

## ITEM 117099 MGB-L1B-PNC-L-117099

| Description | Technical data | Accessories | Downloads |
|-------------|----------------|-------------|-----------|
|-------------|----------------|-------------|-----------|



### Features

- › Guard locking with guard lock monitoring
- › Emergency stop according to ISO 13850, illuminated
- › 3 illuminated pushbuttons
- › Push-pull plug
- › Pre-assembled on mounting plates
- › Integrated Profinet RT switch
- › Multicode

### Profinet connection

Connection via push-pull plugs according to IEC 61076-3-117

### Profinet RT switch

Point-to-point topology network structure due to integrated RT switch.

### Flexible usage as interlocking or guard locking

By means of the corresponding evaluation of the safe device data by the control system, usage can be either as interlocking or guard locking (with or without monitoring).

## Illuminated emergency stop

Emergency stop with illumination that can be controlled as required.

### Approvals



### Mechanical values and environment

|   |  |
|---|--|
| Housing material  | Reinforced plastic, die-cast zinc nickel-plated, stainless steel |
| Weight  | Net 3,1 kg   |
| Ambient temperature   | -20 ... 55 °C  |
| At $U_B = 24V$ DC   |  |
| Degree of protection  | IP54   |
| Resilience to vibration   | In accordance with EN 60947-5-3                                  |
| Mechanical life   |  |
| In case of use as door stop, and 1 Joule impact energy                                  | $1 \times 10^6$<br>$0,1 \times 10^6$                             |
| Installation position   | Door hinge DIN left  |
| Reaction time   |  |
| Emergency stop / machine stop   | Switch-off timemax.250 ms [1]                                    |
| Door position   | Switch-off timemax.550 ms [2]                                    |
| Bolt position   | Switch-off timemax.550 ms [3]                                    |
| Guard locking   | Switch-off timemax.550 ms [4]                                    |
| Switching frequency   | 0,25 Hz  |
| Connection  |  |
|   | Push-pull power [5]  |
|   | Push-pull power [6]  |
| According to IEC 61076-3-117 variant 14, screened, Profinet I/O cable, at least cat. 5e | Push-pull RJ45 [7]   |
| According to IEC 61076-3-117 variant 14, screened, Profinet I/O cable, at least cat. 5e | Push-pull RJ45 [8]   |
| Guard locking principle   | Closed-circuit current principle                                 |
| Locking force $F_{Zh}$  | 2000 N   |

### Electrical connection ratings

|                                |            |
|--------------------------------|------------|
| Current consumption            | max.500 mA |
| Rated insulation voltage $U_i$ | 75 V       |

|   |          |  |
|---|----------|--|
| Rated impulse withstand voltage $U_{imp}$                   |          | 0,5 kV   |
| Maximum feed-in current in the connection block             |          |  |
|   | X1, X2   | max.4000 mA                                    |
| EMC protection requirements                                 |          | In accordance with EN 61000-4 and EN 61326-3-1 |
| Degree of contamination (external, according to EN 60947-1) |          | 3  |
| Connecting cable  |          |  |
|   | Ethernet | Profinet I/O cable, at least cat. 5e           |
| Safety class  |          | III  |
| Transponder coding  |          | Multicode                                      |
|   |          | <b>Power supply X1</b>                         |
| Operating voltage DC  |          |  |
|   | L1       | 24 V DC -15% ... 10% <sup>[9]</sup>            |
| Auxiliary voltage DC  |          |  |
|   | L2       | 24 V DC -15% ... +10% <sup>[10]</sup>          |
| Fusing  |          |  |
|   | external | Slow blow min.1 A                              |
|   |          | <b>Power supply X2</b>                         |
| Operating voltage DC  |          |  |
|   | L1       | 24 V DC -15% ... 10% <sup>[11]</sup>           |
| Auxiliary voltage DC  |          |  |
|   | L2       | 24 V DC -15% ... +10% <sup>[12]</sup>          |

