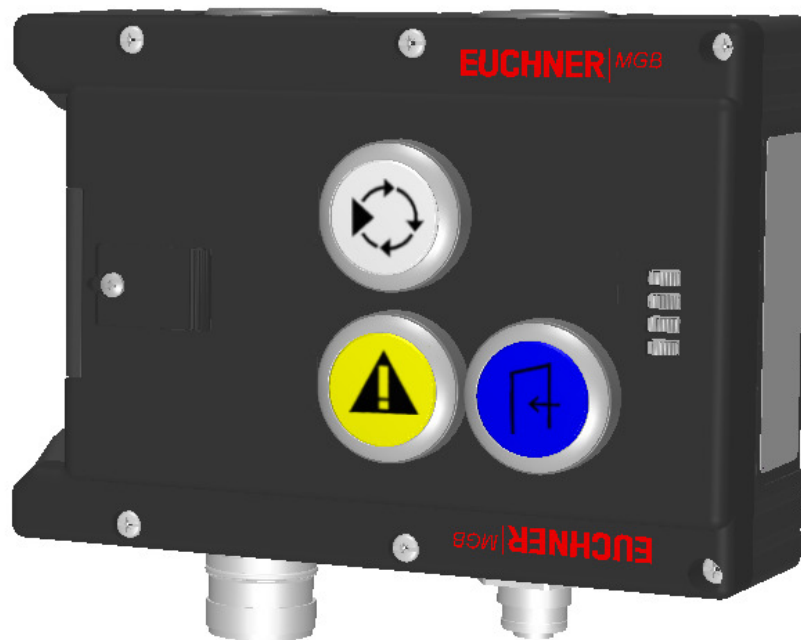


## ITEM 114237 MGB-L1-APA-AA6A1-S5-L-114237

Description	Technical data	Accessories	Downloads
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### Features

- › Guard locking with guard lock monitoring
- › 3 pushbuttons (illuminated, wh, ye, bu and printed)
- › With plug connector RC18
- › With plug connector M12 for enabling switch
- › Unicode

### Guard locking type

**MGB-** The locking arm is held in the locked position by spring force and is  
**L1...** unlocked by solenoid force (closed-circuit current principle, mechanically locked).

### Door hinge

A mechanical door stop is permanently integrated into the evaluation module of the MGB. A marking on the stop makes adjustment easier.

### LED indicator

The LED indicator indicates all important system and status information.

## Monitoring outputs

- OT** Bolt tongue inserted in the evaluation module
- OI** Diagnostics; there is a fault

---

## Pushbutton

- S2** 1 NO contact, white, illuminated and printed
- S3** 1 NO contact, yellow, illuminated and printed
- S4** 1 NO contact, blue, illuminated and printed

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## Connection for enabling switch

The device has an M12 plug connector for the direct connection of an enabling switch (e.g. ZSA, order no.: 110560).

## Approvals



## Mechanical values and environment

Housing material	Reinforced plastic; die-cast zinc nickel-plated, stainless steel
Weight	Net 0,75 kg
Ambient temperature	At $U_B = 24V$ DC -20 ... 55 °C
Degree of protection	IP65
Mechanical life	$1 \times 10^6$
In case of use as door stop, and 1 Joule impact energy	$0,1 \times 10^6$
Installation position	Door hinge DIN left
Switching frequency	0,25 Hz
Connection	Plug connector RC18 [1] Plug connector SFF5 [2]
Guard locking principle	Closed-circuit current principle
Locking force $F_{Zh}$	2000 N

## Electrical connection ratings

Utilization category according to EN 60947-5-2	DC-13 24V 200mA [3]
--	---------------------

