

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
•	•		•		•		•				53

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 is sealed with sealing lacquer to prevent tampering.

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

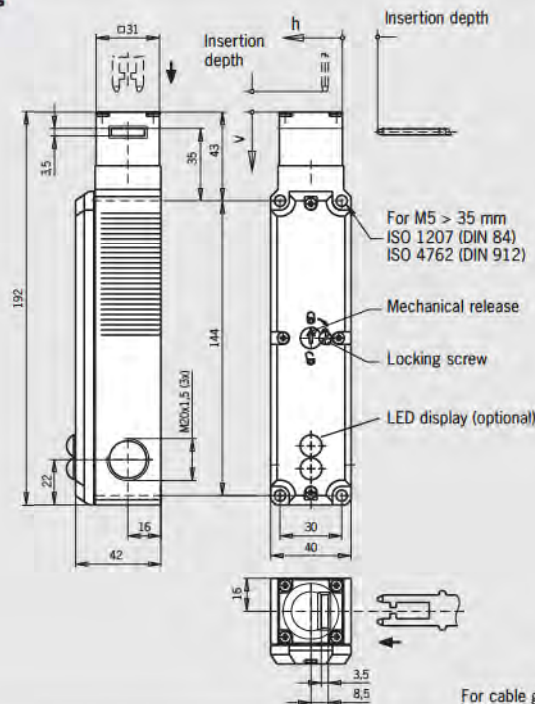
- TP1** Closed-circuit current principle, guard locking by spring force. Release by applying voltage to the interlocking solenoid.
- TP2** Open-circuit current principle, guard locking by applying voltage to the interlocking solenoid. Release by spring force.

Switching elements

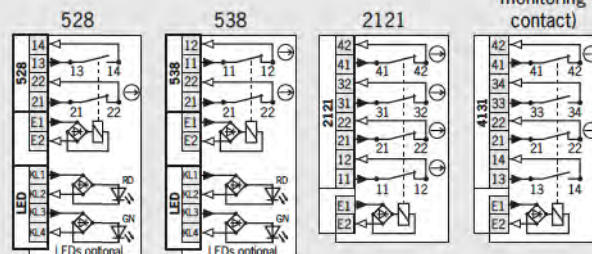
- **528** Slow-action switching element 1 NC ⊖ + 1 NO
- **538** Slow-action switching element 2 NC ⊖
- **2121** Slow-action switching element 4 NC ⊖
- **4131** Slow-action switching element 2 NC ⊖ + 2 NO

Cable entry M20 x 1.5

Dimension drawing



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	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
		2 Electrical	528 1 NC ⊖ + 1 NO		084 325 TP2-528A024M	084 330 TP2-528A110M	084 332 TP2-528A230M
			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

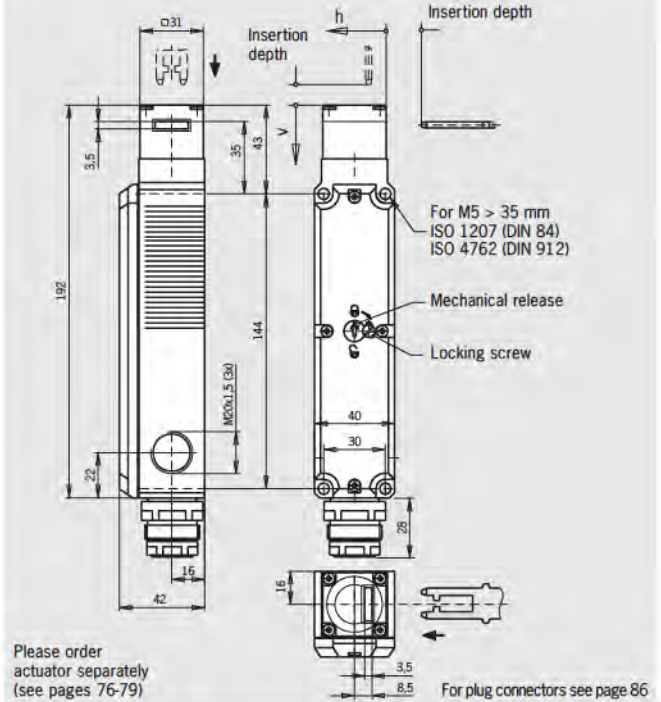
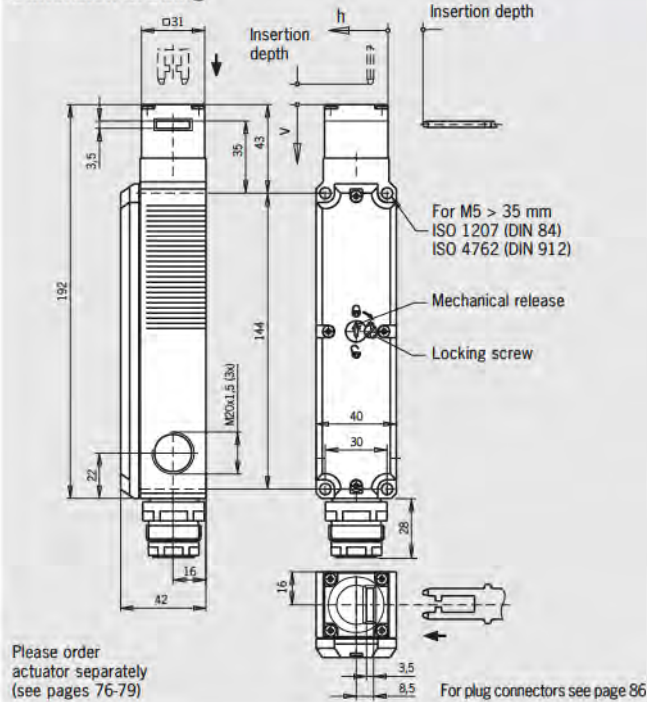
1) with cable entry M, DC 24 V / AC 110 V



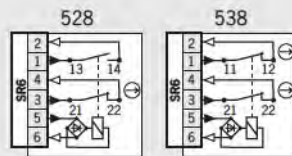
Plug connector SR6 6-pin + PE

Plug connector SR11 11-pin + PE

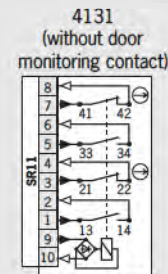
Dimension drawing



Wiring diagrams Actuator inserted and locked



For switching functions see technical data on page 109



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	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	-	-
		2 Electrical	4131 2 NC $\ominus$ + 2 NO	088 203 TP2-4131A024SR11	-	-

2) With solenoid operating voltage AC/DC 24 V only



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 is sealed with sealing lacquer to prevent tampering.