## Interface, bus

|                |                 |                              |
|----------------|-----------------|------------------------------|
| Data interface |                 |                              |
|                | Ethernet        |                              |
| Data protocol  |                 |                              |
|                | Bus protocol    | Profinet (IEC 61158 type 10) |
|                | Safety protocol | Profisafe (IEC 61784-3-3)    |

## Operating distance

|                                      |               |           |
|--------------------------------------|---------------|-----------|
| Assured switch-off distance $S_{ar}$ |               |           |
|                                      | Door position | max.65 mm |

## Controls and indicators

|                    |  |                          |
|--------------------|--|--------------------------|
| Assignment diagram |  | B1                       |
| Assignment diagram |  | L0                       |
| Control/indicator  |  |                          |
|                    |  | <b>Position 90</b>       |
| Version            |  | Illuminated push buttons |
| Special features   |  |                          |

|                   |                            |
|-------------------|----------------------------|
| Color             | white                      |
| Switching element | 1NO                        |
| Slide-in label    |                            |
| Control/indicator |                            |
|                   | <b>Position 92</b>         |
| Version           | Illuminated push buttons   |
| Special features  |                            |
| Color             | Blue                       |
| Switching element | 1NO                        |
| Control/indicator |                            |
|                   | <b>Position 93</b>         |
| Version           | Emergency stop illuminated |
| Special features  | With adhesive ring         |
| Color             |                            |
| Switching element | 2 pos. driven NC           |
| Slide-in label    |                            |
| Control/indicator |                            |
|                   | <b>Position 95</b>         |
| Version           | Illuminated push buttons   |
| Special features  |                            |
| Color             | white                      |
| Switching element | 1NO                        |
| Slide-in label    |                            |

### Miscellaneous

|                        |                       |
|------------------------|-----------------------|
| Product version number | V3.30.10              |
| Slide-in label         |                       |
|                        | Anforderung           |
|                        | Quittieren            |
|                        | Reset EMERGENCY STOP  |
|                        | 3 pc. without marking |

### Reliability values acc. to EN ISO 13849-1

|                          |  |
|--------------------------|--|
|                          | <b>Monitoring of guard locking and the safety guard position</b> |
| Category                 | 4  |
| Performance Level        | PL e   |
| PFH <sub>D</sub>         | $4.07 \times 10^{-8}$ [13]                                       |
| Diagnostic Coverage (DC) | 99   |
|                          | <b>Control of the guard locking</b>                              |
| Category                 | 4  |
| Performance Level        | PL e   |
| PFH <sub>D</sub>         | $3.91 \times 10^{-8}$  |
|                          | <b>Emergency stop</b>  |
| B10 <sub>D</sub>         |  |

|                   |                                  |
|-------------------|----------------------------------|
| Emergency stop    | $0.1 \times 10^6$                |
|                   | <b>Emergency-stop evaluation</b> |
| Category          | 4                                |
| Performance Level | PL e                             |
| PFH <sub>D</sub>  | $4.1 \times 10^{-8}$             |

|                        |                       |
|------------------------|-----------------------|
| Safety Integrity Level | SIL 3 (EN 62061:2005) |
| Mission time           | 20                    |

**[1, 2, 3, 4]** The reaction time is the max. time between the change in the input status and the deletion of the corresponding bit in the bus protocol.

**[5]** X1 (The document PROFINET "Cabling and Interconnection Technology" from the PNO aids in the correct selection of wiring.)

**[6]** X2 (The document PROFINET "Cabling and Interconnection Technology" from the PNO aids in the correct selection of wiring.)

**[7]** X3 (The document PROFINET "Cabling and Interconnection Technology" from the PNO aids in the correct selection of wiring.)

**[8]** X4 (The document PROFINET "Cabling and Interconnection Technology" from the PNO aids in the correct selection of wiring.)

