

Position switch NZ.WO with domed plunger



- ▶ Version B according to EN 50041 (hardened)
- ▶ LED optional
- ▶ Plug connector optional



Approach direction



Horizontal and vertical

LED function display (optional)

A function display is available for the following voltage ranges:

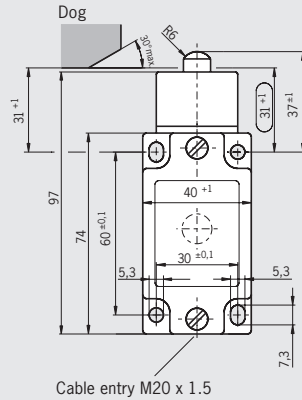
- ▶ AC/DC 12-60 V red or yellow
- ▶ AC 110 V ±15% red
- ▶ AC 230 V ±15% red

Switching elements (see also page 13/14)

- ▶ **511** Snap-action switching element
1 NC ⊖ + 1 NO
- ▶ **528H** Slow-action switching element
1 NC ⊖ + 1 NO
- ▶ **538H** Slow-action switching element
2 NC ⊖
- ▶ **2121H** Slow-action switching element
4 NC ⊖
- ▶ **2131H** Slow-action switching element
3 NC ⊖ + 1 NO
- ▶ **3131H** Slow-action switching element
2 NC ⊖ + 2 NO

Cable entry M20 x 1.5

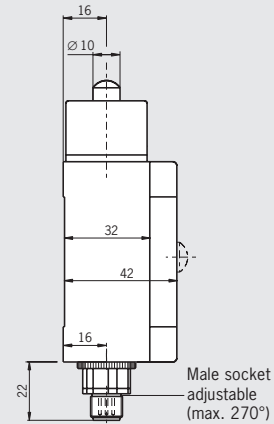
Dimension drawings



For cable glands see page 132

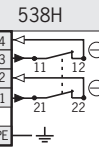
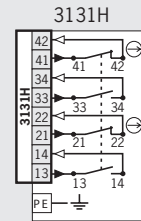
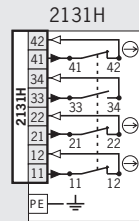
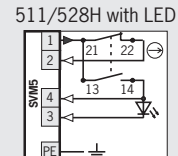
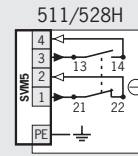
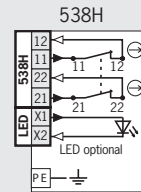
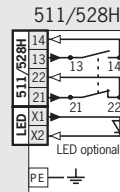
Plug connector SVM5

M12 plug, 5-pin



For mating connectors see page 132

Wiring diagrams Switch not actuated



Ordering table

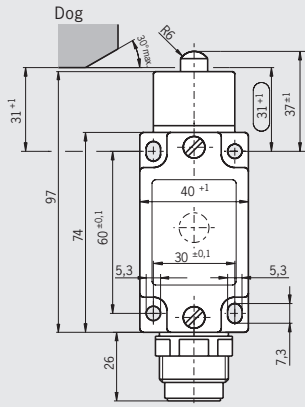
Series	Connection	Actuator	Switching element	Function display				
				Without LED	12-60 V red LED	110 V red LED	230 V red LED	12-60 V yellow LED
NZ	1 Cable entry M20 x 1.5	WO Domed plunger	511 ¹⁾ 1 NC ⊖ + 1 NO	088611 ¹⁾ NZ1WO-511-M	089057 ¹⁾ NZ1WO-511L060-M	089059 ¹⁾ NZ1WO-511L110-M	089060 ¹⁾ NZ1WO-511L220-M	089058 ¹⁾ NZ1WO-511L060GE-M
			528H 1 NC ⊖ + 1 NO	089624 NZ1WO-528-M	089078 NZ1WO-528L060-M	On request	On request	On request
			538H 2 NC ⊖	090878 NZ1WO-538-M	089076 NZ1WO-538L060-M	On request	On request	On request
			2131H 3 NC ⊖ + 1 NO	089629 NZ1WO-2131-M	-	-	-	-
			3131H 2 NC ⊖ + 2 NO	089626 NZ1WO-3131-M	-	-	-	-
			511 ¹⁾ 1 NC ⊖ + 1 NO	089014 ¹⁾ NZ2WO-511SVM5	On request	-	-	098652 ¹⁾ NZ2WO-511SVM5L060GE
2 Plug connector SVM5 (M12 plug)	WO Domed plunger	528H 1 NC ⊖ + 1 NO	090923 NZ2WO-528SVM5	On request	-	-	On request	
		538H 2 NC ⊖	090924 NZ2WO-538SVM5	On request	-	-	On request	

1) No BG approval for switching element 511



Plug connector SR6 6-pin + PE

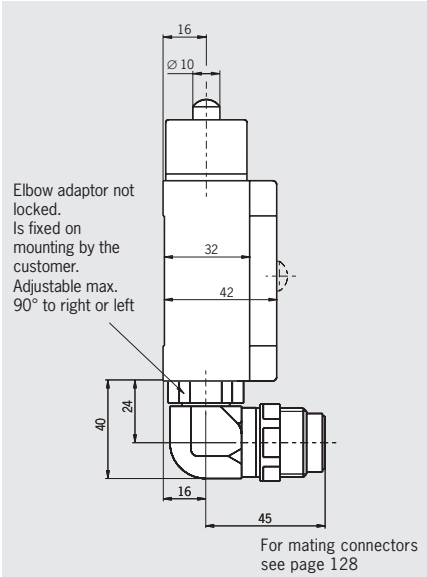
Dimension drawings



For mating connectors see page 128



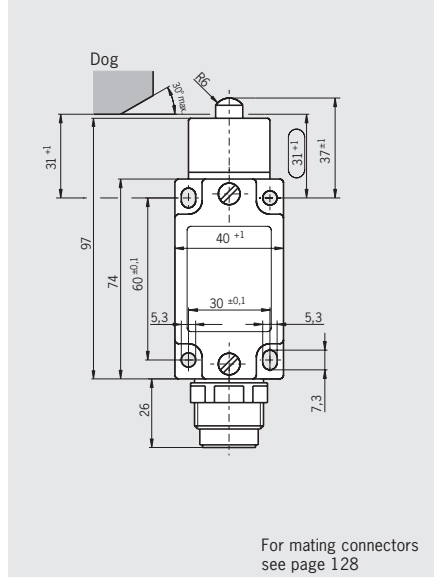
Plug connector SR6 angled 6-pin + PE



For mating connectors see page 128

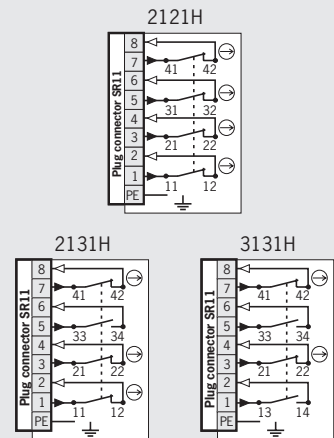
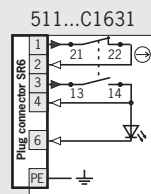
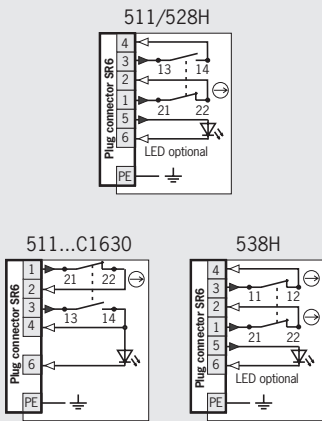


Plug connector SR11 11-pin + PE



For mating connectors see page 128

Wiring diagrams Switch not actuated



Ordering table

Series	Actuator	Connection	Switching element	Version	Function display		
					Without LED	12-60 V red LED	12-60 V yellow LED
NZ	WO Domed plunger	2 Plug connector SR6	511 ¹⁾ 1 NC ⊖ + 1 NO	C1630 Alternative wiring	090909 ¹⁾ NZ2WO-511	091280 ¹⁾ NZ2WO-511L060	On request
			511 ¹⁾ 1 NC ⊖ + 1 NO		On request	On request	059481 ¹⁾ NZ2WO-511L060C1630
			528H 1 NC ⊖ + 1 NO		090910 NZ2WO-528	091279 NZ2WO-528L060	On request
			538H 2 NC ⊖		090911 NZ2WO-538	087558 NZ2WO-538L060	On request
		2 Plug connector SR6 angled	C1631 Alternative wiring	511 ¹⁾ 1 NC ⊖ + 1 NO	On request	On request	059482 ¹⁾ NZ2WO-511L060C1631
		2 Plug connector SR11		2121H 4 NC ⊖	090976 NZ2WO-2121	-	-
				2131H 3 NC ⊖ + 1 NO	090912 NZ2WO-2131	-	-
			3131H 2 NC ⊖ + 2 NO	090913 NZ2WO-3131	-	-	

1) No BG approval for switching element 511

Position switch NZ.RK with roller plunger



- ▶ Steel roller Ø 8 mm
- ▶ LED optional
- ▶ Plug connector optional
- ▶ Bearing optional



Approach direction



Horizontal
Can be adjusted in 90° steps.

