



Contact element, 1 N/C, front mount, 6. contact, spring clamp connection



Powering Business Worldwide™

Part no. **M22-CK01**  
 Catalog No. **216385**  
 Alternate Catalog No. **M22-CK01Q**  
 EL-Nummer (Norway) **4355767**

**Delivery program**

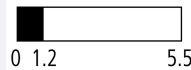
|   |    |  |
|---|----|--|
| Product range   |    | Accessories  |
| Basic function accessories  |    | Contact elements   |
| Accessories   |    | Auxiliary contact  |
| Accessories   |    | Standard auxiliary contact, trip-indicating auxiliary switch                             |
| Standard/Approval   |    | UL/CSA, IEC  |
| Construction size   |    | NZM1/2/3/4   |
| Description   |    | 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)<br>PN1(-4), 2(-4), 3(-4)<br>N(S)1(-4), 2(-4), 3(-4), 4(-4) |
| Approval  |    |  |
| <b>Contacts</b>   |    |  |
| N/C = Normally closed   |    | 1 NC   |
| Notes   |    | = safety function, by positive opening to IEC/EN 60947-5-1                               |
| <b>Actuator travel and actuation force as per DIN EN 60947-5-1, K.5.4.1</b> |    |  |
|   | mm | 4.8  |
| Maximum travel  | mm | 5.7  |
| Minimum force for positive opening  | N  | 15   |

Contact sequence

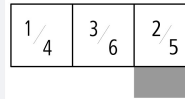


### Contact travel diagram, stroke in connection with front element

Contact diagram



Configuration



Connection type

Single 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:

- 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.

## Technical data

### General

|   |                 |               |  |
|---|-----------------|---------------|--|
| Standards   |                 |               | IEC 60947-5-1  |
| Lifespan, mechanical  | Operations      | $\times 10^6$ | > 5  |
| Operating frequency   | Operations/h    |               | $\leq 3600$  |
| Actuating force   | n               |               | $\leq 5$   |
| Degree of Protection  |                 |               | IP20   |
| Climatic proofing   |                 |               | Damp heat, constant, to IEC 60068-2-78<br>Damp heat, cyclic, to IEC 60068-2-30 |
| Ambient temperature   |                 |               |  |
| Open  | °C              |               | -25 - +70  |
| Mechanical shock resistance to IEC 60068-2-27 Shock duration 11 ms, half-sinusoidal | g               |               | > 30   |
| Terminal capacities   | mm <sup>2</sup> |               |  |
| Solid   | mm <sup>2</sup> |               | 0.75 - 2.5   |
| Stranded  | mm <sup>2</sup> |               | 0.5 - 2.5  |
| Flexible with ferrule   | mm <sup>2</sup> |               | 0.5 - 1.5  |

### Contacts

|                                       |           |                   |   |
|---------------------------------------|-----------|-------------------|---|
| Rated impulse withstand voltage       | $U_{imp}$ | V AC              | 6000  |
| Rated insulation voltage              | $U_i$     | V                 | 500   |
| 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 | $< 5 \times 10^{-6}$ (i.e. 1 failure in $5 \times 10^6$ 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             | 6   |
| 220 V 230 V 240 V         | $I_e$      | A             | 6   |
| 380 V 400 V 415 V         | $I_e$      | A             | 4   |
| 500 V                     | $I_e$      | A             | 2   |
| DC-13                     |            |               |     |
| 24 V                      | $I_e$      | A             | 3   |
| 42 V                      | $I_e$      | A             | 1.7 |
| 60 V                      | $I_e$      | A             | 1.2 |
| 110 V                     | $I_e$      | A             | 0.8 |
| 220 V                     | $I_e$      | A             | 0.3 |
| Lifespan, electrical      |            |               |     |
| AC-15                     |            |               |     |
| 230 V/0.5 A               | Operations | $\times 10^6$ | 1.6 |
| 230 V/1.0 A               | Operations | $\times 10^6$ | 1   |
| 230 V/3.0 A               | Operations | $\times 10^6$ | 0.7 |
| DV-13                     |            |               |     |
| 12 V/2.8 A                | Operations | $\times 10^6$ | 1.2 |

