

ITEM 126874 CTP-L1-AR-U-HA-AZE-SH-126874

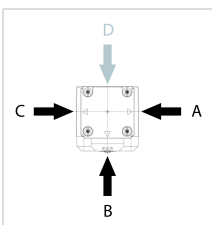
Description	Technical data	Accessories	Downloads
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Features

- › Safety switch with guard locking and integrated evaluation electronics
- › Up to 20 switches in series
- › Short circuit monitoring
- › 2 safety outputs (semiconductor outputs)
- › Up to category 4/PL e according to EN ISO 13849-1
- › Emergency stop
- › 2 pushbuttons (illuminated)
- › With plug connector M23
- › Unicode
- › Door monitoring output
- › Approach direction A, B and C (default setting on delivery)

Approach direction



› Figure

Horizontal
 Can be adjusted in 90° steps

Unicode evaluation

Each actuator is unique. The switch detects only taught-in actuators. Additional actuators can be taught in. Only the last actuator taught in is detected.

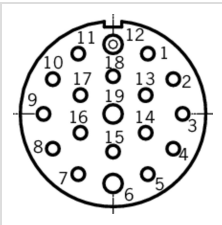


Guard locking type

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

Lens set

The color of the pushbutton can be selected using the lens set included (five colors). Item no.: 120344 (see Accessories)

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 for channel 1	RD
	3	FI1B	Enable input for 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

Plug connector (view of connection side)	Pin	Designation	Function	Conductor coloring of connecting cable
	13	S1.B1	Emergency stop (channel B)	PK
	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 head cover	Die-cast zinc
Safety switch housing	Fiber glass reinforced thermoplastic
Weight	
	Net 0,5 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	1×10^6
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

Electrical connection ratings

Test-pulse interval	min.140 ms
Test pulses	max.1,0 ms ^[3]
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 ^[4]
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 ^[5]
Safety outputs FO1A / FO1B	
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 60947-5-3max.10 ms
		Monitoring output OD
Type of output		p-switching, short circuit-proof
Switching current		1 ... 50 mA
Output voltage		0,8xUB ... UB V DC
		Monitoring output OI
Type of output		p-switching, short circuit-proof
Switching current		1 ... 50 mA
Output voltage		0,8xUB ... UB V DC
		Controls and indicators
Operating voltage		UB V
Operating current		1 ... 50 mA
Power supply		
	LED	24 V
Current consumption		
	LED	10 mA
		Emergency stop
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		
		Position 1
Version		Emergency stop
Switching element		1 pos. driven NC
Control/indicator		
		Position 2
Version		Illuminated push buttons
Switching element		1NO
Control/indicator		
		Position 3
Version		Illuminated push buttons
Switching element		1NO

Miscellaneous

Additional feature		Incl. cover set ID. No. 120344
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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 _D	0,065 x 10 ⁶

Performance Level	PL e
Category	4
PFH _D	4.1 x 10 ⁻⁹
Mission time	20 y

[1] Screwed tight plug connector/mating component

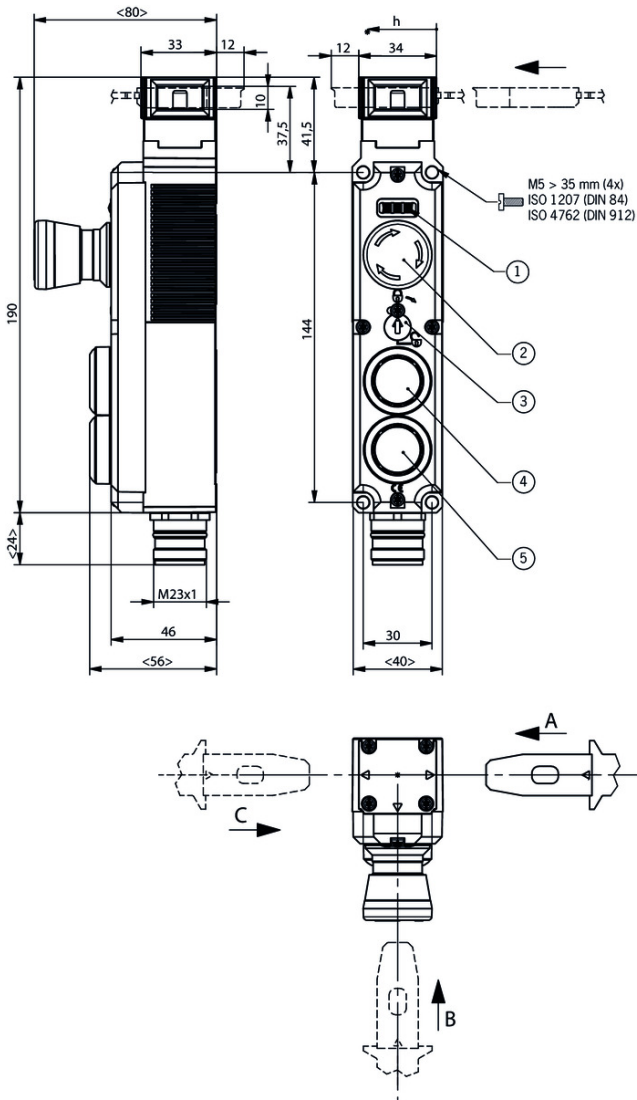
[2] $F_{zh} = F_{max}/1.3$ Depending on the actuator used