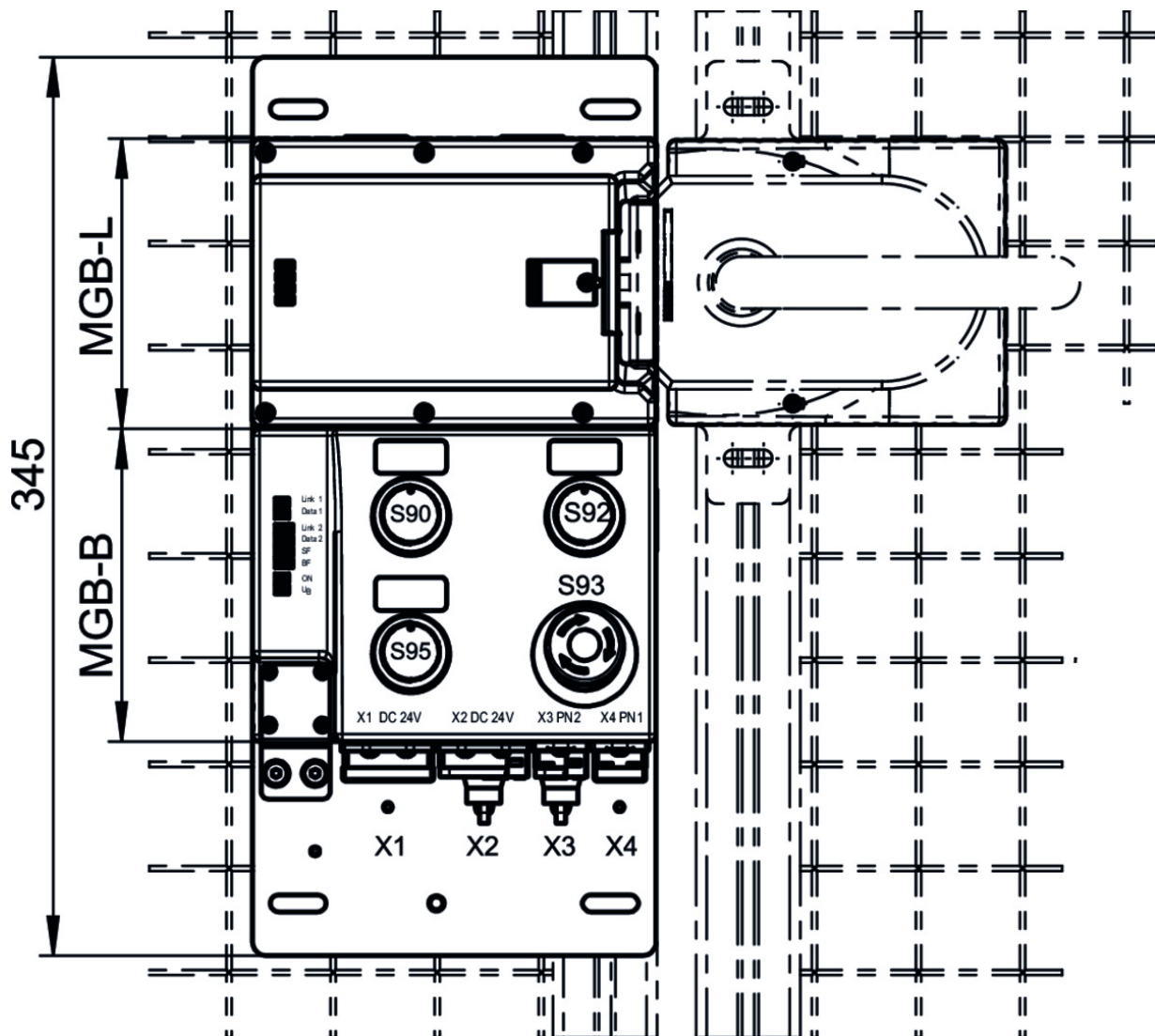
**[9]** (Reverse polarity protected, regulated, residual ripple <5%, PELV)