Rated insulation voltage $U_i$	30 V
Rated impulse withstand voltage $U_{imp}$	1,5 kV
Degree of contamination (external, according to EN 60947-1)	3
Safety class	III
Discrepancy time	
Between FO1A and FO1B	max.10 ms
Risk time according to EN 60947-5-3	max.350 ms
Transponder coding	Unicode
	<b>Power supply <math>U_B</math></b>
Operating voltage DC	
$U_B$	24 V DC -15% ... 10% [4]
Current consumption	
$I_{UB}$	max.80 mA [5]
	<b>Power supply <math>U_A</math></b>
Operating voltage DC	
$U_A$	24 V DC -15% ... 10% [6]
Current consumption	
$I_{UA}$	max.375 mA [7]
	<b>Safety outputs FO1A, FO1B</b>
Test pulses	max.0,3 ms
Test-pulse interval	min.100 ms
Type of output	Semiconductor outputs, p-switching, short circuit-proof
Output voltage	
$U_{FO1A} / U_{FO1B} \text{ HIGH}$	$U_B - 2V \dots U_B \text{ V DC}$ [8]
$U_{FO1A} / U_{FO1B} \text{ LOW}$	0 ... 1 V DC
Output current	
Per safety output FO1A / FO1B	1 ... 200 mA
	<b>Monitoring outputs OD, OT, OL, OI</b>
Type of output	Semiconductor outputs, p-switching, short circuit-proof
Output voltage	$U_A - 2V \dots U_A \text{ V DC}$ [9]
Output current	max.50 mA
	<b>Controls and indicators</b>
Switching voltage	$U_A \text{ V}$
Switching current	1 ... 10 mA
Breaking capacity	max.0,25 W
Power supply LED	24 V DC
	<b>Solenoid control input IMP1, IMP2, IMM</b>
Test pulses	max.5 ms
Test-pulse interval	min.100 ms

## Controls and indicators

Assignment diagram	L1
Control/indicator	

	<b>Position 2</b>
Version	Illuminated push buttons
Special features	Printed
Color	white
Switching element	1NO
Control/indicator	
	<b>Position 3</b>
Version	Illuminated push buttons
Special features	Printed
Color	Yellow
Switching element	1NO
Control/indicator	
	<b>Position 4</b>
Version	Illuminated push buttons
Special features	Printed
Color	Blue
Switching element	1NO

### Miscellaneous

Product version number	V3.0.3
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### 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>	$3.7 \times 10^{-9}$
	<b>Control of the guard locking</b>
Category	4
Performance Level	PL e
PFH <sub>D</sub>	$2.8 \times 10^{-9}$

Mission time	20 y
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[1] X6

[2] X7

[3] Caution: outputs must be protected with a free-wheeling diode in case of inductive loads.

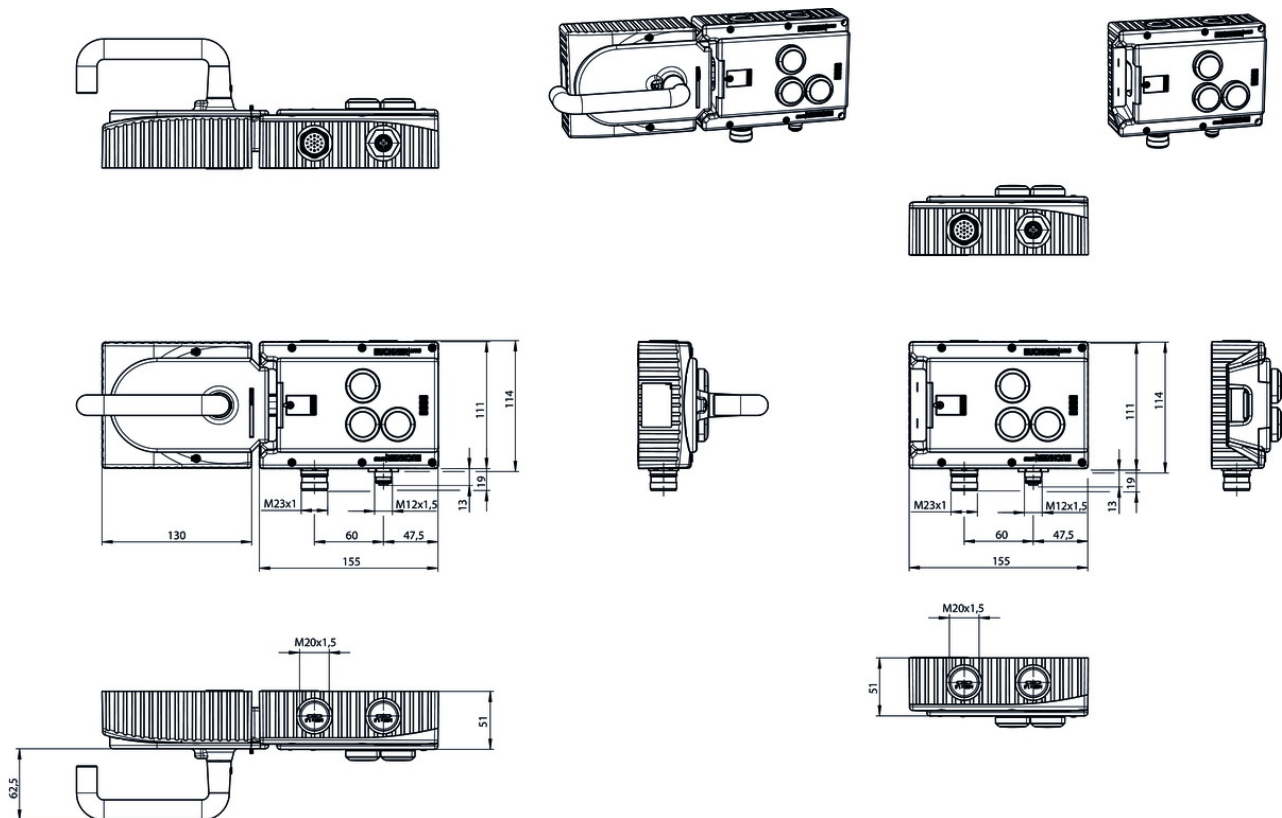
[4, 6] (Reverse polarity protected, regulated, residual ripple <5%, PELV)

