

Safety Switches with Separate Actuator, Plastic Housing **EUCHNER**

Selection table for safety switches TP with guard locking and guard lock monitoring

Release feature											
HE		Mechanical release on the front									
FE		Escape release on the rear side									
Door monitoring											
TP1/2		Without door monitoring contact									
TP3/4		With door monitoring contact									
TP5/6		With door unlock request contact									
Overtravel											
A		Increased horizontal overtravel									
K		Increased horizontal and vertical overtravel									
Connection											
M		Thread M20x1.5 for cable glands									
SR6		Plug connector; 6-pin+PE									
SM8		Plug connector M12; 8-pin									
SR11		Plug connector; 11-pin+PE									

Release feature		Door monitoring			Overtravel		Connection				Page
HE	FE	TP1/2	TP3/4	TP5/6	A	K	M	SR6	SM8	SR11	
●		●			●		●				40
●		●			●			●		●	41
●		●				●	●				42
●		●				●		●		●	43
●			●		●		●				44 - 47
●			●		●			●	●		48
●			●		●					●	49
●			●			●	●				50
●			●			●		●		●	51
				●	●		●			●	52
●	●		●		●		●				49

Safety Switches with Separate Actuator, Plastic Housing EUCHNER

Safety switch TP with guard locking and guard lock monitoring



- ▶ Mechanical release on the front
- ▶ Without door monitoring contact
- ▶ Increased horizontal overtravel



Approach direction



Horizontal and vertical
Can be adjusted in 90° steps
Increased overtravel for horizontal approach direction.

Mechanical release

Is used for releasing the guard locking with the aid of a tool. The mechanical release must be sealed to prevent tampering (for example with sealing lacquer).

Solenoid operating voltage

- ▶ AC/DC 24 V +10%, -15%
- ▶ AC 110 V +10%, -15%
- ▶ AC 230 V +10%, -15%

LED function display (optional)

A function display (2 LEDs, red and green) is available for the following voltage ranges:

- ▶ AC/DC 24 V +10%, -15%

Guard locking types

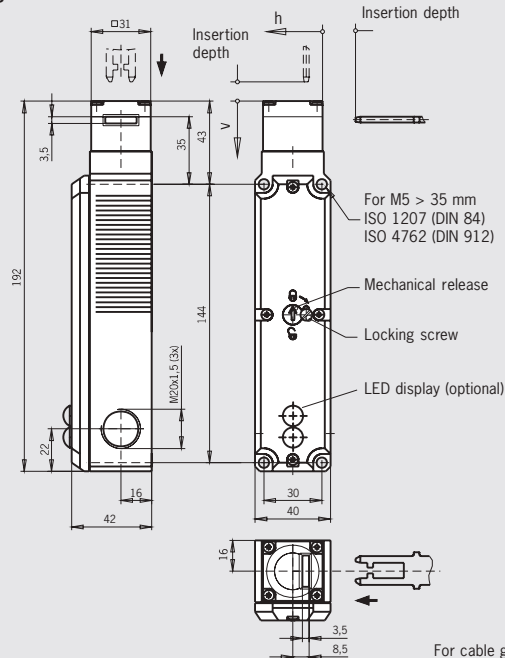
- TP1** Closed-circuit current principle, guard locking by spring force. Release by applying voltage to the interlocking solenoid.
- TP2** Open-circuit current principle, guard locking by applying voltage to the interlocking solenoid. Release by spring force.

Switching elements

- ▶ **528** Slow-action switching element 1 NC ⊖ + 1 NO
- ▶ **538** Slow-action switching element 2 NC ⊖
- ▶ **2121** Slow-action switching element 4 NC ⊖
- ▶ **4131** Slow-action switching element 2 NC ⊖ + 2 NO

Cable entry M20 x 1.5

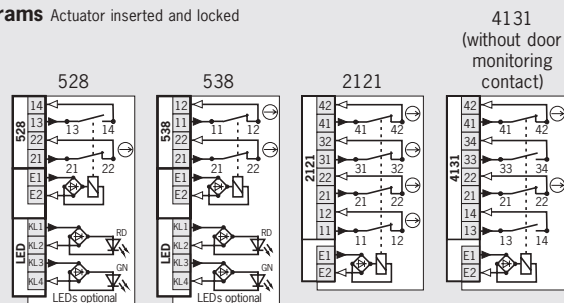
Dimension drawing



Please order actuator separately (see pages 78-81)

For cable glands see page 89

Wiring diagrams Actuator inserted and locked



For switching functions see technical data on page 108

Ordering table

Series	Connection	Guard locking	Switching element	Version	Solenoid operating voltage		
					AC/DC 24 V	AC 110 V	AC 230 V
TP	M Cable entry 3 x M20 x 1.5	1 Mechanical	528 1 NC ⊖ + 1 NO		084 295 TP1-528A024M	084 300 TP1-528A110M	084 304 TP1-528A230M
			528 1 NC ⊖ + 1 NO	024L LED display AC/DC 24 V	094 058 TP1-528A024L024M	-	-
			538 2 NC ⊖		084 310 TP1-538A024M	084 315 TP1-538A110M	084 320 TP1-538A230M
			538 2 NC	024L LED display AC/DC 24 V	093 459 TP1-538A024L024M	-	-
			4131 2 NC ⊖ + 2 NO		084 115 TP1-4131A024M	084 116 TP1-4131A110M	084 117 TP1-4131A230M
			528 1 NC ⊖ + 1 NO		084 325 TP2-528A024M	084 330 TP2-528A110M	084 332 TP2-528A230M
		2 Electrical	538 2 NC ⊖		084 333 TP2-538A024M	084 334 TP2-538A110M	084 335 TP2-538A230M
			2121 4 NC ⊖		096 528 TP2-2121A024M	-	-
			4131 2 NC ⊖ + 2 NO		084 125 TP2-4131A024M	084 126 TP2-4131A110M	084 128 TP2-4131A230M

1) with cable entry M, DC 24 V / AC 110 V

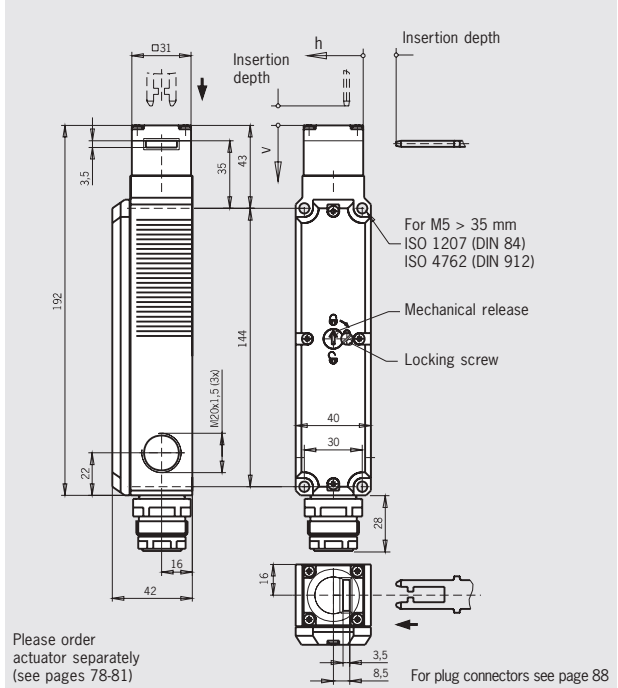
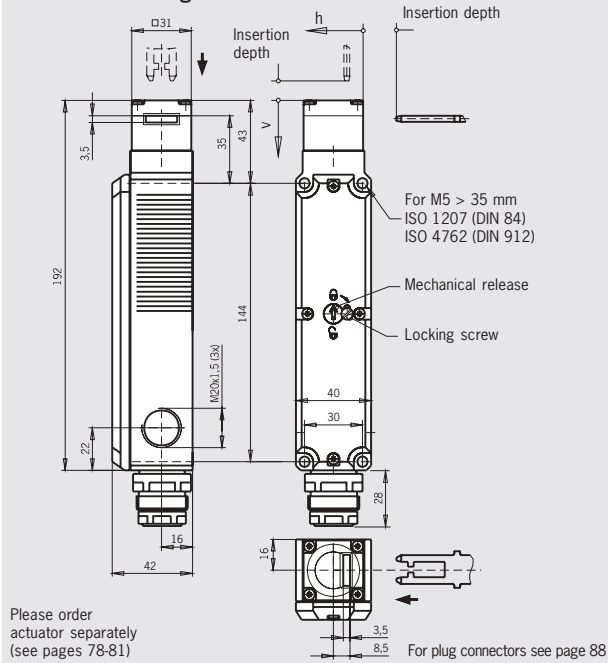
Safety Switches with Separate Actuator, Plastic Housing **EUCHNER**



