


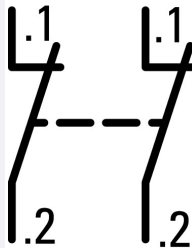


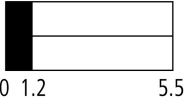


Contact element, Cage Clamp, Front fixing, 2 NC, 24 V 3 A, 220 V 230 V 240 V 4 A

Part no. M22-CK02
Catalog No. 107899
Alternate Catalog No. M22-CK02Q
EL-Nummer (Norway) 4355493

Delivery program

| | | |
|---|----|--|
| Product range | | Accessories |
| Basic function accessories | | Contact elements |
| Accessories | | Auxiliary contact |
| Accessories | | Standard auxiliary contact, trip-indicating auxiliary switch |
| Standard/Approval | | UL/CSA, IEC |
| Construction size | | NZM1/2/3/4 |
| Description | | When using emergency switching off actuators M22-PV... max. 2 contact elements = 4 NC / N/O contacts Cage Clamp is a registered trademark of Wago Kontakttechnik GmbH/Minden, Germany |
| Connection technique | | Cage Clamp |
| Fixing | | Front fixing |
| Degree of Protection | | IP20 |
| Connection to SmartWire-DT | | no |
| For use with | | NZM1(-4), 2(-4), 3(-4), 4(-4) PN1(-4), 2(-4), 3(-4) N(S)1(-4), 2(-4), 3(-4), 4(-4) |
| Approval | |  |
| Contacts | | |
| N/C = Normally closed | | 2 NC  |
| Notes | |  = safety function, by positive opening to IEC/EN 60947-5-1 |
| Actuator travel and actuation force as per DIN EN 60947-5-1, K.5.4.1 | | |
| | mm | 4.8 |
| Maximum travel | mm | 5.7 |
| Minimum force for positive opening | N | 20 |
| Contact sequence | |  |
| Contact travel diagram, stroke in connection with front element | | |

| | | |
|---|--|---|
| Contact diagram | |  |
| Connection type | | Double contact |
| Description of HIA trip-indicating auxiliary contact | | General trip indication '+', when tripped by shunt release, overload release, short-circuit release or by the residual-current release due to residual-current. Can be used with NZM1, 2, 3 circuit-breaker: a trip-indicating auxiliary contact can be clipped into the circuit-breaker. Can be used with NZM4 circuit-breaker: up to two standard auxiliary contacts can be clipped into the circuit-breaker. Any combinations of the auxiliary contact types are possible. Not in combination with switch-disconnector PN... Marking on switch: HIA Labeling in FI-Block: HIAFI. If the trip-indicating auxiliary switch in the fault current block is used, the NC contacts operates as a N/O contact and the NC contact operates as an N/O contact. |
| Description standard auxiliary contact HIN | | Switching with the main contacts Used for indicating and interlocking tasks. Can be used with NZM1 circuit-breaker: a standard auxiliary contact can be clipped into the circuit-breaker. Can be used with NZM2 size circuit-breaker: a standard auxiliary contact can be clipped into the circuit-breaker. Can be used with NZM3, 4 circuit-breaker: up to three standard auxiliary contacts can be clipped into the circuit-breaker. Any combinations of the auxiliary contact types are possible. Marking on switch: HIN. On combination with remote operator NZM-XR... the right mounting location of standard auxiliary contact HIN can be fitted only with individual contacts. |
| Connection technique | | Cage Clamp |
| Notes | | |
| The following can be clipped into the switches: | | |
| <ul style="list-style-type: none"> NZM1: a standard auxiliary contact NZM2: up to two M22-(C)K... standard auxiliary contacts NZM3: up to three M22-(C)K... standard auxiliary contacts NZM4: up to three M22-(C)K... standard auxiliary contacts | | |
| Any combinations of the auxiliary contact types are possible. | | |
| Marking on switch: HIN | | |
| In combination with remote operator NZM-XR... only single contacts can be fitted to some installation locations of the standard auxiliary contact. | | |
| NZM2: Only single contact can be fitted in left installation location of standard auxiliary contact. | | |
| NZM3: Only single contact can be fitted in installation locations of standard auxiliary contact. | | |
| NZM4: Only single contact can be fitted in right installation location of standard auxiliary contact. | | |

Technical data

General

| | | | |
|-----------------------|-----------------|--|--|
| Standards | | | IEC 60947-5-1 |
| Operating frequency | Operations/h | | ≤ 3600 |
| Actuating force | n | | ≤ 10 |
| Degree of Protection | | | IP20 |
| Climatic proofing | | | Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30 |
| Ambient temperature | | | |
| Open | °C | | -25 - +70 |
| Terminal capacities | mm ² | | |
| Solid | mm ² | | 0.5 - 1.5 |
| Stranded | mm ² | | 0.5 - 1.5 |
| Flexible with ferrule | mm ² | | 0.5 - 1.5 |

