

Article: **NA B112LB-DMK**

Description: Modular prewired switch with metal revolving lever with adjustable square stainless steel rod 3x3x125

Sheet: 32170-0-en-2.1.0  
Date: 26/01/2021  
Page: 1/4




**Housing:**

Metal housing, 20 mm fixing points.  
Protection degree: IP67 acc. to EN 60529, IP69K acc. to ISO 20653 (Protect the cables from direct high-pressure and high-temperature jets)

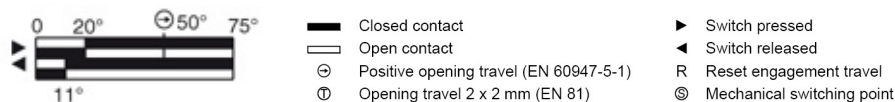
**General data:**

Corrosion resistance in saline mist:  $\geq 300$  hours in NSS according to ISO 9227  
Max actuation frequency: 3600 operating cycles/hour  
Mechanical endurance: 20 million operating cycles  
B10D: 40,000,000 for NC contacts  
Mechanical interlock, not coded: type 1 according to EN ISO 14119

**Contact block characteristics:**

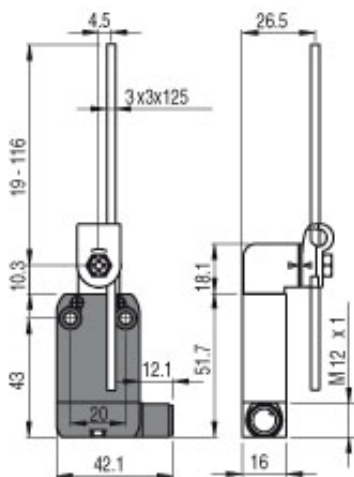
| Contact block | Contact diagram | Contact design  | Operation type | Positive opening | Contact type | Captive screws      | Terminals with finger protection | Gold-plated contacts 1 $\mu$ m |     |
|---------------|-----------------|---|----------------|------------------|--------------|---------------------|----------------------------------|--------------------------------|-----|
| B11           | 1NO+1NC         |  | Zb             | snap action      | yes          | Double interruption | /                                | /                              | yes |

**Contact block travel diagrams:**



**Positive switch opening:**

Device without positive opening. If installed individually, not suitable for safety applications.



**Device screw tightening torques:**

Head screws: 0.5 ... 0.7 Nm  
Lever screw: 0.8 ... 1.2 Nm  
Connector screw: 0.3 ... 0.6 Nm  
M4 fixing screws, body: 2 ... 3 Nm

**Activating forces:**

Min.: 0,07 Nm

**In conformity with standards:**

IEC 60947-5-1, EN 60947-5-1, IEC 60204-1, EN 60204-1, EN ISO 14119, EN ISO 12100, IEC 60529, EN 60529, EN 50581, ISO 20653, UL 508, CSA 22.2 No.14.

**In conformity with requirements requested by:**

Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU, RoHS Directive 2011/65/EU.

**Markings and quality marks:**

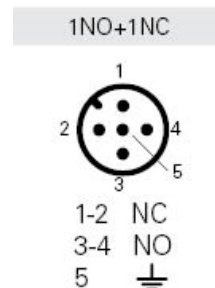


**Electrical data:**

Rated impulse withstand voltage (U<sub>imp</sub>): 4 kV  
Conditional short circuit current: 1000 A according to EN 60947-5-1  
Pollution degree: 3

**Important:** Switch off the circuit voltage before disconnecting the connector from the switch. The connector is not suitable for separation of electrical loads. According to EN 60204-1, 2NO+2NC versions with 8-pin M12 and AMP connector can be used only in PELV circuits.

**Internal connections:**



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Sheet: 32170-0-en-2.1.0  
Date: 26/01/2021  
Page: 2/4