Solenoid operating voltage

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

Guard locking types

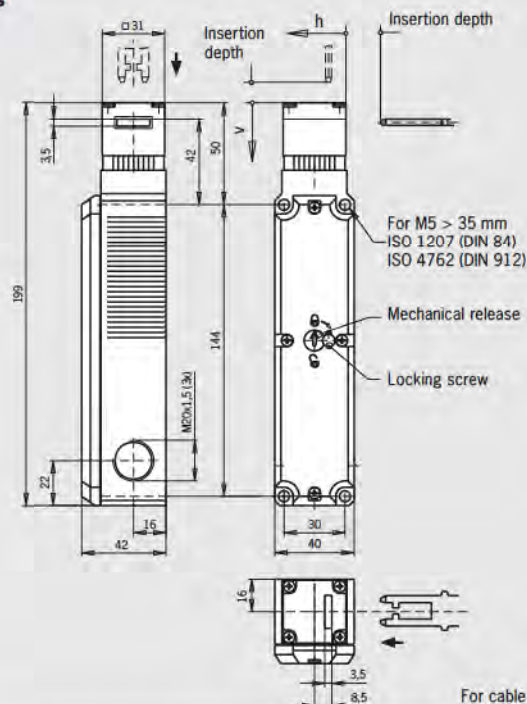
- TP1** Closed-circuit current principle, guard locking by spring force. Release by applying voltage to the interlocking solenoid.
- TP2** Open-circuit current principle, guard locking by applying voltage to the interlocking solenoid. Release by spring force.

Switching elements

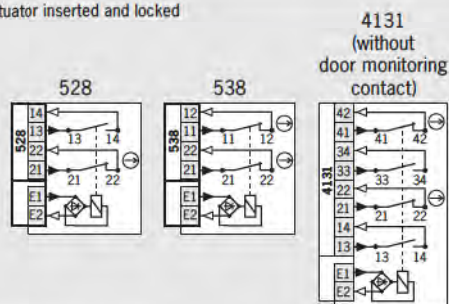
- ▶ **528** Slow-action switching element 1 NC ⊖ + 1 NO
- ▶ **538** Slow-action switching element 2 NC ⊖
- ▶ **4131** Slow-action switching element 2 NC ⊖ + 2 NO

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	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

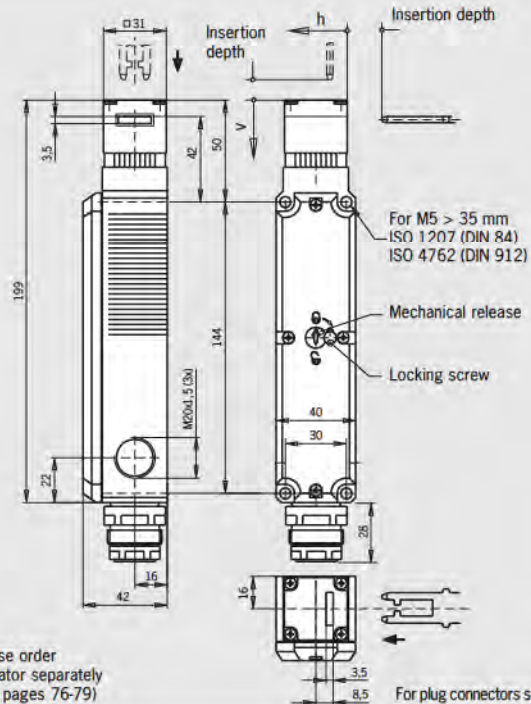
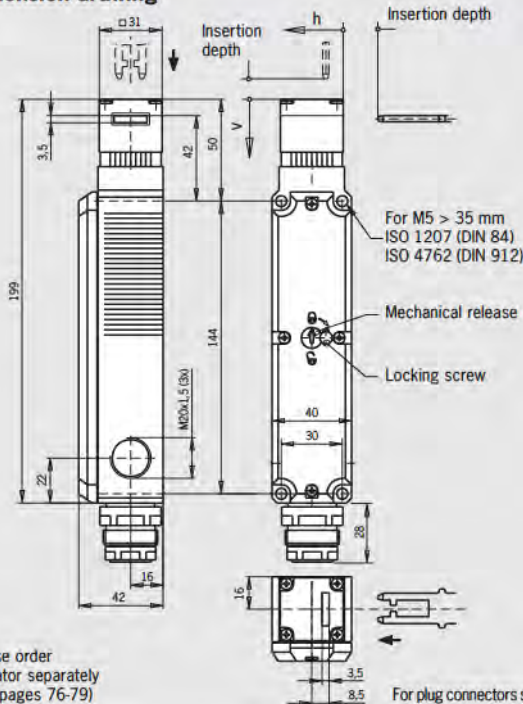
1) With cable entry M, DC 24 V / AC 110 V



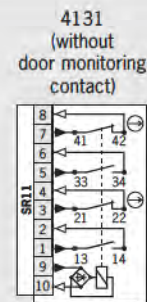
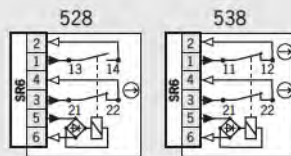
Plug connector SR6 6-pin + PE

Plug connector SR11 11-pin + PE

Dimension drawing



Wiring diagrams Actuator inserted and locked



For switching functions see technical data on page 109

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	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	-	-

2) With solenoid operating voltage AC/DC 24 V only



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UL

1)

2)

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 is sealed with sealing lacquer to prevent tampering.

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.

