



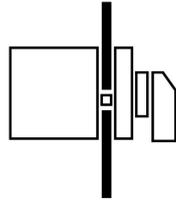
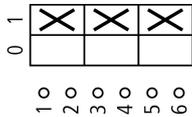
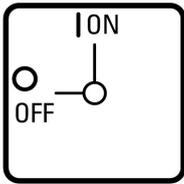
**On-Off switch, P1, 25 A, flush mounting, 3 pole, with black thumb grip and front plate**



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

**EL-Nummer (Norway) 0001456100**

**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  |
|  |                |     |                    |
| Contact sequence                                   |                |     |                   |
| Front plate no.                                    |                |     | <br><b>FS 908</b> |
| <b>Motor rating AC-23A, 50 - 60 Hz</b>             |                |     |   |
| 400 V  | P              | kW  | 11  |
| Rated uninterrupted current                        | I <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**

|                                       |  |    |  |
|---------------------------------------|--|----|--|
| <b>General</b>                        |  |    |  |
| Standards                             |  |    | IEC/EN 60947, VDE 0660, IEC/EN 60204, CSA, UL<br>Switch-disconnector according to IEC/EN 60947-3 |
| Climatic proofing                     |  |    | Damp heat, constant, to IEC 60068-2-78<br>Damp heat, cyclic, to IEC 60068-2-30                   |
| Ambient temperature                   |  |    |  |
| Open                                  |  | °C | -25 - +50  |
| Enclosed                              |  | °C | -25 - +40  |
| Overtoltage category/pollution degree |  |    | III/3  |

|                                 |           |      |             |
|---------------------------------|-----------|------|-------------|
| Rated impulse withstand voltage | $U_{imp}$ | V AC | 6000        |
| Mechanical shock resistance     |           | g    | 15          |
| Mounting position               |           |      | As required |

## Contacts

|   |          |           |  |
|---|----------|-----------|--|
| Mechanical variables                                |          |           |  |
| Number of poles                                     |          |           | 3 pole   |
| Auxiliary contacts                                  |          |           |  |
|   |          | N/O       | 0  |
|   |          | N/C       | 0  |
| Electrical characteristics                          |          |           |  |
| Rated operational voltage                           | $U_e$    | V AC      | 690  |
| Rated uninterrupted current                         | $I_u$    | A         | 25   |
| Note on rated uninterrupted current $I_u$           |          |           | Rated uninterrupted current $I_u$ is specified for max. cross-section. |
| Load rating with intermittent operation, class 12   |          |           |  |
| AB 25 % DF  |          | $x I_e$   | 2  |
| AB 40 % DF  |          | $x I_e$   | 1.6  |
| AB 60 % DF  |          | $x I_e$   | 1.3  |
| Short-circuit rating                                |          |           |  |
| Fuse  |          | A gG/gL   | 25   |
| Rated short-time withstand current (1 s current)    | $I_{cw}$ | $A_{rms}$ | 640  |
| Note on rated short-time withstand current $I_{cw}$ |          |           | Current for a time of 1 second   |
| Rated conditional short-circuit current             | $I_q$    | kA        | 50   |

