


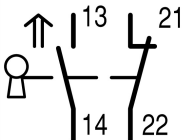




**Safety position switch, 1N/O+1N/C, insulated material, +actuator ZB, spring clamp connection**

**Part no.** LS-11S-ZB  
**Catalog No.** 106870  
**Eaton Catalog No.** LS-11S-ZB  
**EL-Nummer (Norway)** 0004356198

## Delivery program

|   |  |    |   |
|---|--|----|---|
| Basic function  |  |    | Position switches<br>Safety position switches   |
| Part group reference  |  |    | LS(4)...ZB  |
| Product range   |  |    | Safety position switches  |
| Degree of Protection  |  |    | IP66  |
| Features  |  |    | Complete unit   |
| Ambient temperature   |  | °C | -25 - +70   |
| Snap-action contact   |  |    | Yes   |
| Description   |  |    | With the actuator inserted, the N/O contact is open and the NC contact is closed.   |
| Approval  |  |    |    |
| <b>Contacts</b>   |  |    |   |
| N/O = Normally open   |  |    | 1 N/O   |
| N/C = Normally closed   |  |    | 1 NC   |
| Notes   |  |    |  = safety function, by positive opening to IEC/EN 60947-5-1  |
| Contact sequence  |  |    |   |
| Housing   |  |    | Insulated material  |
| Connection type   |  |    | Cage Clamp  |
| Notes   |  |    | Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Germany.<br>Accessories for the Cage-Clamp terminals from Wago: power comb, gray, Wago Article No. 264-402 |
| <p><b>Notes</b> Switch must never be used as a mechanical stop!<br/>                 Actuator can be repositioned for horizontal or vertical mounting.<br/>                 The operating heads can be turned manually in 90° steps to suit the specified level of actuation.<br/>                 With the actuator inserted, the N/O contact is open and the N/C contact is closed.<br/>                 For degree of protection IP65, use V-M20 (206910) cable glands with connecting thread of max. 9 mm length.</p> |  |    |   |

## Technical data

|                      |  |    |  |
|----------------------|--|----|--|
| <b>General</b>       |  |    |  |
| Standards            |  |    | IEC/EN 60947   |
| Climatic proofing    |  |    | Damp heat, constant, to IEC 60068-2-78; damp heat, cyclical, to IEC 60068-2-30 |
| Ambient temperature  |  | °C | -25 - +70  |
| Mounting position    |  |    | As required  |
| Degree of Protection |  |    | IP66   |

|                                      |  |                 |                                    |
|--------------------------------------|--|-----------------|------------------------------------|
| Terminal capacities                  |  | mm <sup>2</sup> |                                    |
| Solid                                |  | mm <sup>2</sup> | 1 x (0.5 - 1.5)<br>2 x (0.5 - 1.5) |
| Flexible with ferrule                |  | mm <sup>2</sup> | 1 x (0.5 - 1.5)<br>2 x (0.5 - 1.5) |
| Terminal screw                       |  |                 | PH1                                |
| Tightening torque for terminal screw |  | Nm              | 0.4                                |

### Contacts/switching capacity

|  |                  |         |          |
|--|------------------|---------|----------|
| Rated impulse withstand voltage          | U <sub>imp</sub> | V AC    | 4000     |
| Rated insulation voltage                 | U <sub>i</sub>   | V       | 400      |
| Overvoltage category/pollution degree    |                  |         | III/3    |
| Rated operational current                | I <sub>e</sub>   | A       |          |
| AC-15                                    |                  |         |          |
| 24 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        |
| DC-13                                    |                  |         |          |
| 24 V                                     | I <sub>e</sub>   | A       | 3        |
| 110 V                                    | I <sub>e</sub>   | A       | 0.6      |
| 220 V                                    | I <sub>e</sub>   | A       | 0.3      |
| Supply frequency                         |                  | Hz      | max. 400 |
| Short-circuit rating to IEC/EN 60947-5-1 |                  |         |          |
| max. fuse                                |                  | A gG/gL | 6        |
| Repetition accuracy                      |                  | mm      | 0.15     |
| Rated conditional short-circuit current  |                  | kA      | 1        |

