

## ITEM 159086 MGBS-P-L1-AR-U-R-AEE-SH-159086

Description	Technical data	Accessories	Downloads
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### Features

- › Locking module (order handle module separately)
- › Adjustable door hinge; factory setting: right
- › Series connection possible (up to 20 AR devices in series)
- › Short circuit monitoring
- › Two safety outputs (semiconductor outputs)
- › Up to category 4/PL e according to EN ISO 13849-1
- › Emergency stop
- › Two pushbuttons (illuminated)
- › With plug connector M23
- › Unicode
- › Door monitoring output
- › With escape release (order inner door handle separately)

### Door hinge

The door hinge can be changed.

### Unicode evaluation

Each handle module is unique. The locking module detects only handle

modules that have been taught in. Additional handle modules can be taught in. Only the last handle module taught in is detected.

## Guard locking type

**MGBS-** Guard locking actuated by spring force applied and power-ON  
**L1** released (closed-circuit current principle)

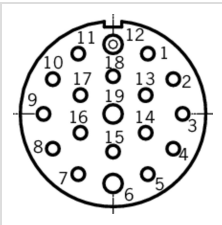


## Lens set

The color of the pushbutton can be selected using the lens set included (five colors).

## Escape release

Is used for the manual release of the guard locking without tools. The inner door handle permits escape from the danger zone.

## Connector assignment

Plug connector (view of connection side)	Pin	Designation	Function	Conductor coloring of connecting cable
	1	IMP	Operating voltage of guard locking solenoid 24 V DC	VT
	2	FI1A	Enable input, channel 1	RD
	3	FI1B	Enable input, channel 2	GY
	4	FO1A	Safety output, channel 1 	RD/BU
	5	FO1B	Safety output, channel 2 	GN
	6	UB	Operating voltage of AR electronics, controls and indicators 24 V DC	BU
	7	RST	Reset input	GY/PK
	8	OD	Door monitoring output	GN/WH
	9	OI	Diagnostic output	YE/WH
	10	S1.A1	EMERGENCY STOP (channel A)	GY/WH
	11	S1.A2	EMERGENCY STOP (channel A)	BK
	12	FE	Function earth (must be connected to meet the EMC requirements)	GN/YE
	13	S1.B1	EMERGENCY STOP (channel B)	PK

Plug connector (view of connection side)	Pin	Designation	Function	Conductor coloring of connecting cable
	14	S1.B2	EMERGENCY STOP (channel B)	BN/GY
	15	S2	Pushbutton 2 (illuminated)	BN/YE
	16	H2	LED 2	BN/GN
	17	S3	Pushbutton 3 (illuminated)	WH
	18	H3	LED 3	YE
	19	0 V	Operating voltage of AR electronics, controls and indicators 0 V/guard locking solenoid 0 V	BN

## Approvals



## Mechanical values and environment

Housing material	Switch bracket	Die-cast zinc
	Safety switch housing	Fiber glass reinforced thermoplastic
Weight	Net	1,5 kg
Ambient temperature	At $U_B = 24V$ DC	-20 ... +55 °C
Degree of protection		IP65 [1]
Resilience to vibration		In acc. with EN IEC 60947-5-3
Mechanical life		$1 \times 10^6$
Installation position		Any
Ready delay		8 s
Switching frequency		max.0,5 Hz
Connection		1 plug connector M23, 19-pin, RC18
Approach speed		20 m/min
Guard locking principle		Closed-circuit current principle
Locking force $F_{max}$		3900 N
Locking force $F_{Zh}$		3000 N [2]
Retention force		20 N
Extraction force		20 N
Actuating force		10 N

Overtravel	5 mm
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## Electrical connection ratings

