



Contact element, Screw terminals, Front fixing, 1 N/O, 24 V 3 A, 220 V 230 V 240 V 6 A

Part no.

Catalog No.

Alternate Catalog No.

EL-Nummer (Norway)

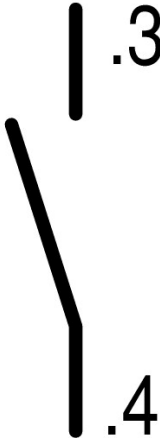
M22-K10

216376

M22-K10Q

4355363

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                                                                                                        |
| Connection technique                                            |  | Screw terminals                                                                                                   |
| 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                                                        |  | <div></div>                   |
| Contacts                                                        |  |                                                                                                                   |
| N/O = Normally open                                             |  | 1 N/O                                                                                                             |
| Contact sequence                                                |  | <div></div>                   |
| Contact travel diagram, stroke in connection with front element |  |                                                                                                                   |
| Contact diagram                                                 |  | <div><div>02.85.5</div></div> |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  | <div> <div>1 / 4</div> <div>3 / 6</div> <div>2 / 5</div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Connection type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  | Single contact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Description of HIA trip-indicating auxiliary contact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  | <p>General trip indication '+', when tripped by shunt release, overload release, short-circuit release or by the residual-current release due to residual-current.</p> <p>Can be used with NZM1, 2, 3 circuit-breaker: a trip-indicating auxiliary contact can be clipped into the circuit-breaker.</p> <p>Can be used with NZM4 circuit-breaker: up to two standard auxiliary contacts can be clipped into the circuit-breaker.</p> <p>Any combinations of the auxiliary contact types are possible.</p> <p>Not in combination with switch-disconnector PN...</p> <p>Marking on switch: HIA</p> <p>Labeling in FI-Block: HIAFI.</p> <p>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.</p> |
| Description standard auxiliary contact HIN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  | <p>Switching with the main contacts Used for indicating and interlocking tasks.</p> <p>Can be used with NZM1 circuit-breaker: a standard auxiliary contact can be clipped into the circuit-breaker.</p> <p>Can be used with NZM2 size circuit-breaker: a standard auxiliary contact can be clipped into the circuit-breaker.</p> <p>Can be used with NZM3, 4 circuit-breaker: up to three standard auxiliary contacts can be clipped into the circuit-breaker.</p> <p>Any combinations of the auxiliary contact types are possible.</p> <p>Marking on switch: HIN.</p> <p>On combination with remote operator NZM-XR... the right mounting location of standard auxiliary contact HIN can be fitted only with individual contacts.</p>                                                                           |
| Connection technique                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  | Screw terminals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Notes</b><br><br>For Std. pack:<br><br>M22-(C)K... : Std. pack = 20 off                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Notes</b><br><br>The following can be clipped into the switches: <ul style="list-style-type: none"> <li>NZM1: a standard auxiliary contact</li> <li>NZM2: up to two M22-(C)K... standard auxiliary contacts</li> <li>NZM3: up to three M22-(C)K... standard auxiliary contacts</li> <li>NZM4: up to three M22-(C)K... standard auxiliary contacts</li> </ul> <p>Any combinations of the auxiliary contact types are possible.</p> <p>Marking on switch: HIN</p> <p>In combination with remote operator NZM-XR... only single contacts can be fitted to some installation locations of the standard auxiliary contact.</p> <p>NZM2: Only single contact can be fitted in left installation location of standard auxiliary contact.</p> <p>NZM3: Only single contact can be fitted in installation locations of standard auxiliary contact.</p> <p>NZM4: Only single contact can be fitted in right installation location of standard auxiliary contact.</p> |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Technical data

### General

|                                                                                     |              |                   |                                                                                |
|-------------------------------------------------------------------------------------|--------------|-------------------|--------------------------------------------------------------------------------|
| Standards                                                                           |              |                   | IEC 60947-5-1                                                                  |
| Lifespan, mechanical                                                                | Operations   | x 10 <sup>6</sup> | > 5                                                                            |
| Operating frequency                                                                 | Operations/h |                   | ≤ 3600                                                                         |
| Actuating force                                                                     |              | n                 | ≤ 5                                                                            |
| Operating torque (screw terminals)                                                  |              | Nm                | ≤ 0.8                                                                          |
| 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 <sub>imp</sub> | V AC | 6000 |
|---------------------------------|------------------|------|------|