### Auxiliary contacts

|                                 |       |      |     |
|---------------------------------|-------|------|-----|
| Rated operational voltage       | $U_e$ | V    |     |
| Rated operational voltage       | $U_e$ | V AC | 500 |
| Rated operational voltage, max. | $U_e$ | V DC | 220 |

|  |                |     |  |   |       |                 |  |
|--|----------------|-----|--|---|-------|-----------------|--|
| Conventional thermal current   | $I_{th} = I_e$ | CSA | 4  |   |       |                 |  |
| Rated operational current  | $I_e$          | A   |  |   |       |                 |  |
| <b>Different rated operational currents</b> when used as auxiliary contact for NZM circuit-breaker |                |     | <div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">           bei<br/>AC =<br/>50/60<br/>Hz<br/>Bemessungsstrom<br/>           AC-15<br/>15 V<br/>230 V<br/>400 V<br/>500 V<br/>DC-124 V<br/>42 V<br/>60 V<br/>110 V<br/>220 V         </div> <div style="text-align: center;">           le<br/>le<br/>le<br/>le<br/>le<br/>le<br/>le<br/>le<br/>le<br/>le<br/>le<br/>le         </div> <div style="text-align: center;">           A<br/>A<br/>A<br/>A<br/>A<br/>A<br/>A<br/>A<br/>A<br/>A<br/>A<br/>A         </div> <div style="text-align: center;">           4<br/>4<br/>2<br/>1<br/>3<br/>1.7<br/>1.2<br/>0.6<br/>0.3         </div> <div style="text-align: center;">           4<br/>4<br/>-<br/>-<br/>3<br/>1<br/>0.8<br/>0.5<br/>0.2         </div> <div style="text-align: center;">           4<br/>4<br/>2<br/>1<br/>3<br/>1.5<br/>0.8<br/>0.5<br/>0.2         </div> </div> |   |       |                 |  |
|  |                |     |  | 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                           |       |                 | <p>Early-make time of the HIV compared to the main contacts during with make and break switching.</p> <p>(switch times with manual operation):</p> <p>NZM1, PN1, N(S)1: ca. 20 ms</p> <p>NZM2, PN2, N(S)2: ca. 20 ms</p> <p>NZM3, PN3, N(S)3: ca. 20 ms</p> <p>NZM4, N(S)4: approx. 90 ms, the HIV switch early <b>Offswitching not</b> forward.</p> |
|  |                |     |  | Terminal capacities                       |       | mm <sup>2</sup> |  |
|  |                |     |  | Solid or flexible conductor, with ferrule |       | mm <sup>2</sup> | 1 x (0,5 - 1,5)<br>2 x (0,5 - 0,75)  |
|  |                |     |  | 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  | 6  |
| Heat dissipation per pole, current-dependent   | $P_{vid}$  | W  | 0.11   |
| 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)

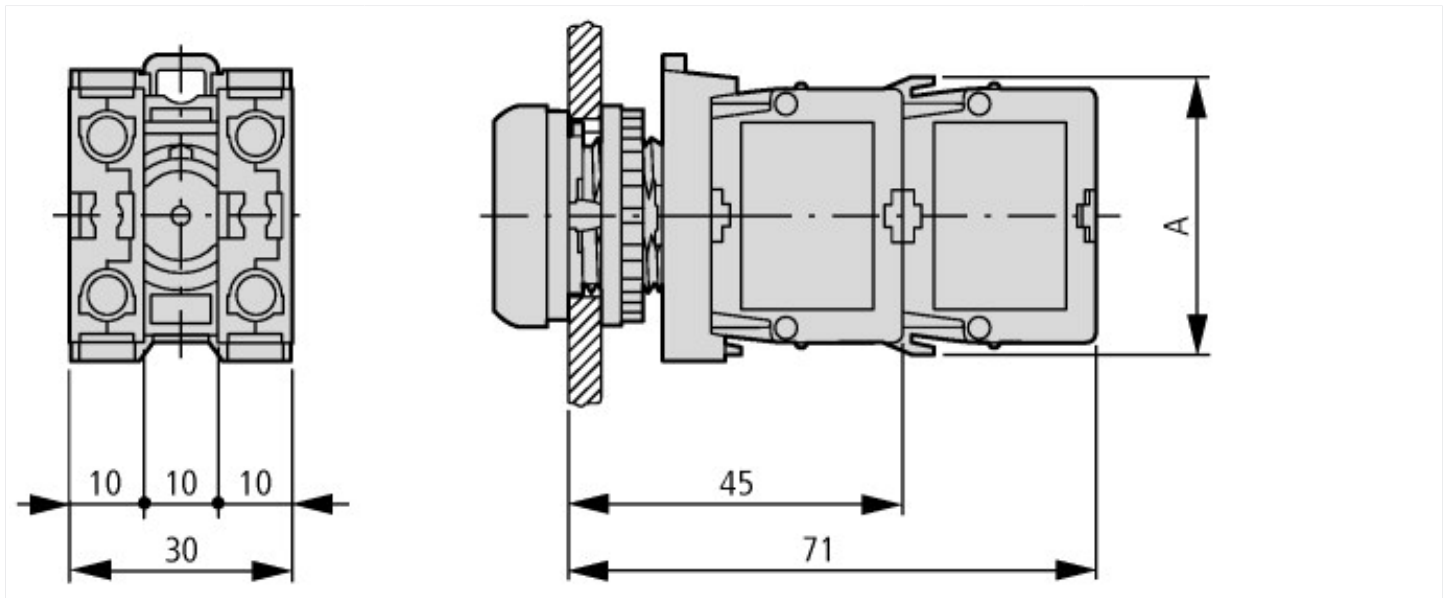
Electric engineering, automation, process control engineering / Low-voltage switch technology / Component for low-voltage switching technology / Auxiliary switch block (ecl@ss10.0.1-27-37-13-02 [AKN342013])

|   |   |                             |
|---|---|-----------------------------|
| Number of contacts as change-over contact     |   | 0                           |
| Number of contacts as normally open contact   |   | 0                           |
| Number of contacts as normally closed contact |   | 1                           |
| 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                        |