Test-pulse interval	min.140 ms
Test pulses	max.1,0 ms <b>[3]</b>
Operating voltage DC	$U_{UB}$ 24 V DC -15% ... 15% Reverse polarity protected, regulated, residual ripple < 5%, PELV
Current consumption	$I_{UB}$ 40 mA $I_{IMP}$ 400 mA
Utilization category according to EN 60947-5-2	DC-13 24V 150mA <b>[4]</b>
Solenoid operating voltage DC	$U_{IMP}$ 24 V DC -15% ... +10% Reverse polarity protected, regulated, residual ripple < 5%, PELV
Fusing	External (operating voltage UB) 0,25 ... 2 A External (solenoid operating voltage IMP) 0,5 ... 8 A
Rated insulation voltage $U_i$	max.50 V
Rated impulse withstand voltage $U_{imp}$	max.0,5 kV
Power consumption	6 W
EMC protection requirements	In acc. with EN IEC 60947-5-3
Solenoid duty cycle	100 %
Degree of contamination (external, according to EN 60947-1)	3
Safety class	EN IEC 61140 III
Risk time according to EN 60947-5-3	Delay per device 5 ms Single device max.260 ms
Switching load	According to UL 24V DC, class 2 <b>[5]</b>
<b>Safety outputs FO1A / FO1B</b>	
Type of output	2 semiconductor outputs, p-switching, short circuit-proof
Switching current	Per safety output FO1A / FO1B 1 ... 150 mA
Output voltage	High $U(FO1A) / U(FO1B)$ $U_B - 1,5 \dots U_B$ V DC Low $U(FO1A) / U(FO1B)$ 0 ... 1 V DC
Off-state current $I_r$	max.0,25 mA
Switch-on time	max.400 ms
Discrepancy time	Both safety outputs In acc. with EN IEC 60947-5-3 max.10 ms

		<b>Monitoring output OD</b>
Type of output		p-switching, short circuit-proof
Switching current		1 ... 50 mA
Output voltage		0,8xUB ... UB V DC
		<b>Monitoring output OI</b>
Type of output		p-switching, short circuit-proof
Switching current		1 ... 50 mA
Output voltage		0,8xUB ... UB V DC
		<b>Controls and indicators</b>
Operating voltage		UB V
Operating current		1 ... 50 mA
Power supply		
	LED	24 V
Current consumption		
	LED	10 mA
		<b>Emergency stop</b>
Operating voltage		5 ... 24 V
Operating current		1 ... 100 mA

## Operating distance

Repeat accuracy R		
	According to EN 60947-5-2	10 %

## Controls and indicators

Control/indicator		
		<b>Position 1</b>
Version		Emergency stop
Switching element		1 pos. driven NC
Control/indicator		
		<b>Position 2</b>
Version		Illuminated push buttons
Switching element		1NO
Control/indicator		
		<b>Position 3</b>
Version		Illuminated push buttons
Switching element		1NO

## Miscellaneous

Additional feature		
		Incl. cover set ID. No. 120344
		Escape release actuated by pushing

For the approval according to UL the following applies

Operation only with UL class 2 power supply, or equivalent measures see operating instructions

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

	Emergency stop
B10 <sub>D</sub>	0,065 x 10 <sup>6</sup>

Performance Level	PL e
Category	4
PFH <sub>D</sub>	4.1 x 10 <sup>-9</sup>
Mission time	20 y