Contacts

| | | | |
|---------------------------------------|------------------|-------------------|---|
| Rated impulse withstand voltage | U _{imp} | V AC | 4000 |
| Rated insulation voltage | U _i | V | 250 |
| Overvoltage category/pollution degree | | | III/3 |
| Control circuit reliability | | | |
| at 24 V DC/5 mA | H _F | Fault probability | < 10 ⁻⁷ (i.e. 1 failure to 10 ⁷ operations) |
| at 5 V DC/1 mA | H _F | Fault probability | < 5 x 10 ⁻⁶ (i.e. 1 failure in 5 x 10 ⁶ operations) |
| Max. short-circuit protective device | | | |

| | | | |
|----------|-------|------|-------------------|
| Fuseless | | Type | PKZM0-10/FAZ-B6/1 |
| Fuse | gG/gL | A | 10 |

Switching capacity

| | | | |
|---------------------------|-------|---|-----|
| Rated operational current | I_e | A | |
| AC-15 | | | |
| 115 V | I_e | A | 4 |
| 220 V 230 V 240 V | I_e | A | 4 |
| DC-13 | | | |
| 24 V | I_e | A | 3 |
| 42 V | I_e | A | 1 |
| 60 V | I_e | A | 0.8 |
| 110 V | I_e | A | 0.5 |
| 220 V | I_e | A | 0.3 |

Auxiliary contacts

| | | | |
|--|------------------------------|-------------------|---|
| Rated operational voltage | U_e | V | |
| Rated operational voltage | U_e | V AC | 230 |
| Rated operational voltage, max. | U_e | V DC | 220 |
| Conventional thermal current | $I_{th} = I_e$ | CSA | 4 |
| Rated operational current | I_e | A | |
| Different rated operational currents when used as auxiliary contact for NZM circuit-breaker | | | |
| | | | M22- (C)K10(01) M22- CK11(02) XHIV (20) |
| | | bei AC = 50/60 Hz | |
| | Bemessungs- betriebsstrom | | |
| | AC-15 115 V | I_e A | 4 4 4 |
| | 230 V | I_e A | 4 4 4 |
| | 400 V | I_e A | 2 - 2 |
| | 500 V | I_e A | 1 - 1 |
| | DC-13 24 V | I_e A | 3 3 3 |
| | 42 V | I_e A | 1.7 1 1.5 |
| | 60 V | I_e A | 1.2 0.8 0.8 |
| | 110 V | I_e A | 0.6 0.5 0.5 |
| | 220 V | I_e A | 0.3 0.2 0.2 |
| Rated conditional short-circuit current | I_q | kA | 1 |
| Short-circuit protection | | | |
| max. fuse | | A gG/gL | 10 |
| Max. miniature circuit-breaker | | A | FAZ-B6/B1 |
| Operating times | | | Early-make time of the HIV compared to the main contacts during with make and break switching. (switch times with manual operation): NZM1, PN1, N(S)1: ca. 20 ms NZM2, PN2, N(S)2: ca. 20 ms NZM3, PN3, N(S)3: ca. 20 ms NZM4, N(S)4: approx. 90 ms, the HIV switch early Off switching not forward. |
| Terminal capacities | | mm ² | |
| Solid or flexible conductor, with ferrule | | mm ² | 1 x (0,5 - 1,5) 2 x (0,5 - 0,75) |
| | | AWG | 1 x (20 - 18) 2 x (20 - 18) |
| Other technical data (sheet catalogue) | | | Maximum equipment and position of the internal accessories |

Design verification as per IEC/EN 61439

| | | | |
|--|-------|---|---|
| Technical data for design verification | | | |
| Rated operational current for specified heat dissipation | I_n | A | 4 |

| | | | |
|--|-------------------|----|--|
| Heat dissipation per pole, current-dependent | P _{vid} | W | 0.05 |
| 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 | 70 |
| 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 | | | Meets the product standard's requirements. |
| 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) / Auxiliary contact block (EC000041) | | | |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Component for low-voltage switching technology / Auxiliary switch block (ecl@ss10.0.1-27-37-13-02 [AKN342013]) | | | |
| Number of contacts as change-over contact | | | 0 |
| Number of contacts as normally open contact | | | 0 |
| Number of contacts as normally closed contact | | | 2 |
| Number of fault-signal switches | | | 0 |
| Rated operation current I _e at AC-15, 230 V | | A | 6 |
| Type of electric connection | | | Spring clamp connection |
| Model | | | Top mounting and integrable |
| Mounting method | | | Front fastening |
| Lamp holder | | | None |

Approvals

| | | | |
|-----------------------------|--|--|--|
| Product Standards | | | IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14-05; CSA-C22.2 No. 94-91; CE marking |
| UL File No. | | | E29184 |
| UL Category Control No. | | | NKCR |
| CSA File No. | | | 012528 |
| CSA Class No. | | | 3211-03 |
| North America Certification | | | UL listed, CSA certified |

Dimensions