[5] (no load on outputs)

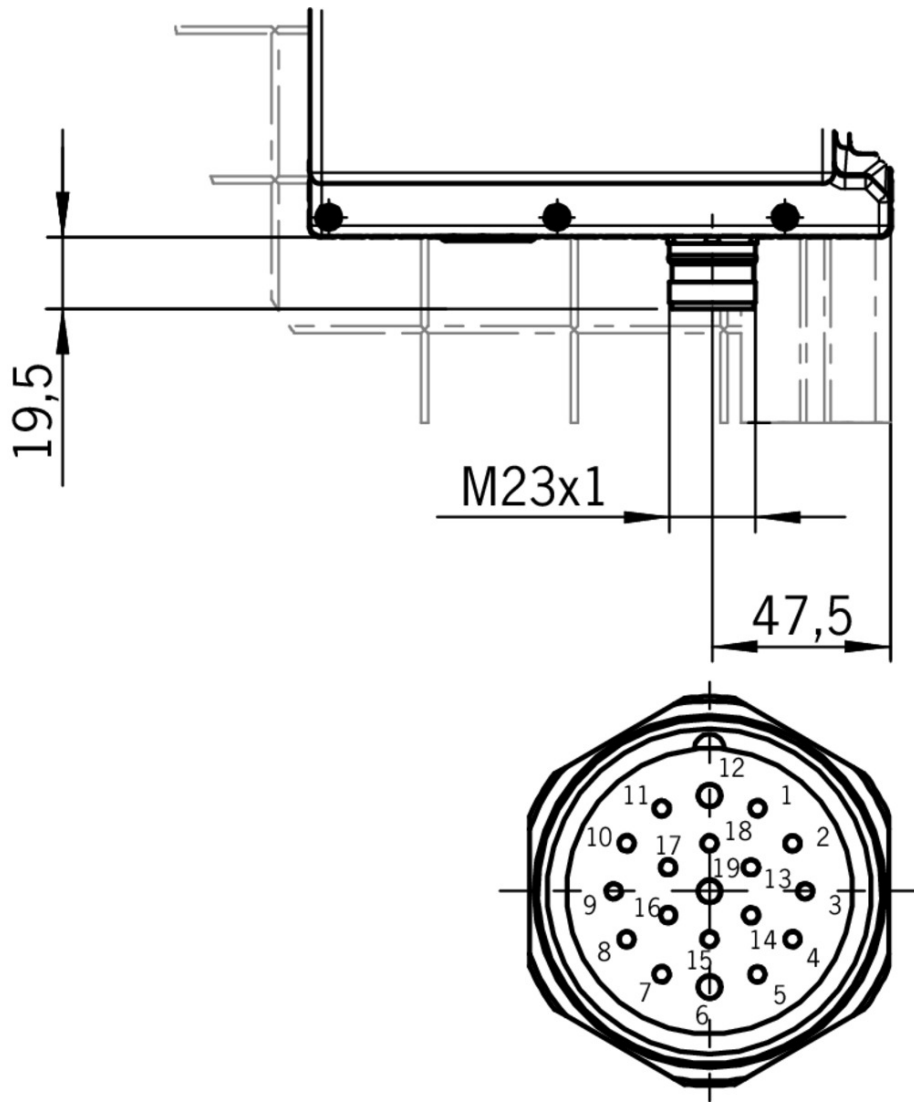
[7] (With energized guard locking solenoid and unloaded outputs OD, OT, OL, OI, +20 °C, 24V)