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

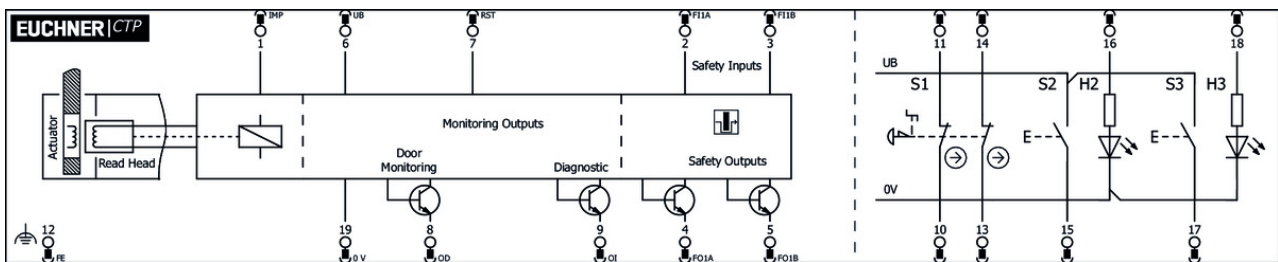
[4] Caution: outputs must be protected with a free-wheeling diode in case of inductive loads

[5] Alternatively see operating instructions

Dimension drawing



Wiring diagram



Actuator

✓ Bent actuator for safety switches CTP



122667 A-C-H-W-SST-122667

✓ Features

- › Actuator bent at top
- › Two safety screws included



122668 A-C-H-W-SST-122668

✓ Features

- › Actuator bent at bottom
 - › Two safety screws included
-

✓ Hinged actuator for safety switch CTP



122675 A-C-H-RO-LS-122675

✓ Features

- › Hinged actuator for doors hinged at the top
 - › Two safety screws included
-



122672 A-C-H-RR-LS-122672

✓ Features

- › Hinged actuator for doors hinged on the right
 - › Two safety screws included
-



122676 A-C-H-RU-LS-122676

✓ Features

- › Hinged actuator for doors hinged at the bottom
 - › Two safety screws included
-



122671 A-C-H-RL-LS-122671

✓ Features

- › Hinged actuator for doors hinged on the left
 - › Two safety screws included
-

✓ Straight actuator for safety switch CTP



126015 A-C-H-G-SST-126015

✓ Features

- › Straight actuator
 - › Two safety screws included
-

Function expansion

✓ Lockout mechanism CTP



123411 AE-L-C-H-123411

✓ Features

- › Prevents unintentional closing of the door
 - › Can be secured with padlocks
-

Mounting accessories

✓ Mounting plates EMP-SB for safety switches CTP, TP...A, STA, STP and TX



093456 EMP-SB

▼ Features

- › For vertical and horizontal mounting of safety switches TP...A, STA, STP and TX

-
- ▼ Mounting plates EMP-B2 for actuators for safety switches CTP, TP...A, STA, STP, TX and TZ



093458 EMP-B2

-
- ▼ Mounting plates EMP-B1 for actuators for safety switches CTP, TP...A, STA, STP, TX and TZ



