



**Main switch, T6, 160 A, rear mounting, 6 contact unit(s), 6 pole, 1 N/O, 1 N/C, Emergency switching off function, With red rotary handle and yellow locking ring, Lockable in the 0 (Off) position**

**Part no. T6-160-6/V/SVB/HI11**  
**Catalog No. 200619**

### Delivery program

|  |                |                 |   |
|--|----------------|-----------------|---|
| Product range                                      |                |                 | Main switch<br>maintenance switch<br>Repair switch                              |
| Part group reference                               |                |                 | T6  |
| Stop Function                                      |                |                 | Emergency switching off function  |
| Number of poles                                    |                |                 | With red rotary handle and yellow locking ring<br>6 pole                        |
| <b>Auxiliary contacts</b>                          |                |                 |   |
|  |                | N/O             | 1   |
|  |                | N/C             | 1   |
| Locking facility                                   |                |                 | Lockable in the 0 (Off) position  |
| Degree of Protection                               |                |                 | Front IP65  |
| Design   |                |                 | rear mounting   |
|  |                |                 |   |
| Contact sequence                                   |                |                 |   |
| Switching angle                                    |                | °               | 90  |
| Design number                                      |                |                 | 160   |
| Function   |                |                 |   |
| <b>Motor rating AC-23A, 50 - 60 Hz</b>             |                |                 |   |
| 400 V  | P              | kW              | 55  |
| Rated uninterrupted current                        | I <sub>u</sub> | A               | 160   |
| 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) | 6   |

### Technical data

|                     |  |    |   |
|---------------------|--|----|---|
| <b>General</b>      |  |    |   |
| 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 | 8000        |
| Mounting position                     |           |      | As required |

## Contacts

|   |          |           |  |
|---|----------|-----------|--|
| Mechanical variables                                |          |           |  |
| Number of poles                                     |          |           | 6 pole   |
| Auxiliary contacts                                  |          |           |  |
|   |          | N/O       | 1  |
|   |          | N/C       | 1  |
| Electrical characteristics                          |          |           |  |
| Rated operational voltage                           | $U_e$    | V AC      | 690  |
| Rated uninterrupted current                         | $I_u$    | A         | 160  |
| 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   | 160  |
| Rated short-time withstand current (1 s current)    | $I_{cw}$ | $A_{rms}$ | 3000   |
| Note on rated short-time withstand current $I_{cw}$ |          |           | Current for a time of 1 second   |
| Rated conditional short-circuit current             | $I_q$    | kA        | 30   |

## Switching capacity

|  |              |          |       |
|--|--------------|----------|-------|
| cos $\varphi$ rated making capacity as per IEC 60947-3         |              | A        | 1600  |
| Rated breaking capacity cos $\varphi$ to IEC 60947-3           |              | A        |       |
| 230 V  |              | A        | 1280  |
| 400/415 V  |              | A        | 900   |
| 500 V  |              | A        | 880   |
| 690 V  |              | A        | 340   |
| Safe isolation to EN 61140                                     |              |          |       |
| between the contacts   |              | V AC     | 440   |
| Current heat loss per contact at $I_e$                         |              | W        | 11    |
| Current heat loss per auxiliary circuit at $I_e$ (AC-15/230 V) |              | CO       | 0.2   |
| Lifespan, mechanical   | Operations   | $x 10^6$ | > 0.1 |
| Maximum operating frequency                                    | Operations/h |          | 50    |
| AC   |              |          |       |
| AC-3   |              |          |       |
| Rating, motor load switch                                      | P            | kW       |       |
| 220 V 230 V  | P            | kW       | 30    |
| 230 V Star-delta   | P            | kW       | 30    |
| 400 V 415 V  | P            | kW       | 45    |
| 400 V Star-delta   | P            | kW       | 45    |
| 500 V  | P            | kW       | 55    |
| 500 V Star-delta   | P            | kW       | 55    |
| 690 V  | P            | kW       | 37    |
| 690 V Star-delta   | P            | kW       | 37    |
| Rated operational current motor load switch                    |              |          |       |
| 230 V  | $I_e$        | A        | 103   |
| 230 V star-delta   | $I_e$        | A        | 103   |
| 400V 415 V   | $I_e$        | A        | 85    |
| 400 V star-delta   | $I_e$        | A        | 85    |
| 500 V  | $I_e$        | A        | 78    |
| 500 V star-delta   | $I_e$        | A        | 78    |
| 690 V  | $I_e$        | A        | 42    |