## Switching capacity

|  |              |          |       |
|--|--------------|----------|-------|
| cos $\varphi$ rated making capacity as per IEC 60947-3 |              | A        | 240   |
| Rated breaking capacity cos $\varphi$ to IEC 60947-3   |              | A        |       |
| 230 V  |              | A        | 190   |
| 400/415 V  |              | A        | 150   |
| 500 V  |              | A        | 170   |
| 690 V  |              | A        | 150   |
| Safe isolation to EN 61140                             |              |          |       |
| between the contacts                                   |              | V AC     | 440   |
| Current heat loss per contact at $I_e$                 |              | W        | 1.1   |
| Lifespan, mechanical                                   | Operations   | $x 10^6$ | > 0.3 |
| Maximum operating frequency                            | Operations/h |          | 1200  |
| AC   |              |          |       |
| AC-3   |              |          |       |
| Rating, motor load switch                              | P            | kW       |       |
| 220 V 230 V  | P            | kW       | 5.5   |
| 400 V 415 V  | P            | kW       | 7.5   |
| 500 V  | P            | kW       | 7.5   |
| 690 V  | P            | kW       | 7.5   |
| Rated operational current motor load switch            |              |          |       |
| 230 V  | $I_e$        | A        | 19.6  |
| 400V 415 V   | $I_e$        | A        | 15.2  |
| 500 V  | $I_e$        | A        | 12.1  |
| 690 V  | $I_e$        | A        | 8.8   |
| AC-23A   |              |          |       |
| 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  | $I_e$        | 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>                                     |                   |                |  |
| DC-1, Load-break switches L/R = 1 ms          |                   |                |  |
| Rated operational current                     | I <sub>e</sub>    | A              | 25   |
| Voltage per contact pair in series            |                   | V              | 60   |
| DC-23A, motor load switch L/R = 15 ms         |                   |                |  |
| 24 V  |                   |                |  |
| Rated operational current                     | I <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:

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

### Rating data for approved types

|                                     |                |      |                |
|-------------------------------------|----------------|------|----------------|
| <b>Contacts</b>                     |                |      |                |
| 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 |
| <b>Switching capacity</b>           |                |      |                |
| 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             |
| <b>Short Circuit Current Rating</b> |                |      |                |
| Basic Rating                        |                |      |                |
|                                     |                | kA   | 5              |
| max. Fuse                           |                | A    | 110            |
| High fault rating                   |                |      |                |
|                                     |                | kA   | 10             |
| max. Fuse                           |                | A    | 50, Class J    |

|  |  |       |        |
|--|--|-------|--------|
| Terminal capacity                        |  |       |        |
| Solid or flexible conductor with ferrule |  | AWG   | 14 - 8 |
| Terminal screw                           |  |       | M4     |
| Tightening torque                        |  | lb-in | 14.1   |

## Design verification as per IEC/EN 61439

|  |            |    |  |
|--|------------|----|--|
| Technical data for design verification   |            |    |  |
| Rated operational current for specified heat dissipation   | $I_n$      | A  | 25   |
| Heat dissipation per pole, current-dependent   | $P_{vid}$  | W  | 1.1  |
| Equipment heat dissipation, current-dependent  | $P_{vid}$  | W  | 0  |
| Static heat dissipation, non-current-dependent   | $P_{vs}$   | W  | 0  |
| Heat dissipation capacity  | $P_{diss}$ | W  | 0  |
| Operating ambient temperature min.   |            | °C | -25  |
| Operating ambient temperature max.   |            | °C | 50   |
| IEC/EN 61439 design verification   |            |    |  |
| 10.2 Strength of materials and parts   |            |    |  |
| 10.2.2 Corrosion resistance  |            |    | Meets the product standard's requirements.   |
| 10.2.3.1 Verification of thermal stability of enclosures   |            |    | Meets the product standard's requirements.   |
| 10.2.3.2 Verification of resistance of insulating materials to normal heat   |            |    | Meets the product standard's requirements.   |
| 10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects |            |    | Meets the product standard's requirements.   |
| 10.2.4 Resistance to ultra-violet (UV) radiation   |            |    | 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