### Mechanical variables

|  |              |                   |        |
|--|--------------|-------------------|--------|
| Lifespan, mechanical                                       | Operations   | x 10 <sup>6</sup> | 1.5    |
| Mechanical shock resistance (half-sinusoidal shock, 20 ms) |              |                   |        |
| Standard-action contact                                    |              | g                 | 25     |
| Operating frequency  | Operations/h |                   | ≤ 1800 |

### Actuation

|  |  |   |                         |
|--|--|---|-------------------------|
| Mechanical                                 |  |   |                         |
| Actuating force at beginning/end of stroke |  | N | 10/5 (plug-in/pull-out) |

## 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  | 0.17   |
| 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

Sensors (EG000026) / End switch (EC000030)

Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Position switch / Position switch (Type 1)  
(ecl@ss10.0.1-27-27-06-01 [AGZ382015])

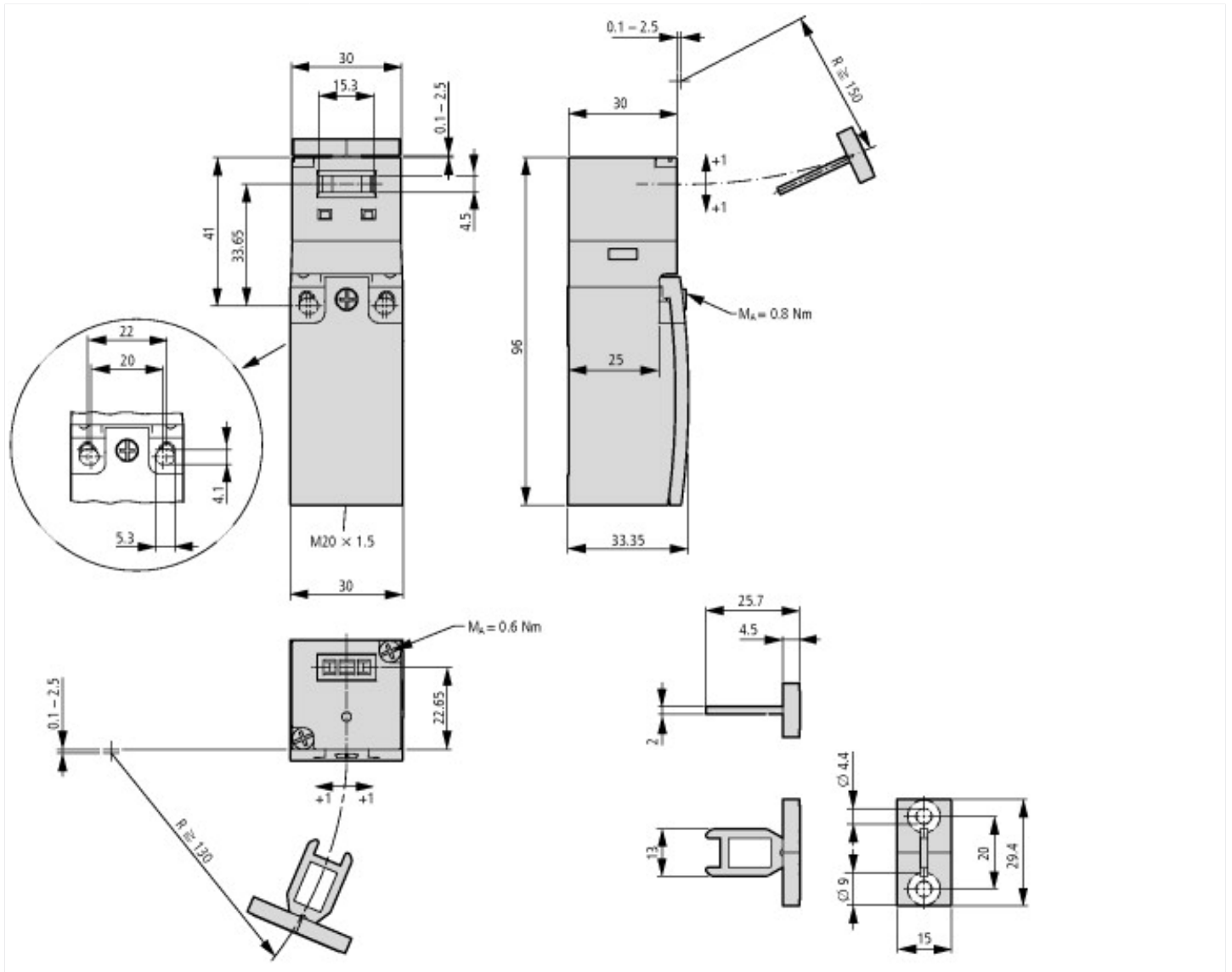
|  |    |                    |
|--|----|--------------------|
| Width sensor   | mm | 30                 |
| Diameter sensor  | mm | 0                  |
| Height of sensor                                       | mm | 96                 |
| Length of sensor                                       | mm | 33.35              |
| Rated operation current I <sub>e</sub> at AC-15, 24 V  | A  | 10                 |
| Rated operation current I <sub>e</sub> at AC-15, 125 V | A  | 6                  |
| Rated operation current I <sub>e</sub> at AC-15, 230 V | A  | 6                  |
| Rated operation current I <sub>e</sub> at DC-13, 24 V  | A  | 3                  |
| Rated operation current I <sub>e</sub> at DC-13, 125 V | A  | 0.8                |
| Rated operation current I <sub>e</sub> at DC-13, 230 V | A  | 0.3                |
| Switching function                                     |    | Quick-break switch |
| Switching function latching                            |    | No                 |
| Output electronic                                      |    | No                 |
| Forced opening   |    | Yes                |
| Number of safety auxiliary contacts                    |    | 1                  |
| Number of contacts as normally closed contact          |    | 1                  |
| Number of contacts as normally open contact            |    | 1                  |