|   |                   |                |  |
|---|-------------------|----------------|--|
| 690 V star-delta                              | I <sub>e</sub>    | A              | 42   |
| AC-21A  |                   |                |  |
| Rated operational current switch              |                   |                |  |
| 440 V   | I <sub>e</sub>    | A              | 160  |
| AC-23A  |                   |                |  |
| Motor rating AC-23A, 50 - 60 Hz               | P                 | kW             |  |
| 230 V   | P                 | kW             | 30   |
| 400 V 415 V                                   | P                 | kW             | 55   |
| 500 V   | P                 | kW             | 75   |
| 690 V   | P                 | kW             | 37   |
| Rated operational current motor load switch   |                   |                |  |
| 230 V   | I <sub>e</sub>    | A              | 103  |
| 400 V 415 V                                   | I <sub>e</sub>    | A              | 105  |
| 500 V   | I <sub>e</sub>    | A              | 106  |
| 690 V   | I <sub>e</sub>    | A              | 42   |
| DC  |                   |                |  |
| DC-1, Load-break switches L/R = 1 ms          |                   |                |  |
| Rated operational current                     | I <sub>e</sub>    | A              | 125  |
| Voltage per contact pair in series            |                   | V              | 42   |
| DC-23A, motor load switch L/R = 15 ms         |                   |                |  |
| 24 V  |                   |                |  |
| Rated operational current                     | I <sub>e</sub>    | A              | 125  |
| Contacts                                      |                   | Quantity       | 1  |
| 48 V  |                   |                |  |
| Rated operational current                     | I <sub>e</sub>    | A              | 125  |
| Contacts                                      |                   | Quantity       | 2  |
| 60 V  |                   |                |  |
| Rated operational current                     | I <sub>e</sub>    | A              | 125  |
| Contacts                                      |                   | Quantity       | 3  |
| 120 V   |                   |                |  |
| Rated operational current                     | I <sub>e</sub>    | A              | 50   |
| Contacts                                      |                   | Quantity       | 3  |
| DC-13, Control switches L/R = 50 ms           |                   |                |  |
| Rated operational current                     | I <sub>e</sub>    | A              | 125  |
| Voltage per contact pair in series            |                   | V              | 24   |
| 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 70<br>2 x 35           |
| Flexible with ferrules to DIN 46228  |   | mm <sup>2</sup> | 1 x 50<br>2 x 25           |
| Copper strip                         | Number of segments<br>x width x thickness | mm              | 1 x 13 x 3<br>2 x 13 x 1.5 |
| Terminal screw                       |   |                 | M5, Inbus                  |
| Tightening torque for terminal screw |   | Nm              | 4.5                        |

### 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    |  |       | M5, Inbus |
| Tightening torque |  | lb-in | 39.8      |

## Design verification as per IEC/EN 61439

|  |  |  |  |
|--|--|--|--|
| Technical data for design verification |  |  |  |
|--|--|--|--|