[1] Screwed tight plug connector/mating component

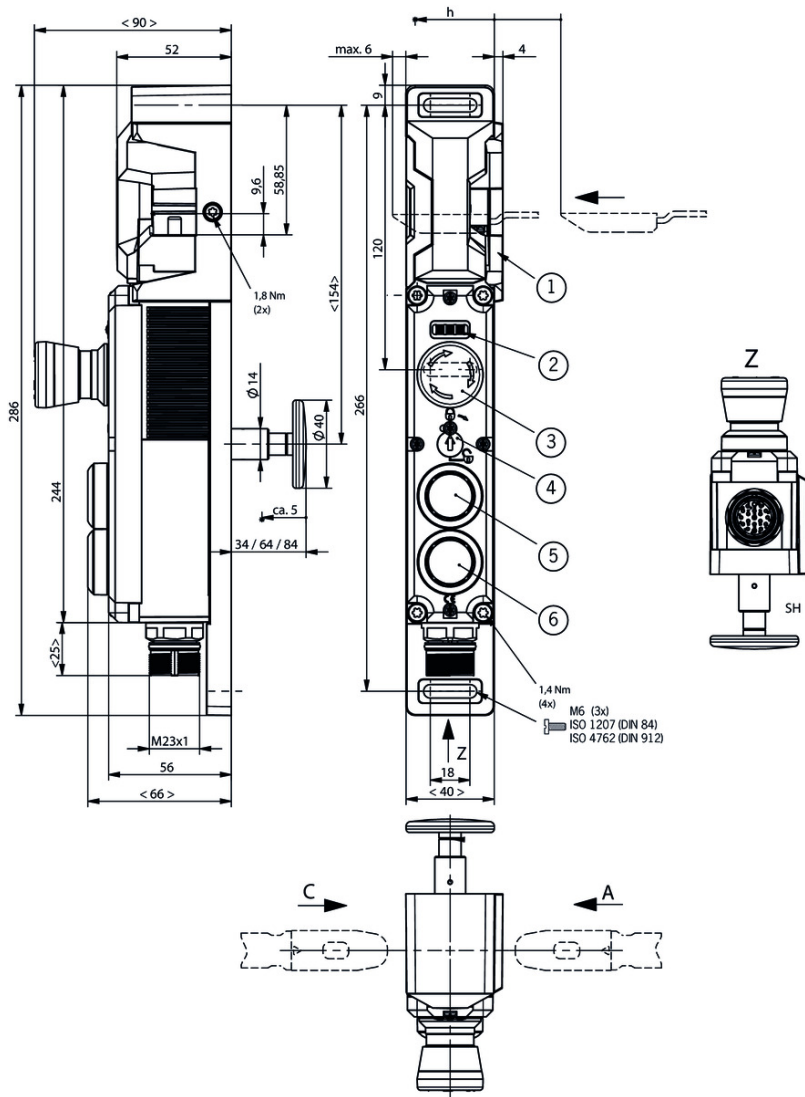
[2]  $F_{zh} = F_{max}/1.3$  Depending on the actuator used

[3] Applies for a load with  $C \leq 30nF$  and  $R \leq 20k\Omega$

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

[5] Alternatively see operating instructions

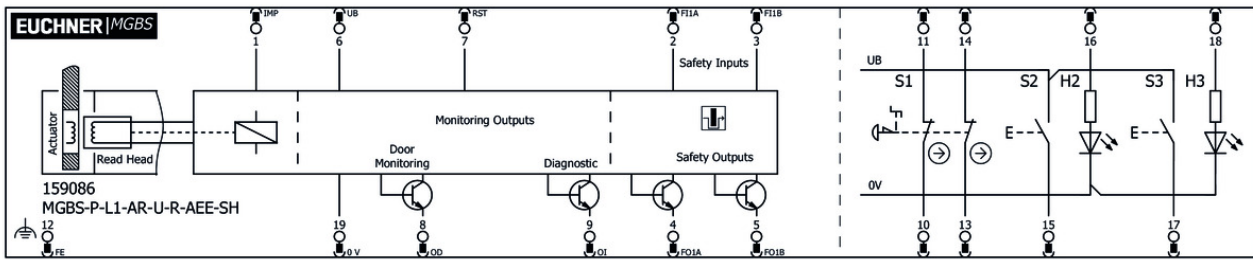
## Dimension drawing



## Legende

- 1 Door hinge right
- 2 LEDs
- 3 EMERGENCY STOP
- 4 Auxiliary release
- 5 Pushbutton 2, illuminated
- 6 Pushbutton 3, illuminated

## Wiring diagram



## Connection material

- ✓ 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, 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, 3m, angled



**092908** C-M23F19-19XDIFPU03,0-MA-092908

### ✓ Features

- › M23 plug connector, 18-pin + PE
- › Angled plug connector
- › Cable exit C (left)
- › PUR cable
- › Cable length 3 m
- › With flying lead
- › Cores color-coded



**092909** C-M23F19-19XDIFPU03,0-MA-092909

### ✓ Features

- › M23 plug connector, 18-pin + PE
- › Angled plug connector
- › Cable exit A (right)



- › PUR cable
  - › Cable length 3 m
  - › With flying lead
  - › Cores color-coded
- 

▼ Replacement crimp contacts for female connector RC18

**094309** CRIMPKONTAKT BUCHSE RCF

▼ Features

- › 19 crimp sockets
  - › Conductor cross-section 19 x 0.75 - 1 mm<sup>2</sup>
  - › For plug connector RC18
- 