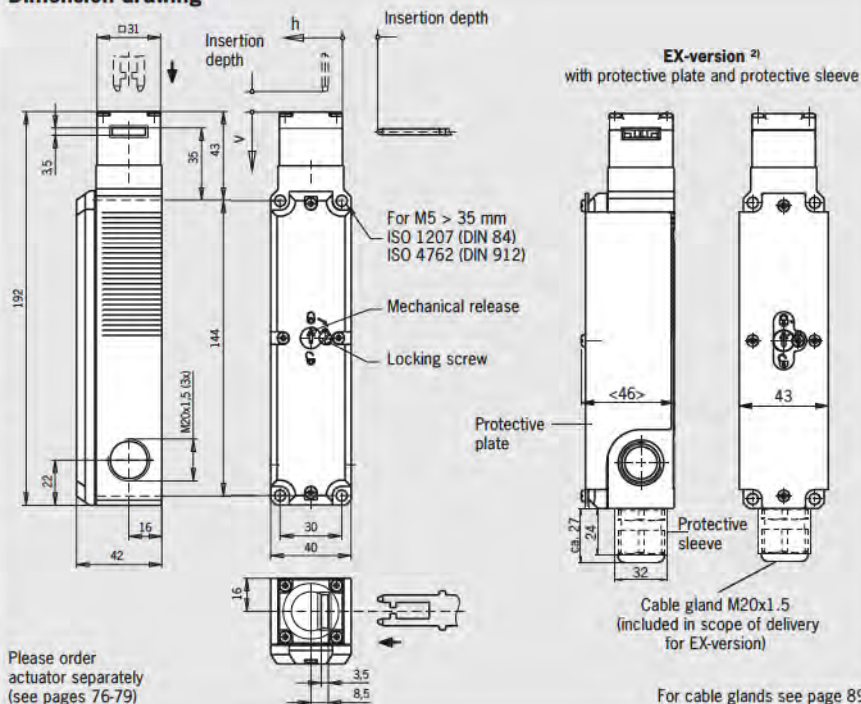
TP4 Open-circuit current principle, guard locking by applying voltage to the interlocking solenoid. Release by spring force.

Switching elements

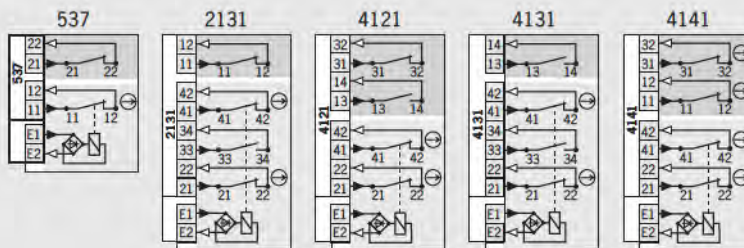
- **537** Slow-action switching element
1 NC ⊖ + 1 NC (door monitoring contact)
- **2131** Slow-action switching element
2 NC ⊖ + 1 NO + 1 NC (door monitoring contact)
- **4121** Slow-action switching element
2 NC ⊖ + 1 NC / 1 NO (door monit. contact)
- **4131** Slow-action switching element
2 NC ⊖ + 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 110

Ordering table

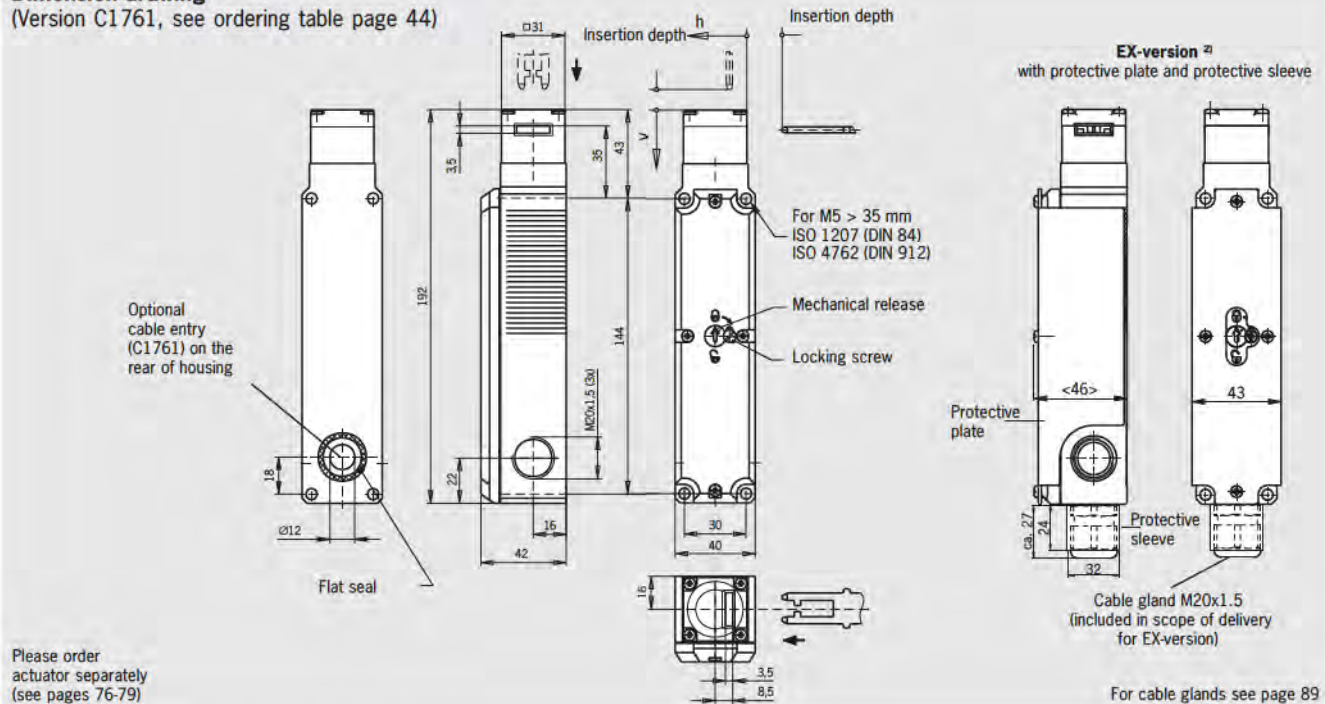
Series	Connection	Guard locking	Switching element	Version	Solenoid operating voltage		
					AC/DC 24 V	AC 110 V	AC 230 V
TP	M Cable entry 3 x M20 x 1.5	3 Mechanical	537 1 NC ⊖ + 1 NC		084 336 TP3-537A024M	084 337 TP3-537A110M	084 338 TP3-537A230M
			2131 2 NC ⊖ + 1 NO + 1 NC		084 142 TP3-2131A024M	084 143 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 4) TP3-4141A024M	088 264 4) TP3-4141A110M	-