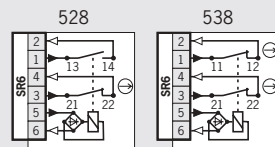
Plug connector SR6 6-pin + PE

Plug connector SR11 11-pin + PE

Dimension drawing

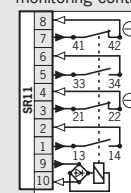


Wiring diagrams Actuator inserted and locked



For switching functions see technical data on page 108

4131
(without door
monitoring contact)



For switching functions see technical data on page 108

Ordering table

Series	Connection	Guard locking	Switching element	Solenoid operating voltage		
				AC/DC 24 V	AC 110 V	AC 230 V
TP	SR6 Plug connector	1 Mechanical	528 1 NC $\ominus$ + 1 NO	087 431 TP1-528A024SR6	087 435 TP1-528A110SR6	087 438 TP1-528A230SR6
			538 2 NC $\ominus$	087 433 TP1-538A024SR6	087 436 TP1-538A110SR6	087 439 TP1-538A230SR6
		2 Electrical	528 1 NC $\ominus$ + 1 NO	087 441 TP2-528A024SR6	087 444 TP2-528A110SR6	087 448 TP2-528A230SR6
			538 2 NC $\ominus$	087 442 TP2-538A024SR6	087 446 TP2-538A110SR6	087 449 TP2-538A230SR6
	SR11 Plug connector	1 Mechanical	4131 2 NC $\ominus$ + 2 NO	088 202 TP1-4131A024SR11	-	-
			4131 2 NC $\ominus$ + 2 NO	088 203 TP2-4131A024SR11	-	-
		2 Electrical	4131 2 NC $\ominus$ + 2 NO	088 202 TP1-4131A024SR11	-	-
			4131 2 NC $\ominus$ + 2 NO	088 203 TP2-4131A024SR11	-	-

Safety Switches with Separate Actuator, Plastic Housing **EUCHNER**

Safety switch TP with guard locking and guard lock monitoring



- ▶ Mechanical release on the front
- ▶ Without door monitoring contact
- ▶ Increased overtravel for horizontal and vertical approach direction



Approach direction



Horizontal and vertical
Can be adjusted in 90° steps
Increased overtravel for horizontal and vertical approach direction.

Mechanical release

Is used for releasing the guard locking with the aid of a tool. The mechanical release must be sealed to prevent tampering (for example with sealing lacquer).

Solenoid operating voltage

- ▶ AC/DC 24 V +10%, -15%
- ▶ AC 110 V +10%, -15%
- ▶ AC 230 V +10%, -15%

Guard locking types

- TP1** Closed-circuit current principle, guard locking by spring force. Release by applying voltage to the interlocking solenoid.
- TP2** Open-circuit current principle, guard locking by applying voltage to the interlocking solenoid. Release by spring force.

Switching elements

- ▶ **528** Slow-action switching element 1 NC ⊖ + 1 NO
- ▶ **538** Slow-action switching element 2 NC ⊖
- ▶ **4131** Slow-action switching element 2 NC ⊖ + 2 NO

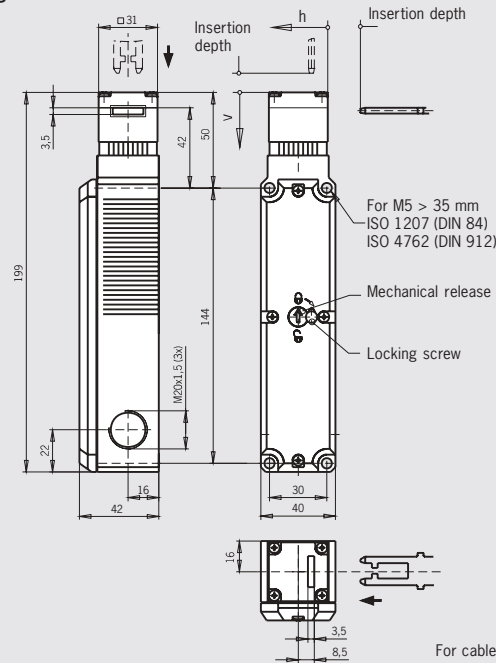
Ordering table

Series	Connection	Guard locking	Switching element	Solenoid operating voltage		
				AC/DC 24 V	AC 110 V	AC 230 V
TP	M Cable entry 3 x M20 x 1.5	1 Mechanical	528 1 NC ⊖ + 1 NO	084 342 TP1-528K024M	On request	On request
			538 2 NC ⊖	084 343 TP1-538K024M	On request	On request
			4131 2 NC ⊖ + 2 NO	084 150 TP1-4131K024M	084 254 TP1-4131K110M	084 255 TP1-4131K230M
		2 Electrical	528 1 NC ⊖ + 1 NO	084 344 TP2-528K024M	On request	On request
			538 2 NC ⊖	084 346 TP2-538K024M	On request	On request
			4131 2 NC ⊖ + 2 NO	084 253 TP2-4131K024M	On request	On request

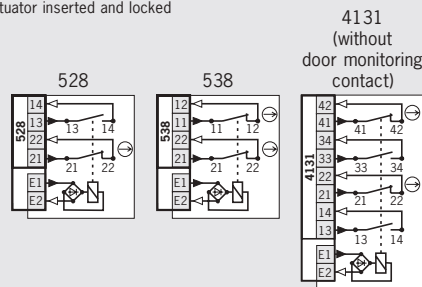
1) With cable entry M, DC 24 V / AC 110 V

Cable entry M20 x 1.5

Dimension drawing



Wiring diagrams Actuator inserted and locked



For switching functions see technical data on page 108

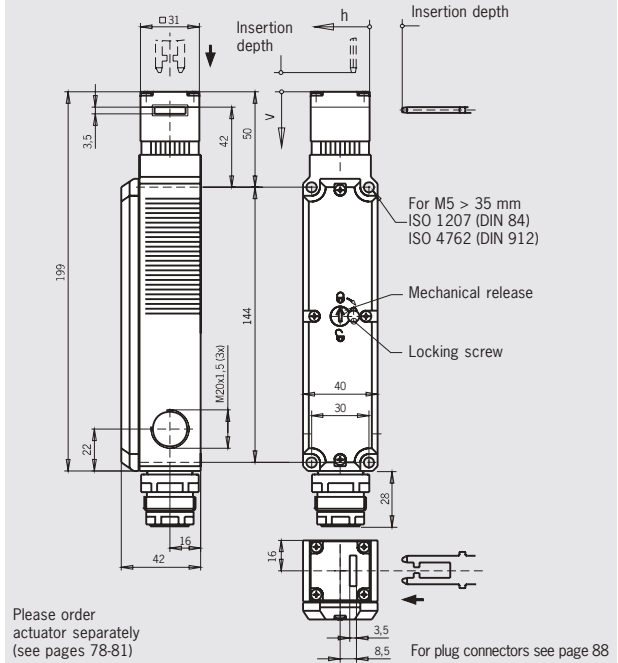
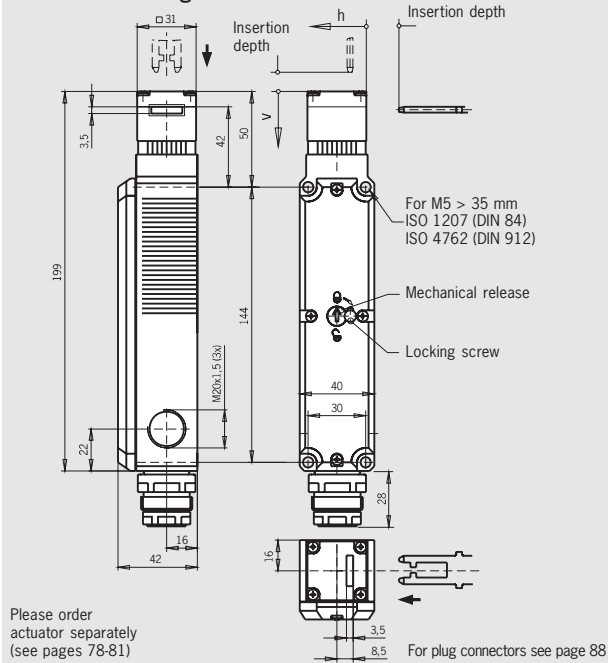
Safety Switches with Separate Actuator, Plastic Housing EUCHNER