**Utilization temperatures and electrical data:**

|  | Connection type                          | Output with cable          |   |                              |   |   |                              |   |   | Output with M12 connector                   |   | Output with AMP connector    |
|--|--|----------------------------|---|------------------------------|---|---|------------------------------|---|---|---|---|------------------------------|
|  |  | 2 contacts                 |   |                              |   | 3 contacts                                  |                              | 4 contacts                                  |   | 2 contacts                                  | 3 or 4 contacts                             |                              |
|  |  | E                          | N   | H                            | R   | N   | H                            | N   | R   | M12 connector, 5-pole                       | M12 connector, 9-pole                       |                              |
| <b>Cable features</b>                          | Cable or connector type                  | 5x0.75 mm <sup>2</sup>     | 5x0.75 mm <sup>2</sup>                      | 5x0.75 mm <sup>2</sup>       | 5x0.5 mm <sup>2</sup>   | 7x0.5 mm <sup>2</sup>                       | 7x0.5 mm <sup>2</sup>        | 9x0.34 mm <sup>2</sup>                      | 9x0.5 mm <sup>2</sup>   | 5x0.25 mm <sup>2</sup>                      | 8x0.25 mm <sup>2</sup>                      | 2 contacts                   |
|  | Conductors                               | 5x0.75 mm <sup>2</sup>     | 5x0.75 mm <sup>2</sup>                      | 5x0.75 mm <sup>2</sup>       | 5x0.5 mm <sup>2</sup>   | 7x0.5 mm <sup>2</sup>                       | 7x0.5 mm <sup>2</sup>        | 9x0.34 mm <sup>2</sup>                      | 9x0.5 mm <sup>2</sup>   | 5x0.25 mm <sup>2</sup>                      | 8x0.25 mm <sup>2</sup>                      | AMP Super-seal 1.5 connector |
|  | Application field                        | General                    | General                                     | General, mobile installation | Rail  | General                                     | General, mobile installation | General                                     | Rail  | General                                     | General                                     | General                      |
|  | In compliance with standards             | H05VV-F                    | H05VV5-F                                    | 05EQ-H                       | EN50306-4<br>IEC 300V<br>5x0.5 mm <sup>2</sup><br>MM-90<br>EN 50306-4<br>EN 45545 | 03VV-F                                      | 03EQ-H                       | 03VV-F                                      | EN50306-4<br>IEC 300V<br>9x0.5 mm <sup>2</sup><br>MM-90<br>EN 50306-4<br>EN 45545 | 03VV-H                                      | 03VV-H                                      | /                            |
|  | Sheath                                   | PVC                        | PVC OIL RESISTANT                           | PUR HALOGEN FREE             | /   | PVC OIL RESISTANT                           | PUR HALOGEN FREE             | PVC OIL RESISTANT                           | /   | PVC OIL RESISTANT                           | PVC OIL RESISTANT                           | /                            |
|  | Self-extinguishing                       | IEC 60332-1-2              | IEC 60332-1-2<br>UL 758:FT1<br>CEI 20-22 II | IEC 60332-1-2<br>UL 758:FT1  | IEC 60332-1<br>EN 50305<br>EN 50306-1   | IEC 60332-1-2<br>UL 758:FT1<br>CEI 20-22 II | IEC 60332-1-2<br>UL 758:FT1  | IEC 60332-1-2<br>UL 758:FT1<br>CEI 20-22 II | IEC 60332-1<br>EN 50305<br>EN 50306-1   | IEC 60332-1-2<br>CEI 20-22 II<br>UL 758:FT1 | IEC 60332-1-2<br>CEI 20-22 II<br>UL 758:FT1 | /                            |
|  | Oil resistant                            | /                          | UL 758<br>CSA 22.2 N°210                    | UL 758<br>CSA 22.2 N°210     | /   | UL 758<br>CSA 22.2 N°210                    | UL 758<br>CSA 22.2 N°210     | UL 758<br>CSA 22.2 N°210                    | /   | UL 758<br>CSA 22.2 N°210                    | UL 758<br>CSA 22.2 N°210                    | /                            |
|  | Max. speed                               | /                          | /   | 300 m/min                    | /   | /   | 300 m/min                    | /   | /   | 50 m/min                                    | 50 m/min                                    | /                            |
|  | Max. acceleration                        | /                          | /   | 30 m/s <sup>2</sup>          | /   | /   | 30 m/s <sup>2</sup>          | /   | /   | 5 m/s <sup>2</sup>                          | 5 m/s <sup>2</sup>                          | /                            |
|  | Minimum bending radius                   | 80 mm                      | 80 mm                                       | 80 mm                        | 60 mm   | 108 mm                                      | 80 mm                        | 108 mm                                      | 65 mm   | 75 mm                                       | 90 mm                                       | /                            |
|  | Outer diameter                           | 8 mm                       | 8 mm  | 8 mm                         | 6 mm  | 7 mm  | 7 mm                         | 7 mm  | 6.5 mm  | 6 mm  | 6 mm  | /                            |
|  | End stripped                             | 80 mm                      | 80 mm                                       | 80 mm                        | 80 mm   | 80 mm                                       | 80 mm                        | 80 mm                                       | 80 mm   | /   | /   | /                            |