1) With cable entry M, DC 24 V / AC 110 V 2) II 3 G Ex nC IIC T4 X / Ex II 3 D Ex tD A22 T110°C X 3) No approvals 4) No SIBS approvals

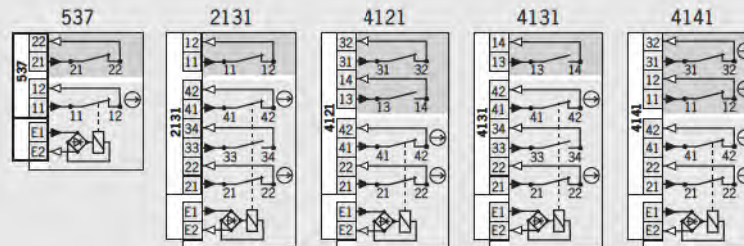
Cable entry M20 x 1.5

Dimension drawing

(Version C1761, see ordering table page 44)



Wiring diagrams Actuator inserted and locked



For switching functions see technical data on page 110

☐ 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	M Cable entry 3 x M20 x 1.5	4 Electrical	537 1 NC ⊖ + 1 NC		084 339 TP4-537A024M	084 340 TP4-537A110M	084 341 TP4-537A230M
			2131 2 NC ⊖ + 1 NO + 1 NC		084 145 TP4-2131A024M	084 147 TP4-2131A110M	084 148 TP4-2131A230M
			2131 2 NC ⊖ + 1 NO + 1 NC	ATEX Incl. cable gland	093 793²⁾ TP4-2131A024M-EX	-	-
			4121 2 NC ⊖ + 1 NC / 1 NO		084 139 TP4-4121A024M	084 140 TP4-4121A110M	084 141 TP4-4121A230M
			4131 2 NC ⊖ + 1 NO + 1 NO		084 132 TP4-4131A024M	084 133 TP4-4131A110M	084 134 TP4-4131A230M
			4141 2 NC ⊖ + 2 NC ⊖		084 275⁴⁾ TP4-4141A024M	-	-

2) II 3 G Ex nC IIC T4 X / II 3 D Ex tD A22 T110°C X

4) No SIBE approval



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 is sealed with sealing lacquer to prevent tampering.

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.

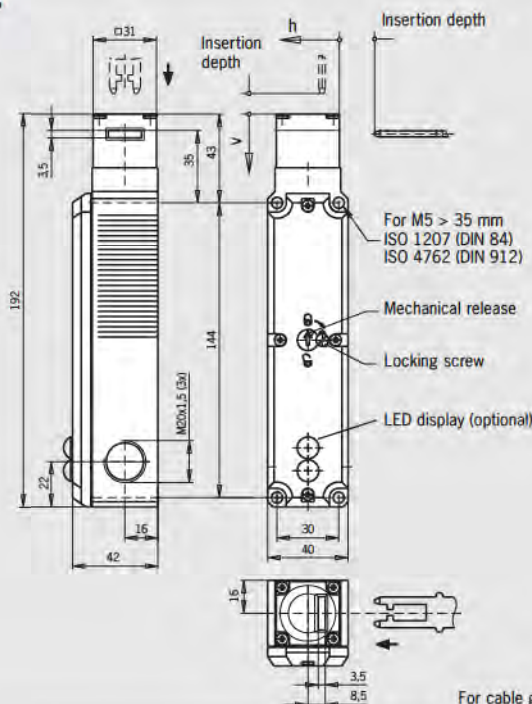
TP4 Open-circuit current principle, guard locking by applying voltage to the interlocking solenoid. Release by spring force.

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

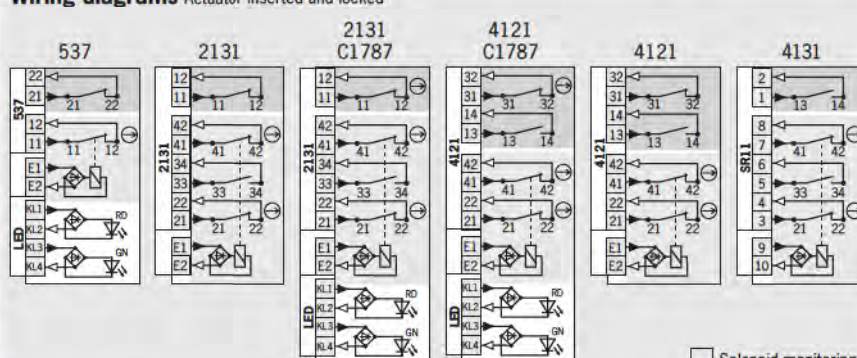
Dimension drawing



Please order
actuator separately
(see pages 76-79)

For cable glands see page 89

Wiring diagrams Actuator inserted and locked



For switching functions see technical data on page 110

□ Solenoid monitoring
□ Door monitoring

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	O24L LED display AC/DC 24 V	093 460 TP3-537A024L024M
			2131 2 NC ⊖ + 1 NO + 1 NC	O24L 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	O24L 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	O24L LED display AC/DC 24 V	098 403 TP3-4131A024L024M