LED function display (optional)

A function display is available for the following voltage ranges:

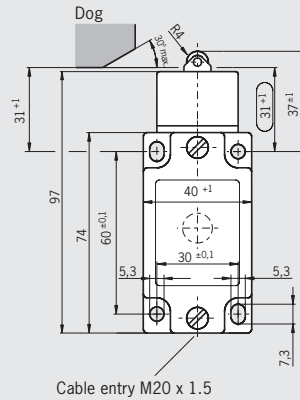
- ▶ AC/DC 12-60 V red or yellow
- ▶ AC 110 V ±15% red
- ▶ AC 230 V ±15% red

Switching elements (see also page 13/14)

- ▶ **511** Snap-action switching element
1 NC ⊖ + 1 NO
- ▶ **528H** Slow-action switching element
1 NC ⊖ + 1 NO
- ▶ **538H** Slow-action switching element
2 NC ⊖
- ▶ **2131H** Slow-action switching element
3 NC ⊖ + 1 NO
- ▶ **3131H** Slow-action switching element
2 NC ⊖ + 2 NO

Cable entry M20 x 1.5

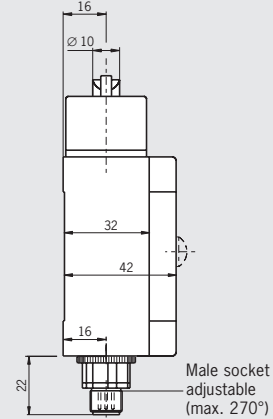
Dimension drawings



For cable glands
see page 132

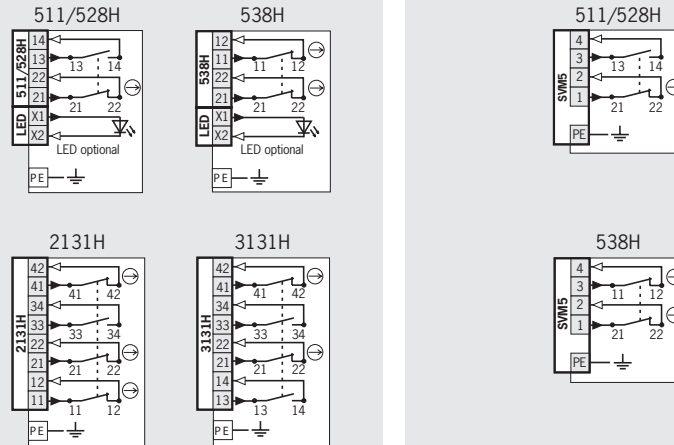
Plug connector SVM5

M12 plug, 5-pin



For mating connectors
see page 132

Wiring diagrams Switch not actuated



Ordering table

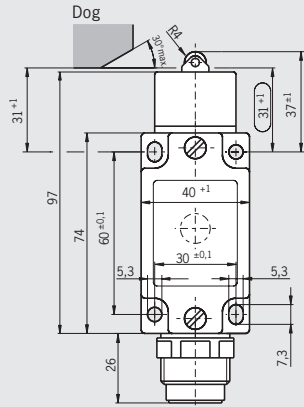
Series	Actuator	Connection	Switching element	Version	Function display			
					Without LED	12-60 V red LED	110 V red LED	12-60 V yellow LED
NZ	RK	1 Cable entry M20 x 1.5	511 ¹⁾ 1 NC ⊖ + 1 NO		088608 ¹⁾ NZ1RK-511-M	090354 ¹⁾ NZ1RK-511L060-M	090355 ¹⁾ NZ1RK-511L220-M	On request
			528H 1 NC ⊖ + 1 NO		090905 NZ1RK-528-M	090358 NZ1RK-528L060-M	On request	On request
			528H 1 NC ⊖ + 1 NO	C1912 With bearing	090572 NZ1RK-528-MC1912	On request	On request	086408 NZ1RK-528L060GE-MC1912
			538H 2 NC ⊖		090906 NZ1RK-538-M	On request	On request	On request
			2131H 3 NC ⊖ + 1 NO		090907 NZ1RK-2131-M	-	-	-
			3131H 2 NC ⊖ + 2 NO		090908 NZ1RK-3131-M	-	-	-
			511 ¹⁾ 1 NC ⊖ + 1 NO		089007 ¹⁾ NZ2RK-511SVM5	On request	-	On request
		528H 1 NC ⊖ + 1 NO		090930 NZ2RK-528SVM5	On request	-	On request	
		538H 2 NC ⊖		089018 NZ2RK-538SVM5	On request	-	On request	

1) No BG approval for switching element 511



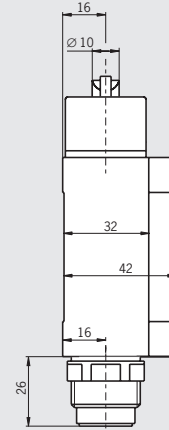
Plug connector SR6 6-pin + PE

Dimension drawings



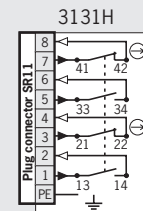
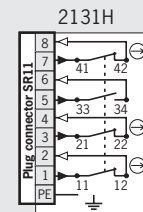
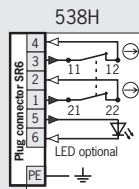
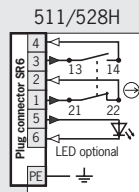
For mating connectors see page 128

Plug connector SR11 11-pin + PE



For mating connectors see page 128

Wiring diagrams Switch not actuated



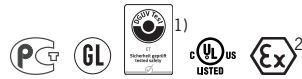
Ordering table

Series	Actuator	Connection	Switching element	Function display		
				Without LED	12-60 V red LED	110 V red LED
NZ	RK Roller plunger	2 Plug connector SR6	511 ¹⁾ 1 NC \ominus + 1 NO	090016 ¹⁾ NZ2RK-511	On request	088180 ¹⁾ NZ2RK-511L110
			528H 1 NC \ominus + 1 NO	090919 NZ2RK-528	091292 NZ2RK-528L060	On request
			538H 2 NC \ominus	090920 NZ2RK-538	On request	On request
		2 Plug connector SR11	2131H 3 NC \ominus + 1 NO	090921 NZ2RK-2131	-	-
			3131H 2 NC \ominus + 2 NO	090922 NZ2RK-3131	-	-

1) No BG approval for switching element 511

For safety precautions see page 196
For technical data see page 163

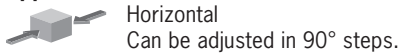
Position switch NZ.RS with roller plunger



- ▶ **Version C** according to EN 50041 (steel roller \varnothing 12 mm)
- ▶ **LED optional**
- ▶ **Plug connector optional**



Approach direction



LED function display (optional)

A function display is available for the following voltage ranges:

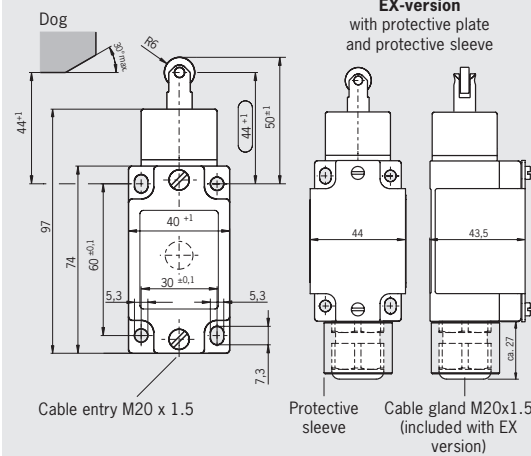
- ▶ AC/DC 12-60 V red or yellow
- ▶ AC 110 V \pm 15% red
- ▶ AC 230 V \pm 15% red

Switching elements (see also page 13/14)

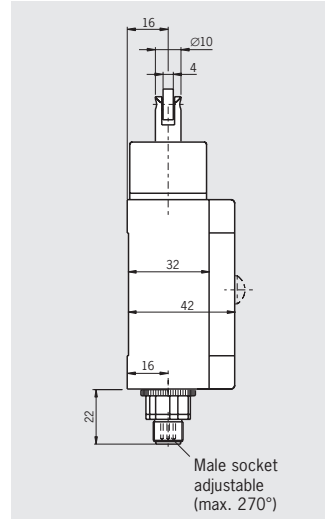
- ▶ **511** Snap-action switching element
1 NC \ominus + 1 NO
- ▶ **528H** Slow-action switching element
1 NC \ominus + 1 NO
- ▶ **538H** Slow-action switching element
2 NC \ominus
- ▶ **2121H** Slow-action switching element
4 NC \ominus
- ▶ **2131H** Slow-action switching element
3 NC \ominus + 1 NO
- ▶ **3131H** Slow-action switching element
2 NC \ominus + 2 NO

Cable entry M20 x 1.5

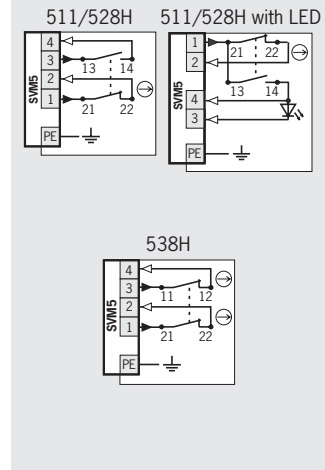
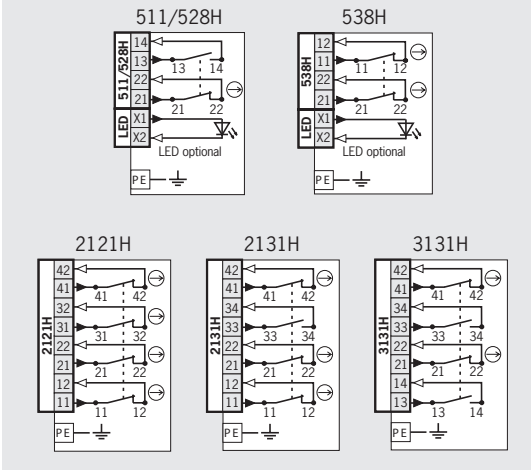
Dimension drawings



Plug connector SVM5 M12 plug, 5-pin



Wiring diagrams Switch not actuated



Ordering table

Series	Actuator	Connection	Switching element	Version	Function display			
					Without LED	12-60 V red LED	110 V red LED	12-60 V yellow LED
NZ	RS	Cable entry M20 x 1.5 Roller plunger	511 ¹⁾ 1 NC \ominus + 1 NO		079960 ¹⁾ NZ1RS-511-M	089053 ¹⁾ NZ1RS-511L060-M	089055 ¹⁾ NZ1RS-511L220-M	086528 ¹⁾ NZ1RS-511L060GE-M
			528H 1 NC \ominus + 1 NO		089627 NZ1RS-528-M	086413 NZ1RS-528L060-M	091291 NZ1RS-528L220-M	On request
			538H 2 NC \ominus		090936 NZ1RS-538-M	090555 NZ1RS-538L060-M	On request	090424 NZ1RS-538L060GE-M
			2121H 4 NC \ominus		087595 NZ1RS-2121-M	-	-	-
			2131H 3 NC \ominus + 1 NO		089633 NZ1RS-2131-M	-	-	-
			3131H 2 NC \ominus + 2 NO		089631 NZ1RS-3131-M	-	-	-
			3131H 2 NC \ominus + 2 NO	ATEX incl. cable gland	094169 ²⁾ NZ1RS-3131-MEX	-	-	-
			511 ¹⁾ 1 NC \ominus + 1 NO		090027 ¹⁾ NZ2RS-511SVM5	On request	-	098651 ¹⁾ NZ2RS-511SVM5L060GE
			528H 1 NC \ominus + 1 NO		090963 NZ2RS-528SVM5	On request	-	On request
			538H 2 NC \ominus		090964 NZ2RS-538SVM5	On request	-	On request