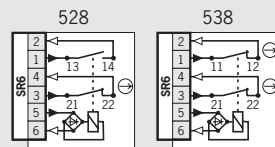
Plug connector SR6 6-pin + PE

Plug connector SR11 11-pin + PE

Dimension drawing

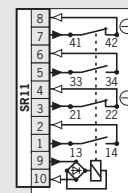


Wiring diagrams Actuator inserted and locked



For switching functions see technical data on page 108

4131
(without
door monitoring
contact)



For switching functions see technical data on page 108

Ordering table

Series	Connection	Guard locking	Switching element	Solenoid operating voltage		
				AC/DC 24 V	AC 110 V	AC 230 V
TP	SR6 Plug connector	1 Mechanical	528 1 NC $\ominus$ + 1 NO	088 210 TP1-528K024SR6	On request	On request
			538 2 NC $\ominus$	088 212 TP1-538K024SR6	On request	On request
		2 Electrical	528 1 NC $\ominus$ + 1 NO	088 214 TP2-528K024SR6	On request	On request
			538 2 NC $\ominus$	088 215 TP2-538K024SR6	On request	On request
	SR11 Plug connector	1 Mechanical	4131 2 NC $\ominus$ + 2 NO	088 217 TP1-4131K024SR11	-	-
		2 Electrical	4131 2 NC $\ominus$ + 2 NO	088 218 TP2-4131K024SR11	-	-

Safety Switches with Separate Actuator, Plastic Housing EUCHNER

Safety switch TP with guard locking and guard lock monitoring



- ▶ Mechanical release on the front
- ▶ With door monitoring contact
- ▶ Increased horizontal overtravel



Approach direction

Horizontal and vertical
Can be adjusted in 90° steps
Increased overtravel for horizontal approach direction.



Mechanical release

Is used for releasing the guard locking with the aid of a tool. The mechanical release must be sealed to prevent tampering (for example with sealing lacquer).

Solenoid operating voltage

- ▶ AC/DC 24 V +10%, -15%
- ▶ AC 110 V +10%, -15%
- ▶ AC 230 V +10%, -15%

Guard locking types

TP3 Closed-circuit current principle, guard locking by spring force. Release by applying voltage to the interlocking solenoid.

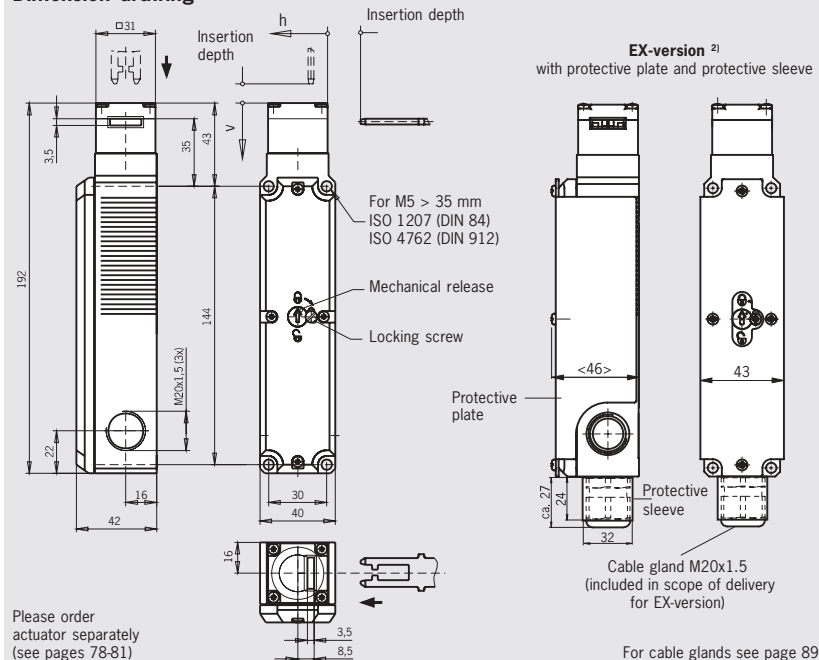
TP4 Open-circuit current principle, guard locking by applying voltage to the interlocking solenoid. Release by spring force.

Switching elements

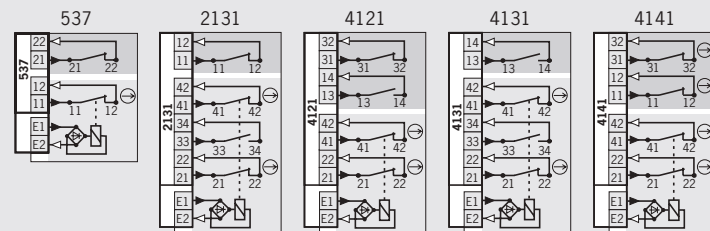
- ▶ **537** Slow-action switching element
1 NC ⊖ + 1 NC (door monitoring contact)
- ▶ **2131** Slow-action switching element
2 NC ⊖ + 1 NO + 1 NC (door monitoring contact)
- ▶ **4121** Slow-action switching element
2 NC ⊖ + 1 NC / 1 NO (door monit. contact)
- ▶ **4131** Slow-action switching element
2 NC ⊖ + 1 NO + 1 NO (door monit. contact)
- ▶ **4141** Slow-action switching element
2 NC ⊖ + 2 NC (door monit. contacts)

Cable entry M20 x 1.5

Dimension drawing



Wiring diagrams Actuator inserted and locked



□ Solenoid monitoring
■ Door monitoring

For switching functions see technical data on page 109

Ordering table

Series	Connection	Guard locking	Switching element	Version	Solenoid operating voltage		
					AC/DC 24 V	AC 110 V	AC 230 V
TP	M Cable entry 3 x M20 x 1.5	3 Mechanical	537 1 NC ⊖ + 1 NC		084 336 TP3-537A024M	084 337 TP3-537A110M	084 338 TP3-537A230M
			2131 2 NC ⊖ + 1 NO + 1 NC		084 142 TP3-2131A024M	084 143 TP3-2131A110M	084 144 TP3-2131A230M
				ATEX Incl. cable gland	093 791 ²⁾ TP3-2131A024M-EX	-	-
				C1761 Cable wiring in rear of housing	084 290 ³⁾ TP3-2131A024MC1761	-	-
			4121 2 NC ⊖ + 1 NC / 1 NO		084 135 TP3-4121A024M	084 137 TP3-4121A110M	084 138 TP3-4121A230M
			4131 2 NC ⊖ + 1 NO + 1 NO		084 129 TP3-4131A024M	084 130 TP3-4131A110M	084 131 TP3-4131A230M
			4141 2 NC ⊖ + 2 NC ⊖		084 270 ⁵⁾ TP3-4141A024M	088 264 ⁵⁾ TP3-4141A110M	-

1) With cable entry M, DC 24 V / AC 110 V 2) II 3 G Ex nC IIC T4 / II 3 D Ex tD A22 T110°C 3) No SIB E approvals

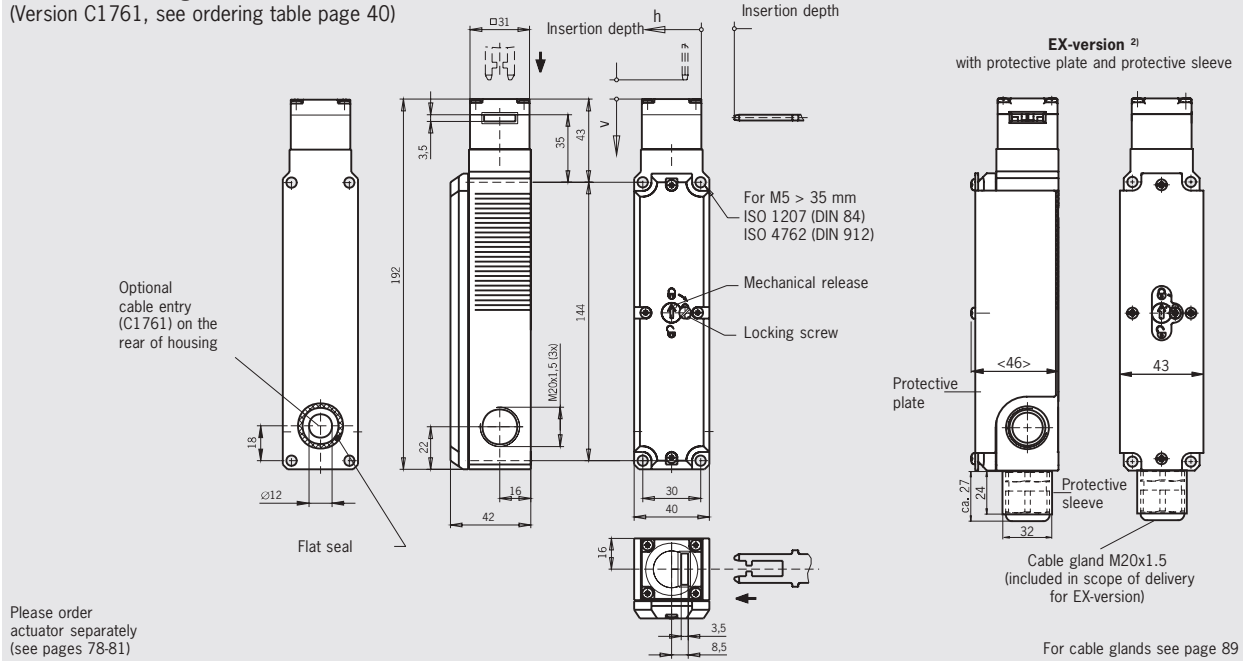
Safety Switches with Separate Actuator, Plastic Housing **EUCHNER**