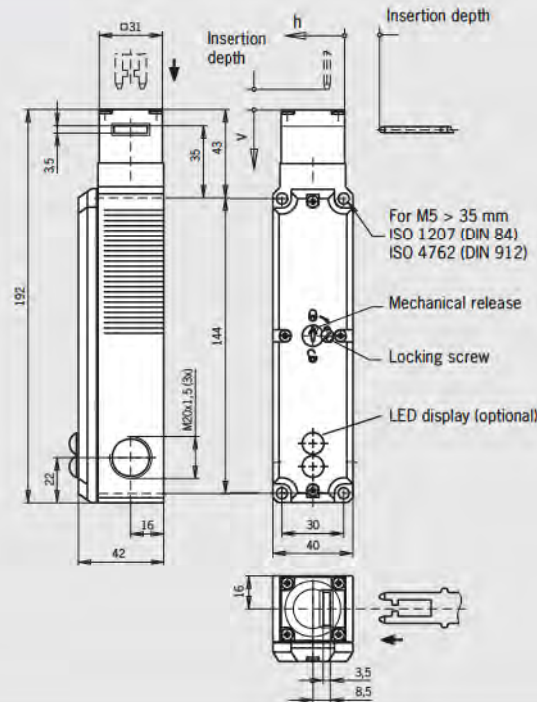


SIBS
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Cable entry M20 x 1.5

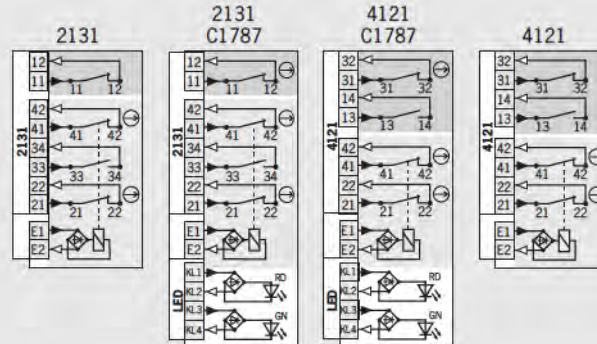
Dimension drawing



Please order
actuator separately
(see pages 76-79)

For cable glands see page 89

Wiring diagrams Actuator inserted and locked



For switching functions see technical data on page 110

☐ Solenoid monitoring
☐ Door monitoring

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 ⊖ + 1 NO + 1 NC	024L LED display AC/DC 24 V	093 635 TP4-2131A024L024M
			2131 2 NC ⊖ + 1 NO + 1 NC ⊖	C1787 3 positively driven contacts	084 159 TP4-2131A024MC1787
			4121 2 NC ⊖ + 1 NC / 1 NO	024L LED display AC/DC 24 V	093 637 TP4-4121A024L024M
			4121 2 NC ⊖ + 1 NC ⊖ + 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 is sealed with sealing lacquer to prevent tampering.

Solenoid operating voltage

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

Guard locking types

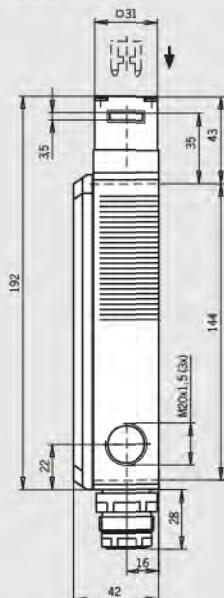
- TP3** Closed-circuit current principle, guard locking by spring force. Release by applying voltage to the interlocking solenoid.
- TP4** Open-circuit current principle, guard locking by applying voltage to the interlocking solenoid. Release by spring force.

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. contacts)

Plug connector SR6 6-pin + PE

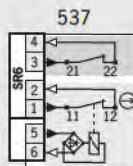
Dimension drawing



Please order
actuator separately
(see pages 76-79)

For plug connectors see page 86

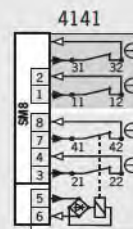
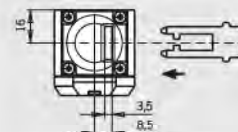
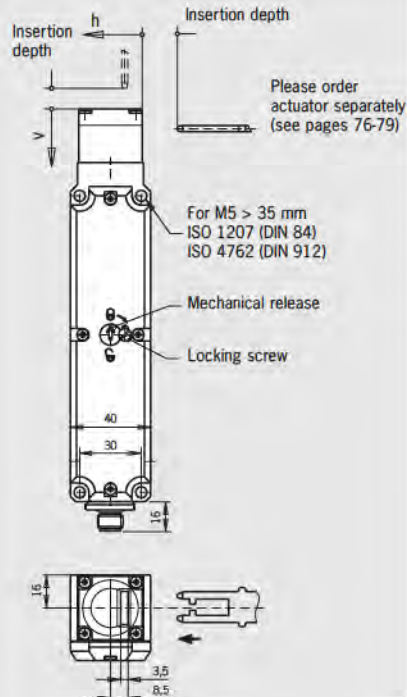
Wiring diagrams Actuator inserted and locked



- ☐ Solenoid monitoring
- ☐ Door monitoring

For switching functions see technical data on page 110

Plug connector SM8 Plug M12, 8-pin



- ☐ Solenoid monitoring
- ☐ Door monitoring

For switching functions see technical data on page 110

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 ⊖ + 1 NC		087 434 TP3-537A024SR6	087 437 TP3-537A110SR6	087 440 TP3-537A230SR6
		4 Electrical	537 1 NC ⊖ + 1 NC		087 443 TP4-537A024SR6	087 447 TP4-537A110SR6	087 450 TP4-537A230SR6
	SM8 Plug connector M12	3 Mechanical	4141 2 NC ⊖ + 2 NC ⊖	C1992 Direct connection to safe bus module	087 377 ¹⁾ TP3-4141A024SM8C1992	-	-
		4 Electrical	4141 2 NC ⊖ + 2 NC ⊖	C1992 Direct connection to safe bus module	087 378 ¹⁾ TP4-4141A024SM8C1992	-	-

