



Control switch, 2p, Ie=12A, 45°, maintained, replacement switch, base fixing

Part no. T0-1-15402/XZ  
 Catalog No. 009266

Similar to illustration

**Delivery program**

|  |                |                 |   |
|--|----------------|-----------------|---|
| Product range                                      |                |                 | Control switches  |
| Part group reference                               |                |                 | T0  |
| Contacts   |                |                 | 2   |
| Design   |                |                 | rear mounting<br>Basic switch   |
| Contact sequence                                   |                |                 | <br>  |
| Switching angle                                    |                | °               | 45  |
| Design number                                      |                |                 | 15402   |
| Front plate no.                                    |                |                 | <br><b>FS 415</b>   |
| <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**

|                                       |                  |      |   |
|---------------------------------------|------------------|------|---|
| <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 <sub>imp</sub> | V AC | 6000  |
| Mechanical shock resistance           |                  | g    | 15  |
| Mounting position                     |                  |      | As required   |

|  |                |                  |   |
|--|----------------|------------------|---|
| <b>Contacts</b>                                    |                |                  |   |
| 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-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  | $I_e$             | A        |   |
| Rated operational current                     | $I_e$             | 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:

|              |  |  |   |
|--------------|--|--|---|
| <b>Notes</b> |  |  | 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) / Control switch (EC002611)   |   |                 |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Control switch (ecl@ss10.0.1-27-37-14-14 [ACN998011]) |   |                 |
| Type of switch   |   | On/Off switch   |
| Number of poles  |   | 2               |
| Max. rated operation voltage Ue AC   | V | 690             |
| Rated permanent current Iu   | A | 20              |
| Number of switch positions   |   | 2               |
| With 0 (off) position  |   | Yes             |
| With retraction in 0-position  |   | No              |
| Device construction  |   | Built-in device |
| Width in number of modular spacings  |   | 0               |
| Suitable for ground mounting   |   | Yes             |
| Suitable for front mounting 4-hole   |   | No              |
| Suitable for distribution board installation   |   | No              |
| Suitable for intermediate mounting   |   | Yes             |
| Complete device in housing   |   | No              |
| Type of control element  |   | Other           |
| Front shield size  |   | 48x48 mm        |
| Degree of protection (IP), front side  |   | IP00            |
| Degree of protection (NEMA), front side  |   | Other           |