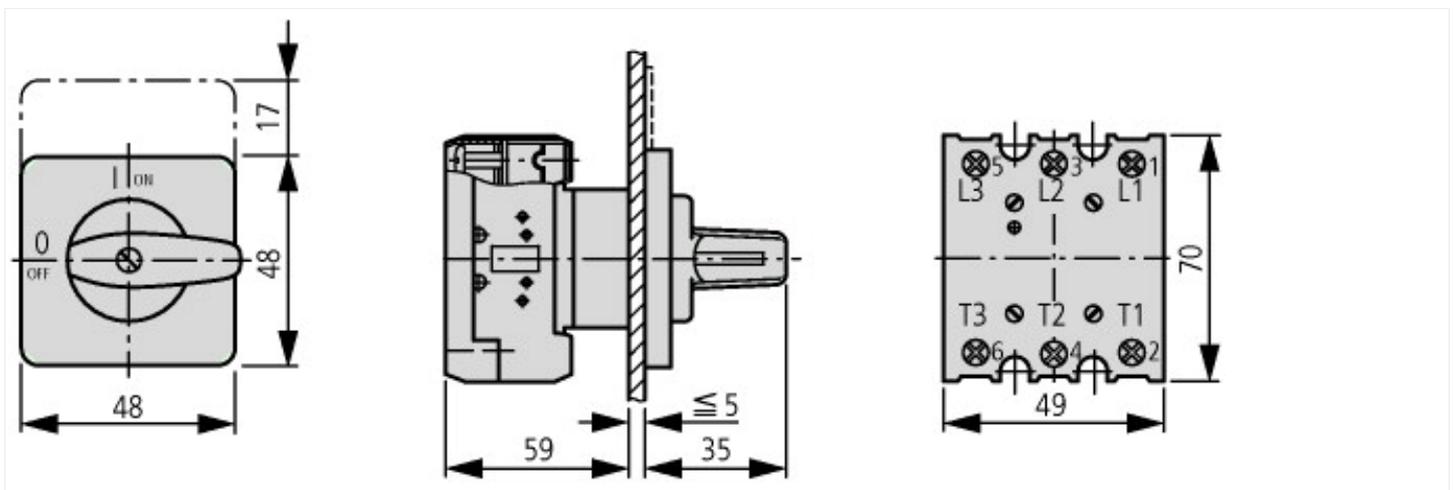
|  |  |   |           |
|--|--|---|-----------|
| Low-voltage industrial components (EG000017) / Switch disconnecter (EC000216)  |  |   |           |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnecter (ec@ss10.0.1-27-37-14-03 [AKF060013]) |  |   |           |
| Version as main switch   |  |   | No        |
| Version as maintenance-/service switch   |  |   | No        |
| Version as safety switch   |  |   | No        |
| Version as emergency stop installation   |  |   | No        |
| Version as reversing switch  |  |   | No        |
| Number of switches   |  |   | 1         |
| Max. rated operation voltage $U_e$ AC  |  | V | 690       |
| Rated operating voltage  |  | V | 690 - 690 |
| Rated permanent current $I_u$  |  | A | 25        |