093457 EMP-B1

-
- ▼ Mounting plates AM-P for safety switches CTP



126026 AM-P-126026

▼ Features

- › For vertical and horizontal mounting of safety switch CTP

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, 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
-

▼ 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, 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, 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, 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
-

▼ Female plug RC18 angled



074617 RC18WF

▼ Features

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

▼ Female connector RC18 angled with option C1825



077026 RC18WF-C1825

▼ Features

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

▼ 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, 20m, angled



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
-



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
-

▼ 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, 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
-

▼ 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 mm² and 3 x 0.75 - 1 mm²
 - › For plug connector RC18..C1825
-

▼ 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, 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
-

▼ 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, 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

-
- ▼ 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, 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, 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
-

▼ 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, 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, 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
-

▼ Replacement crimp contacts for female connector RC18

094309 CRIMPKONTAKT BUCHSE RCF

▼ Features

- › 19 crimp sockets
 - › Conductor cross-section 19 x 0.75 - 1 mm²
 - › For plug connector RC18
-

Bolt

▼ Bolt CTP-GFK for safety switch CTP



123657 RIEGEL CTP-GFK

▼ Features

- › Fiber glass reinforced plastic bolt
 - › For doors hinged on the left or right
 - › Can be locked in open position with padlocks
 - › Actuator included
-

▼ Bolts for safety switches series CTP



123653 RIEGEL CTP-AC-123653

▼ Features

- › Steel bolt
- › For doors hinged on right and left
- › Can be locked in open position with padlocks
- › Actuator included

▼ Bolt BTC-CTP-S for safety switch CTP



123659 BTC-CTP-S-TH-00-X

▼ Features

- › Aluminum bolt
- › For doors hinged on the left or right
- › Can be locked in open position with padlocks
- › Actuator included

Miscellaneous accessories

▼ 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

▼ Lens set 6 colors



120378 AY-SET-LNS-0002-120378

Instructions

▼ Bezpečnostní informace CTP (-AR/-AP)

	Doc. no.	Version	Language	Download
Sicherheitsinformation CTP (-AR/-AP)	2138087	02-11/17		0.7 MB
Información de seguridad CTP (-AR/-AP)				
Information de sécurité CTP (-AR/-AP)				
Informazioni sulla sicurezza CTP (-AR/-AP)				
Safety Information 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

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

	Doc. no.	Version	Language	Download
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
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
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




Catalogs


Bedienelemente integriert - der neue Sicherheitsschalter CTP-Extended









	Doc. no.	Version	Language	Download
Bedienelemente integriert - der neue Sicherheitsschalter CTP-Extended Integrated controls - the new safety switch CTP-Extended	137356	01-11/16	 	0.5 MB

Elementos de mando integrados: el nuevo interruptor de seguridad CTP-Extended

Doc. no.	Version	Language	Download
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Elementos de mando integrados: el nuevo interruptor de seguridad CTP-Extended Éléments de commande intégrés - le nouvel interrupteur de sécurité CTP-Extended	137535	01-11/16	 	 0.5 MB
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-  Transpondercodierte Sicherheitsschalter - Verriegelungseinrichtungen und Zuhaltungen
 Transponder-coded safety switches - Interlocking devices and guard locking devices
 Interruptores de seguridad con codificación por transponder - Dispositivos de enclavamiento y bloqueos
 Interrupteurs de sécurité à codage par transpondeur - Dispositifs de verrouillage et interverrouillages

	Doc. no.	Version	Language	Download
Transpondercodierte Sicherheitsschalter - Verriegelungseinrichtungen und Zuhaltungen	127594	02-01/18		 5.2 MB
Interrupteurs de sécurité à codage par transpondeur - Dispositifs de verrouillage et interverrouillages	137558	02-01/18		 5.2 MB
Interruptores de seguridad con codificación por transponder - Dispositivos de enclavamiento y bloqueos	137560	02-01/18		 5.2 MB
Transponder-coded safety switches - Interlocking devices and guard locking devices	127595	02-01/18		 5.1 MB

Declaration of conformity

-  EU-Konformitätserklärung

	Doc. no.	Version	Language	Download
EU-Konformitätserklärung EU declaration of conformity Declaración UE de conformidad Déclaration UE de conformité Dichiarazione di conformità	2123042	06-08/18	    	 0.4 MB