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



**085195** C-M23F19-19XDIFPU08,0-MA-085195

▼ Features

- › M23 plug connector, 18-pin + PE
  - › Angled plug connector
  - › Cable exit A (right)
  - › PUR cable
  - › Cable length 8 m
  - › With flying lead
  - › Cores color-coded
- 



**077019** C-M23F19-19XDIFPU08,0-MA-077019

▼ Features

- › RC18 plug connector, 18-pin + PE
  - › Angled plug connector
  - › Cable exit C (left)
  - › PUR cable
  - › Cable length 8 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, angled



**092911** C-M23F19-19XDIFPU20,0-MA-092911

▼ Features

- › M23 plug connector, 18-pin + PE
- › Angled plug connector

- › Cable exit A (right)
- › PUR cable
- › Cable length 20 m
- › With flying lead
- › Cores color-coded



**092910** C-M23F19-19XDIFPU20,0-MA-092910

▾ Features

- › M23 plug connector, 18-pin + PE
- › Angled plug connector
- › Cable exit C (left)
- › PUR cable
- › Cable length 20 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, 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, 15m, angled



**085196** C-M23F19-19XDIFPU15,0-MA-085196

▾ Features

- › M23 plug connector, 18-pin + PE
- › Angled plug connector
- › Cable exit A (right)
- › PUR cable
- › Cable length 15 m
- › With flying lead
- › Cores color-coded



**077020** C-M23F19-19XDIFPU15,0-MA-077020

▾ Features

- › M23 plug connector, 18-pin + PE

- › Angled plug connector
  - › Cable exit C (left)
  - › PUR cable
  - › Cable length 15 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, 6m, angled



**077018** C-M23F19-19XDIFPU06,0-MA-077018

▼ Features

- › M23 plug connector, 18-pin + PE
  - › Angled plug connector
  - › Cable exit C (left)
  - › PUR cable
  - › Cable length 6 m
  - › With flying lead
  - › Cores color-coded
- 



**085194** C-M23F19-19XDIFPU06,0-MA-085194

▼ Features

- › M23 plug connector, 18-pin + PE
  - › Angled plug connector
  - › Cable exit A (right)
  - › PUR cable
  - › Cable length 6 m
  - › With flying lead
  - › Cores color-coded
- 

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



**092901** C-M23F19-19XDIFPU10,0-MA-092901

▼ Features

- › M23 plug connector, 18-pin + PE
  - › Angled plug connector
  - › Cable exit C (left)
  - › PUR cable
  - › Cable length 10 m
  - › With flying lead
  - › Cores color-coded
- 

**092902** C-M23F19-19XDIFPU10,0-MA-092902



- ▼ Features
    - › M23 plug connector, 18-pin + PE
    - › Angled plug connector
    - › Cable exit A (right)
    - › PUR cable
    - › Cable length 10 m
    - › With flying lead
    - › Cores color-coded
- 

- ▼ 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
- 

- ▼ Female plug RC18 straight



**074616** RC18EF

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

- ▼ 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, 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
- 

- ▼ Female plug RC18 straight with option C1825

**077025** RC18EF-C1825



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

- ✓ Connection cable with plug connector M23 with option C1825, 1.5m, angled



**092906** C-M23F19-19XDIFPU01,5-MA-092906

- ✓ Features
    - › M23 plug connector, 18-pin + PE
    - › Angled plug connector
    - › Cable exit C (left)
    - › PUR cable
    - › Cable length 1.5 m
    - › With flying lead
    - › Cores color-coded
- 



**092907** C-M23F19-19XDIFPU01,5-MA-092907

- ✓ Features
    - › M23 plug connector, 18-pin + PE
    - › Angled plug connector
    - › Cable exit A (right)
    - › PUR cable
    - › Cable length 1.5 m
    - › With flying lead
    - › Cores color-coded
- 

- ✓ Connection cable with plug connector M23 with option C1825, 25m, angled



**092912** C-M23F19-19XDIFPU25,0-MA-092912

- ✓ Features
    - › M23 plug connector, 18-pin + PE
    - › Angled plug connector
    - › Cable exit C (left)
    - › PUR cable
    - › Cable length 25 m
    - › With flying lead
    - › Cores color-coded
- 



