



step switch for heating, T3, 32 A, surface mounting, 2 contact unit(s),  
 Contacts: 4, 60 °, maintained, With 0 (Off) position, 0-3, design no. 95

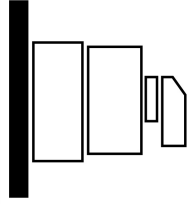
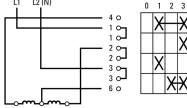
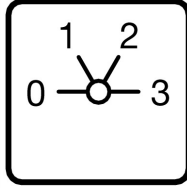
Part no. T3-2-95/12  
 Catalog No. 222855

EL-Nummer (Norway) 0001456841



Similar to illustration

## Delivery program

|  |                |                 |   |
|--|----------------|-----------------|---|
| Product range                                      |                |                 | Control switches  |
| Part group reference                               |                |                 | T3  |
| Basic function                                     |                |                 | step switch for heating<br>with black thumb grip and front plate                                      |
| Contacts   |                |                 | 4   |
| Degree of Protection                               |                |                 | IP65  |
|  |                |                 | <b>totally insulated</b>  |
| Design   |                |                 | surface mounting  |
|  |                |                 |                    |
| Contact sequence                                   |                |                 |                   |
| Switching angle                                    |                | °               | 60  |
| Switching performance                              |                |                 | maintained<br>With 0 (Off) position   |
| Design number                                      |                |                 | 95  |
| Front plate no.                                    |                |                 | <br><b>FS 616</b> |
| front plate  |                |                 | 0-3   |
| <b>Motor rating AC-23A, 50 - 60 Hz</b>             |                |                 |   |
| 400 V  | P              | kW              | 15  |
| Rated uninterrupted current                        | I <sub>u</sub> | A               | 32  |
| 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) | 2   |

## 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   |

|                                       |           |      |                                      |
|---------------------------------------|-----------|------|--------------------------------------|
|                                       |           |      | Damp heat, cyclic, to IEC 60068-2-30 |
| Ambient temperature                   |           |      |                                      |
| Enclosed                              |           | °C   | -25 - +40                            |
| Overtoltage category/pollution degree |           |      | III/3                                |
| Rated impulse withstand voltage       | $U_{imp}$ | V AC | 6000                                 |
| Mechanical shock resistance           |           | g    | 12                                   |
| Mounting position                     |           |      | As required                          |

## Contacts

|   |          |           |  |
|---|----------|-----------|--|
| Electrical characteristics                          |          |           |  |
| Rated operational voltage                           | $U_e$    | V AC      | 690  |
| Rated uninterrupted current                         | $I_u$    | A         | 32   |
| 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   | 35   |
| Rated short-time withstand current (1 s current)    | $I_{cw}$ | $A_{rms}$ | 650  |
| Note on rated short-time withstand current $I_{cw}$ |          |           | Current for a time of 1 second   |
| Rated conditional short-circuit current             | $I_q$    | kA        | 1  |

## Switching capacity

|  |              |          |       |
|--|--------------|----------|-------|
| $\cos \varphi$ rated making capacity as per IEC 60947-3        |              | A        | 320   |
| Rated breaking capacity $\cos \varphi$ to IEC 60947-3          |              | A        |       |
| 230 V  |              | A        | 260   |
| 400/415 V  |              | A        | 260   |
| 500 V  |              | A        | 240   |
| 690 V  |              | A        | 170   |
| Safe isolation to EN 61140                                     |              |          |       |
| between the contacts   |              | V AC     | 440   |
| Current heat loss per contact at $I_e$                         |              | W        | 1.1   |
| Current heat loss per auxiliary circuit at $I_e$ (AC-15/230 V) |              | CO       | 1.1   |
| Lifespan, mechanical   | Operations   | x $10^6$ | > 0.5 |
| Maximum operating frequency                                    | Operations/h |          | 1200  |
| AC   |              |          |       |
| AC-3   |              |          |       |
| Rating, motor load switch                                      | P            | kW       |       |
| 220 V 230 V  | P            | kW       | 5.5   |
| 230 V Star-delta   | P            | kW       | 7.5   |
| 400 V 415 V  | P            | kW       | 11    |
| 400 V Star-delta   | P            | kW       | 15    |
| 500 V  | P            | kW       | 15    |
| 500 V Star-delta   | P            | kW       | 18.5  |
| 690 V  | P            | kW       | 11    |
| 690 V Star-delta   | P            | kW       | 22    |
| Rated operational current motor load switch                    |              |          |       |
| 230 V  | $I_e$        | A        | 23.7  |
| 230 V star-delta   | $I_e$        | A        | 32    |
| 400V 415 V   | $I_e$        | A        | 23.7  |
| 400 V star-delta   | $I_e$        | A        | 32    |
| 500 V  | $I_e$        | A        | 23.7  |
| 500 V star-delta   | $I_e$        | A        | 32    |
| 690 V  | $I_e$        | A        | 14.7  |
| 690 V star-delta   | $I_e$        | A        | 25.5  |