|                                       |                |                   |                                                                           |
|---------------------------------------|----------------|-------------------|---------------------------------------------------------------------------|
| Rated insulation voltage              | U <sub>i</sub> | V                 | 500                                                                       |
| Overvoltage category/pollution degree |                |                   | III/3                                                                     |
| Control circuit reliability           |                |                   |                                                                           |
| at 24 V DC/5 mA                       | H <sub>F</sub> | Fault probability | < 10 <sup>-7</sup> (i.e. 1 failure to 10 <sup>7</sup> operations)         |
| at 5 V DC/1 mA                        | H <sub>F</sub> | Fault probability | < 5 x 10 <sup>-6</sup> (i.e. 1 failure in 5 x 10 <sup>6</sup> operations) |
| Max. short-circuit protective device  |                |                   |                                                                           |
| Fuseless                              |                | Type              | PKZM0-10/FAZ-B6/1                                                         |
| Fuse                                  | gG/gL          | A                 | 10                                                                        |

## Switching capacity

|                           |                |                   |     |
|---------------------------|----------------|-------------------|-----|
| Rated operational current | I <sub>e</sub> | A                 |     |
| AC-15                     |                |                   |     |
| 115 V                     | I <sub>e</sub> | A                 | 6   |
| 220 V 230 V 240 V         | I <sub>e</sub> | A                 | 6   |
| 380 V 400 V 415 V         | I <sub>e</sub> | A                 | 4   |
| 500 V                     | I <sub>e</sub> | A                 | 2   |
| DC-13                     |                |                   |     |
| 24 V                      | I <sub>e</sub> | A                 | 3   |
| 42 V                      | I <sub>e</sub> | A                 | 1.7 |
| 60 V                      | I <sub>e</sub> | A                 | 1.2 |
| 110 V                     | I <sub>e</sub> | A                 | 0.6 |
| 220 V                     | I <sub>e</sub> | A                 | 0.3 |
| Lifespan, electrical      |                |                   |     |
| AC-15                     |                |                   |     |
| 230 V/0.5 A               | Operations     | x 10 <sup>6</sup> | 1.6 |
| 230 V/1.0 A               | Operations     | x 10 <sup>6</sup> | 1   |
| 230 V/3.0 A               | Operations     | x 10 <sup>6</sup> | 0.7 |
| DV-13                     |                |                   |     |
| 12 V/2.8 A                | Operations     | x 10 <sup>6</sup> | 1.2 |

## Auxiliary contacts

|                                                                                                    |                                  |                            |                                                                                                         |
|----------------------------------------------------------------------------------------------------|----------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------|
| Rated operational voltage                                                                          | U <sub>e</sub>                   | V                          |                                                                                                         |
| Rated operational voltage                                                                          | U <sub>e</sub>                   | V AC                       | 500                                                                                                     |
| Rated operational voltage, max.                                                                    | U <sub>e</sub>                   | V DC                       | 220                                                                                                     |
| Conventional thermal current                                                                       | I <sub>th</sub> = I <sub>e</sub> | CSA                        | 4                                                                                                       |
| Rated operational current                                                                          | I <sub>e</sub>                   | A                          |                                                                                                         |
| <b>Different rated operational currents</b> when used as auxiliary contact for NZM circuit-breaker |                                  |                            | <div> <div> M22-<br/>(C)K10(01) </div> <div> M22-<br/>CK11(02) </div> <div> XHIV<br/>(20) </div> </div> |
|                                                                                                    |                                  | bei<br>AC =<br>50/60<br>Hz |                                                                                                         |
|                                                                                                    | Bemessungs-<br>betriebsstrom     |                            |                                                                                                         |
|                                                                                                    | AC-15<br>115 V                   | I <sub>e</sub> A           | 4 4 4                                                                                                   |
|                                                                                                    | 230 V                            | I <sub>e</sub> A           | 4 4 4                                                                                                   |
|                                                                                                    | 400 V                            | I <sub>e</sub> A           | 2 - 2                                                                                                   |
|                                                                                                    | 500 V                            | I <sub>e</sub> A           | 1 - 1                                                                                                   |
|                                                                                                    | DC-13<br>24 V                    | I <sub>e</sub> A           | 3 3 3                                                                                                   |
|                                                                                                    | 42 V                             | I <sub>e</sub> A           | 1.7 1 1.5                                                                                               |
|                                                                                                    | 60 V                             | I <sub>e</sub> A           | 1.2 0.8 0.8                                                                                             |
|                                                                                                    | 110 V                            | I <sub>e</sub> A           | 0.6 0.5 0.5                                                                                             |
|                                                                                                    | 220 V                            | I <sub>e</sub> A           | 0.3 0.2 0.2                                                                                             |
| 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.<br><br>(switch times with manual operation):<br><br>NZM1, PN1, N(S)1: ca. 20 ms<br><br>NZM2, PN2, N(S)2: ca. 20 ms<br><br>NZM3, PN3, N(S)3: ca. 20 ms<br><br>NZM4, N(S)4: approx. 90 ms, the HIV switch early <b>Off</b> switching <b>not</b> forward. |
| Terminal capacities                       |                | mm <sup>2</sup> |                                                                                                                                                                                                                                                                                                                                                       |
| Solid or flexible conductor, with ferrule |                | mm <sup>2</sup> | 1 x (0,75 - 2,5)<br>2 x (0,75 - 2,5)                                                                                                                                                                                                                                                                                                                  |
| UL/CSA                                    |                |                 |                                                                                                                                                                                                                                                                                                                                                       |
| Rated operational current                 | I <sub>e</sub> | A               | 5 A – 600 V AC<br>1 A - 250 V DC                                                                                                                                                                                                                                                                                                                      |
| 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 <sub>n</sub>    | A  | 6                                                                                                                                |
| Heat dissipation per pole, current-dependent                                                                           | P <sub>vid</sub>  | W  | 0.11                                                                                                                             |
| 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 | 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