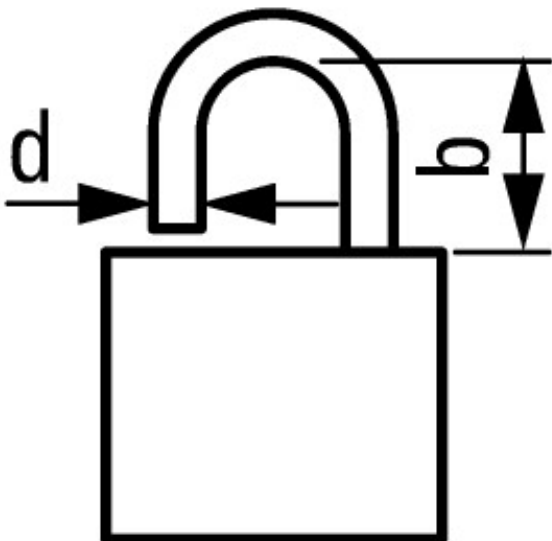
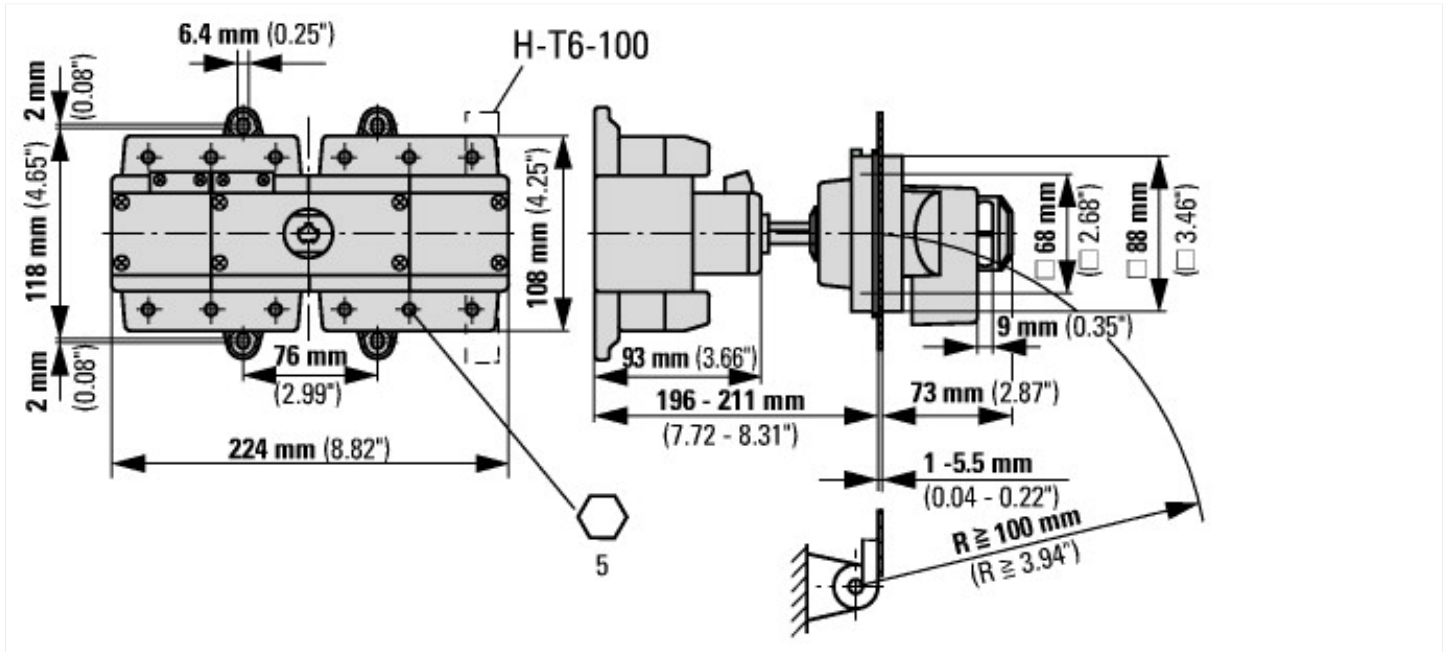
|  |            |    |  |
|--|------------|----|--|
| Rated operational current for specified heat dissipation   | $I_n$      | A  | 160  |
| Heat dissipation per pole, current-dependent   | $P_{vid}$  | W  | 11   |
| Equipment heat dissipation, current-dependent  | $P_{vid}$  | W  | 0  |
| Static heat 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  |  |    | Yes       |
| Version as reversing switch   |  |    | No        |
| Number of switches  |  |    | 1         |
| Max. rated operation voltage $U_e$ AC   |  | V  | 690       |
| Rated operating voltage   |  | V  | 690 - 690 |
| Rated permanent current $I_u$   |  | A  | 160       |
| Rated permanent current at AC-23, 400 V   |  | A  | 105       |
| Rated permanent current at AC-21, 400 V   |  | A  | 160       |
| Rated operation power at AC-3, 400 V  |  | kW | 45        |
| Rated short-time withstand current $I_{cw}$   |  | kA | 3         |
| Rated operation power at AC-23, 400 V   |  | kW | 55        |
| Switching power at 400 V  |  | kW | 55        |
| Conditioned rated short-circuit current $I_q$   |  | kA | 5         |

|   |  |
|---|--|
| Number of poles   | 6  |
| Number of auxiliary contacts as normally closed contact | 1  |
| Number of auxiliary contacts as normally open contact   | 1  |
| Number of auxiliary contacts as change-over contact     | 0  |
| Motor drive optional                                    | No                                       |
| Motor drive integrated                                  | No                                       |
| Voltage release optional                                | No                                       |
| Device construction                                     | Built-in device fixed built-in technique |
| Suitable for 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                                  | Red                                      |
| Type of control element                                 | Door coupling rotary drive               |
| Interlockable   | Yes                                      |
| Type of electrical connection of main circuit           | Other                                    |
| Degree of protection (IP), front side                   | IP65                                     |
| Degree of protection (NEMA)                             | Other                                    |

## Dimensions



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

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

$$d = 0.16 - 0.31''$$

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

## Additional product information (links)

### IL03801017Z (AWA1150-1606) Rotary switch: Main switch

|   |   |
|---|---|
| IL03801017Z (AWA1150-1606) Rotary switch: Main switch | <a href="ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03801017Z2018_04.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03801017Z2018_04.pdf</a>                           |
| Display flip catalog page.                            | <a href="http://ecat.moeller.net/flip-cat/?edition=K115A&amp;startpage=57">http://ecat.moeller.net/flip-cat/?edition=K115A&amp;startpage=57</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> |