|   |                   |                |  |
|---|-------------------|----------------|--|
| <b>AC-23A</b>                                 |                   |                |  |
| Motor rating AC-23A, 50 - 60 Hz               | P                 | kW             |  |
| 230 V   | P                 | kW             | 7.5  |
| 400 V 415 V                                   | P                 | kW             | 15   |
| 500 V   | P                 | kW             | 15   |
| 690 V   | P                 | kW             | 15   |
| Rated operational current motor load switch   |                   |                |  |
| 230 V   | I <sub>e</sub>    | A              | 32   |
| 400 V 415 V                                   | I <sub>e</sub>    | A              | 32   |
| 500 V   | I <sub>e</sub>    | A              | 26.4   |
| 690 V   | I <sub>e</sub>    | A              | 17   |
| <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-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              | 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       | 3  |
| 120 V   |                   |                |  |
| Rated operational current                     | I <sub>e</sub>    | A              | 12   |
| 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              | 20   |
| 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 (1 - 6)<br>2 x (1 - 6)       |
| Flexible with ferrules to DIN 46228  |  | mm <sup>2</sup> | 1 x (0.75 - 4)<br>2 x (0.75 - 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    | 25  |
| Auxiliary contacts               |                |      |     |
| General Use                      | I <sub>U</sub> | A    | 10  |

|  |       |      |             |
|--|-------|------|-------------|
| Pilot Duty                               |       |      | A 600       |
| Switching capacity                       |       |      |             |
| Maximum motor rating                     |       |      |             |
| Single-phase                             |       |      |             |
| 120 V AC                                 | HP    |      | 1.5         |
| 200 V AC                                 | HP    |      | 3           |
| 240 V AC                                 | HP    |      | 3           |
| Three-phase                              |       |      |             |
| 200 V AC                                 | HP    |      | 3           |
| 240 V AC                                 | HP    |      | 3           |
| 480 V AC                                 | HP    |      | 7.5         |
| 600 V AC                                 | HP    |      | 10          |
| Short Circuit Current Rating             |       | SCCR |             |
| Basic Rating                             | kA    |      | 5           |
| max. Fuse                                | A     |      | 40          |
| High fault rating                        | kA    |      | 10          |
| max. Fuse                                | A     |      | 40, Class J |
| Terminal capacity                        |       |      |             |
| Solid or flexible conductor with ferrule | AWG   |      | 14 - 10     |
| Terminal screw                           |       |      | M4          |
| Tightening torque                        | lb-in |      | 17.7        |

## Design verification as per IEC/EN 61439

|  |            |    |  |
|--|------------|----|--|
| Technical data for design verification   |            |    |  |
| Rated operational current for specified heat dissipation   | $I_n$      | A  | 32   |
| 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 | 40   |
| IEC/EN 61439 design verification   |            |    |  |
| 10.2 Strength of materials and parts   |            |    |  |
| 10.2.2 Corrosion resistance  |            |    |  |
| 10.2.2.1 Verification of thermal stability of enclosures   |            |    | Meets the product standard's requirements.                         |
| 10.2.2.2 Verification of resistance of insulating materials to normal heat   |            |    | Meets the product standard's requirements.                         |
| 10.2.2.3 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  |            |    |  |
| 10.4 Clearances and creepage distances   |            |    |  |
| 10.5 Protection against electric shock   |            |    |  |
| 10.6 Incorporation of switching devices and components   |            |    |  |
| 10.7 Internal electrical circuits and connections  |            |    |  |
| 10.8 Connections for external conductors   |            |    |  |
| 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   |            |    |  |
| 10.11 Short-circuit rating   |            |    |  |
| The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices. |            |    |  |
| 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)