| Number of contacts as change-over contact              |    | 0                  |
| Type of interface                                      |    | None               |
| Type of interface for safety communication             |    | None               |
| Construction type housing                              |    | Cuboid             |
| Material housing                                       |    | Plastic            |
| Coating housing  |    | Other              |
| Type of control element                                |    | Other              |
| Alignment of the control element                       |    | Other              |
| Type of electric connection                            |    | Other              |
| With status indication                                 |    | No                 |
| Suitable for safety functions                          |    | Yes                |
| Explosion safety category for gas                      |    | None               |
| Explosion safety category for dust                     |    | None               |
| Ambient temperature during operating                   | °C | 25 - 70            |
| Degree of protection (IP)                              |    | IP65               |
| Degree of protection (NEMA)                            |    | 13                 |

## Approvals

|                   |  |  |
|-------------------|--|--|
| Product Standards |  | IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14; CE marking |
|-------------------|--|--|

|                             |   |
|-----------------------------|---|
| UL File No.                 | E29184  |
| UL Category Control No.     | NKCR  |
| CSA File No.                | 12528   |
| CSA Class No.               | 3211-03   |
| North America Certification | UL listed, CSA certified                                |
| Degree of Protection        | IEC: IP65, UL/CSA Type 3R, 4X (indoor use only), 12, 13 |

## Dimensions



Switch must not be used as a mechanical stop

Terminal marking according to EN 50 013

Travel [mm]

■ = Contact closed

□ = Contact open

Zw = Positive opening sequence

## Additional product information (links)

**IL05208003Z (AWA1310-2374) Safety position switch**

IL05208003Z (AWA1310-2374) Safety position switch [ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL05208003Z2019\\_01.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05208003Z2019_01.pdf)

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