# DATASHEET - M22-LED-B

Light element, LED, blue, front mount, 12-30VAC/DC, screw connection





Part no.M22-LED-BCatalog No.218057Alternate CatalogM22-LED-BQNo.EL-Nummer4355370(Norway)

#### **Delivery program**

| Derivery program  |                        |             |                           |
|---|------------------------|-------------|---------------------------|
| Basic function accessories  |                        |             | LED elements              |
| Connection technique  |                        |             | Screw terminals           |
| Fixing  |                        |             | Front fixing              |
| Rated operational voltage   | U <sub>e</sub>         | V           | 12 - 30 V AC/DC, 50/60 Hz |
| Rated operational current   | l <sub>e</sub>         | mA          | 8 - 15                    |
| Power consumption   | P <sub>max.</sub>      | W           | 0.26                      |
| Lifespan to EN 60064 at t <sub>a</sub> = +25 °C                                     | t <sub>mean</sub> (AC) | h           | 100000                    |
| Degree of Protection  |                        |             | IP20                      |
|   |                        |             | at 24 V                   |
| Colour  |                        |             |                           |
|   |                        |             |                           |
| Connection to SmartWire-DT  |                        |             | no                        |
| Approval  |                        |             | LED                       |
| Actuator travel and actuation force as per DIN EN 60947-5-1,<br>K.5.4.1             |                        |             |                           |
| Minimum force for positive opening  | N                      |             | 0                         |
| Connection technique  |                        |             | Screw terminals           |
| Notes   |                        |             |                           |
| For indicator lights, illuminated pushbutton actuators, and illuminated selector sw | itch actuators, 1      | the followi | ng applies:               |
| M22R only in combination with M22-LEDR  |                        |             |                           |
| M22G only in combination with M22-LEDG  |                        |             |                           |
| M22W only in combination with M22-LEDW  |                        |             |                           |
| M22Y only in combination with M22-LEDW  |                        |             |                           |
| M22B in combination with M22-LEDW or M22-LEDB                                       |                        |             |                           |
|   |                        |             |                           |

# Technical data

| General                            |    |  |
|------------------------------------|----|--|
| Standards                          |    | IEC 60947-5-1  |
| 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  |

| Storage  |                  | °C              | - 40 - + 80   |
|--|------------------|-----------------|---|
| Mounting position  |                  |                 | As required   |
| Mechanical shock resistance according to IEC 60068-2-27<br>Shock duration 11 ms, half-sinusoidal |                  | g               | > 30  |
| Mechanical shock resistance  |                  | g               | 30<br>Shock duration 11 ms<br>Sinusoidal<br>according to IEC 60068-2-27 |
| Terminal capacities  |                  | mm <sup>2</sup> |   |
| Solid  |                  | mm <sup>2</sup> | 0.75 - 2.5  |
| Stranded   |                  | mm <sup>2</sup> | 0.5 - 2.5   |
| Contacts   |                  |                 |   |
| Rated impulse withstand voltage  | U <sub>imp</sub> | V AC            | 6000  |
| Rated insulation voltage   | Ui               | V               | 500   |
| Overvoltage category/pollution degree  |                  |                 | 111/3   |
| Indoor and protected outdoor installation  |                  |                 |   |

# Design verification as per IEC/EN 61439

| Technical data for design verification  |                   |    |  |
|---|-------------------|----|--|
| Rated operational current for specified heat dissipation  | I <sub>n</sub>    | А  | 0  |
| Heat dissipation per pole, current-dependent  | P <sub>vid</sub>  | W  | 0  |
| Equipment heat dissipation, current-dependent   | P <sub>vid</sub>  | W  | 0  |
| Static heat dissipation, non-current-dependent  | P <sub>vs</sub>   | W  | 0.45   |
| 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<br>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) / Lamp holder block for control circuit devices (EC000204)

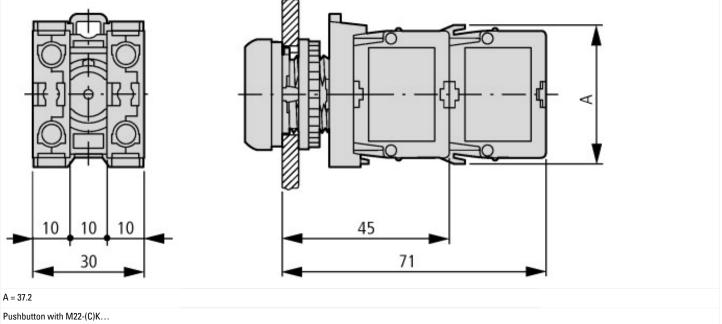
Electric engineering, automation, process control engineering / Low-voltage switch technology / Command and alarm device / Bulb socket block for command and alarm devices

| (ecl@ss10.0.1-27-37-12-09 [AKF027014])      |   |                  |
|---|---|------------------|
| Transformer integrated                      |   | No               |
| With integrated voltage decreasing resistor |   | No               |
| With light source                           |   | Yes              |
| With integrated diode                       |   | Yes              |
| Lamp holder                                 |   | None             |
| Rated voltage Ue at AC 50 Hz                | V | 12 - 30          |
| Rated voltage Ue at AC 60 Hz                | V | 12 - 30          |
| Rated voltage Ue at DC                      | V | 12 - 30          |
| Voltage type for actuating                  |   | AC/DC            |
| Lamp type                                   |   | LED              |
| Connection type auxiliary circuit           |   | Screw connection |
| Colour lamp                                 |   | Blue             |
| Type of fastening                           |   | Front fastening  |

## Annrovals

| Approvais                   |  |
|-----------------------------|--|
| 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



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

#### **Assets (links)**

**Declaration of CE Conformity** 00003256