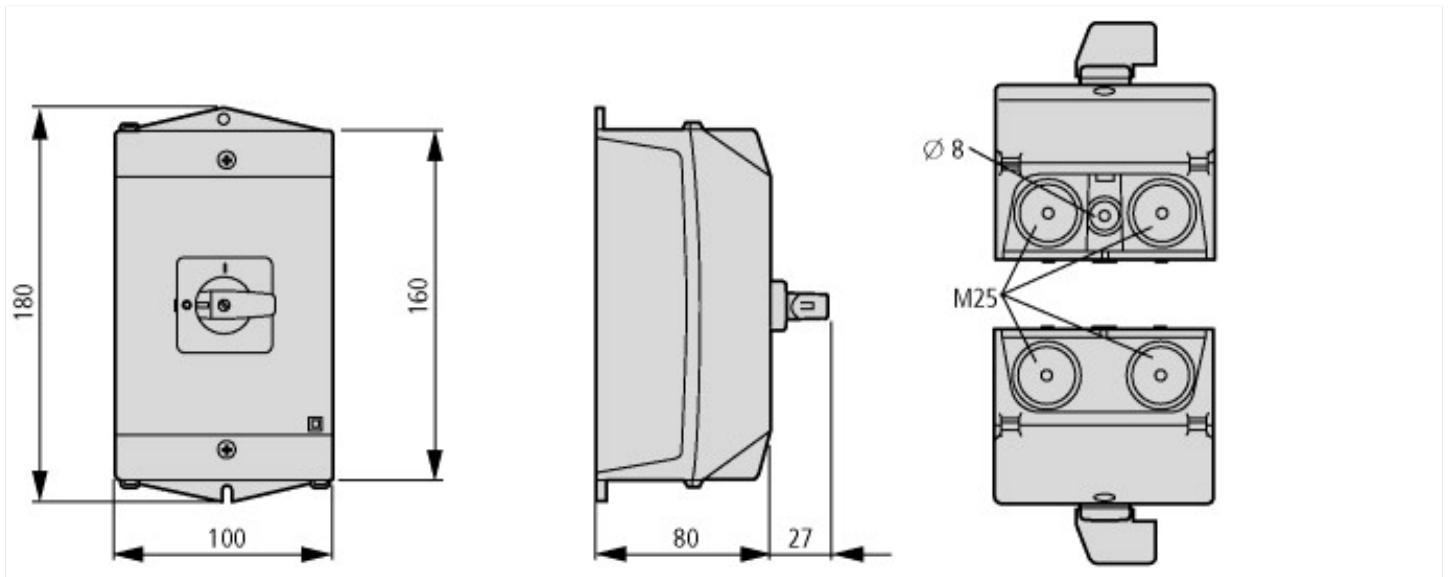
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Control switch (ecl@ss10.0.1-27-37-14-14 [ACN998011])

|  |   |                        |
|--|---|------------------------|
| Type of switch                               |   | Level switch           |
| Number of poles                              |   | 1                      |
| Max. rated operation voltage Ue AC           | V | 690                    |
| Rated permanent current Iu                   | A | 32                     |
| Number of switch positions                   |   | 4                      |
| With 0 (off) position                        |   | Yes                    |
| With retraction in 0-position                |   | No                     |
| Device construction                          |   | Surface mounted 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           |   | No                     |
| Complete device in housing                   |   | Yes                    |
| Type of control element                      |   | Toggle                 |
| Front shield size                            |   | 48x48 mm               |
| Degree of protection (IP), front side        |   | IP65                   |
| Degree of protection (NEMA), front side      |   | 12                     |