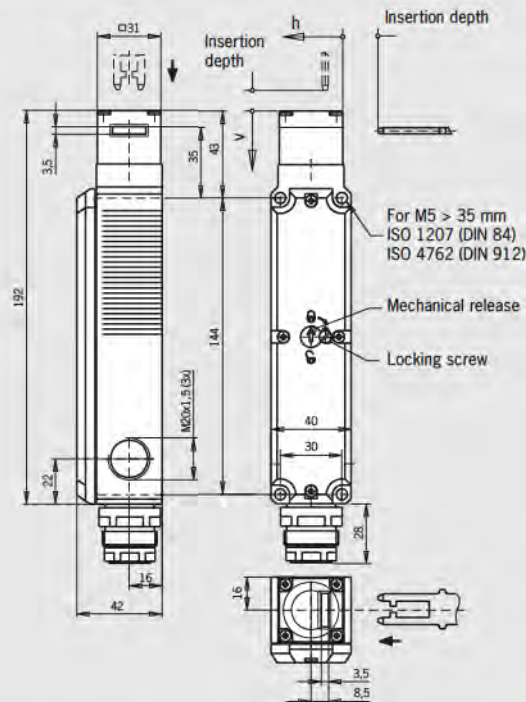
1) No BG approval

2) With solenoid operating voltage AC/DC 24 V only



Plug connector SR11 11-pin + PE

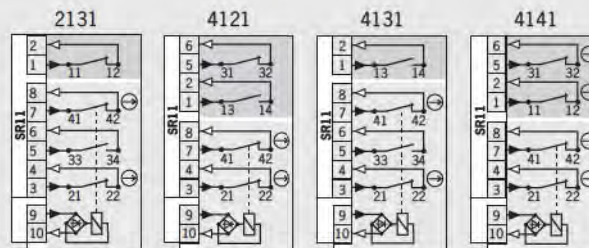
Dimension drawing



Please order
actuator separately
(see pages 76-79)

For plug connectors see page 86

Wiring diagrams Actuator inserted and locked



☐ Solenoid monitoring
☐ Door monitoring

For switching functions see technical data on page 110

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 $\ominus$ + 1 NO + 1 NC		088 205 TP3-2131A024SR11	-	-
			4121 2 NC $\ominus$ + 1 NC / 1 NO		088 206 TP3-4121A024SR11	-	-
			4131 2 NC $\ominus$ + 1 NO + 1 NO		088 204 TP3-4131A024SR11	-	-
			4141 2 NC $\ominus$ + 2 NC $\ominus$		088 922 TP3-4141A024SR11	-	-
			2131 2 NC $\ominus$ + 1 NO + 1 NC		088 208 TP4-2131A024SR11	-	-
		4 Electrical	4121 2 NC $\ominus$ + 1 NC / 1 NO		088 209 TP4-4121A024SR11	-	-
			4131 2 NC $\ominus$ + 1 NO + 1 NO		088 207 TP4-4131A024SR11	-	-
			4141 2 NC $\ominus$ + 2 NC $\ominus$		088 923 TP4-4141A024SR11	-	-

2) With solenoid operating voltage AC/DC 24 V only

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 is sealed with sealing lacquer to prevent tampering.

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.

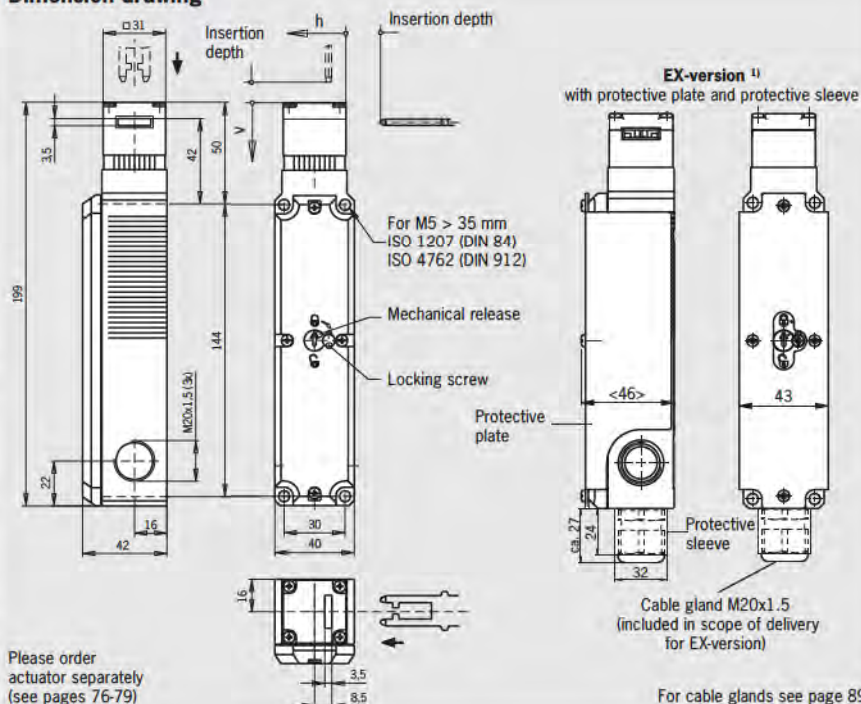
TP4 Open-circuit current principle, guard locking by applying voltage to the interlocking solenoid. Release by spring force.

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)

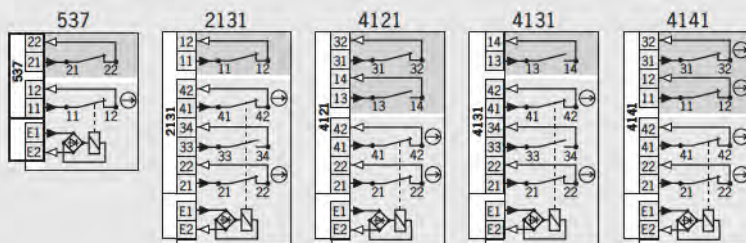
Cable entry M20 x 1.5

Dimension drawing



Please order actuator separately (see pages 76-79)

Wiring diagrams Actuator inserted and locked



For switching functions see technical data on page 110

☐ Solenoid monitoring
☐ Door monitoring

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
			537 1 NC ⊖ + 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 0 ⊖ + 2 0 ⊖	096 296 3) TP4-4141K024M	-	-
			ATEX Incl. Cable gland	-	-	-

