

Changeoverswitches, T3, 32 A, surface mounting, 4 contact unit(s),  
Contacts: 8, 60 °, maintained, With 0 (Off) position, 1-0-2, design no. 8213

Part no. T3-4-8213/I2  
Catalog No. 207191

## Delivery program

|                                                    |                |                 |                                                                                 |
|----------------------------------------------------|----------------|-----------------|---------------------------------------------------------------------------------|
| Product range                                      |                |                 | Control switches                                                                |
| Part group reference                               |                |                 | T3                                                                              |
| Basic function                                     |                |                 | Changeoverswitches<br>with black thumb grip and front plate                     |
| Contacts                                           |                |                 | 8                                                                               |
| Degree of Protection                               |                |                 | IP65                                                                            |
| Design                                             |                |                 | surface mounting                                                                |
| Switching angle                                    |                | °               | 60                                                                              |
| Switching performance                              |                |                 | maintained<br>With 0 (Off) position                                             |
| Design number                                      |                |                 | 8213                                                                            |
| front plate                                        |                |                 | 1-0-2                                                                           |
| <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) | 4                                                                               |

## Technical data

### General

|                                       |                  |      |                                                                                                  |
|---------------------------------------|------------------|------|--------------------------------------------------------------------------------------------------|
| 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                   |                  |      |                                                                                                  |
| 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    | 12                                                                                               |
| Mounting position                     |                  |      | As required                                                                                      |

### Contacts

|                                                            |                 |                  |                                                                                 |
|------------------------------------------------------------|-----------------|------------------|---------------------------------------------------------------------------------|
| Electrical characteristics                                 |                 |                  |                                                                                 |
| Rated operational voltage                                  | U <sub>e</sub>  | V AC             | 690                                                                             |
| 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. |
| 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          | 35                                                                              |
| Rated short-time withstand current (1 s current)           | I <sub>cw</sub> | A <sub>rms</sub> | 650                                                                             |
| 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               | 1                                                                               |

### Switching capacity

|                                                |  |   |     |
|------------------------------------------------|--|---|-----|
| cos φ 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   | $\times 10^6$ | > 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  |
| AC-23A                                                         |              |               |       |
| 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                                                          | $I_e$        | A             | 32    |
| 400 V 415 V                                                    | $I_e$        | A             | 32    |
| 500 V                                                          | $I_e$        | A             | 26.4  |
| 690 V                                                          | $I_e$        | A             | 17    |
| DC                                                             |              |               |       |
| DC-1, Load-break switches L/R = 1 ms                           |              |               |       |
| Rated operational current                                      | $I_e$        | A             | 25    |
| 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             | 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:

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

#### Rating data for approved types

|                                          |                |       |             |
|------------------------------------------|----------------|-------|-------------|
| Contacts                                 |                |       |             |
| 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 <sub>n</sub>    | A  | 32                                                                                                                               |
| Heat dissipation per pole, current-dependent                                                                           | P <sub>vid</sub>  | W  | 1.1                                                                                                                              |
| Equipment heat dissipation, current-dependent                                                                          | P <sub>vid</sub>  | W  | 0                                                                                                                                |
| Static heat dissipation, non-current-dependent                                                                         | P <sub>vs</sub>   | W  | 0                                                                                                                                |
| Heat dissipation capacity                                                                                              | P <sub>diss</sub> | 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                                                                                            |                   |    | 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 8.0

|                                                                                                                                                                                                             |  |    |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----|----------|
| Low-voltage industrial components (EG000017) / Off-load switch (EC001105)                                                                                                                                   |  |    |          |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Changeover switch (ecl@ss10.0.1-27-37-14-05 [AKF062013]) |  |    |          |
| Model                                                                                                                                                                                                       |  |    | Reverser |
| Number of poles                                                                                                                                                                                             |  |    | 4        |
| With zero (off) position                                                                                                                                                                                    |  |    | Yes      |
| With retraction in 0-position                                                                                                                                                                               |  |    | No       |
| Rated permanent current I <sub>u</sub>                                                                                                                                                                      |  | A  | 32       |
| Rated operation current I <sub>e</sub> at AC-3, 400 V                                                                                                                                                       |  | A  | 23.7     |
| Rated operation power at AC-3, 400 V                                                                                                                                                                        |  | kW | 12       |
| Degree of protection (IP), front side                                                                                                                                                                       |  |    | IP65     |
| Degree of protection (NEMA), front side                                                                                                                                                                     |  |    | 12       |
| 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        |
| Suitable for floor mounting                                                                                                                                                                                 |  |    | Yes      |
| Suitable for front mounting                                                                                                                                                                                 |  |    | No       |
| Suitable for distribution board installation                                                                                                                                                                |  |    | No       |
| Suitable for intermediate mounting                                                                                                                                                                          |  |    | No       |

|                                               |  |  |                  |
|-----------------------------------------------|--|--|------------------|
| Complete device in housing                    |  |  | Yes              |
| Material housing                              |  |  | Plastic          |
| Type of control element                       |  |  | Short thumb-grip |
| Type of electrical connection of main circuit |  |  | Screw connection |