1) No BG approval for switching element 511

2) II 3 G Ex nC IIB T5 X (reduced resistance to impact acc. to EN 61241-1; max. 4 J) / Ex II 3 D Ex tD A22 T90°C X (reduced resistance to impact acc. to EN 61241-1; max. 4 J)



Plug connector SR6
6-pin + PE



Plug connector SR6 angled
6-pin + PE

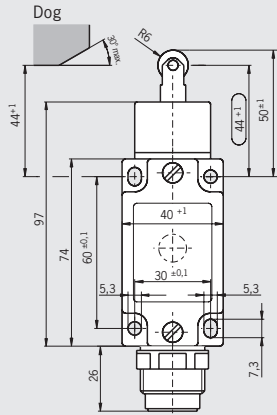


Plug connector MR9
8-pin + PE

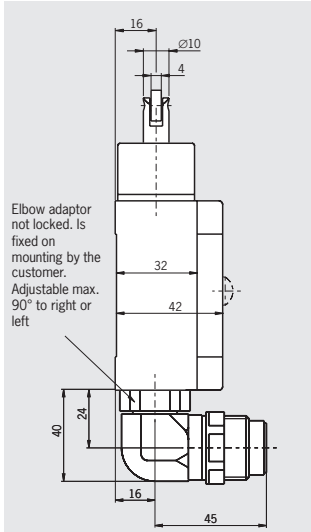


Plug connector SR11
11-pin + PE

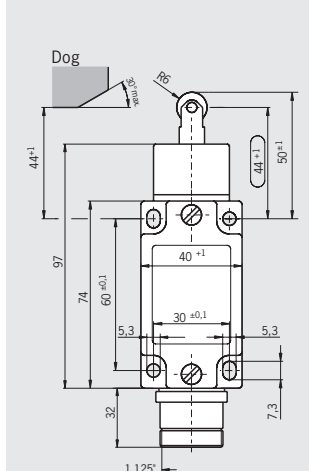
Dimension drawings



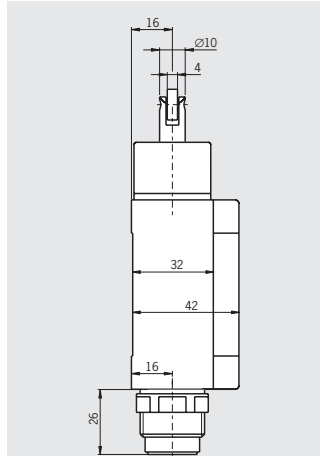
For mating connectors see page 128



For mating connectors see page 128

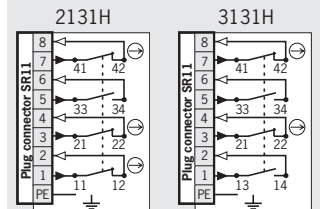
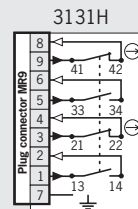
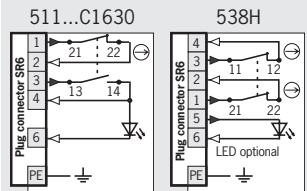
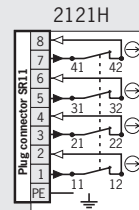
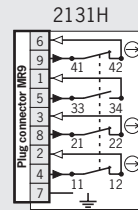
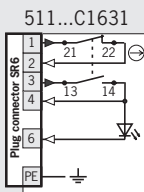
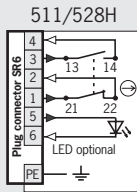


For mating connectors see page 131



For mating connectors see page 128

Wiring diagrams Switch not actuated



Ordering table

Series	Actuator	Connection	Switching element	Version	Function display					
					Without LED	12-60 V red LED	110 V red LED	12-60 V yellow LED		
NZ	RS	Plug connector SR6	511 ¹⁾	C1630	090024 ¹⁾	090147 ¹⁾	091302 ¹⁾	089622 ¹⁾		
			1 NC ⊖ + 1 NO		NZ2RS-511	NZ2RS-511L060	NZ2RS-511L110	NZ2RS-511L060GE		
			511 ¹⁾		On request	On request	On request	082400 ¹⁾		
			1 NC ⊖ + 1 NO		Alternative wiring	On request	On request	NZ2RS-511L060C1630		
		528H	C1630	090950	088197	On request	On request	On request	On request	
				1 NC ⊖ + 1 NO	NZ2RS-528	NZ2RS-528L060	On request	On request		
		538H	C1630	090951	090952	On request	On request	On request	On request	
				2 NC ⊖	NZ2RS-538	NZ2RS-538L060	On request	On request		
		Plug connector SR6 angled	2	1 NC ⊖ + 1 NO	511 ¹⁾	C1631	On request	On request	On request	079350 ¹⁾
					1 NC ⊖ + 1 NO		Alternative wiring	On request	On request	NZ2RS-511L060C1631
2131H	077362 ³⁾				-		-	-		
3 NC ⊖ + 1 NO	NZ1RS-2131-9C-GMMF				-		-	-		
Plug connector MR9	2	2 NC ⊖ + 2 NO	3131H	087074	-	-	-			
			2 NC ⊖ + 2 NO	NZ1RS-3131-9C-GMMF	-	-	-			
Plug connector SR11	2	4 NC ⊖	2121H	090974	-	-	-			
			4 NC ⊖	NZ2RS-2121	-	-	-			
			2131H	090149	-	-	-			
Plug connector SR11	2	3 NC ⊖ + 1 NO	3131H	090954	-	-	-			
			3 NC ⊖ + 1 NO	NZ2RS-2131	-	-	-			
Plug connector SR11	2	2 NC ⊖ + 2 NO	3131H	090954	-	-	-			
			2 NC ⊖ + 2 NO	NZ2RS-3131	-	-	-			

1) No BG approval for switching element 511

3) No UL approval for safety switch 077 362



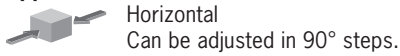
Position switch NZ.RG with roller plunger



- ▶ Version C according to EN 50041 (plastic roller \varnothing 12 mm)
- ▶ LED optional
- ▶ Plug connector optional



Approach direction



LED function display (optional)

A function display is available for the following voltage ranges:

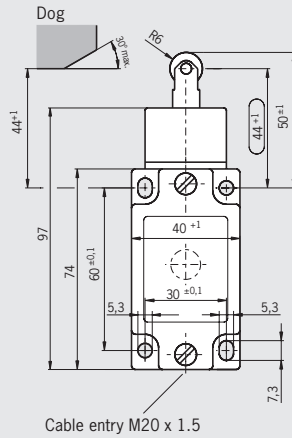
- ▶ AC/DC 12-60 V red or yellow
- ▶ AC 230 V \pm 15% red

Switching elements (see also page 13/14)

- ▶ **511** Snap-action switching element
1 NC \ominus + 1 NO
- ▶ **528H** Slow-action switching element
1 NC \ominus + 1 NO
- ▶ **538H** Slow-action switching element
2 NC \ominus
- ▶ **2131H** Slow-action switching element
3 NC \ominus + 1 NO
- ▶ **3131H** Slow-action switching element
2 NC \ominus + 2 NO

Cable entry M20 x 1.5

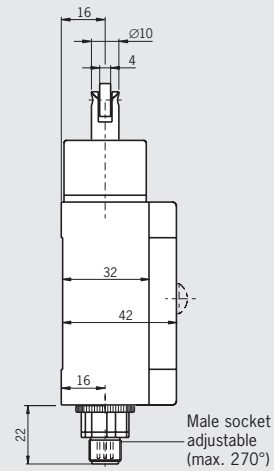
Dimension drawings



For cable glands see page 132

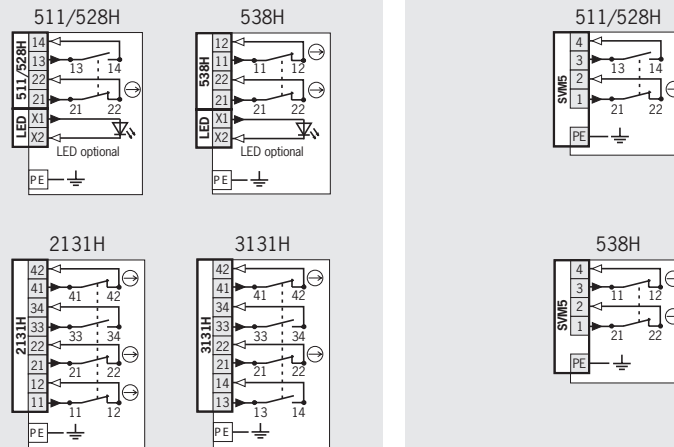
Plug connector SVM5

M12 plug, 5-pin



For mating connectors see page 132

Wiring diagrams Switch not actuated



Ordering table

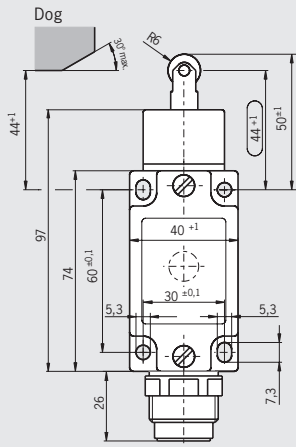
Series	Actuator	Connection	Switching element	Function display		
				Without LED	12-60 V red LED	230 V red LED
NZ	RG	Cable entry M20 x 1.5	511 ¹⁾ 1 NC \ominus + 1 NO	088605 ¹⁾ NZ1RG-511-M	089052 ¹⁾ NZ1RG-511L060-M	089054 ¹⁾ NZ1RG-511L220-M
			528H 1 NC \ominus + 1 NO	090932 NZ1RG-528-M	090008 NZ1RG-528L060-M	On request
			538H 2 NC \ominus	090933 NZ1RG-538-M	090009 NZ1RG-538L060-M	On request
			2131H 3 NC \ominus + 1 NO	090934 NZ1RG-2131-M	-	-
			3131H 2 NC \ominus + 2 NO	090935 NZ1RG-3131-M	-	-
			511 ¹⁾ 1 NC \ominus + 1 NO	090026 ¹⁾ NZ2RG-511SVM5	On request	-
		Plug connector SVM5 (M12 plug)	528H 1 NC \ominus + 1 NO	090961 NZ2RG-528SVM5	On request	-
			538H 2 NC \ominus	090962 NZ2RG-538SVM5	On request	-