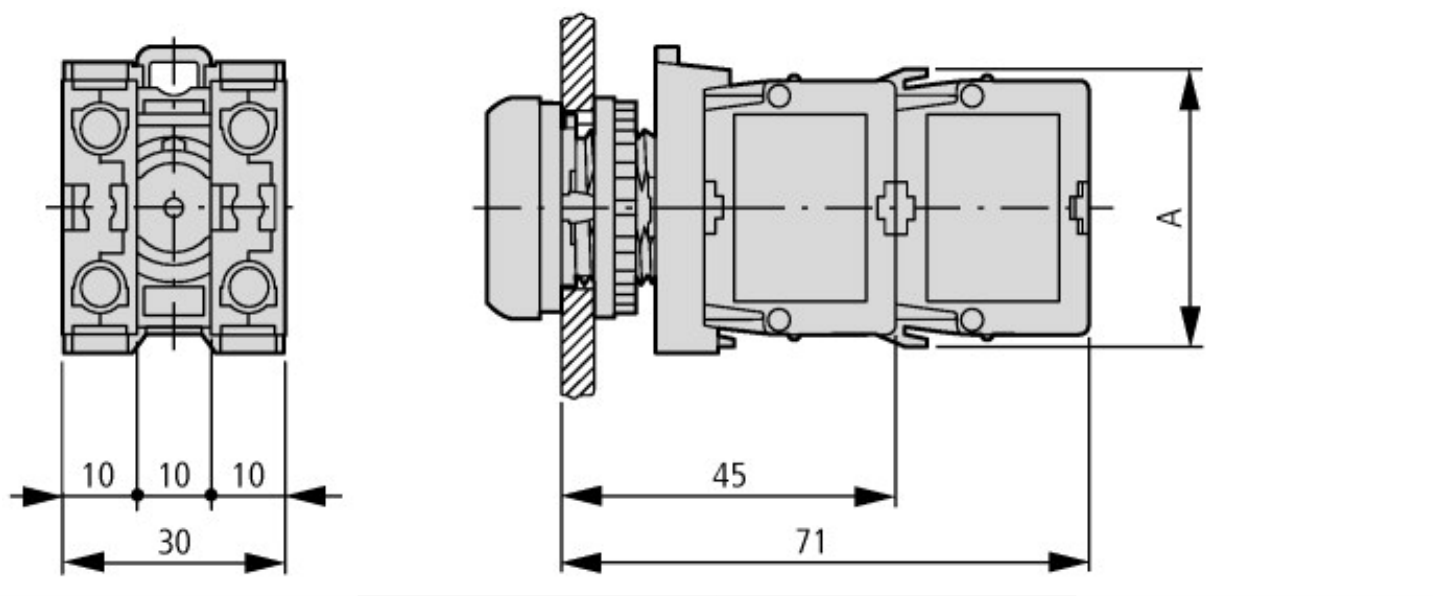
|                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 (ecI@ss10.0.1-27-37-13-02 [AKN342013]) |