**092913** C-M23F19-19XDIFPU25,0-MA-092913

- ✓ Features
    - › M23 plug connector, 18-pin + PE
    - › Angled plug connector
    - › Cable exit A (right)
    - › PUR cable
    - › Cable length 25 m
    - › With flying lead
    - › Cores color-coded
- 

- ✓ 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

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▼ 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

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▼ Female connector RC18 angled with option C1825



**077026** RC18WF-C1825

▼ Features

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

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▼ Female plug RC18 angled



**074617** RC18WF

▼ Features

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

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## Miscellaneous accessories

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▼ Lens set 5 colors



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

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▼ Lens set labeled



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



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



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

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▼ Lens set 6 colors

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



## Spare parts

### ▼ Handle module MGBS-H-BA1A3-R



#### **157543** MGBS-H-BA1A3-R-157543

##### ▼ Features

- › Intelligent bolt tongue
- › Door hinge on right (not adjustable)
- › Automatically extending lockout mechanism
- › Door handle

### ▼ Handle module MGBS-H-BA1A3-L



#### **157544** MGBS-H-BA1A3-L-157544

##### ▼ Features

- › Intelligent bolt tongue
- › Door hinge on left (not adjustable)
- › Automatically extending lockout mechanism
- › Door handle

## Function expansion

### ▼ Inner door handle AE-R-S1



#### **158322** AE-R-S1-158322

##### ▼ Features

- › Inner door handle silver colored
- › incl. sticker describing the opening sequence
- › Extended actuation axis for thicker doors (order separately)





## Instructions

### ▼ Bezpečnostní informace CTP (-AR/-AP)

	Doc. no.	Version	Language	Download
Sicherheitsinformation CTP (-AR/-AP)	2138087	02-11/17		0.7 MB
Safety Information CTP (-AR/-AP)				
Información de seguridad CTP (-AR/-AP)				
Information de sécurité CTP (-AR/-AP)				
Informazioni sulla sicurezza CTP (-AR/-AP)				
Bezpečnostní informace CTP (-AR/-AP)	2138087	02-11/17		0.2 MB
安全情報 CTP (-AR/-AP)	2138087	02-11/17		0.3 MB
Informação de segurança CTP (-AR/-AP)	2138087	02-11/17		0.2 MB

Информация о безопасности CTP (-AR/-AP)	2138087	02-11/17		 0.3 MB
Güvenlik bilgisi CTP (-AR/-AP)	2138087	02-11/17		 0.3 MB
安全信息 CTP (-AR/-AP)	2138087	02-11/17		 0.3 MB

 **Montageanleitung Multifunctional Gate Box MGBS**

	<b>Doc. no.</b>	<b>Version</b>	<b>Language</b>	<b>Download</b>
Montageanleitung Multifunctional Gate Box MGBS	2150944	03-09/18		 1.5 MB
Assembly Instructions Multifunctional Gate Box MGBS	2150944	03-09/18		 1.5 MB

 **Návod k použití Bezpečnostní spínač s kódovaným transpondérem CTP-AR Unicode/Multicode**

	<b>Doc. no.</b>	<b>Version</b>	<b>Language</b>	<b>Download</b>
Betriebsanleitung Transpondercodierter Sicherheitsschalter mit Zuhaltung CTP-AR Uni-/Multicode	2123041	06-05/18		 4.5 MB
Mode d'emploi Interrupteur de sécurité à codage par transpondeur avec interverrouillage CTP-AR uni-/multicode	2123041	06-05/18		 4.5 MB
Manual de instrucciones Interruptor de seguridad con codificación por transponder con bloqueo CTP-AR Unicode/Multicode	2123041	06-05/18		 4.5 MB
Návod k použití Bezpečnostní spínač s kódovaným transpondérem CTP-AR Unicode/Multicode	2123041	06-05/18		 4.7 MB
Operating instructions Transponder-Coded Safety Switch With Guard Locking CTP-AR Unicode/Multicode	2123041	06-05/18		 4.5 MB
Istruzioni di impiego Finecorsa di sicurezza con codifica a transponder con meccanismo di ritenuta CTP-AR Uni-/Multicode	2123041	06-05/18		 4.5 MB
操作指示書トランスポンダー型コード化安全スイッチガードロック内蔵CTP-AR ユニコード/マルチコード	2123041	06-05/18		 4.8 MB