Cable entry M20 x 1.5

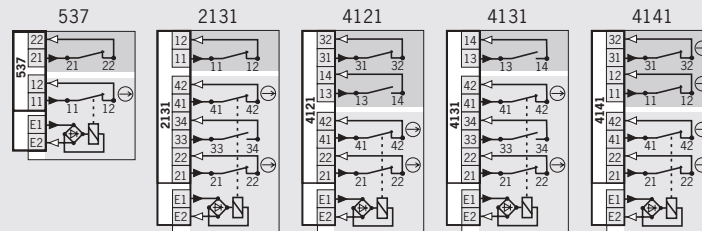
Dimension drawing

(Version C1761, see ordering table page 40)



Please order actuator separately (see pages 78-81)

Wiring diagrams Actuator inserted and locked



☐ Solenoid monitoring
☐ Door monitoring

For switching functions see technical data on page 109

Ordering table

Series	Connection	Guard locking	Switching element	Version	Solenoid operating voltage		
					AC/DC 24 V	AC 110 V	AC 230 V
TP	M Cable entry 3 x M20 x 1.5	4 Electrical	537 1 NC $\ominus$ + 1 NC		084 339 TP4-537A024M	084 340 TP4-537A110M	084 341 TP4-537A230M
			2131 2 NC $\ominus$ + 1 NO + 1 NC		084 145 TP4-2131A024M	084 147 TP4-2131A110M	084 148 TP4-2131A230M
			2131 2 NC $\ominus$ + 1 NO + 1 NC	ATEX Incl. cable gland	093 793 ²⁾ TP4-2131A024M-EX	-	-
			4121 2 NC $\ominus$ + 1 NC / 1 NO		084 139 TP4-4121A024M	084 140 TP4-4121A110M	084 141 TP4-4121A230M
			4131 2 NC $\ominus$ + 1 NO + 1 NO		084 132 TP4-4131A024M	084 133 TP4-4131A110M	084 134 TP4-4131A230M
			4141 2 NC $\ominus$ + 2 NC $\ominus$		084 275 ⁴⁾ TP4-4141A024M	-	-

2) $\text{Ex II 3 G Ex nC IIC T4} / \text{Ex II 3 D Ex tD A22 T110}^\circ\text{C}$
4) No SIBE approval

Safety Switches with Separate Actuator, Plastic Housing EUCHNER

Safety switch TP with guard locking and guard lock monitoring



- ▶ Mechanical release on the front
- ▶ With door monitoring contact
- ▶ Increased horizontal overtravel



Approach direction



Horizontal and vertical
Can be adjusted in 90° steps
Increased overtravel for horizontal
approach direction.

Mechanical release

Is used for releasing the guard locking with the aid of a tool. The mechanical release must be sealed to prevent tampering (for example with sealing lacquer).

Solenoid operating voltage

- ▶ AC/DC 24 V +10%, -15%

LED function display

A function display (2 LEDs, red and green) is available for the following voltage ranges:

- ▶ AC/DC 24 V +10%, -15%

Guard locking types

TP3 Closed-circuit current principle, guard locking by spring force. Release by applying voltage to the interlocking solenoid.

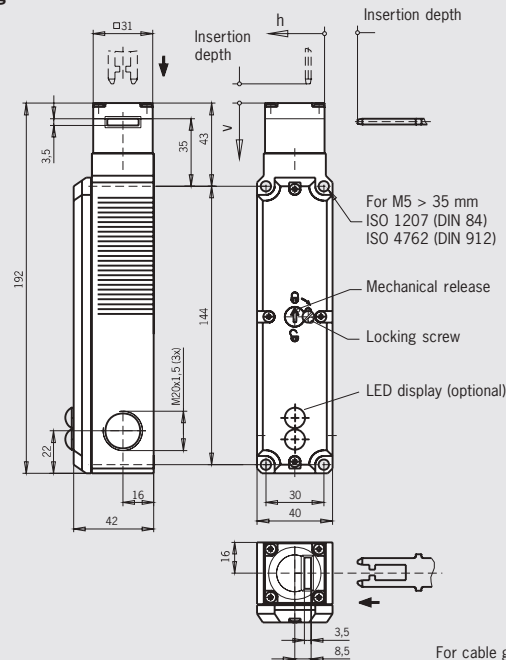
TP4 Open-circuit current principle, guard locking by applying voltage to the interlocking solenoid. Release by spring force.

Switching elements

- ▶ **537** Slow-action switching element
1 NC ⊖ + 1 NC (door monitoring contact)
- ▶ **2131** Slow-action switching element
2 NC ⊖ + 1 NO + 1 NC (door monit. contact)
- ▶ **4121** Slow-action switching element
2 NC ⊖ + 1 NC / 1 NO (door monit. contact)
- ▶ **4131** Slow-action switching element
2 NC ⊖ + 1 NO + 1 NO (door monit. contact)

Cable entry M20 x 1.5

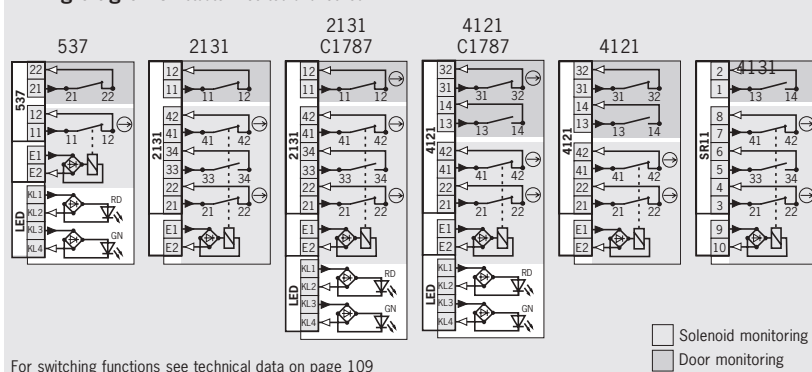
Dimension drawing



Please order
actuator separately
(see pages 78-81)

For cable glands see page 89

Wiring diagrams Actuator inserted and locked



For switching functions see technical data on page 109

Ordering table

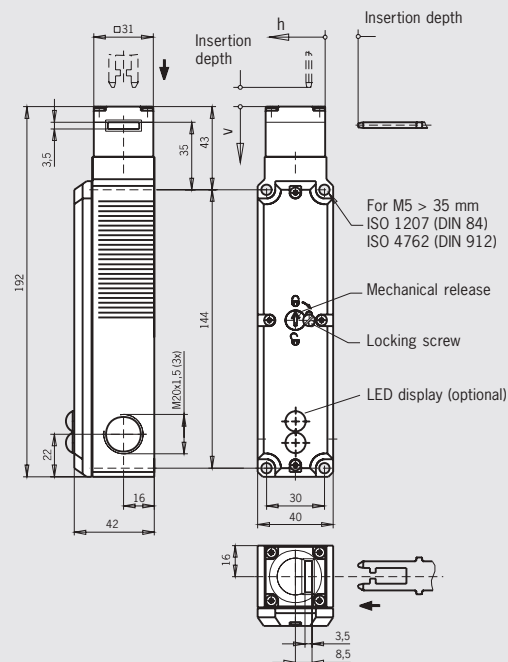
Series	Connection	Guard locking	Switching element	Version	Solenoid operating voltage
					AC/DC 24 V
TP	M Cable entry 3 x M20 x 1.5	3 Mechanical	537 1 NC ⊖ + 1 NC	024L LED display AC/DC 24 V	093 460 TP3-537A024L024M
			2131 2 NC ⊖ + 1 NO + 1 NC	024L LED display AC/DC 24 V	093 634 TP3-2131A024L024M
			2131 2 NC ⊖ + 1 NO + 1 NC ⊖	C1787 3 positively driven contacts	084 289 TP3-2131A024MC1787
			4121 2 NC ⊖ + 1 NC / 1 NO	024L LED display AC/DC 24 V	093 636 TP3-4121A024L024M
			4121 2 NC ⊖ + 1 NC ⊖ + 1 NO	C1787 3 positively driven contacts	084 158 TP3-4121A024MC1787
			4131 2 NC ⊖ + 1 NO + 1 NO	024L LED display AC/DC 24 V	098 403 TP3-4131A024L024M