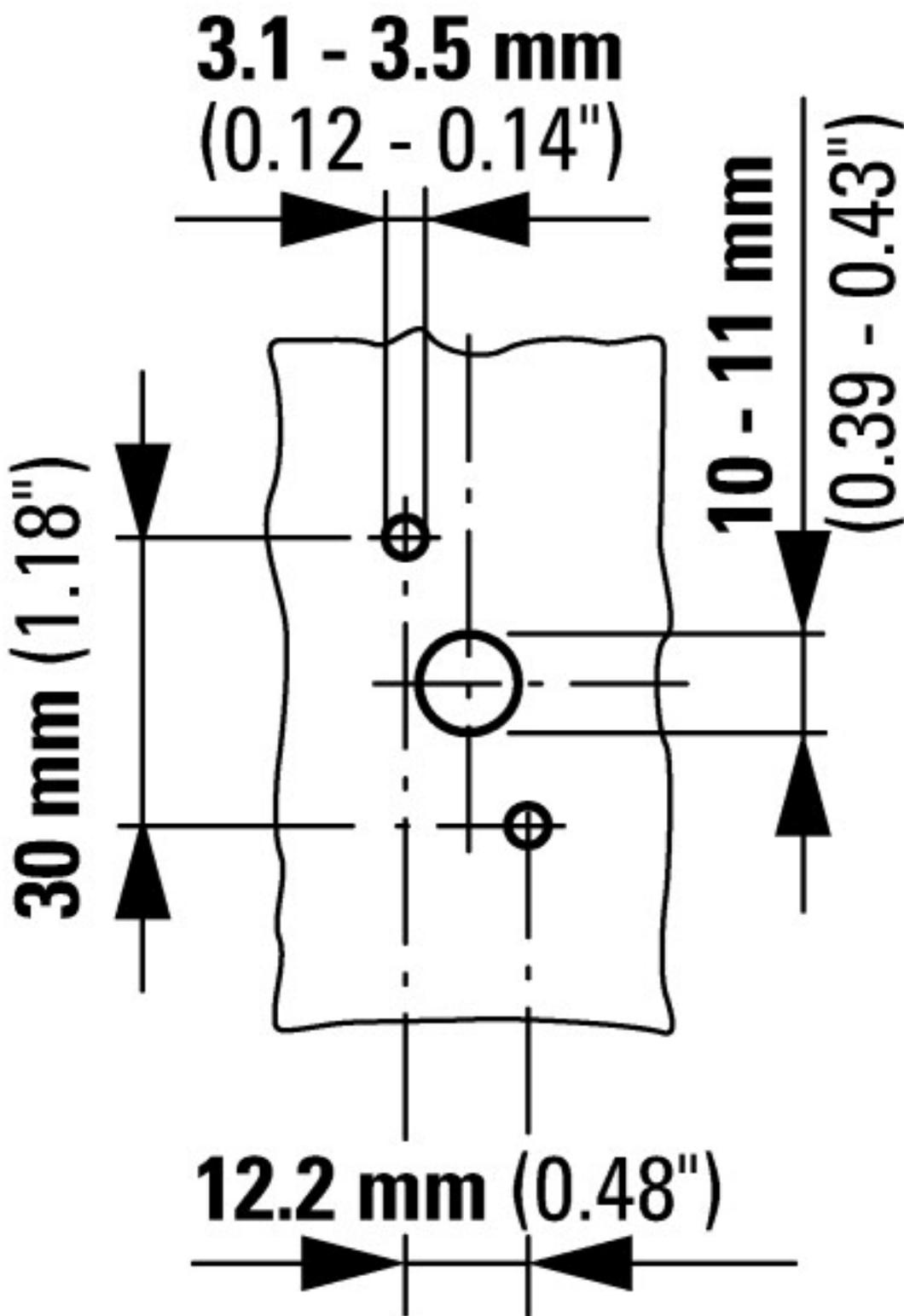
|   |    |  |
|---|----|--|
| Rated permanent current at AC-23, 400 V                 | A  | 25                                       |
| Rated permanent current at AC-21, 400 V                 | A  | 25                                       |
| Rated operation power at AC-3, 400 V                    | 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 ground 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                                 |    | Toggle                                   |
| Interlockable   |    | No                                       |
| Type of electrical connection of main circuit           |    | Screw connection                         |
| Degree of protection (IP), front side                   |    | IP65                                     |
| Degree of protection (NEMA)                             |    | 12                                       |

## Approvals

|                             |  |  |
|-----------------------------|--|--|
| Product Standards           |  | UL 60947-4-1; CSA - C22.2 No. 60947-4-1-14; CSA-C22.2 No. 94; IEC/EN 60947-3; CE marking |
| UL File No.                 |  | E36332   |
| UL Category Control No.     |  | NLRV   |
| CSA File No.                |  | 12528  |
| CSA Class No.               |  | 3211-05  |
| North America Certification |  | UL listed, CSA certified   |
| Suitable for                |  | Branch circuits, suitable as motor disconnect  |
| Degree of Protection        |  | IEC: IP65; UL/CSA Type 1, 12   |

## Dimensions





Door drilling dimensions

### Additional product information (links)

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