|  | Copper conductors IEC 60228              | Class 5                    | Class 5                                     | Class 6                      | Class 5   | Class 5                                     | Class 6                      | Class 5                                     | Class 5   | Class 6                                     | Class 6                                     | /                            |
|  | Engraving                                | Standard                   | 6268  | 6280                         | Standard  | 6274  | 6282                         | 6278  | Standard  | 6267  | 6275  | /                            |
| <b>Ambient temperature with cable standard</b> | Cable, fixed installation                | -15°C +60°C                | -25°C +80°C                                 | -25°C +80°C                  | -25°C +80°C   | -25°C +80°C                                 | -25°C +80°C                  | -25°C +80°C                                 | -25°C +80°C   | -25°C +80°C                                 | -25°C +80°C                                 | /                            |
|  | Cable, flexible installation             | +5°C +60°C                 | -5°C +80°C                                  | -25°C +80°C                  | -25°C +80°C   | -5°C +80°C                                  | -25°C +80°C                  | -5°C +80°C                                  | -25°C +80°C   | -15°C +80°C                                 | -15°C +80°C                                 | /                            |
|  | Cable, mobile installation               | /                          | /   | -25°C +80°C                  | /   | /   | -25°C +80°C                  | /   | /   | -15°C +80°C                                 | -15°C +80°C                                 | /                            |
|  | Cable, fixed installation                | /                          | /   | -40°C +80°C                  | -40°C +80°C   | /   | -40°C +80°C                  | /   | -40°C +80°C   | /   | /   | /                            |
|  | Cable, flexible installation             | /                          | /   | -40°C +80°C                  | -40°C +80°C   | /   | -40°C +80°C                  | /   | -40°C +80°C   | /   | /   | /                            |
|  | Cable, mobile installation               | /                          | /   | -40°C +80°C                  | /   | /   | -40°C +80°C                  | /   | /   | /   | /   | /                            |
| <b>Electrical data</b>                         | Thermal current I <sub>th</sub>          | 10 A                       | 10 A  | 10 A                         | 6 A   | 6 A   | 6 A                          | 3 A   | 4 A   | 4 A   | 2 A   | 10 A                         |
|  | Rated insulation voltage U <sub>i</sub>  | 250 Vac                    | 250 Vac                                     | 250 Vac                      | 250 Vac   | 250 Vac                                     | 250 Vac                      | 250 Vac                                     | 250 Vac   | 250 Vac<br>300 Vdc                          | 30 Vac<br>36 Vdc                            | 30 Vac                       |
|  | Protection against short circuits (fuse) | 10 A<br>500 V<br>type gG   | 10 A<br>500 V<br>type gG                    | 10 A<br>500 V<br>type gG     | 6 A<br>500 V<br>type gG   | 6 A<br>500 V<br>type gG                     | 6 A<br>500 V<br>type gG      | 3 A<br>500 V<br>type gG                     | 4 A<br>500 V<br>type gG   | 4 A<br>500 V<br>type gG                     | 2 A<br>500V<br>type gG                      | 10 A<br>500 V<br>type gG     |
|  | Utilization category DC13                | 24 V                       | 2 A   | 2 A                          | 2 A   | 2 A   | 2 A                          | 2 A   | 2 A   | 2 A   | 2 A   | 2 A                          |
|  |  | 125 V                      | 0.4 A                                       | 0.4 A                        | 0.4 A   | 0.4 A                                       | 0.4 A                        | 0.4 A                                       | 0.4 A   | 0.4 A                                       | /   | /                            |
|  |  | 250 V                      | 0.3 A                                       | 0.3 A                        | 0.3 A   | 0.3 A                                       | 0.3 A                        | 0.3 A                                       | 0.3 A   | 0.3 A                                       | /   | /                            |
|  | Utilization category AC15                | 24 V                       | 4 A   | 4 A                          | 4 A   | 4 A   | 4 A                          | 3 A   | 4 A   | 4 A   | 2 A   | 4 A                          |
|  |  | 120 V                      | 4 A   | 4 A                          | 4 A   | 4 A   | 4 A                          | 3 A   | 4 A   | 4 A   | /   | /                            |
|  |  | 250 V                      | 4 A   | 4 A                          | 4 A   | 4 A   | 4 A                          | 3 A   | 4 A   | 4 A   | /   | /                            |
|  | Approvals                                | CE cULus<br>IMQ EAC<br>CCC | CE cULus<br>IMQ EAC<br>CCC                  | CE cULus<br>IMQ EAC<br>CCC   | CE IMQ<br>EAC CCC   | CE cULus<br>IMQ EAC<br>CCC                  | CE cULus<br>IMQ EAC<br>CCC   | CE cULus<br>IMQ EAC<br>CCC                  | CE IMQ<br>EAC CCC   | CE cULus<br>IMQ EAC<br>CCC                  | CE cULus<br>EAC                             | CE cULus<br>EAC              |