Safety Switches with Separate Actuator, Plastic Housing EUCHNER



Cable entry M20 x 1.5

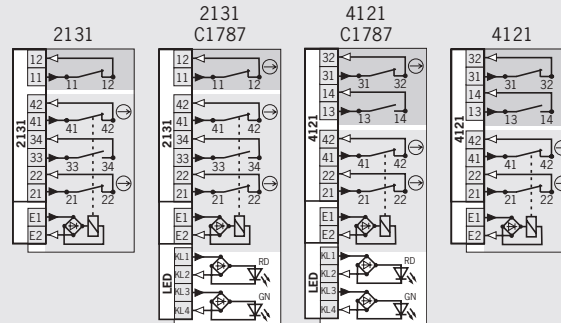
Dimension drawing



Please order actuator separately (see pages 78-81)

For cable glands see page 89

Wiring diagrams Actuator inserted and locked



☐ Solenoid monitoring
☐ Door monitoring

For switching functions see technical data on page 109

Ordering table

Series	Connection	Guard locking	Switching element	Version	Solenoid operating voltage	
					AC/DC 24 V	
TP	M Cable entry 3 x M20 x 1.5	4 Electrical	2131 2 NC $\ominus$ + 1 NO + 1 NC	024L LED display AC/DC 24 V	093 635 TP4-2131A024L024M	
			2131 2 NC $\ominus$ + 1 NO + 1 NC $\ominus$	C1787 3 positively driven contacts	084 159 TP4-2131A024MC1787	
			4121 2 NC $\ominus$ + 1 NC / 1 NO	024L LED display AC/DC 24 V	093 637 TP4-4121A024L024M	
			4121 2 NC $\ominus$ + 1 NC $\ominus$ + 1 S	C1787 3 positively driven contact	084 160 TP4-4121A024MC1787	

Safety switch TP with guard locking and guard lock monitoring

- ▶ Mechanical release on the front
- ▶ With door monitoring contact
- ▶ Increased horizontal overtravel



Approach direction



Horizontal and vertical
Can be adjusted in 90° steps
Increased overtravel for horizontal approach direction.

Mechanical release

Is used for releasing the guard locking with the aid of a tool. The mechanical release must be sealed to prevent tampering (for example with sealing lacquer).

Solenoid operating voltage

- ▶ AC/DC 24 V +10%, -15%
- ▶ AC 110 V +10%, -15%
- ▶ AC 230 V +10%, -15%

Guard locking types

TP3 Closed-circuit current principle, guard locking by spring force. Release by applying voltage to the interlocking solenoid.

TP4 Open-circuit current principle, guard locking by applying voltage to the interlocking solenoid. Release by spring force.

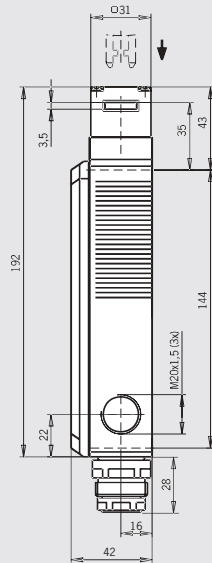
Switching elements

- ▶ **537** Slow-action switching element
1 NC $\ominus$ + 1 NC (door monitoring contact)
- ▶ **2131** Slow-action switching element
2 NC $\ominus$ + 1 NO + 1 NC (door monit. contact)
- ▶ **4121** Slow-action switching element
2 NC $\ominus$ + 1 NC / 1 NO (door monit. contact)
- ▶ **4131** Slow-action switching element
2 NC $\ominus$ + 1 NO + 1 NO (door monit. contact)
- ▶ **4141** Slow-action switching element
2 NC $\ominus$ + 2 NC $\ominus$ (door monit. contacts)

Plug connector SR6

6-pin + PE

Dimension drawing

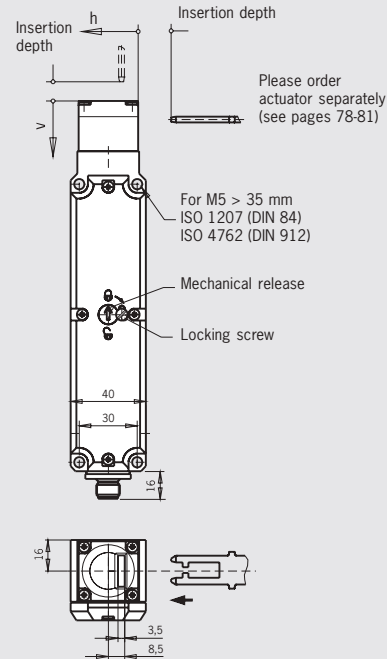


Please order actuator separately (see pages 78-81)

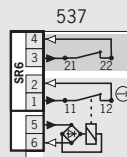
For plug connectors see page 88

Plug connector SM8

Plug M12, 8-pin

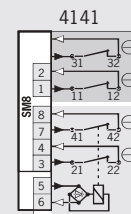


Wiring diagrams Actuator inserted and locked



- ☐ Solenoid monitoring
- ☐ Door monitoring

For switching functions see technical data on page 109



- ☐ Solenoid monitoring
- ☐ Door monitoring

For switching functions see technical data on page 109

Ordering table

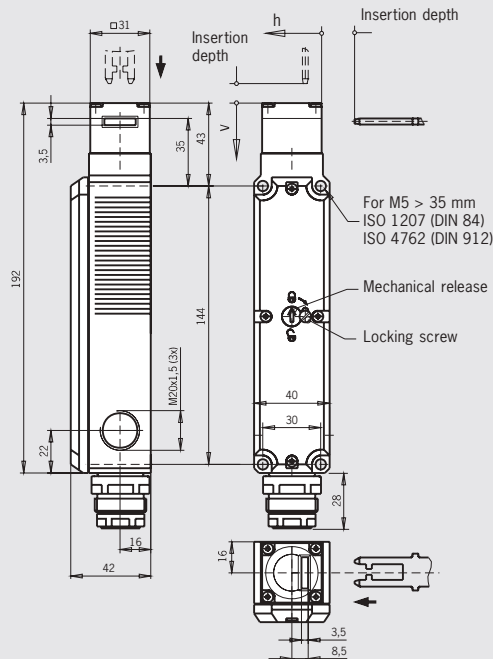
Series	Connection	Guard locking	Switching element	Version	Solenoid operating voltage		
					AC/DC 24 V	AC 110 V	AC 230 V
TP	SR6 Plug connector	3 Mechanical	537 1 NC $\ominus$ + 1 NC		087 434 TP3-537A024SR6	087 437 TP3-537A110SR6	087 440 TP3-537A230SR6
		4 Electrical	537 1 NC $\ominus$ + 1 NC		087 443 TP4-537A024SR6	087 447 TP4-537A110SR6	087 450 TP4-537A230SR6
	SM8 Plug connector M12	3 Mechanical	4141 2 NC $\ominus$ + 2 NC $\ominus$	C1992 Direct connection to safe bus module	087 377 ¹⁾ TP3-4141A024SM8C1992	-	-
		4 Electrical	4141 2 NC $\ominus$ + 2 NC $\ominus$	C1992 Direct connection to safe bus module	087 378 ¹⁾ TP4-4141A024SM8C1992	-	-

¹⁾ No SIBE approval and no BG approval



Plug connector SR11 11-pin + PE

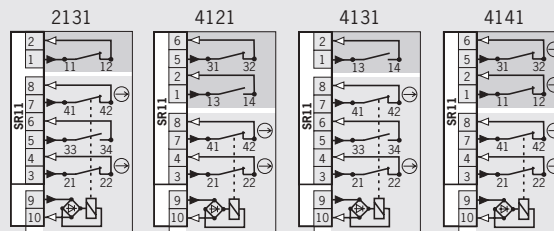
Dimension drawing



Please order
actuator separately
(see pages 78-81)