[8, 9] Value at a switching current of 50mA without taking into account the cable lengths

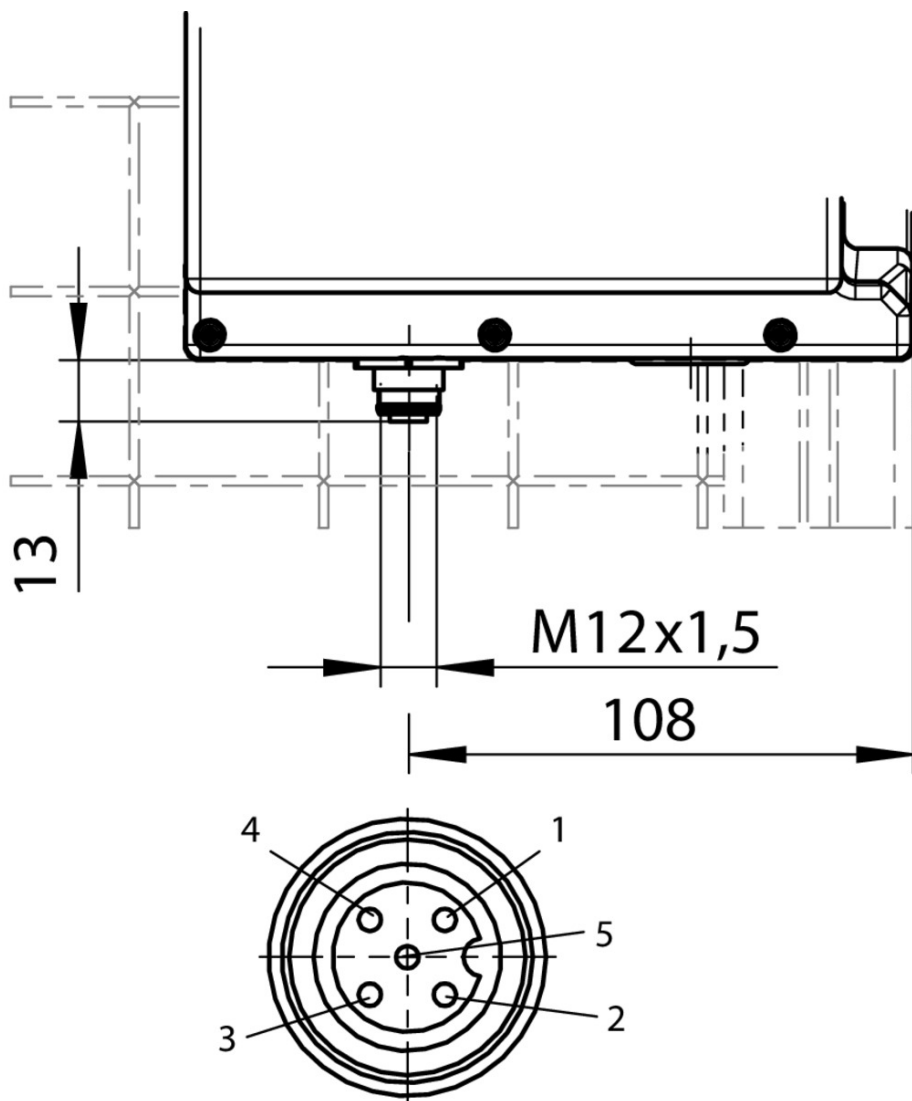
## Dimension drawing



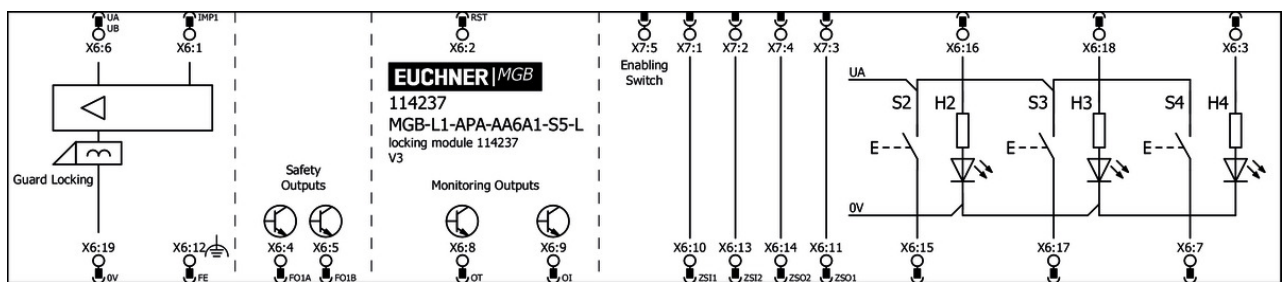
Dimension drawing



### Dimension drawing



### Plug connector RC18



### Miscellaneous accessories

▼ Lens set 5 colors



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

▼ Lens set 6 colors



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

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▼ Lens set labeled



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



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



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

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▼ Lens set, three colors



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

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## Connection material

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▼ Female plug RC18 straight with option C1825



**077025** RC18EF-C1825

▼ Features

- › Plug connector M23, straight
  - › Number of pins: 19-pin with screen bonding clamp
- 

▼ Replacement crimp contacts for female connector RC18 with option C1825

**094310** CRIMPKONTAKT BUCHSE RCF-C1825

▼ Features

- › 19 crimp sockets
  - › Conductor cross-section 16 x 0.25 - 0.5 mm<sup>2</sup> and 3 x 0.75 - 1 mm<sup>2</sup>
  - › For plug connector RC18..C1825
- 

▼ Connection cable with plug connector M23 with option C1825, 1.5m, straight



**092761** C-M23F19-19XDIFPU01,5-MA-092761

▼ Features

- › M23 plug connector, 18-pin + PE