1) No BG approval for switching element 511



Plug connector SR6 6-pin + PE

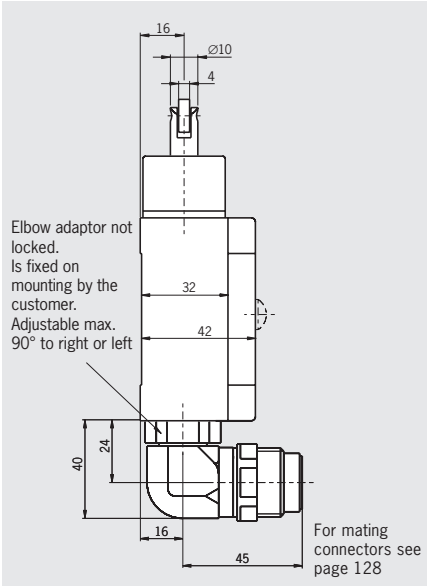
Dimension drawings



For mating connectors see page 128



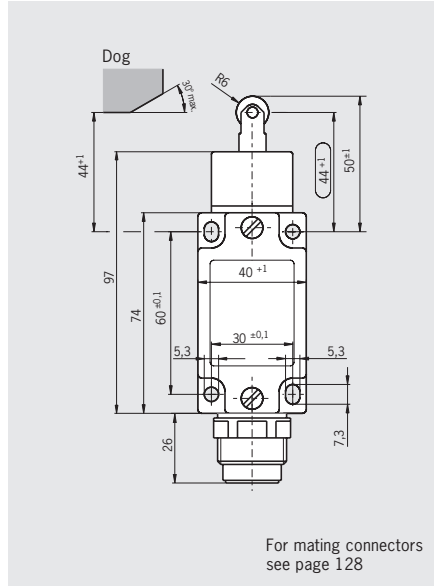
Plug connector SR6 angled 6-pin + PE



For mating connectors see page 128

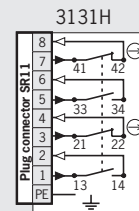
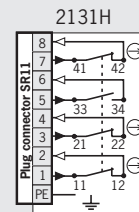
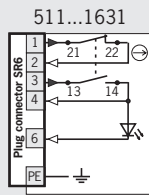
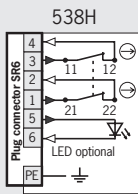
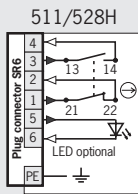


Plug connector SR11 11-pin + PE



For mating connectors see page 128

Wiring diagrams Switch not actuated



Ordering table

Series	Actuator	Connection	Switching element	Version	Function display		
					Without LED	12-60 V red LED	12-60 V yellow LED
NZ	RG Roller plunger	2 Plug connector SR6	511 ¹⁾ 1 NC ⊖ + 1 NO	C1631 Alternative wiring	090032 ¹⁾ NZ2RG-511	091284 ¹⁾ NZ2RG-511L060	On request
			528H 1 NC ⊖ + 1 NO		090943 NZ2RG-528	090944 NZ2RG-528L060	On request
			538H 2 NC ⊖		090945 NZ2RG-538	090946 NZ2RG-538L060	On request
		2 Plug connector SR6 angled	511 ¹⁾ 1 NC ⊖ + 1 NO	On request	On request	074562 ¹⁾ NZ2RG-511L060C1631	
			2131H 3 NC ⊖ + 1 NO	090947 NZ2RG-2131			
				3131H 2 NC ⊖ + 2 NO	090948 NZ2RG-3131		

1) No BG approval for switching element 511

For safety precautions see page 196
For technical data see page 163



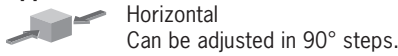
Position switch NZ.RL with roller plunger



- ▶ Steel roller \varnothing 18 mm
- ▶ With ball bearing \varnothing 16 mm optional
- ▶ LED optional
- ▶ Plug connector optional



Approach direction



LED function display (optional)

A function display is available for the following voltage ranges:

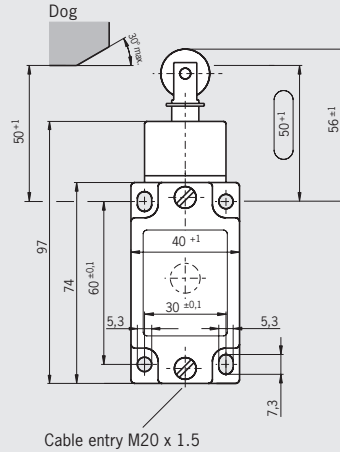
- ▶ AC/DC 12-60 V red
- ▶ AC 110 V $\pm 15\%$ red
- ▶ AC 230 V $\pm 15\%$ red

Switching elements (see also page 13/14)

- ▶ **511** Snap-action switching element
1 NC \ominus + 1 NO
- ▶ **528H** Slow-action switching element
1 NC \ominus + 1 NO
- ▶ **538H** Slow-action switching element
2 NC \ominus
- ▶ **2121H** Slow-action switching element
4 NC \ominus
- ▶ **2131H** Slow-action switching element
3 NC \ominus + 1 NO
- ▶ **3131H** Slow-action switching element
2 NC \ominus + 2 NO

Cable entry M20 x 1.5

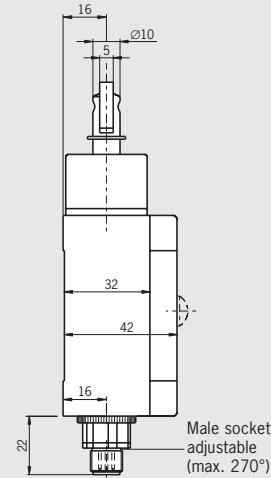
Dimension drawings



For cable glands see page 132

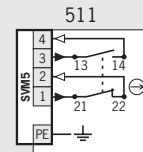
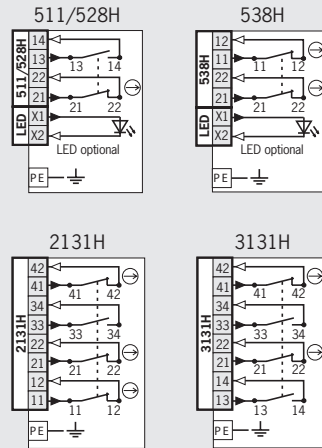
Plug connector SVM5

M12 plug, 5-pin



For mating connectors see page 132

Wiring diagrams Switch not actuated



Ordering table

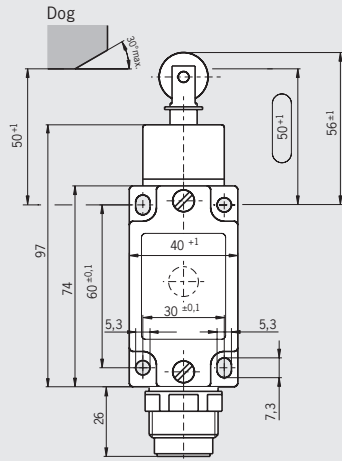
Series	Actuator	Connection	Switching element	Function display			
				Without LED	12-60 V red LED	110 V red LED	230 V red LED
NZ	RL	Cable entry M20 x 1.5	511 ¹⁾ 1 NC \ominus + 1 NO	088614 ¹⁾ NZ1RL-511-M	088996 ¹⁾ NZ1RL-511L060-M	089080 ¹⁾ NZ1RL-511L110-M	089079 ¹⁾ NZ1RL-511L220-M
			528H 1 NC \ominus + 1 NO	090937 NZ1RL-528-M	090938 NZ1RL-528L060-M	On request	089084 NZ1RL-528L220-M
			538H 2 NC \ominus	090939 NZ1RL-538-M	090940 NZ1RL-538L060-M	On request	On request
			2131H 3 NC \ominus + 1 NO	090941 NZ1RL-2131-M	-	-	-
			3131H 2 NC \ominus + 2 NO	090942 NZ1RL-3131-M	-	-	-
			511 ¹⁾ 1 NC \ominus + 1 NO	090028 ¹⁾ NZ2RL-511SVM5	On request	-	-
	2 Plug connector SVM5 (M12 plug)						

1) No BG approval for switching element 511



Plug connector SR6 6-pin + PE

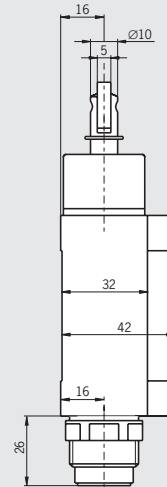
Dimension drawings



For mating connectors see page 128

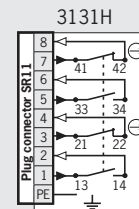
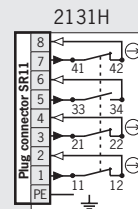
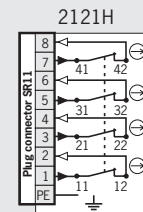
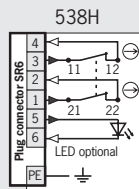
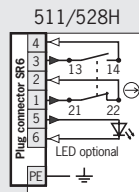
Plug connector SR11 11-pin + PE

Note:
 Roller diameter 16 mm on version with ball bearing (C1831)



For mating connectors see page 128

Wiring diagrams Switch not actuated



Ordering table

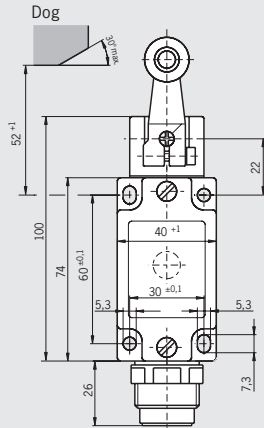
Series	Actuator	Connection	Switching element	Version	Function display	
					Without LED	12-60 V red LED
NZ	RL Roller plunger	2 Plug connector SR6	511 ¹⁾ 1 NC ⊖ + 1 NO		090025 ¹⁾ NZ2RL-511	090955 ¹⁾ NZ2RL-511L060
			528H 1 NC ⊖ + 1 NO		090956 NZ2RL-528	091282 NZ2RL-528L060
			538H 2 NC ⊖		090957 NZ2RL-538	091278 NZ2RL-538L060
		2 Plug connector SR11	2121H 4 NC ⊖		090975 NZ2RL-2121	-
			2121H 4 NC ⊖	C1831 Ball bearing	095806 NZ2RL-2121C1831	-
			2131H 3 NC ⊖ + 1 NO		090958 NZ2RL-2131	-
			3131H 2 NC ⊖ + 2 NO		090959 NZ2RL-3131	-