|                                               |   |                             |
|-----------------------------------------------|---|-----------------------------|
| Number of contacts as change-over contact     |   | 0                           |
| Number of contacts as normally open contact   |   | 1                           |
| Number of contacts as normally closed contact |   | 0                           |
| Number of fault-signal switches               |   | 0                           |
| Rated operation current Ie at AC-15, 230 V    | A | 6                           |
| Type of electric connection                   |   | Screw connection            |
| Model                                         |   | Top mounting and integrable |
| Mounting method                               |   | Front fastening             |
| Lamp holder                                   |   | None                        |

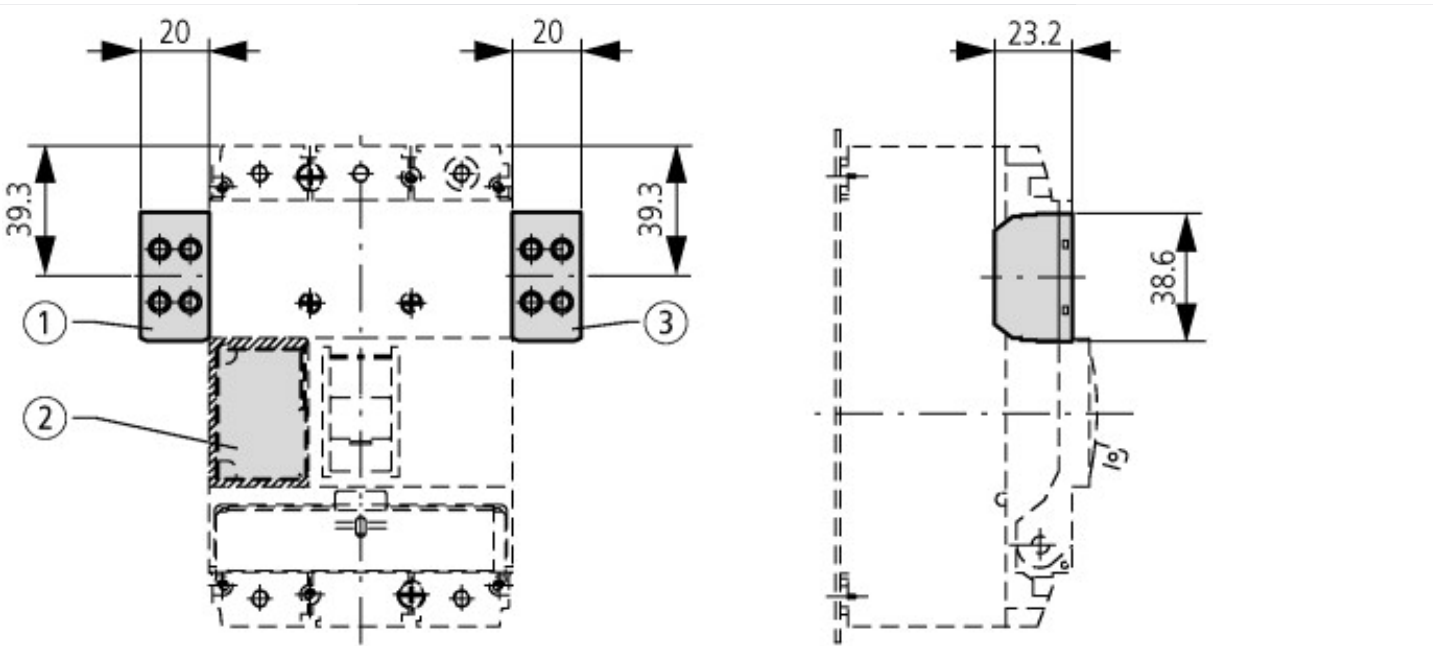
## Approvals

|                             |  |                                                                              |
|-----------------------------|--|------------------------------------------------------------------------------|
| 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 = 37.2



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                | <a href="https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL04716002Z2020_09.pdf">https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL04716002Z2020_09.pdf</a>                                                           |
| DGUV Test Mark Customer Information                        | <a href="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</a> |
| Maximum equipment and position of the internal accessories | <a href="http://ecat.moeller.net/flip-cat/?edition=HPLEN&amp;startpage=17.178">http://ecat.moeller.net/flip-cat/?edition=HPLEN&amp;startpage=17.178</a>                                                                                     |