  - › Straight plug connector
  - › PUR cable
  - › Cable length 1.5 m
  - › With flying lead
  - › Cores color-coded
- 

▼ Connection cable with plug connector M23 with option C1825, 3m, straight





**092816** C-M23F19-19XDIFPU03,0-MA-092816

▼ Features

- › M23 plug connector, 18-pin + PE
  - › Straight plug connector
  - › PUR cable
  - › Cable length 3 m
  - › With flying lead
  - › Cores color-coded
- 

▼ Connection cable with plug connector M23 with option C1825, 6m, straight



**077014** C-M23F19-19XDIFPU06,0-MA-077014

▼ Features

- › M23 plug connector, 18-pin + PE
  - › Straight plug connector
  - › PUR cable
  - › Cable length 6 m
  - › With flying lead
  - › Cores color-coded
- 

▼ Connection cable with plug connector M23 with option C1825, 8m, straight



**077015** C-M23F19-19XDIFPU08,0-MA-077015

▼ Features

- › M23 plug connector, 18-pin + PE
  - › Straight plug connector
  - › PUR cable
  - › Cable length 8 m
  - › With flying lead
  - › Cores color-coded
- 

▼ Connection cable with plug connector M23 with option C1825, 10m, straight



**092898** C-M23F19-19XDIFPU10,0-MA-092898

▼ Features

- › M23 plug connector, 18-pin + PE
  - › Straight plug connector
  - › PUR cable
  - › Cable length 10 m
  - › With flying lead
  - › Cores color-coded
- 

▼ Connection cable with plug connector M23 with option C1825, 15m, straight



**077016** C-M23F19-19XDIFPU15,0-MA-077016

▼ Features

- › M23 plug connector, 18-pin + PE
  - › Straight plug connector
  - › PUR cable
  - › Cable length 15 m
  - › With flying lead
  - › Cores color-coded
-