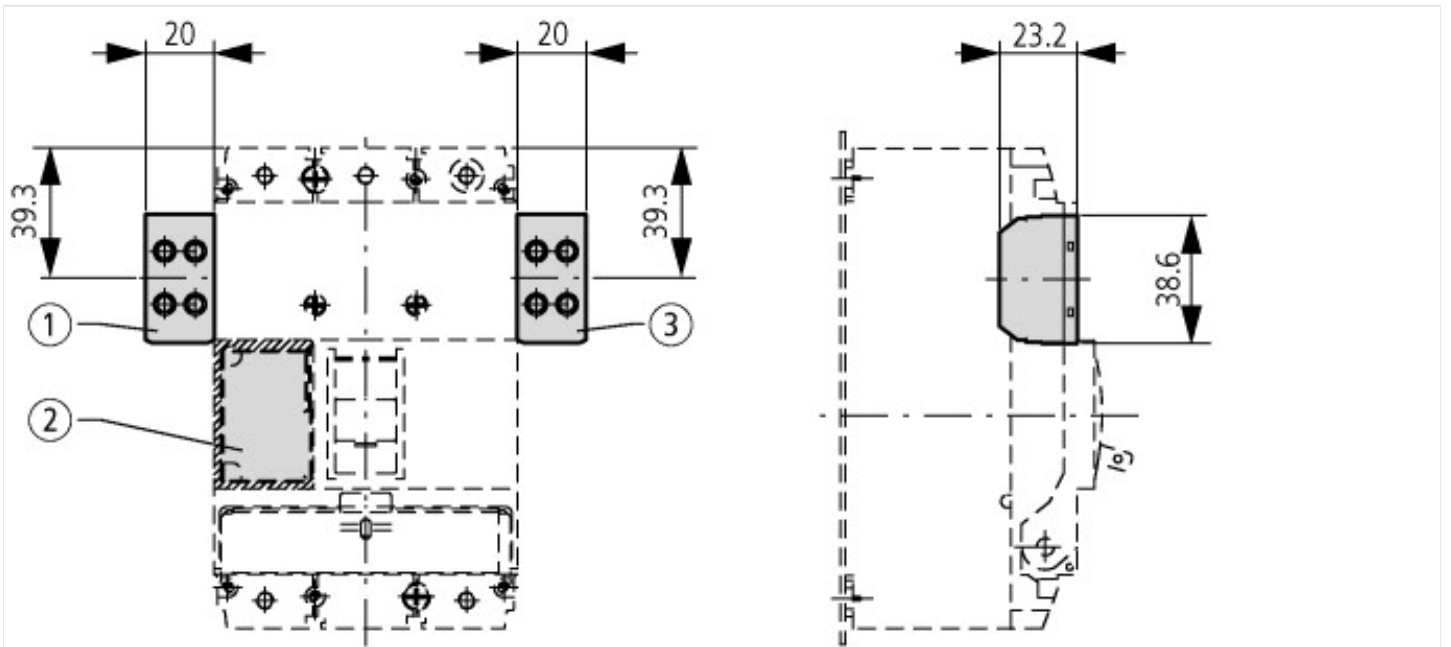
## Approvals

|                             |  |  |
|-----------------------------|--|--|
| 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   |
| Degree of Protection        |  | UL/CSA Type: -   |

## Dimensions



A = 39



Pushbutton with M22-(C)K...  
 Pushbutton with M22-(C) LED... + M22-XLED...

### Additional product information (links)

#### IL04716002Z (AWA1160-1745) RMQ-Titan System

IL04716002Z (AWA1160-1745) RMQ-Titan System

[ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL04716002Z2018\\_10.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL04716002Z2018_10.pdf)

DGUV Test Mark Customer Information

[http://www.dguv.de/medien/dguv-test-medien/\\_pdf\\_zip\\_doc\\_ppt/agb-und-pzo/dguv\\_test\\_zeichen\\_infoblatt\\_kunden.pdf](http://www.dguv.de/medien/dguv-test-medien/_pdf_zip_doc_ppt/agb-und-pzo/dguv_test_zeichen_infoblatt_kunden.pdf)

Maximum equipment and position of the internal accessories

<http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.178>