For plug connectors see page 88

Wiring diagrams Actuator inserted and locked



For switching functions see technical data on page 109

☐ Solenoid monitoring
☐ Door monitoring

Ordering table

Series	Connection	Guard locking	Switching element	Version	Solenoid operating voltage		
					AC/DC 24 V	AC 110 V	AC 230 V
TP	SR11 Plug connector	3 Mechanical	2131 2 NC $\rightarrow$ + 1 NO + 1 NC		088 205 TP3-2131A024SR11	-	-
			4121 2 NC $\rightarrow$ + 1 NC / 1 NO		088 206 TP3-4121A024SR11	-	-
			4131 2 NC $\rightarrow$ + 1 NO + 1 NO		088 204 TP3-4131A024SR11	-	-
			4141 2 NC $\rightarrow$ + 2 NC $\rightarrow$		088 922 TP3-4141A024SR11	-	-
			2131 2 NC $\rightarrow$ + 1 NO + 1 NC		088 208 TP4-2131A024SR11	-	-
		4 Electrical	4121 2 NC $\rightarrow$ + 1 NC / 1 NO		088 209 TP4-4121A024SR11	-	-
			4131 2 NC $\rightarrow$ + 1 NO + 1 NO		088 207 TP4-4131A024SR11	-	-
			4141 2 NC $\rightarrow$ + 2 NC $\rightarrow$		088 923 ¹⁾ TP4-4141A024SR11	-	-



Safety Switches with Separate Actuator, Plastic Housing EUCHNER

Safety switch TP with guard locking and guard lock monitoring



- ▶ Mechanical release on the front
- ▶ With door monitoring contact
- ▶ Increased overtravel for horizontal and vertical approach direction



Approach direction



Horizontal and vertical
Can be adjusted in 90° steps
Increased overtravel for horizontal and vertical approach direction.

Mechanical release

Is used for releasing the guard locking with the aid of a tool. The mechanical release must be sealed to prevent tampering (for example with sealing lacquer).

Solenoid operating voltage

- ▶ AC/DC 24 V +10%, -15%
- ▶ AC 110 V +10%, -15%
- ▶ AC 230 V +10%, -15%

Guard locking types

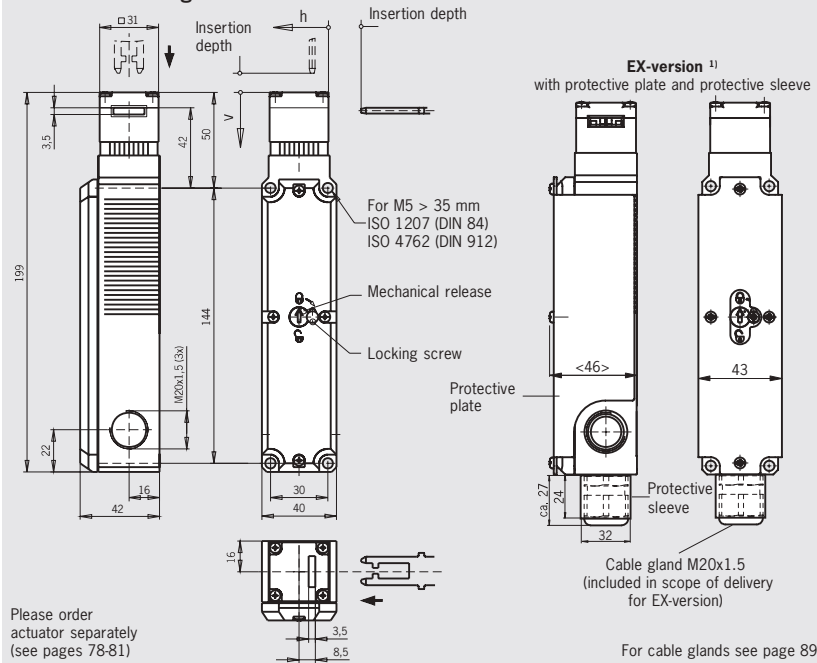
- TP3** Closed-circuit current principle, guard locking by spring force. Release by applying voltage to the interlocking solenoid.
- TP4** Open-circuit current principle, guard locking by applying voltage to the interlocking solenoid. Release by spring force.

Switching elements

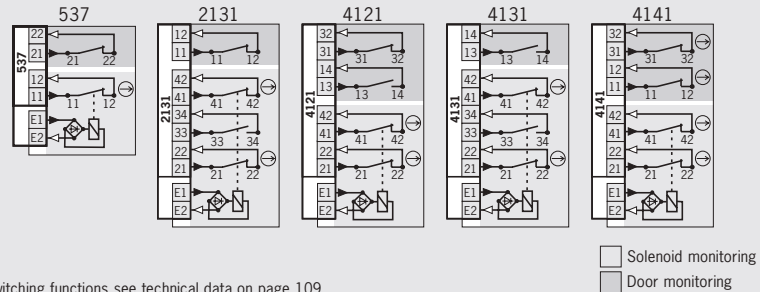
- ▶ **537** Slow-action switching element
1 NC ⊖ + 1 NC (door monitoring contact)
- ▶ **2131** Slow-action switching element
2 NC ⊖ + 1 NO + 1 NC (door monit. contact)
- ▶ **4121** Slow-action switching element
2 NC ⊖ + 1 NC / 1 NO (door monit. contact)
- ▶ **4131** Slow-action switching element
2 NC ⊖ + 1 NO + 1 NO (door monit. contact)
- ▶ **4141** Slow-action switching element
2 NC ⊖ + 2 NC (door monit. contact)

Cable entry M20 x 1.5

Dimension drawing



Wiring diagrams Actuator inserted and locked



For switching functions see technical data on page 109

Ordering table

Series	Connection	Guard locking	Switching element	Solenoid operating voltage		
				AC/DC 24 V	AC 110 V	AC 230 V
TP	M Cable entry 3 x M20 x 1.5	3 Mechanical	537 1 NC ⊖ + 1 NO	084 347 TP3-537K024M	On request	On request
			2131 2 NC ⊖ + 1 NO + 1 NC	084 264 TP3-2131K024M	On request	084 265 TP3-2131K230M
			4121 2 NC ⊖ + 1 NC + 1 NO	084 260 TP3-4121K024M	084 261 TP3-4121K110M	084 262 TP3-4121K230M
			4121 2 NC ⊖ + 1 NC / 1 NO	094 152 2) TP3-4121K024M-EX	-	-
			4131 2 NC ⊖ + 1 NO + 1 NO	084 256 TP3-4131K024M	084 257 TP3-4131K110M	084 258 TP3-4131K230M
			4131 2 NC ⊖ + 1 NO + 1 NO	084 348 TP4-537K024M	084 349 TP4-537K110M	On request
		4 Electrical	2131 2 NC ⊖ + 1 NO + 1 NC	084 266 TP4-2131K024M	On request	On request
			4121 2 NC ⊖ + 1 NC / 1 NO	084 263 TP4-4121K024M	084 380 TP4-4121K110M	On request
			4131 2 NC ⊖ + 1 NO + 1 NO	084 259 TP4-4131K024M	On request	On request
			4141 2 Õ ⊖ + 2 Õ ⊖	096 296 3) TP4-4141K024M	-	-

1) With cable entry M, DC 24 V / AC 110 V 2) Ex II 3 G Ex nC IIC T4 / Ex II 3 D Ex tD A22 T110°C 3) No SIBE approval