- ▼ Connection cable with plug connector M23 with option C1825, 20m, straight



**092726** C-M23F19-19XDIFPU20,0-MA-092726

▼ Features

- › M23 plug connector, 18-pin + PE
  - › Straight plug connector
  - › PUR cable
  - › Cable length 20 m
  - › With flying lead
  - › Cores color-coded
- 

- ▼ Connection cable with plug connector M23 with option C1825, 25m, straight



**092727** C-M23F19-19XDIFPU25,0-MA-092727

▼ Features

- › M23 plug connector, 18-pin + PE
  - › Straight plug connector
  - › PUR cable
  - › Cable length 25 m
  - › With flying lead
  - › Cores color-coded
- 

- ▼ Connection cable with plug connector M23 with option C1825, 30m, straight



**095993** C-M23F19-19XDIFPU30,0-MA-095993

▼ Features

- › M23 plug connector, 18-pin + PE
  - › Straight plug connector
  - › PUR cable
  - › Cable length 30 m
  - › With flying lead
  - › Cores color-coded
- 

- ▼ Connection cable with plug connector M23 with option C1825, 40m, straight



**102490** C-M23F19-19XDIFPU40,0-MA-102490

▼ Features

- › M23 plug connector, 18-pin + PE
  - › Straight plug connector
  - › PUR cable
  - › Cable length 40 m
  - › With flying lead
  - › Cores color-coded
- 

## Function expansion

---

- ▼ Emergency unlocking for safety system MGB



**112989** MGB-A-EMERGENCYRELEASE-112989

▼ Features

- › Quick emergency unlocking

- › sealable

## Mounting accessories

- ✓ Mounting plate for evaluation modules MGB-L.-AR.-... and MGB-L.-AP.-...



### 109490 MGB-A-MOUNTINGPLATE-L-109490

#### ✓ Features

- › Easy and quick mounting (only two screws required)
- › Quick module replacement
- › Steel, powder-coated
- › Suitable for doors hinged on the right or left

## Enabling switch

- ✓ ZSA, 3-stage with cable and plug connector M12



### 110560 ZSA2B4G10CC2322



















#### ✓ Features

- › Housing G1
- › 3-stage function
- › Straight connection cable with plug connector, 10 m

## Instructions















- ✓ Informação de segurança (Parte do manual de instruções Sistema de segurança MGB-AR/MGB-AP) a partir de V3.0.0

	Doc. no.	Version	Language	Download
Sicherheitsinformation (Teil der Betriebsanleitung Sicherheitssystem MGB-AR/MGB-AP) ab V3.0.0	123151	01-02/15		0.6 MB
Información de seguridad (parte del manual de instrucciones Sistema de seguridad MGB-AR/MGB-AP) V3.0.0 o superior				
Information de sécurité (partie du mode d'emploi Système de sécurité MGB-AR/MGB-AP) à partir de V3.0.0				
Informazioni sulla sicurezza (Parte delle istruzioni di impiego Sistema di sicurezza MGB-AR/MGB-AP) da V3.0.0				
Säkerhetsinformation (Del av instruktionsboken Säkerhetssystem MGB-AR/MGB-AP) från V3.0.0				
Safety Information (Part of the Operating Instructions Safety System MGB-AR/MGB-AP) from V3.0.0				

Informação de segurança (Parte do manual de instruções Sistema de segurança MGB-AR/MGB-AP) a partir de V3.0.0	123151	01-02/15		 0.2 MB
Bezpečnostní informace (součást návodu k použití „Bezpečnostní systém MGB-AR/MGB-AP“) od V3.0.0	123151	01-02/15		 0.2 MB
Veiligheidsinformatie (Deel van de handleiding Beveiligingssysteem MGB-AR/MGB-AP) vanaf V3.0.0	123151	01-02/15		 0.2 MB
Informacje o bezpieczeństwie (Część instrukcji obsługi System bezpieczeństwa MGB-AR/MGB-AP) od V3.0.0	123151	01-02/15		 0.2 MB
安全信息 (安全系统 MGB-AR/MGB-AP使用说明书的组成部分) V3.0.0以上	123151	01-02/15		 0.3 MB
Информация о безопасности (часть инструкции по эксплуатации Предохранительная система MGB-AR/MGB-AP) с V3.0.0	123151	01-02/15		 0.3 MB
Bezpečnostná informácia (časť návodu na prevádzku Bezpečnostný systém MGB-AR/MGB-AP) od V3.0.0	123151	01-02/15		 0.2 MB
Güvenlik bilgisi (İşletim kılavuzunun parçası emniyet sistemi MGB-AR/MGB-AP) V3.0.0 ve üstü	123151	01-02/15		 0.3 MB
安全情報 MGB-AR/MGB-AP	123151	01-02/15		 0.6 MB