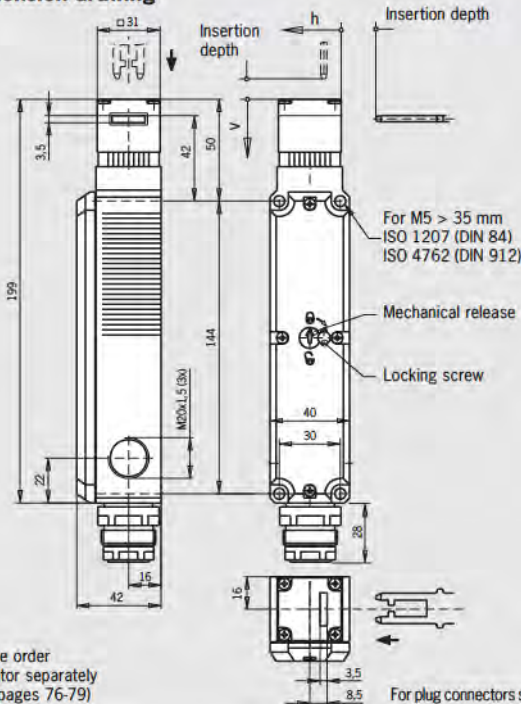
1) With cable entry M, DC 24 V / AC 110 V 2) II 3 G Ex nC IIC T4 X / II 3 D Ex tD A22 T110°C X 3) No SIBE approval



Plug connector SR6 6-pin + PE

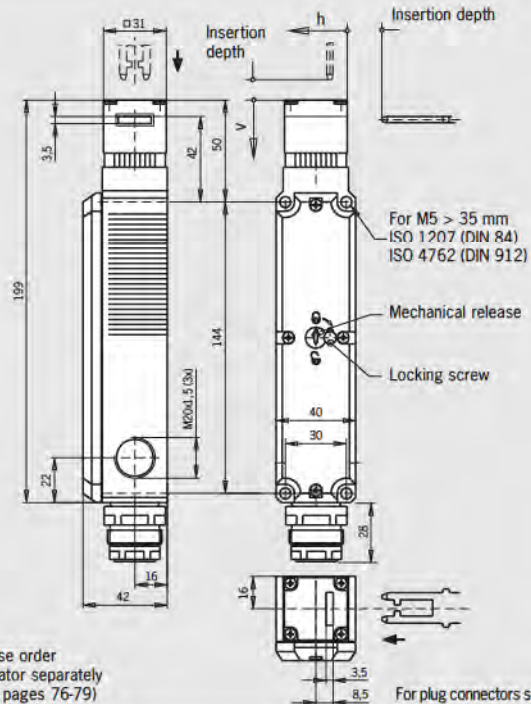
Plug connector SR11 11-pin + PE

Dimension drawing



Please order actuator separately (see pages 76-79)

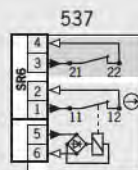
For plug connectors see page 86



Please order actuator separately (see pages 76-79)

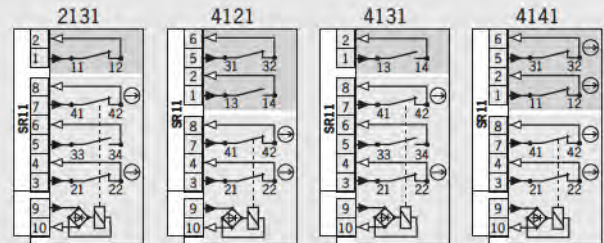
For plug connectors see page 86

Wiring diagrams Actuator inserted and locked



☐ Solenoid monitoring
☐ Door monitoring

For switching functions see technical data on page 110



☐ Solenoid monitoring
☐ Door monitoring

For switching functions see technical data on page 110

Ordering table

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

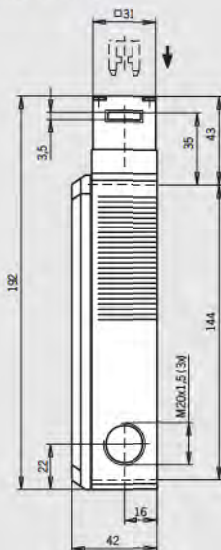
TP6 Open-circuit current principle, guard locking by applying voltage to the interlocking solenoid. Release by spring force.

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

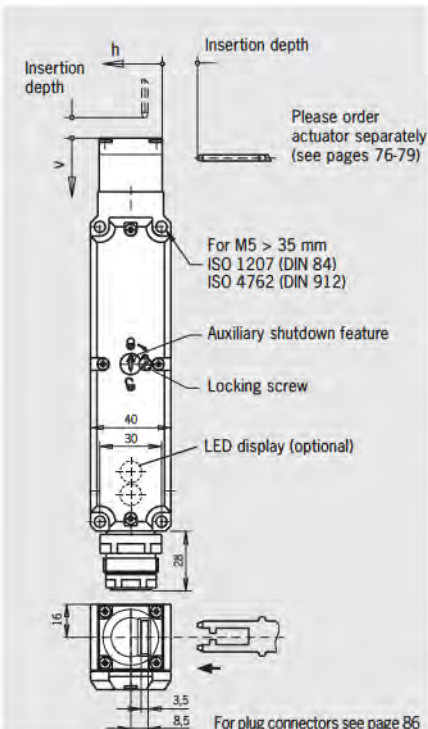


Please order actuator separately (see pages 76-79)

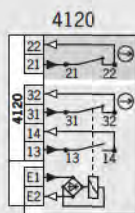
For cable glands see page 89

Plug connector SR11

11-pin + PE

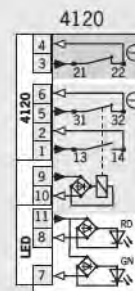


Wiring diagrams Actuator inserted and locked



- ☐ Solenoid monitoring
- ☐ Door unlock request contact

For switching functions see technical data on page 110



- ☐ Solenoid monitoring
- ☐ Door unlock request contact

For switching functions see technical data on page 110

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	-	-



Safety switch TP with guard locking and guard lock monitoring

- **Escape release from the rear**
- **With door monitoring contact**
- **Increased horizontal overtravel**



Approach direction

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

Escape release

Is used for the manual release of the guard locking from within the danger area without tools. With identification of On/Off position.