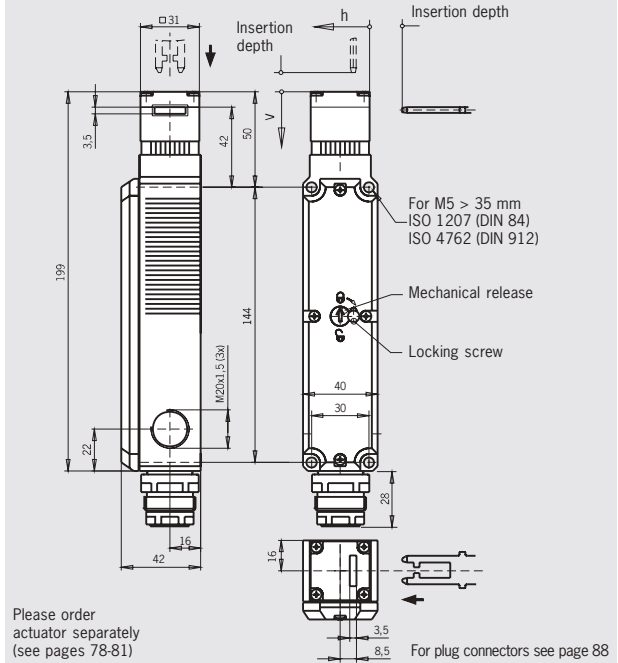
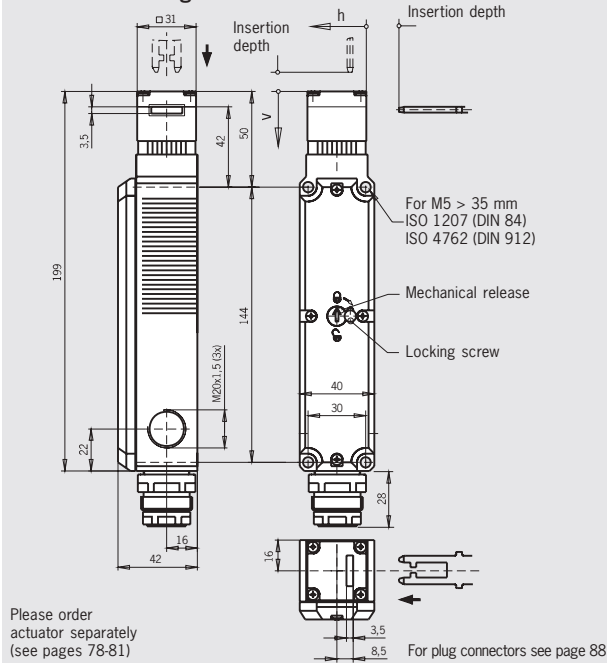
Safety Switches with Separate Actuator, Plastic Housing **EUCHNER**



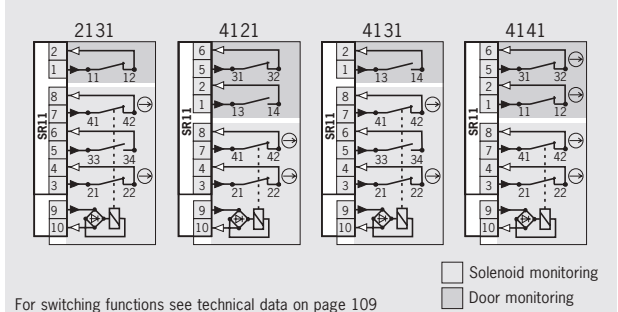
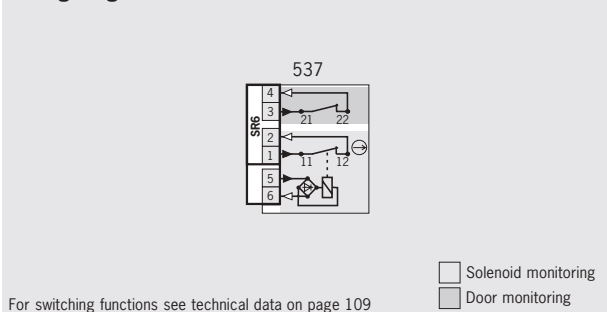
Plug connector SR6 6-pin + PE

Plug connector SR11 11-pin + PE

Dimension drawing



Wiring diagrams Actuator inserted and locked



Ordering table

Series	Connection	Guard locking	Switching element	Solenoid operating voltage
				AC/DC 24 V
TP	SR6 Plug connector	3 Mechanical	537 1 NC $\ominus$ + 1 NO	088 213 TP3-537K024SR6
		4 Electrical	537 1 NC $\ominus$ + 1 NO	088 216 TP4-537K024SR6
	SR11 Plug connector	3 Mechanical	2131 2 NC $\ominus$ + 1 NO + 1 NC	088 220 TP3-2131K024SR11
			4121 2 NC $\ominus$ + 1 NC / 1 NO	088 221 TP3-4121K024SR11
			4131 2 NC $\ominus$ + 1 NO + 1NO	088 219 TP3-4131K024SR11
			2131 2 NC $\ominus$ + 1 NO + 1 NC	088 223 TP4-2131K024SR11
		4 Electrical	4121 2 NC $\ominus$ + 1 NC / 1 NO	088 224 TP4-4121K024SR11
			4131 2 NC $\ominus$ + 1 NO + 1NO	088 222 TP4-4131K024SR11
			4141 2 NC $\ominus$ + 2 NC $\ominus$	088 230 ³⁾ TP4-4141K024SR11

3) No SIBE approval

Safety switch TP with guard locking and guard lock monitoring

- ▶ Auxiliary shutdown feature on the front
- ▶ With door unlock request contact
- ▶ Increased horizontal overtravel



Approach direction

Horizontal and vertical
Can be adjusted in 90° steps
Increased overtravel for horizontal approach direction.

Auxiliary shutdown feature

When actuated, positively driven contacts 21-22 are opened. The safety guard remains locked. The auxiliary shutdown feature must be sealed to prevent tampering (for example with sealing lacquer).

Door unlock request contact

When the actuator is in the locked state positively driven contact 21-22 is opened by pulling the safety guard (6 mm actuator stroke) as a result of which a signal is forwarded to the controlling PLC. Depending on the control concept, the safety guard can be unlocked automatically – when machine components which were still running have stopped.

Solenoid operating voltage

- ▶ AC/DC 24 V +10%, -15%
- ▶ AC 110 V +10%, -15%
- ▶ AC 230 V +10%, -15%

LED function display (optional)

A function display (2 LEDs, red and green) is available for the following voltage ranges:

- ▶ AC/DC 24 V +10%, -15%

Guard locking types

TP5 Closed-circuit current principle, guard locking by spring force. Release by applying voltage to the interlocking solenoid.

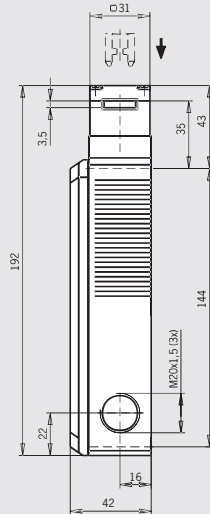
TP6 Open-circuit current principle, guard locking by applying voltage to the interlocking solenoid. Release by spring force.

Switching elements

- ▶ **4120** Slow-action switching element
1 NC ⊖ (door unlock request contact) +
1 NC ⊖ + 1 NO (solenoid monit. contact)

Cable entry M20 x 1.5

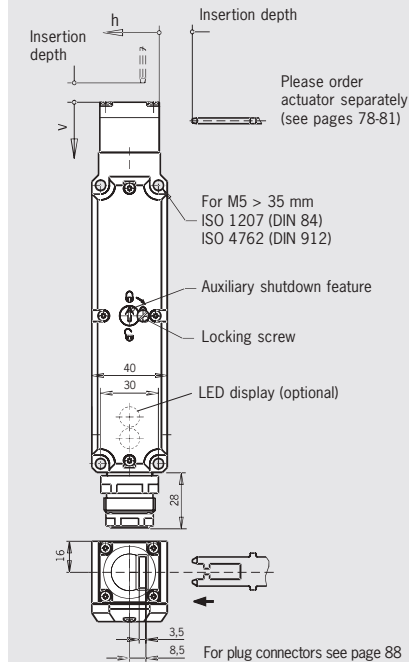
Dimension drawing



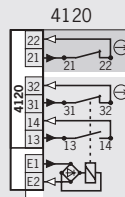
Please order actuator separately (see pages 78-81)

For cable glands see page 89

Plug connector SR11 11-pin + PE

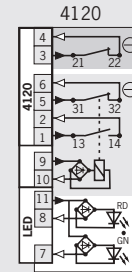


Wiring diagrams Actuator inserted and locked



- ☐ Solenoid monitoring
- ☐ Door unlock request contact

For switching functions see technical data on page 109



- ☐ Solenoid monitoring
- ☐ Door unlock request contact

For switching functions see technical data on page 109

Ordering table

Series	Connection	Guard locking	Switching element	Version	Solenoid operating voltage		
					AC/DC 24 V	AC 110 V	AC 230 V
TP	M Cable entry 3 x M20 x 1.5	5 Mechanical	4120 1 NC ⊖ + 1 NC ⊖ + 1 NO		084 279 TP5-4120A024M	On request	088 241 TP5-4120A230M
		6 Electrical	4120 1 NC ⊖ + 1 NC ⊖ + 1 NO		084 280 TP6-4120A024M	On request	On request
	SR11 Plug connector	5 Mechanical	4120 1 NC ⊖ + 1 NC ⊖ + 1 NO		094 895 TP5-4120A024SR11	-	-
		5 Mechanical	4120 1 NC ⊖ + 1 NC ⊖ + 1 NO	024L LED display AC/DC 24 V	094 902 TP5-4120A024L024SR11	-	-
		6 Electrical	4120 1 NC ⊖ + 1 NC ⊖ + 1 NO		096 204 TP6-4120A024SR11	-	-
		6 Electrical	4120 1 NC ⊖ + 1 NC ⊖ + 1 NO			-	-

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A 3D diagram of a gray cube. A thick gray arrow points vertically downwards from the top center of the cube. Another thick gray arrow points horizontally to the right from the front-right edge of the cube.