1) No BG approval for switching element 511



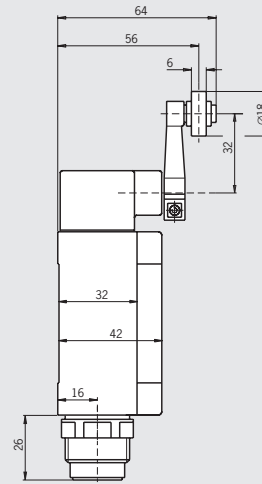
Plug connector SR6 6-pin + PE

Dimension drawings



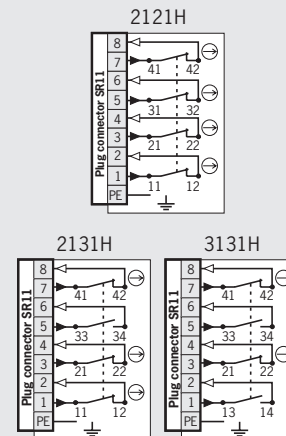
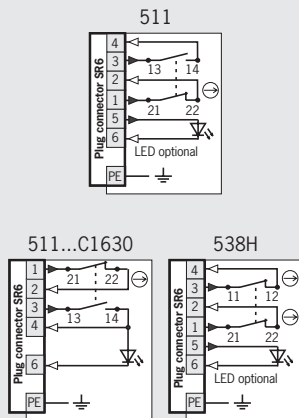
For mating connectors see page 128

Plug connector SR11 11-pin + PE



For mating connectors see page 128

Wiring diagrams Switch not actuated



Ordering table

Series	Actuator	Connection	Switching element	Version	Function display		
					Without LED	12-60 V red LED	12-60 V yellow LED
NZ	HS Lever arm	2 Plug connector SR6	511 ¹⁾ 1 NC ⊖ + 1 NO	C1630 Alternative wiring	089093 ¹⁾ NZ2HS-511	089094 ¹⁾ NZ2HS-511L060	090697 ¹⁾ NZ2HS-511L060GE
			511 ¹⁾ 1 NC ⊖ + 1 NO		On request	On request	078473 ¹⁾ NZ2HS-511L060C1630
			528H 1 NC ⊖ + 1 NO		090852 NZ2HS-528	088196 NZ2HS-528L060	On request
			538H 2 NC ⊖		090853 NZ2HS-538	090854 NZ2HS-538L060	On request
	2 Plug connector SR11	2121H 4 NC ⊖	091264 NZ2HS-2121	-	-		
		2131H 3 NC ⊖ + 1 NO	090146 NZ2HS-2131	-	-		
		3131H 2 NC ⊖ + 2 NO	090856 NZ2HS-3131	-	-		
			-	-	-		

1) No BG approval for switching element 511

Please turn over

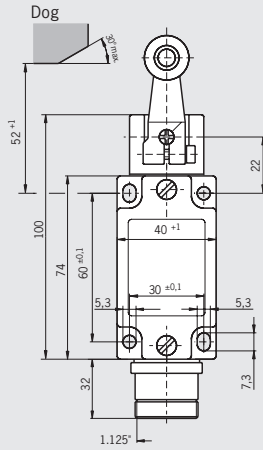
For safety precautions see page 196
For technical data see page 163





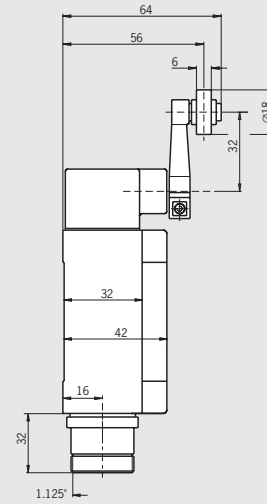
Plug connector MR8 7-pin + PE

Dimension drawings



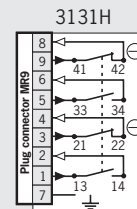
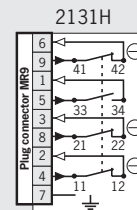
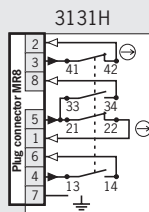
For mating connectors see page 131

Plug connector MR9 8-pin + PE



For mating connectors see page 131

Wiring diagrams Switch not actuated



Ordering table

Series	Actuator	Connection element	Switching Without LED	Function display	
				12-60 V red LED	12-60 V yellow LED
NZ	HS Lever arm	1...8C Plug connector MR8	3131H 2 NC \ominus + 2 NO	086574 NZ1HS-3131-8C-Ford / PT60577-101K01	-
		1...9C Plug connector MR9	2131H 3 NC \ominus + 1 NO	077391 ³⁾ NZ1HS-2131-9C-GMMF	-
			3131H 2 NC \ominus + 2 NO	073508 NZ1HS-3131-9C-GMMF	-

3) No UL approval for safety switch 077 391

Position switch NZ.HB with roller lever arm



- ▶ Version A according to EN 50041 (plastic roller $\varnothing 18$)
- ▶ LED optional
- ▶ Plug connector optional



Approach direction



Horizontal
Switch head and lever arm can be adjusted in 90° steps.

Switching direction

Right, left or both sides (see page 9).

LED function display (optional)

A function display is available for the following voltage ranges:

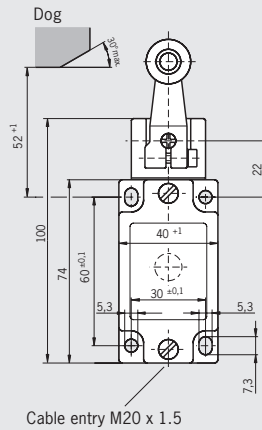
- ▶ AC/DC 12-60 V red or yellow
- ▶ AC 230 V $\pm 15\%$ red

Switching elements (see also page 13/14)

- ▶ **511** Snap-action switching element
1 NC \ominus + 1 NO
- ▶ **528H** Slow-action switching element
1 NC \ominus + 1 NO
- ▶ **538H** Slow-action switching element
2 NC \ominus
- ▶ **2131H** Slow-action switching element
3 NC \ominus + 1 NO
- ▶ **3131H** Slow-action switching element
2 NC \ominus + 2 NO

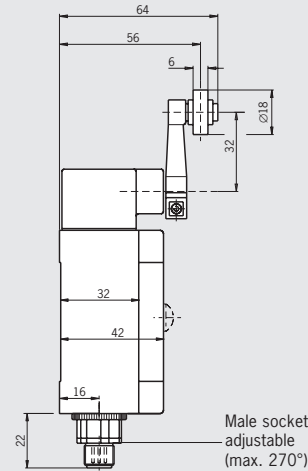
Cable entry M20 x 1.5

Dimension drawings



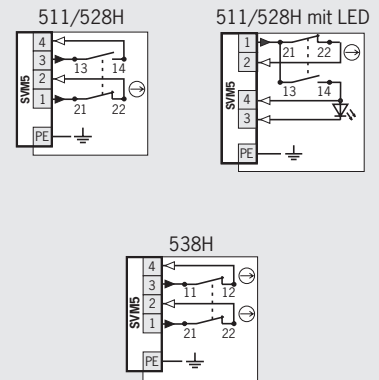
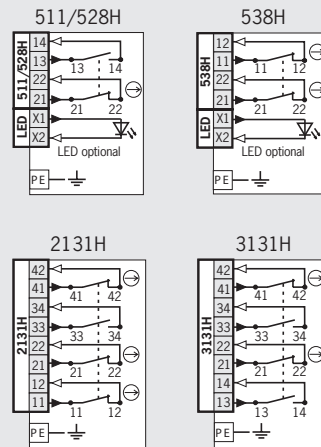
For cable glands see page 132

Plug connector SVM5 M12 plug, 5-pin



For mating connectors see page 132

Wiring diagrams Switch not actuated



Ordering table

Series	Actuator	Connection	Switching element	Function display			
				Without LED	12-60 V red LED	230 V red LED	12-60 V yellow LED
NZ	HB Lever arm	1 Cable entry M20 x 1.5	511 ¹⁾ 1 NC \ominus + 1 NO	079952 ¹⁾ NZ1HB-511-M	090039 ¹⁾ NZ1HB-511L060-M	090040 ¹⁾ NZ1HB-511L220-M	086525 ¹⁾ NZ1HB-511L060GE-M
			528H 1 NC \ominus + 1 NO	088199 NZ1HB-528-M	090965 NZ1HB-528L060-M	090051 NZ1HB-528L220-M	086527 NZ1HB-528L060GE-M
			538H 2 NC \ominus	090966 NZ1HB-538-M	090967 NZ1HB-538L060-M	On request	On request
			2131H 3 NC \ominus + 1 NO	090968 NZ1HB-2131-M	-	-	-
			3131H 2 NC \ominus + 2 NO	090969 NZ1HB-3131-M	-	-	-
			511 ¹⁾ 1 NC \ominus + 1 NO	090861 ¹⁾ NZ2HB-511SVM5	On request	-	098649 ¹⁾ NZ2HB-511SVM5L060GE
		2 Plug connector SVM5 (M12 plug)	528H 1 NC \ominus + 1 NO	090864 NZ2HB-528SVM5	On request	-	On request
			538H 2 NC \ominus	090862 NZ2HB-538SVM5	On request	-	On request

1) No BG approval for switching element 511

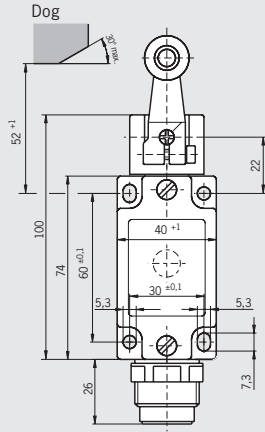
Please turn over

For safety precautions see page 196
For technical data see page 163



Plug connector SR6 6-pin + PE

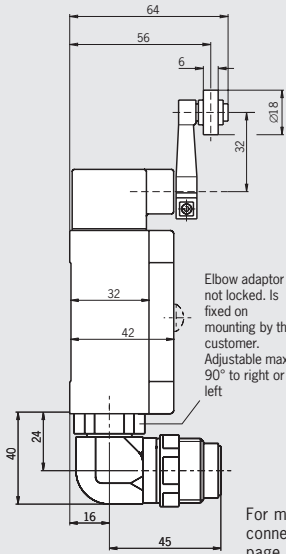
Dimension drawings



For mating connectors see page 128



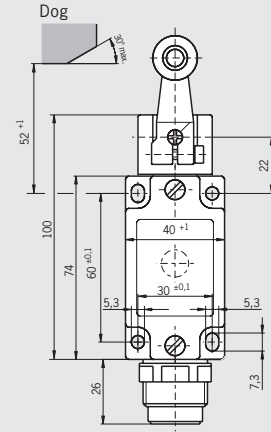
Plug connector SR6 angled 6-pin + PE



For mating connectors see page 128

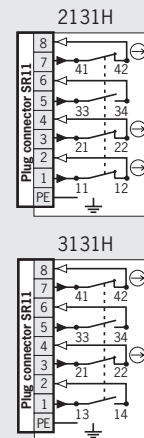
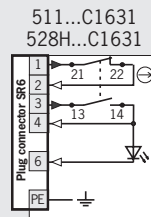
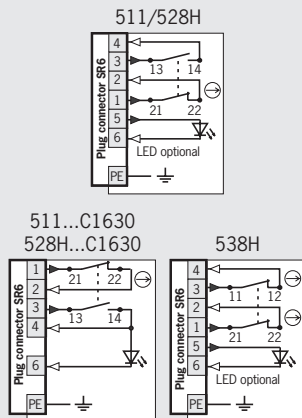