**[10]** The auxiliary voltage is not required for the MGB system

**[11, 12]** For looping through for connected devices

**[13]** Fixed failure rate without consideration of faults in wearing parts.

## Dimension drawing



## Miscellaneous accessories

✓ Lens set 6 colors



**120378** AY-SET-LNS-0002-120378

✓ Lens set 5 colors



**120344** AY-SET-LNS-0001-120344

✓ Lens set labeled



**120377** AY-SET-LNS-SY01-120377



**125359** AY-SET-LNS-SY02-125359



**126158** AY-SET-LNS-SY03-126158

▼ Adhesive labels

**114529** MGB-A-PLATESET-NN01-114529

▼ Features

- › Adhesive labels suitable for MGB evaluation modules, bus modules and control modules
- › silver, blank
- › Packaging unit = 10 pcs.

▼ Lens set, three colors



**158307** AY-SET-LNS-SY04-158307

## Instructions

▼ Betriebsanleitung Sicherheitssysteme MGB-L..B-PN.-... (PROFINET) mit Datenstruktur Typ B ab V3.30.0

|   | Doc. no. | Version  | Language | Download |
|---|----------|----------|----------|----------|
| Betriebsanleitung Sicherheitssysteme MGB-L..B-PN.-... (PROFINET) mit Datenstruktur Typ B ab V3.30.0       | 115174   | 07-02/15 |          | 3.2 MB   |
| Operating Instructions Safety Systems MGB-L..B-PN.-... (PROFINET) with Data Structure Type B from V3.30.0 | 115174   | 07-02/15 |          | 3.2 MB   |



▼ Sicherheitsinformation (Teil der Betriebsanleitung Sicherheitssystem MGB-L.B-PN.-... (PROFINET)) ab V3.30.0

|  | Doc. no. | Version  | Language | Download |
|--|----------|----------|----------|----------|
| Sicherheitsinformation (Teil der Betriebsanleitung Sicherheitssystem MGB-L.B-PN.-... (PROFINET)) ab V3.30.0<br>Safety Information (Part of the Operating Instructions Safety System MGB-L.B-PN.-... (PROFINET)) from V3.30.0 | 123621   | 02-03/15 | <br>     | 0.2 MB   |





## Application example

▼ Anschluss MGB-L1B-PN... an Siemens S7 315F (TIA Portal V13)

|   | Doc. no. | Version  | Language | Download |
|---|----------|----------|----------|----------|
| Anschluss MGB-L1B-PN... an Siemens S7 315F (TIA Portal V13) | AP000226 | 01-02/17 |          | 1.5 MB   |







Connecting MGB-L1B-PN... to Siemens S7 315F (TIA Portal V13) AP000226 01-02/17   1.7 MB

 Anschluss MGB-L2B-PN... an Siemens S7 315F

|  | <b>Doc. no.</b> | <b>Version</b> | <b>Language</b>   | <b>Download</b>  |
|--|-----------------|----------------|---|--|
| Anschluss MGB-L2B-PN... an Siemens S7 315F     | AP000222        | 02-09/16       |  |  2.0 MB |
| Connection of MGB-L2B-PN... to Siemens S7 315F | AP000222        | 02-09/16       |  |  1.6 MB |

### Declaration of conformity

 EU-Konformitätserklärung

|                               | <b>Doc. no.</b> | <b>Version</b> | <b>Language</b>   | <b>Download</b>  |
|-------------------------------|-----------------|----------------|---|--|
| EU-Konformitätserklärung      | 2123624         | 06-01/17       |  |  0.3 MB |
| Declaración UE de conformidad |                 |                |  |  |
| Déclaration UE de conformité  |                 |                |  |  |
| Dichiarazione di conformità   |                 |                |  |  |
| EU declaration of conformity  |                 |                |  |  |