For safety precautions see page 132
For technical data see page 99

Safety switch TP... with guard locking and guard lock monitoring



The technical data on switches, switching elements and guard locking apply to all connections. Further technical data are given for the connection selected.

Switch			
Parameter	Value		Unit
Housing material	Reinforced thermoplastic		
Mechanical life	1 x 10 ⁶ operating cycles		
Ambient temperature	- 20 ... + 55		°C
Weight	approx. 0.5		kg
Max. approach speed	20		m/min
Actuating force	10		N
Extraction force (not locked)	20		N
Retention force	10		N
Locking force, max.	Approach direction		N
	From top (v)	Side (h)	
	1300	1300	
	(800 with door unlock request contact)	(800 with door unlock request contact)	
Locking force F _{Zh} in accordance with test principles GSET-19	Approach direction		N
	From top (v)	Side (h)	
	1000	1000	
	Standard actuators		
Insertion depth (minimum required travel + permissible overtravel)	Overtravel actuator		
Approach direction side (h)	28 + 2	28 + 7	mm
Approach direction from top (v)	29.5 + 1.5	-	mm

Switching element			
Parameter	Value	Unit	
Switching principle	Slow-action switching element		
Switching elements with 2 switching elements	528 1 NC  + 1 NO	537 1 NC  + 1 NC	538 2 NC  + 1 NC
	4120 2 NC  + 1 NO		
Switching elements with 4 switching elements	2131 2 NC  + 1 NO + 1 NC	4121 2 NC  + 1 NC + 1 NO	4131 2 NC  + 2 NO
	4141 4 NC 		
Switching current, min., at 24 V DC	1	mA	
Switching voltage, min., at 10 mA	12	V	
Contact material	Silver alloy, gold flashed		

Guard locking			
Parameter	Value	Unit	
Solenoid operating voltage	AC/DC 24 V +10/-15% AC 110 V +10/-15% AC 230 V +10/-15%		
Connection	Reverse polarity protected, integrated bridge rectifier		
Duty cycle ED	100	%	
Power consumption	8	W	

Connection, cable entry M20 x 1.5			
Parameter	Value	Unit	
Connection	Screw terminal		
Version	M20 x 1.5		
Conductor cross-section max.	0.34 ... 1.5	mm ²	
Degree of protection according to IEC 60529	IP 67		
Rated insulation voltage U _i	250	V AC/DC	
Rated impulse withstand voltage U _{imp}	2.5	kV	
Conventional thermal current I _{th}	4	A	
Short circuit protection according to IEC 60269-1 (control circuit fuse)	4	A gG	
Utilization category to IEC 60947-5-1	AC15	I _e 4 A U _e 230 V	
	DC13	I _e 4 A U _e 24 V	

Plug connector SR6 connection



Parameter		Value	Unit
Connection		Plug connector	
Version		6-pin + PE	
Degree of protection according to IEC 60529		IP 65 ¹⁾	
Rated insulation voltage U_i		250	V AC/DC
Rated impulse withstand voltage U_{imp}		2.5	kV
Conventional thermal current I_{th}		4	A
Short circuit protection according to IEC 60269-1 (control circuit fuse)		4	A gG
Utilization category to IEC 60947-5-1	AC-15	I_e 4 A U_e 230 V	
	DC-13	I_e 4 A U_e 24 V	

1) Screwed tight with the related plug connector (see page 88)

Plug connector SM8 connection



Parameter		Value	Unit
Connection		Plug connector	
Version		8-pin	
Degree of protection according to IEC 60529		IP 67 ¹⁾	
Rated insulation voltage U_i		30	V AC/DC
Rated impulse withstand voltage U_{imp}		1.5	kV
Conventional thermal current I_{th}		1	A
Short circuit protection according to IEC 60269-1 (control circuit fuse)		1	A gG
Utilization category to IEC 60947-5-1	AC-15	I_e 1 A U_e 24 V	
	DC-13	I_e 1 A U_e 24 V	

1) Screwed tight with the related plug connector

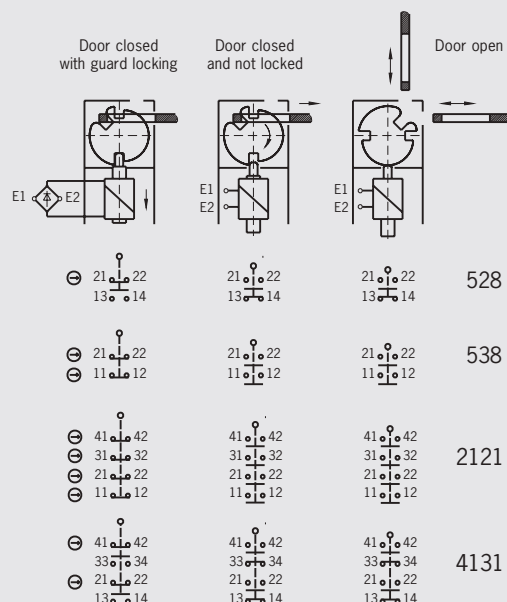
Plug connector SR11 connection



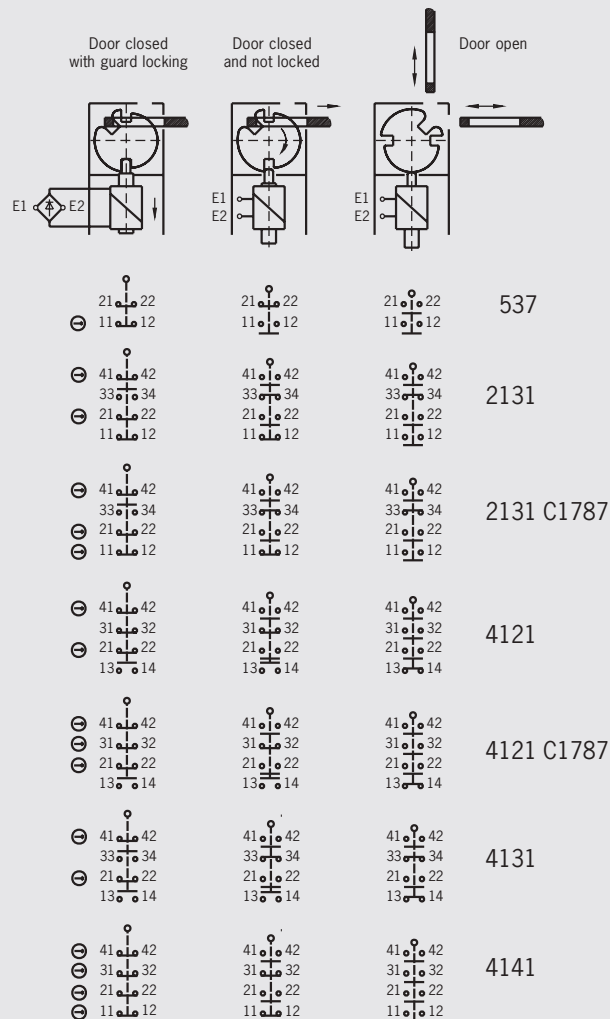
Parameter		Value	Unit
Connection		Plug connector	
Version		11-pin + PE	
Degree of protection according to IEC 60529		IP 65 ¹⁾	
Rated insulation voltage U_i		50	V AC/DC
Rated impulse withstand voltage U_{imp}		1.5	kV
Conventional thermal current I_{th}		4	A
Short circuit protection according to IEC 60269-1 (control circuit fuse)		4	A gG
Utilization category to IEC 60947-5-1	AC-15	I_e 4 A U_e 50 V	
	DC-13	I_e 4 A U_e 24 V	

1) Screwed tight with the related plug connector (see page 88)

Switching functions TP1/TP2 without door monitoring contact



Switching functions TP3/TP4 with door monitoring contact



Switching functions TP5/TP6 with door unlock request contact