Plug connector SR11 11-pin + PE



For mating connectors see page 128

Wiring diagrams Switch not actuated



Ordering table

Series	Actuator	Connection	Switching element	Version	Function display			
					Without LED	12-60 V red LED	230 V red LED	12-60 V yellow LED
NZ	HB Lever arm	2 Plug connector SR6	511 ¹⁾	1 NC ⊖ + 1 NO	089091 ¹⁾ NZ2HB-511	089092 ¹⁾ NZ2HB-511L060	On request	090719 ¹⁾ NZ2HB-511L060GE
			511 ¹⁾	1 NC ⊖ + 1 NO	On request	On request	On request	054121 ¹⁾ NZ2HB-511L060C1630
			528H	1 NC ⊖ + 1 NO	090845 NZ2HB-528	090846 NZ2HB-528L060	091281 NZ2HB-528L220	091301 NZ2HB-528L060GE
			528H	1 NC ⊖ + 1 NO	On request	On request	On request	091346 NZ2HB-528L060C1630
			538H	2 NC ⊖	090847 NZ2HB-538	090848 NZ2HB-538L060	On request	On request
			511 ¹⁾	1 NC ⊖ + 1 NO	On request	On request	On request	054122 ¹⁾ NZ2HB-511L060C1631
		2 Plug connector SR6 angled	528H	1 NC ⊖ + 1 NO	On request	On request	On request	091347 NZ2HB-528L060C1631
			2 Plug connector SR11	2131H	3 NC ⊖ + 1 NO	090136 NZ2HB-2131	-	-
		3131H		2 NC ⊖ + 2 NO	090137 NZ2HB-3131	-	-	-

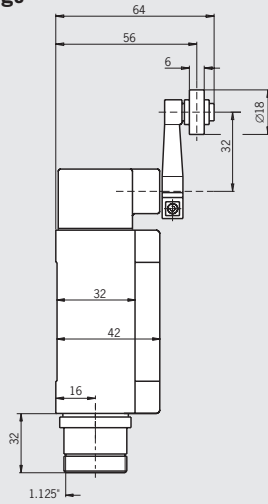
1) No BG approval for switching element 511



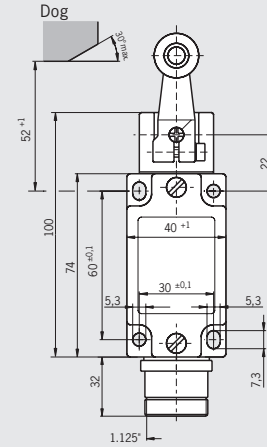
Plug connector MR9 8-pin + PE

Plug connector MR10 9-pin + PE

Dimension drawings

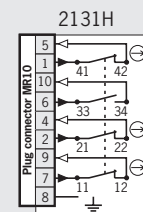
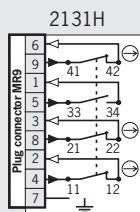


For mating connectors see page 131



For mating connectors see page 131

Wiring diagrams Switch not actuated



Ordering table

Series	Actuator	Connection	Switching element	Function display			
				Without LED	12-60 V red LED	230 V red LED	12-60 V yellow LED
NZ	HB Lever arm	1...9C Plug connector MR9	2131H 3 NC \ominus + 1 NO	077390 NZ1HB-2131-9C-GMMF	-	-	-
		1...10C Plug connector MR10	2131H 3 NC \ominus + 1 NO	095898 NZ1HB-2131-10C-FW	-	-	-

For safety precautions see page 196
For technical data see page 163



Position switch NZ.PS with adjustable lever arm



- ▶ Steel roller $\varnothing 18$
- ▶ LED optional
- ▶ Plug connector optional



Approach direction



Horizontal
Switch head and lever arm can be adjusted in 90° steps.

Switching direction

Right, left or both sides (see page 9).

Lever arm adjustment

Lever arm length can be adjusted from 28 mm to 78 mm in steps of 12.5 mm.

LED function display (optional)

A function display is available for the following voltage ranges:

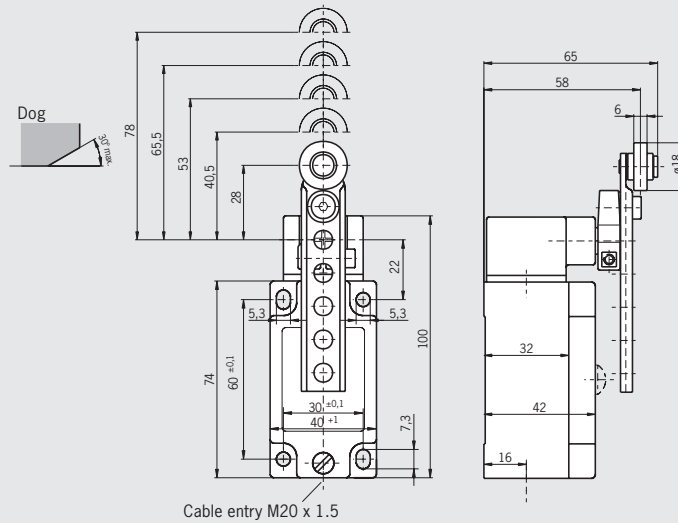
- ▶ AC/DC 12-60 V red or yellow
- ▶ AC 230 V $\pm 15\%$ red

Switching elements (see also page 13/14)

- ▶ **511** Snap-action switching element
1 NC \ominus + 1 NO
- ▶ **528H** Slow-action switching element
1 NC \ominus + 1 NO
- ▶ **538H** Slow-action switching element
2 NC \ominus
- ▶ **2121H** Slow-action switching element
4 NC \ominus
- ▶ **2131H** Slow-action switching element
3 NC \ominus + 1 NO
- ▶ **3131H** Slow-action switching element
2 NC \ominus + 2 NO

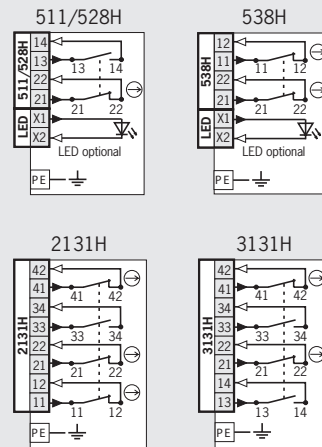
Cable entry M20 x 1.5

Dimension drawings



For cable glands see page 132

Wiring diagrams Switch not actuated



Ordering table

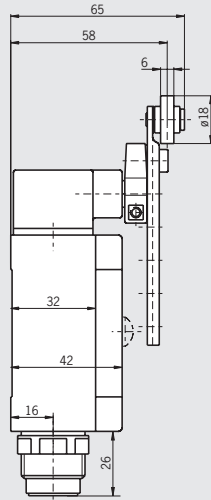
Series	Actuator	Connection	Switching element	Function display			
				Without LED	12-60 V red LED	230 V red LED	230 V yellow LED
NZ	PS Adjustable lever arm	1 Cable entry M20 x 1.5	511 ¹⁾ 1 NC \ominus + 1 NO	088613 ¹⁾ NZ1PS-511-M	On request	On request	On request
			528H 1 NC \ominus + 1 NO	090874 NZ1PS-528-M	090430 NZ1PS-528L060-M	093521 NZ1PS-528L220-M	093523 NZ1PS-528L220GE-M
			538H 2 NC \ominus	090875 NZ1PS-538-M	On request	On request	On request
			2131H 3 NC \ominus + 1 NO	090876 NZ1PS-2131-M	-	-	-
			3131H 2 NC \ominus + 2 NO	090877 NZ1PS-3131-M	-	-	-

1) No BG approval for switching element 511



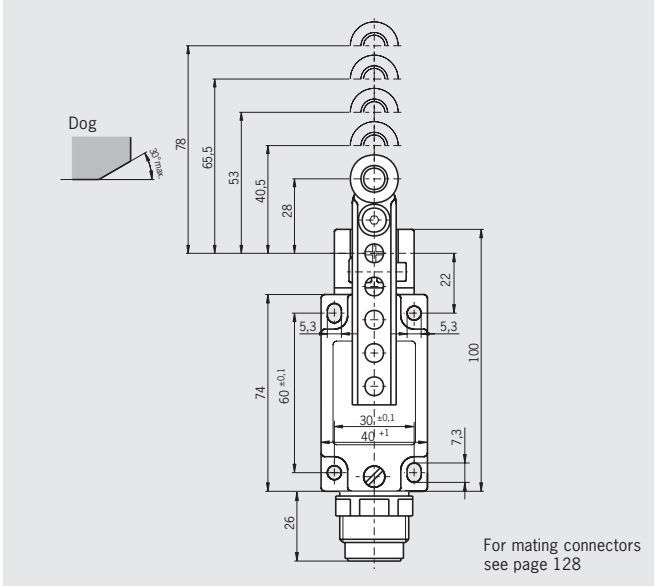
Plug connector SR6 6-pin + PE

Dimension drawings



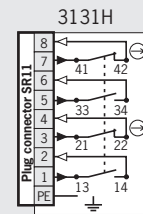
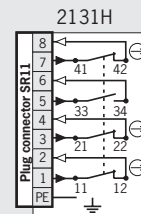
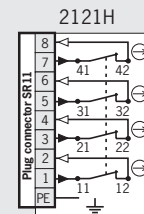
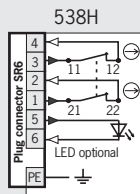
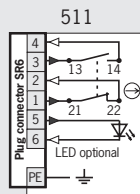
For mating connectors see page 128

Plug connector SR11 11-pin + PE



For mating connectors see page 128

Wiring diagrams Switch not actuated



Ordering table

Series	Actuator	Connection	Switching element	Function display	
				Without LED	12-60 V red LED
NZ	PS Adjustable lever arm steel roller	2 Plug connector SR6	511 ¹⁾ 1 NC ⊖ + 1 NO	093112 ¹⁾ NZ2PS-511	090152 ¹⁾ NZ2PS-511L060
			538H 2 NC ⊖	On request	091632 NZ2PS-538L060
		2 Plug connector SR11	2121H 4 NC ⊖	091268 NZ2PS-2121	-
			2131H 3 NC ⊖ + 1 NO	090151 NZ2PS-2131	-
			3131H 2 NC ⊖ + 2 NO	090150 NZ2PS-3131	-

1) No BG approval for switching element 511

For safety precautions see page 196
For technical data see page 163



Position switch NZ.PB with adjustable lever arm



▶ Plastic roller $\varnothing 18$



Approach direction



Horizontal
Switch head and lever arm can be adjusted in 90° steps.

