

## Contacts: 8, 20 A, 45 °, rear mounting, Basic switch

Powering Business Worldwide<sup>™</sup>

T0-4-15132/XZ Part no. Article no. 013645

# **Delivery program**

| Product range                   |                |                    | Control switches              |
|---------------------------------|----------------|--------------------|-------------------------------|
|                                 |                |                    |                               |
| Part group reference            |                |                    | T0                            |
| Contacts                        |                |                    | 8                             |
| Design                          |                |                    | rear mounting<br>Basic switch |
| Contact sequence                |                |                    | 10                            |
| Switching angle                 |                | 0                  | 45                            |
| Front plate no.                 |                |                    | FS 422                        |
| Motor rating AC-23A, 50 - 60 Hz |                |                    |                               |
| 400 V                           | P              | kW                 | 5.5                           |
| Rated uninterrupted current     | l <sub>u</sub> | Α                  | 20                            |
| Number of contact units         |                | contact<br>unit(s) | 4                             |

### **Technical data**

| General   |                  |      |   |
|---|------------------|------|---|
| 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   |
| Protection against direct contact when actuated from front (EN 50274) |                  |      | Finger and back-of-hand proof   |
| Contacts  |                  |      |   |

| Contacts  |                |                  |   |
|---|----------------|------------------|---|
| Electrical characteristics                        |                |                  |   |
| Rated operational voltage                         | U <sub>e</sub> | V AC             | 690   |
| Rated uninterrupted current                       | Iu             | Α                | 20  |
| Note on rated uninterrupted current $!_{u}$       |                |                  | Rated uninterrupted current lu 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 lcw                          | CVV             | IIIIS             | Current for a time of 1 second |
| Rated conditional short-circuit current                                 | Iq              | kA                | 6                              |
| Switching capacity  | 14              | IV-1              |                                |
| cos φ rated making capacity as per IEC 60947-3                          |                 | Α                 | 130                            |
| Rated breaking capacity cos φ to IEC 60947-3                            |                 | Α                 |                                |
| 230 V   |                 | Α                 | 100                            |
| 400/415 V   |                 | Α                 | 110                            |
| 500 V   |                 | Α                 | 80                             |
| 690 V   |                 | Α                 | 60                             |
| Safe isolation to EN 61140  |                 |                   |                                |
| between the contacts  |                 | V AC              | 440                            |
| Current heat loss per contact at l <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    | X 10              | 1200                           |
| AC  | Operations/ii   |                   | 1200                           |
| AC-3  |                 |                   |                                |
| Rating, motor load switch   | Р               | kW                |                                |
| 220 V 230 V   | P               | kW                | 3                              |
| 220 V 230 V<br>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                             | r               | KVV               | 3.3                            |
| 230 V   | 1               | A                 | 11.5                           |
|   | I <sub>e</sub>  |                   |                                |
| 230 V star-delta  | l <sub>e</sub>  | A                 | 20                             |
| 400V 415 V  | l <sub>e</sub>  | Α                 | 11.5                           |
| 400 V star-delta  | l <sub>e</sub>  | А                 | 20                             |
| 500 V   | l <sub>e</sub>  | Α                 | 9                              |
| 500 V star-delta  | le              | Α                 | 15.6                           |
| 690 V   | l <sub>e</sub>  | Α                 | 4.9                            |
| 690 V star-delta  | l <sub>e</sub>  | Α                 | 8.5                            |
| AC-21A  |                 |                   |                                |
| Rated operational current switch  |                 |                   |                                |
| 440 V   | I <sub>e</sub>  | Α                 | 20                             |
| AC-23A  |                 |                   |                                |
| Motor rating AC-23A, 50 - 60 Hz   | Р               | kW                |                                |
| 230 V   | Р               | kW                | 3                              |
| 400 V 415 V   | Р               | kW                | 5.5                            |
| 500 V   | Р               | kW                | 7.5                            |
| 690 V   | Р               | kW                | 5.5                            |
| Rated operational current motor load switch                             |                 |                   |                                |
| 230 V   | l <sub>e</sub>  | Α                 | 13.3                           |
| 400 V 415 V   | I <sub>e</sub>  | Α                 | 13.3                           |
| 500 V   | I <sub>e</sub>  | Α                 | 13.3                           |
| 690 V   | I <sub>e</sub>  | A                 | 7.6                            |
| DC  | ·e              | ,,                |                                |
|   |                 |                   |                                |
| DC-1, Load-break switches L/R = 1 ms                                    |                 | ۸                 | 10                             |
| Rated operational current   | l <sub>e</sub>  | A                 | 10                             |
| Voltage per contact pair in series                                      |                 | V                 | 60                             |