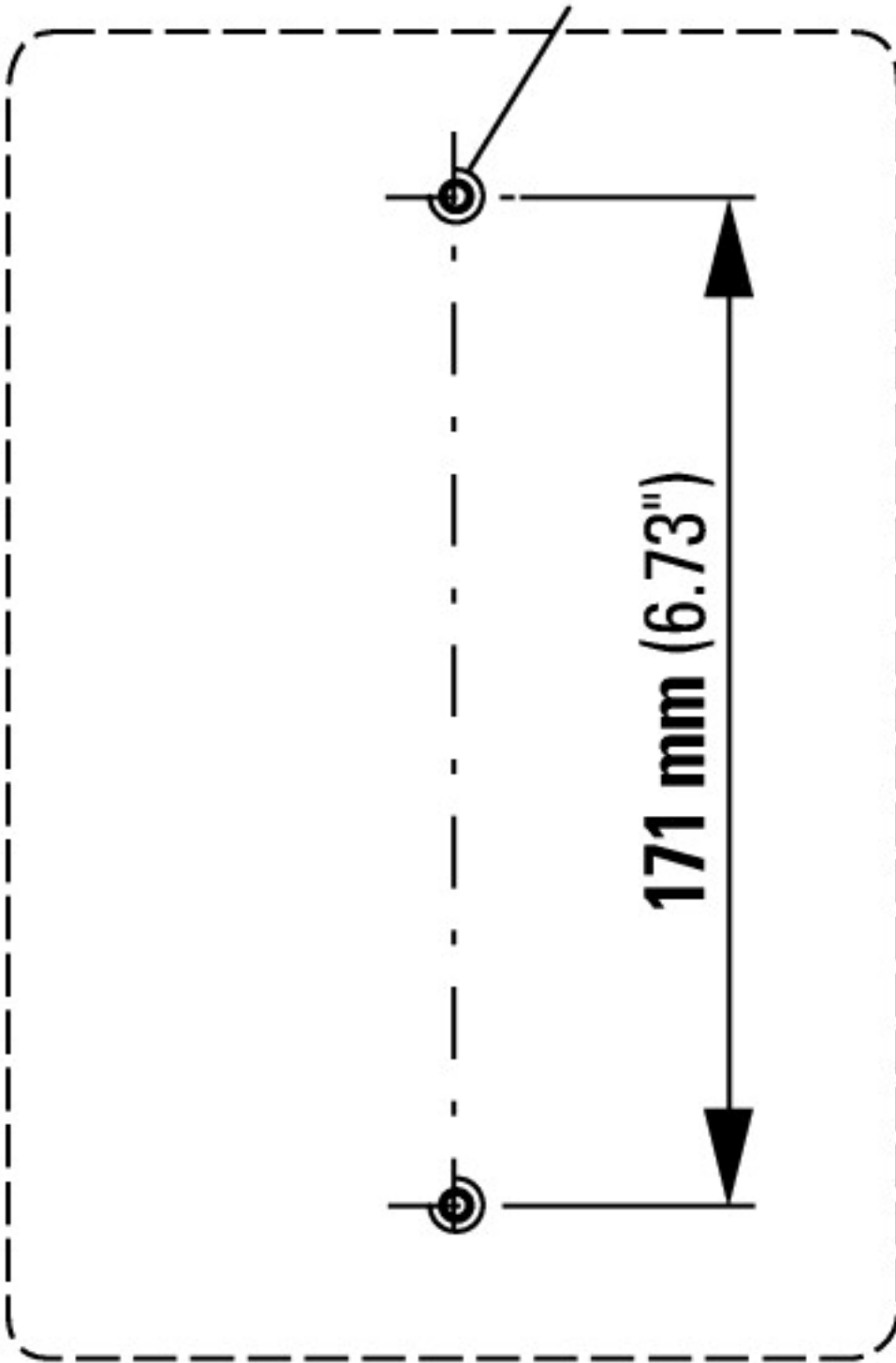
## Approvals

|                                      |  |   |
|--------------------------------------|--|---|
| 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.                        |  | 3211-07   |
| North America Certification          |  | UL listed, CSA certified  |
| Specially designed for North America |  | Yes, additional labeling according to UL on the enclosure in combination with "+NA-I2" (105866) |
| Suitable for                         |  | Branch circuits, suitable as motor disconnect   |
| Degree of Protection                 |  | IEC: IP65; UL/CSA Type 1, 12  |

## Dimensions



M4



Drilling dimensions base