Switching direction

Right, left or both sides (see page 9).

Lever arm adjustment

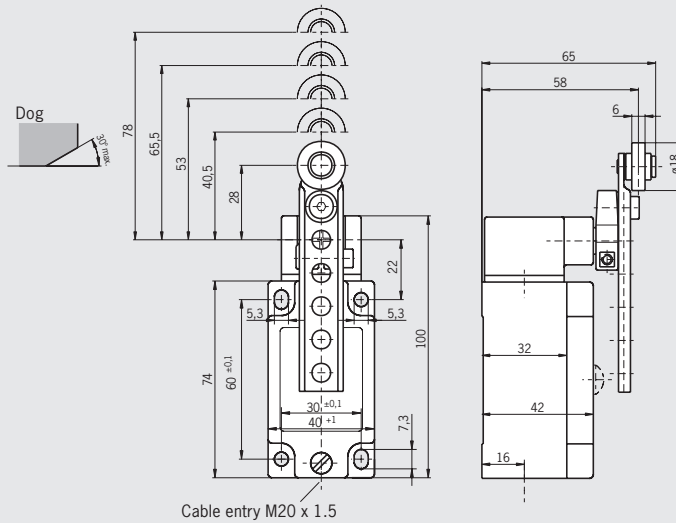
Lever arm length can be adjusted from 28 mm to 78 mm in steps of 12.5 mm.

Switching elements (see also page 13/14)

- ▶ **511** Snap-action switching element
1 NC \ominus + 1 NO
- ▶ **528H** Slow-action switching element
1 NC \ominus + 1 NO
- ▶ **538H** Slow-action switching element
2 NC \ominus
- ▶ **2131H** Slow-action switching element
3 NC \ominus + 1 NO
- ▶ **3131H** Slow-action switching element
2 NC \ominus + 2 NO

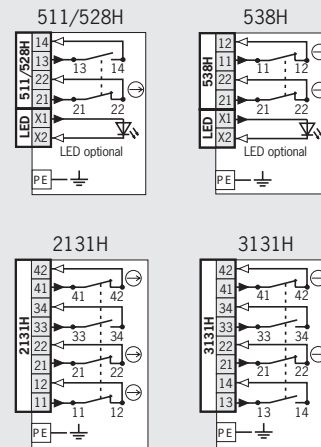
Cable entry M20 x 1.5

Dimension drawings



For cable glands see page 132

Wiring diagrams Switch not actuated



Ordering table

Series	Actuator	Connection	Switching element	Function display	
				Without LED	
NZ	PB Adjustable lever arm	1 Cable entry M20 x 1.5	511 ¹⁾ 1 NC \ominus + 1 NO	088618 ¹⁾ NZ1PB-511-M	
			528H 1 NC \ominus + 1 NO	090870 NZ1PB-528-M	
			538H 2 NC \ominus	090871 NZ1PB-538-M	
			2131H 3 NC \ominus + 1 NO	090872 NZ1PB-2131-M	
			3131H 2 NC \ominus + 2 NO	090873 NZ1PB-3131-M	

1) No BG approval for switching element 511

Position switch NZ.HB.C569 with roller lever arm



- ▶ Large plastic roller \varnothing 30 mm
- ▶ LED optional



Approach direction



Horizontal
Switch head and lever arm can be adjusted in 90° steps.

Switching direction

Right, left or both sides (see page 9).

LED function display (optional)

A function display is available for the following voltage ranges:

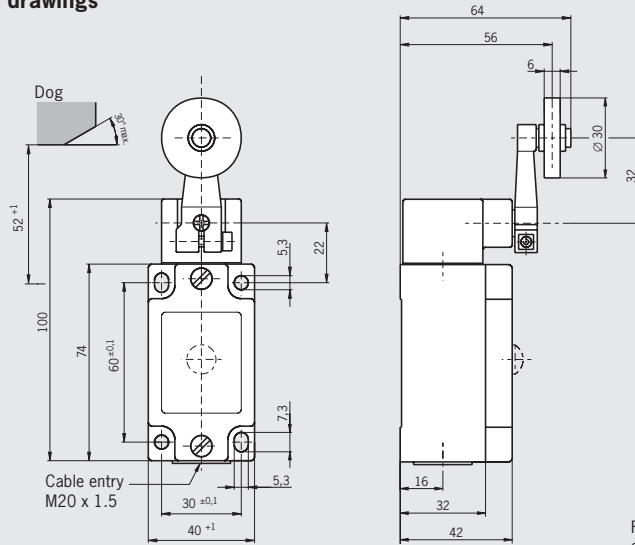
- ▶ AC/DC 12-60 V red

Switching elements (see also page 13)

- ▶ **511** Snap-action switching element
1 NC \ominus + 1 NO
- ▶ **528H** Slow-action switching element
1 NC \ominus + 1 NO
- ▶ **538H** Slow-action switching element
2 NC \ominus

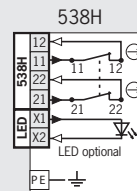
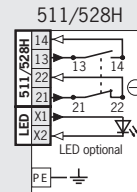
Cable entry M20 x 1.5

Dimension drawings



For cable glands see page 132

Wiring diagrams Switch not actuated



Ordering table

Series	Actuator	Connection	Switching element	Version	Function display	
					Without LED	12-60 V red LED
NZ	HB Lever arm	1 Cable entry M20 x 1.5	511 ¹⁾ 1 NC \ominus + 1 NO	C569 Large plastic roller \varnothing 30 mm	079965 ¹⁾ NZ1HB-511-MC569	091091 ¹⁾ NZ1HB-511L060-MC569
			528H 1 NC \ominus + 1 NO	C569 Large plastic roller \varnothing 30 mm	079946 NZ1HB-528-MC569	091330 NZ1HB-528L060-MC569
			538H 2 NC \ominus	C569 Large plastic roller \varnothing 30 mm	079999 NZ1HB-538-MC569	On request

1) No BG approval for switching element 511

Position switch NZ.HS.C1779 with roller lever arm



- ▶ Steel roller \varnothing 18 mm
- ▶ Roller mounted on inside of lever



Approach direction



Horizontal
Switch head and lever arm can be adjusted in 90° steps.

Switching direction

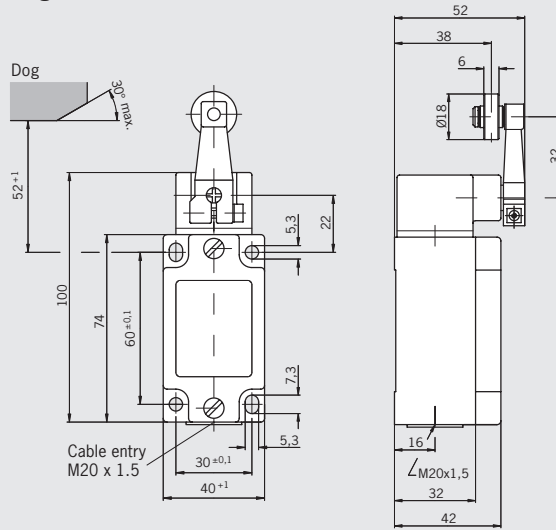
Right, left or both sides (see page 9).

Switching elements (see also page 14)

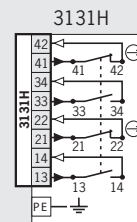
- ▶ **3131H** Slow-action switching element
2 NC \ominus + 2 NO

Cable entry M20 x 1.5

Dimension drawings



Wiring diagrams Switch not actuated



Ordering table

Series	Actuator	Connection	Switching element	Version	Function display
					Without LED
NZ	HS Lever arm	1 Cable entry M20 x 1.5	3131H 2 NC \ominus + 2 NO	C1779 Roller mounted on inside of lever	079996 NZ1HS-3131-MC1779

Position switch NZ.HS.C1883 with roller lever arm



- ▶ Steel roller \varnothing 19 mm
- ▶ With ball bearing
- ▶ LED on request



Approach direction



Horizontal
Switch head and lever arm can be adjusted in 90° steps.

Switching direction

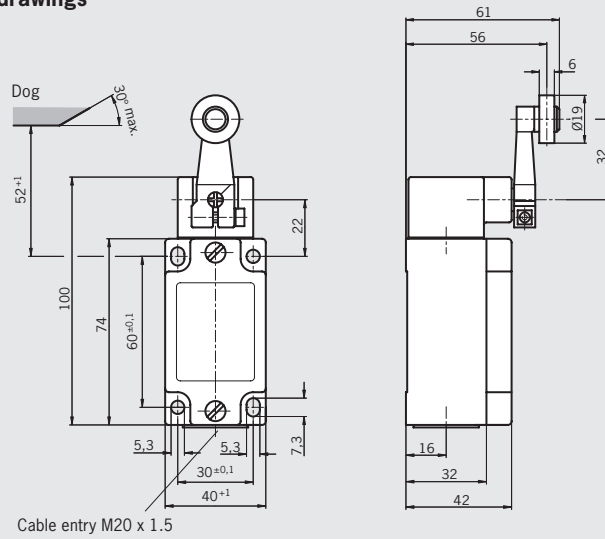
Right, left or both sides (see page 9).

Switching elements (see also page 13)

- ▶ **511** Snap-action switching element
1 NC \ominus + 1 NO

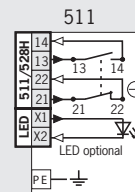
Cable entry M20 x 1.5

Dimension drawings



For cable glands see page 132

Wiring diagrams Switch not actuated



Ordering table

Series	Actuator	Connection	Switching element	Version	Function display
					Without LED
NZ	HS Lever arm	1 Cable entry M20 x 1.5	511 1 NC \ominus + 1 NO	C1833 With ball bearing	091312 NZ1HS-511-MC1833

Position switch NZ...