Solenoid operating voltage

AC/DC 24 V +10%, -15%

Guard locking types

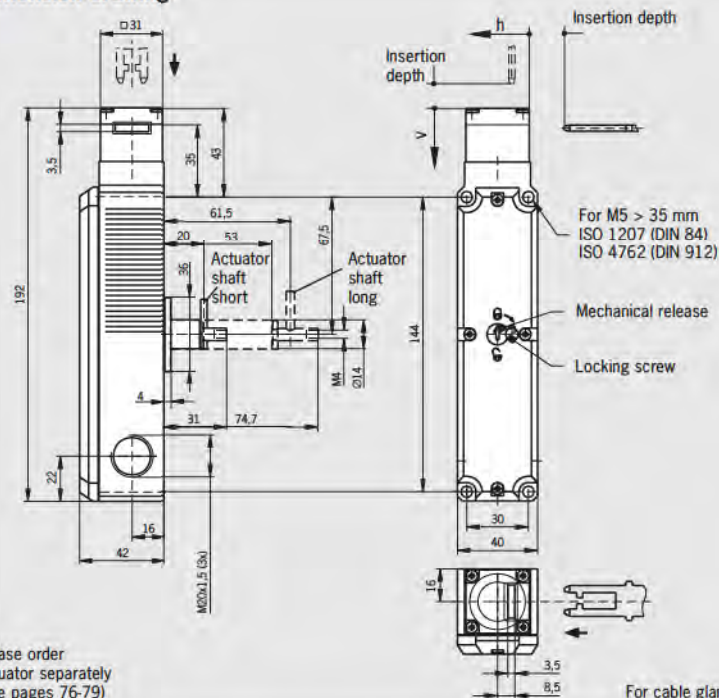
TP3 Closed-circuit current principle, guard locking by spring force. Release by applying voltage to the interlocking solenoid.

Switching elements

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

Cable entry M20 x 1.5

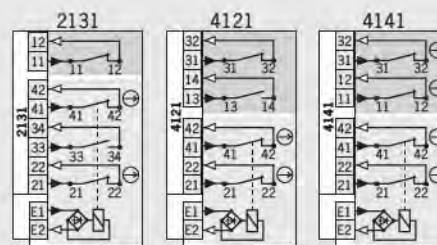
Dimension drawing



Please order
actuator separately
(see pages 76-79)

For cable glands see page 89

Wiring diagrams Actuator inserted and locked



☐ Solenoid monitoring
☐ Door monitoring

For switching functions see technical data on page 110

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	2131 2 NC $\ominus$ + 1 NO + 1 NC	C1743 Short actuator shaft	084 285 TP3-2131A024MC1743
				C1993 Long actuator shaft	087 400 TP3-2131A024MC1993
			4121 2 NC $\ominus$ + 1 NC / 1 NO	C1743 Short actuator shaft	087 427 TP3-4121A024MC1743
				C1743 Short actuator shaft	086 165 TP3-4141A024MC1743



1

M20x1,5

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 86)

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

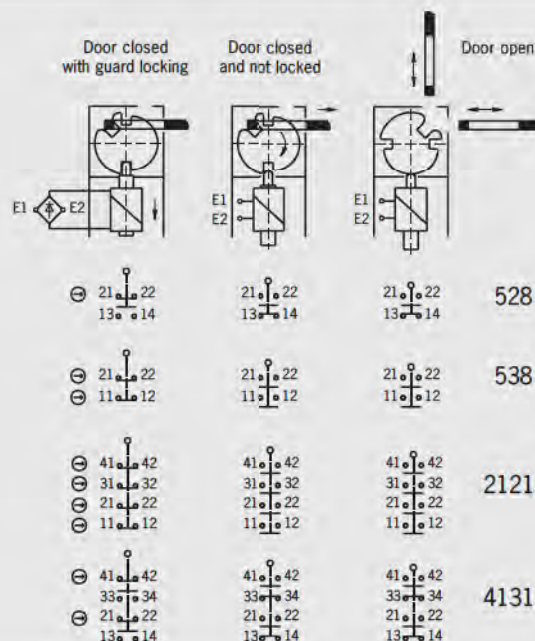
Plug connector SR11 connection



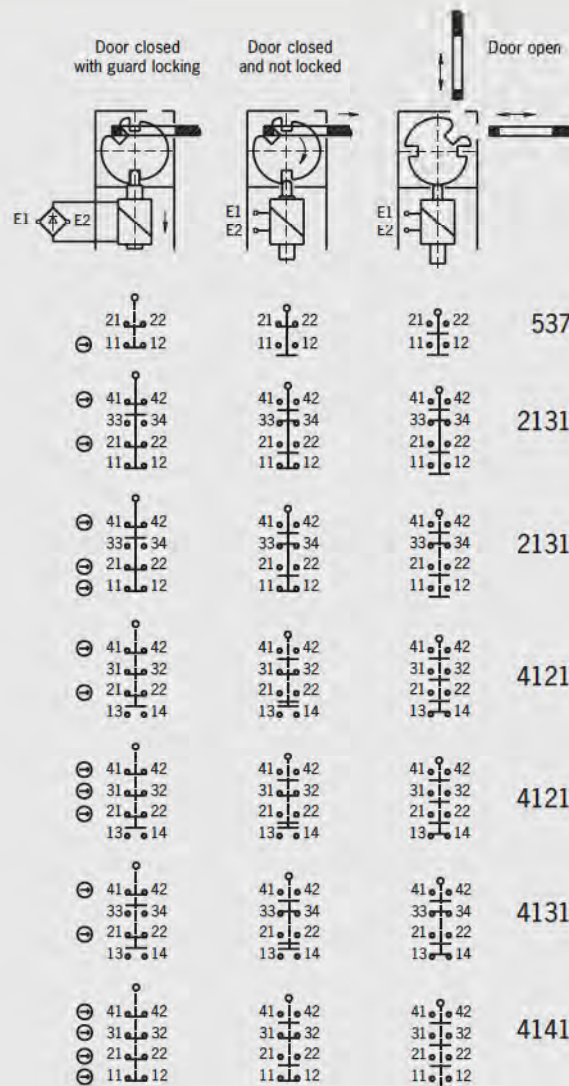
Parameter		Value	Unit
Connection		Plug connector	
Version		11-pin + PE	
Degree of protection according to IEC 60529		IP 65 ¹⁾	
Rated insulation voltage U_i		50	V AC/DC
Rated impulse withstand voltage U_{imp}		1.5	kV
Conventional thermal current I_{th}		4	A
Short circuit protection according to IEC 60269-1 (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 86)

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**