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Sheet: 32170-0-en-2.1.0  
Date: 26/01/2021  
Page: 3/4

### Characteristics approved by IMQ

Rated insulation voltage (Ui): 250 Vac  
Conventional free air thermal current (Ith): 10 A (1-2 contacts) / 6 A (2-3 contacts) / 4 A (4 contacts or 5-pin M12 connector)  
Protection against short circuits (fuse): 10 A (1-2 contacts) / 6 A (2-3 contacts) / 4 A (4 contacts or 5-pin M12 connector), gG type  
Rated impulse withstand voltage (Uimp): 4 kV  
Protection degree of the housing: IP67  
MA terminals (saddle clamps)  
Pollution degree: 3  
Utilization category: AC15 / DC13 (with connector)  
Operating voltage (Ue): 250 Vac (50 Hz) / 24 Vdc (with connector)  
Operating current (Ie): 3 A / 2 A (with connector)  
Forms of the contact element: X, Y, X+Y, X+X, Y+Y, Y+Y+X, X+X+Y, X+X+Y+Y, Zb  
Positive opening of contacts on contact blocks B01, B11, B02, B12, B21, B22, G01, G11, G02, G12, G21, G22, L01, L11, L02, L12, L21, L22, H01, H11, H02, H12, H21, H22  
In conformity with standards: EN 60947-1, EN 60947-5-1 + A1:2009, fundamental requirements of the Low Voltage Directive 2006/95/EC.

### Characteristics approved by UL

Electrical Ratings:  
R300 pilot duty (28 VA, 125 250 Vdc)  
B300 pilot duty (360 VA, 120 240 Vac) (1 cont.)  
B300 pilot duty (360 VA, 120 240 Vac) (2 - 3 cont. without connector)  
C300 pilot duty (180 VA, 120 240 Vac) (2 - 3 cont. with connector)  
C300 pilot duty (180 VA, 120 240 Vac) (4 cont.)

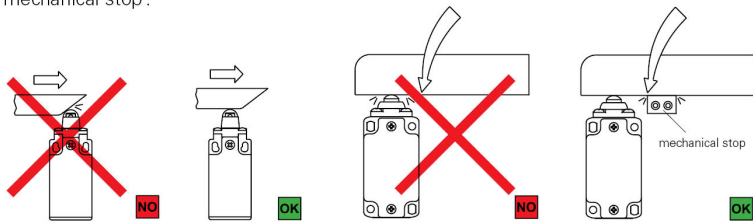
### Environmental Ratings:

Types 1, 4X, 6, 12, 13  
Types 1, 4X "indoor use only" (1 - 2 cont. with "E" type cable)

Screws torque of the detachable connector housing nominal are 0.3 + 0.6 Nm.

### Mechanical stop

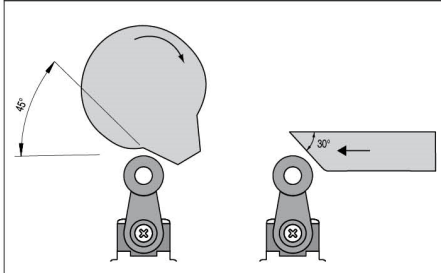
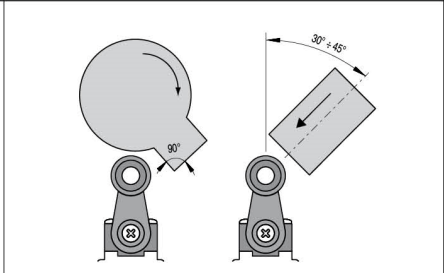
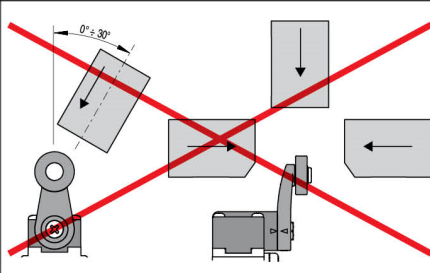
Acc. to EN ISO 14119 paragraph 5.2 "the position sensors must not be used as mechanical stop".



The actuator must not exceed the max. travel as indicated in the travel diagrams.

The guard must not use the switch head as a mechanical stop.

### Actuation modes

| Recommended application  | Application to avoid<br>This application is possible, but increased mechanical stress may shorten the operating life of the switch | Forbidden application  |
|--|--|--|
|  |   |  |



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Date: 26/01/2021

Page: 4/4

This device **does not** feature positive opening and therefore **cannot be used individually for safety functions.**