 **Návod k použití – bezpečnostní systémy MGB-L1...AR-... / MGB-L2...AR-... a MGB-L1...AP-... / MGB-L2...AP-... od V3.0.0**

	<b>Doc. no.</b>	<b>Version</b>	<b>Language</b>	<b>Download</b>
Betriebsanleitung MGB-L1...AR-... / MGB-L2...AR-... und MGB-L1...AP-... / MGB-L2...AP-... ab V3.0.0	2119167	04-05/18		 3.7 MB
Mode d'emploi MGB-L1...AR-... / MGB-L2...AR-... et MGB-L1...AP-... / MGB-L2...AP-... à partir de V3.0.0	2119167	04-05/18		 3.7 MB
Manual de instrucciones MGB-L1...AR-... / MGB-L2...AR-... y MGB-L1...AP-... / MGB-L2...AP-... V3.0.0 o superior	2119167	04-05/18		 3.7 MB
Návod k použití – bezpečnostní systémy MGB-L1...AR-... / MGB-L2...AR-... a MGB-L1...AP-... / MGB-L2...AP-... od V3.0.0	2119167	04-05/18		 4.0 MB
Operating Instructions MGB-L1...AR-... / MGB-L2...AR-... and MGB-L1...AP-... / MGB-L2...AP-... from V3.0.0	2119167	04-05/18		 3.7 MB
Istruzioni di impiego MGB-L1...AR-... / MGB-L2...AR-... und MGB-L1...AP-... / MGB-L2...AP-... da V3.0.0	2119167	04-05/18		 3.7 MB
Handleiding MGB-L1...AR-... / MGB-L2...AR-... en MGB-L1...AP-... / MGB-L2...AP-... vanaf V3.0.0	2119167	04-05/18		 3.7 MB
Instrukcja obsługi MGB-L1...AR-... / MGB-L2...AR-... i MGB-L1...AP-... / MGB-L2...AP-... od V3.0.0	2119167	04-05/18		 4.0 MB

Manual de instruções MGB-L1...AR.-... / MGB-L2...AR.-... e MGB-L1...AP.-... / MGB-L2...AP.-... a partir de V3.0.0	2119167	04-05/18		 3.7 MB
Инструкция по эксплуатации MGB-L1...AR.-... / MGB-L2...AR.-... и MGB-L1...AP.-... / MGB-L2...AP.-... с V3.0.0	2119167	04-05/18		 4.2 MB
Návod na prevádzku Bezpečnostné systémy MGB-L1...AR.-... / MGB-L2...AR.-... a MGB-L1...AP.-... / MGB-L2...AP.-... od V3.0.0	2119167	04-05/18		 4.0 MB
Instruktionsbok MGB-L1...AR.-... / MGB-L2...AR.-... och MGB-L1...AP.-... / MGB-L2...AP.-... fr. V3.0.0	2119167	04-05/18		 3.7 MB
İşletim kılavuzu MGB-L1...AR.-... / MGB-L2...AR.-... ve MGB-L1...AP.-... / MGB-L2...AP.-... itibaren V3.0.0	2119167	04-05/18		 4.1 MB
操作指示書 安全システム MGB-L1...AR.-... / MGB-L2...AR.-... および MGB-L1...AP.-... / MGB-L2...AP.-... V3.0.0以降	2119167	04-05/18		 4.1 MB
使用说明书 安全系统 MGB-L1...AR.-... / MGB-L2...AR.-...和MGB-L1...AP.-... / MGB-L2...AP.-... V3.0.0以上	2119167	04-05/18		 4.1 MB

## Declaration of conformity

### EU-Konformitätserklärung

	Doc. no.	Version	Language	Download
EU-Konformitätserklärung Declaración UE de conformidad Déclaration UE de conformité Dichiarazione di conformità EU declaration of conformity	2123150	08-01/17	    	 0.3 MB