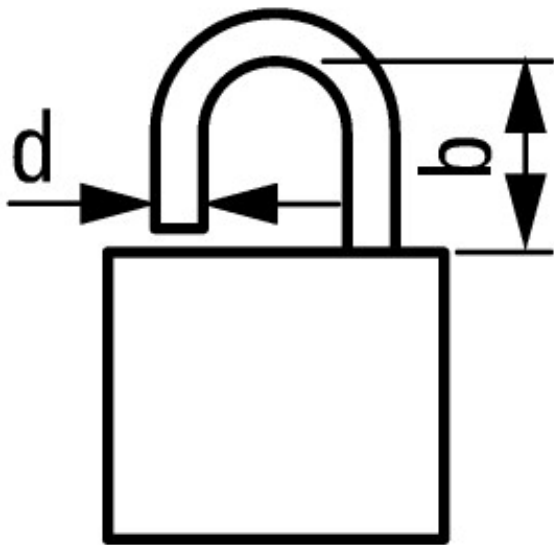
## Technical data ETIM 7.0

|   |    |  |  |
|---|----|--|--|
| 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  |    |  | No                                       |
| Version as emergency stop installation  |    |  | No                                       |
| 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   |    |  | 0  |
| 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  |    |  | Yes                                      |
| Suitable for front mounting 4-hole  |    |  | No                                       |
| Suitable for front mounting centre  |    |  | No                                       |
| Suitable for distribution board installation  |    |  | No                                       |
| Suitable for intermediate mounting  |    |  | Yes                                      |
| Colour control element  |    |  | Black                                    |
| 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



- ① Shaft and interlock extension with ZAV-T0 + ZVV-T0 possible, max. 4 x 25 = 100 mm  
 ② ZFS-... Label mount not included as standard  
 ③ Drilling dimensions base  
 ④ Drilling dimensions door



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

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

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

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

≤ 3 padlocks

## Assets (links)

### Instruction Leaflets

IL03801021Z2018\_05

## Additional product information (links)

### IL03801021Z (AWA1150-0587) Cam switch: Rear mounting

IL03801021Z (AWA1150-0587) Cam switch: Rear mounting [ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL03801021Z2018\\_05.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03801021Z2018_05.pdf)

Technical overview cam switch, switch-disconnector <http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.2>

System overview cam switch T <http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.4>

System overview switch-disconnector P <http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.6>

Key to part numbers Cam switch <http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.8>

|  |   |
|--|---|
| 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>             |