| DC-21A   | I <sub>e</sub>    | Α                   |  |
|--|-------------------|---------------------|--|
| Rated operational current  | I <sub>e</sub>    | Α                   | 1  |
| Contacts   |                   | Quantity            | 1  |
| DC-23A, motor load switch L/R = 15 ms                                      |                   |                     |  |
| 24 V   |                   |                     |  |
| Rated operational current  | I <sub>e</sub>    | Α                   | 10   |
| Contacts   |                   | Quantity            | 1  |
| 48 V   |                   | ·                   |  |
| Rated operational current  | I <sub>e</sub>    | Α                   | 10   |
| Contacts   |                   | Quantity            | 2  |
| 60 V   |                   | · ·                 |  |
| Rated operational current  | I <sub>e</sub>    | Α                   | 10   |
| Contacts   |                   | Quantity            | 3  |
| 120 V  |                   | ,                   |  |
| Rated operational current  | I <sub>e</sub>    | Α                   | 5  |
| Contacts   | ·                 | Quantity            |  |
| 240 V  |                   |                     |  |
| Rated operational current  | I <sub>e</sub>    | Α                   | 5  |
| Contacts   | G                 | Quantity            |  |
| DC-13, Control switches L/R = 50 ms  |                   | Quantity            |  |
| Rated operational current  | I <sub>e</sub>    | Α                   | 10   |
| Voltage per contact pair in series   | 'e                | V                   | 32   |
| Control circuit reliability at 24 V DC, 10 mA                              | Fault             | V<br>H <sub>F</sub> |  |
| CONTROL CHECKET GRADUITLY AT 24 V DO, TO THA                               | probability       | ''F                 | < 10 <sup>-5</sup> , < 1 fault in 100000 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)   |
|  |                   | """"                | 2 x (0.75 - 2.5)   |
| Terminal screw   |                   |                     | M3.5   |
| Max. tightening torque   |                   | Nm                  | 1  |
| Technical safety parameters:   |                   |                     | P10, values as per EN ISO 12040 1, table C1  |
| Notes Rating data for approved types                                       |                   |                     | B10 <sub>d</sub> values as per EN ISO 13849-1, table C1                                |
| 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                   | In                | Α                   | 20   |
| Heat dissipation per pole, current-dependent                               | P <sub>vid</sub>  | W                   | 0.6  |
| 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  |                   | W                   | 0  |
|  | P <sub>diss</sub> |                     |  |
| 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.  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.   |

Meets the product standard's requirements.

Does not apply, since the entire switchgear needs to be evaluated.

Does not apply, since the entire switch gear needs to be evaluated.  $% \label{eq:continuous}$ 

Please enquire

10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects  $\,$ 

10.2.4 Resistance to ultra-violet (UV) radiation

10.2.5 Lifting

10.2.6 Mechanical impact

| 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 6.0**

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@ss8.1-27-37-14-14 [ACN998008])

| Type of switch                               |   | Level switch    |
|--|---|-----------------|
| Number of poles                              |   | 2               |
| Max. rated operation voltage Ue AC           | V | 690             |
| Rated permanent current lu                   | Α | 20              |
| Number of switch positions                   |   | 5               |
| With 0 (off) position                        |   | No              |
| 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                      |   |                 |
| Front shield size                            |   | 48x48 mm        |
| Degree of protection (IP), front side        |   | IP00            |
|  |   |                 |

# **Additional product information (links)**

Display flip catalog page. http://ecat.moeller.net/flip-cat/?edition=K115A&startpage=78