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



Reliability values acc. to EN ISO 13849-1

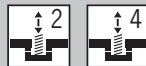
Parameter	Value	Unit
B _{10d}	2 x 10 ⁷ operating cycles	

Switch



Parameter	Value							Unit
Housing material	Anodized die-cast alloy							
Mechanical life	30 x 10 ⁶ operating cycles							
Ambient temperature	- 25 ... + 80							°C
Weight	Approx. 0.3							kg
Approach speed, min.	0.1							m/min
Approach speed max. ¹⁾ depending on actuator	HB	HS	PB	PS	RG, RL, RS	RK	WO	
	300	60	120	30	20	50	10	m/min
Actuating force, min.	15							N

Switching element




Parameter	Value			Unit
Switching principle	Snap-action switching element	Slow-action switching element		
Switching elements with 2 switching elements	511 1 NC + 1 NO	528H 1 NC + 1 NO	538H 2 NC	
Switching elements with 4 switching elements	-	2121H 4 NC	2131H 3 NC + 1 NO 3131H 2 NC + 2 NO	
Min. switching current at 24 V DC	10	1		mA
Switching current max.	6	4		A
Contact closing time	< 4	-		ms
Contact bounce time	< 3	-		ms
Rated impulse withstand voltage U _{imp}	2.5			kV
Contact material	Silver alloy, gold flashed			


Connection, cable entry M20 x 1.5





Parameter	Value		Unit
Connection	Screw terminal		
Version	M20 x 1.5		
Conductor cross-section max.	Per wire 1.5 mm ²		
Degree of protection according to IEC 60529	IP 67		
Rated insulation voltage U _i	250		V AC/DC
Switching element	Snap-action switching element	Slow-action switching element	
	511	528H, 538H, 2121H, 2131H, 3131H	
Conventional thermal current I _{th}	6	4	A
Short circuit protection according to IEC 60269-1 (control circuit fuse)	6	4	A gG
Utilization category to IEC 60947-5-1	AC-12 AC-15 DC-13	I _e 10 A U _e 230 V I _e 6 A U _e 230 V I _e 6 A U _e 24 V	- I _e 4 A U _e 230 V I _e 4 A U _e 24 V


1) The approach speed given applies in conjunction with EUCHNER trip dogs at an approach angle of 30°. At a smaller approach angle this approach speed can be exceeded.

Connection, plug connector SVM 5 (M12)			
Parameter		Value	Unit
Connection		Plug connector	
Version		M12 (4-pin + PE), male socket adjustable (max. 270°) for elbow connector	
Degree of protection according to IEC 60529		IP 67 ²⁾	
Rated insulation voltage U _i		30	V AC/DC
Switching element		Snap-action switching element 511 , Slow-action switching element 528H, 538H	
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 30 V	
	DC-13	I _e 4 A U _e 24 V	

Connection, plug connector SR6			
Parameter		Value	Unit
Connection		Plug connector according to DIN 43651	
Version		SR6 (6-pin + PE)	
Degree of protection according to IEC 60529		IP 65 ²⁾	
Rated insulation voltage U _i		250	V AC/DC
Switching element		Snap-action switching element 511 Slow-action switching element 528H, 538H	
Conventional thermal current I _{th}		6	A
Short circuit protection according to IEC 60269-1 (control circuit fuse)		6	A gG
Utilization category to IEC 60947-5-1	AC-15	I _e 6 A U _e 230 V	
	DC-13	I _e 6 A U _e 24 V	

Connection, plug connector MR8			
Parameter		Value	Unit
Connection		Plug connector	
Version		MR8 (7-pin + PE)	
Degree of protection according to IEC 60529		IP 65 ²⁾	
Rated insulation voltage U _i		250	V AC/DC
Switching element		Slow-action switching element 3131H	
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	

Connection, plug connector MR9			
Parameter		Value	Unit
Connection		Plug connector	
Version		MR9 (8-pin + PE)	
Degree of protection according to IEC 60529		IP 65 ²⁾	
Rated insulation voltage U _i		250	V AC/DC
Switching element		Slow-action switching element 2131H, 3131H	
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	

Connection, plug connector MR10			
Parameter		Value	Unit
Connection		Plug connector	
Version		MR10 (9-pin + PE)	
Degree of protection according to IEC 60529		IP 65 ²⁾	
Rated insulation voltage U _i		250	V AC/DC
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	

2) Screwed tight with the related plug connector (see page 128 and 131)

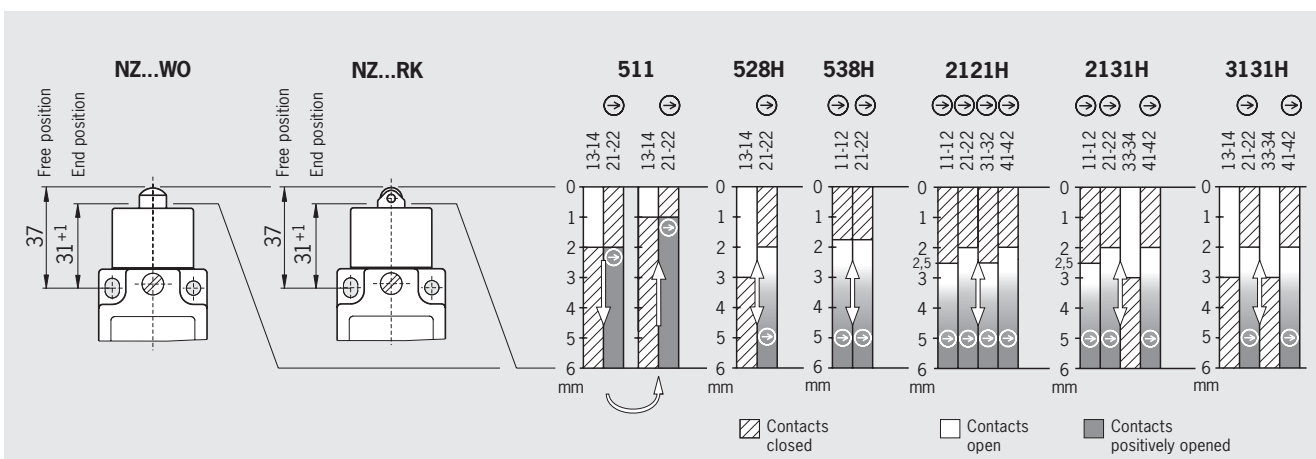
Connection, plug connector SR11



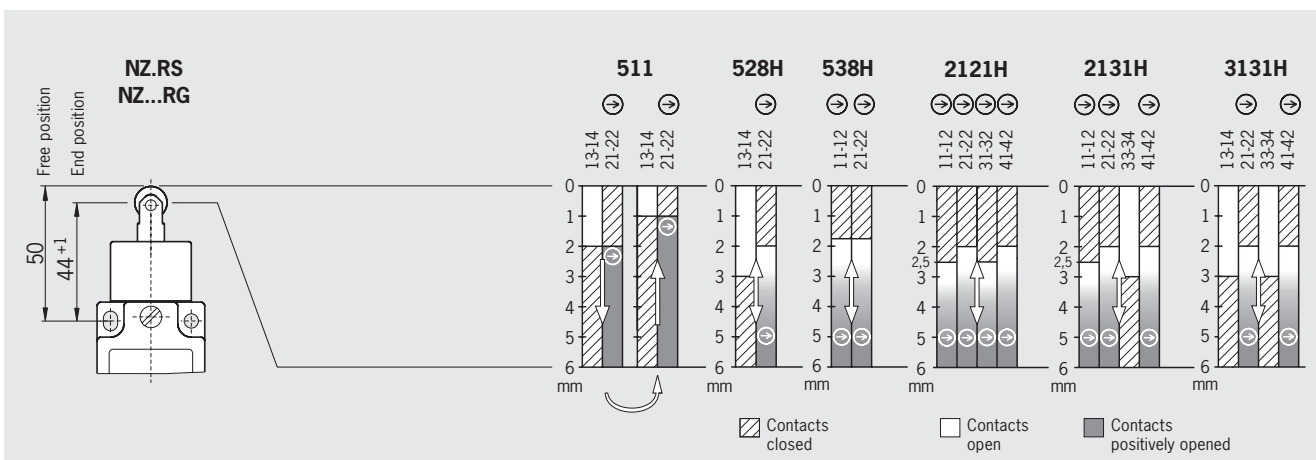
Parameter		Value	Unit
Connection		Plug connector	
Version		SR11 (11-pin + PE)	
Degree of protection according to IEC 60529		IP 65 ²⁾	
Rated insulation voltage U _i		50	V AC/DC
Switching element		Slow-action switching element 2121H, 2131H, 3131H	
Conventional thermal current I _{th}		4	A
Short circuit 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 50 V	
	DC13	I _e 4 A U _e 24 V	

2) Screwed tight with the related plug connector (see page 128)

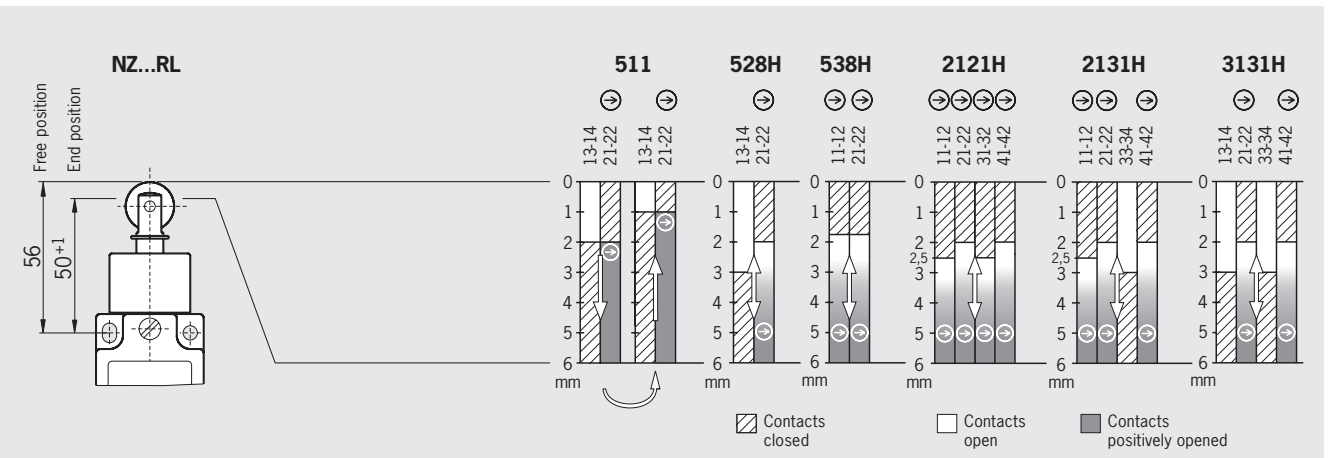
Travel diagram NZ.WO/NZ.RK



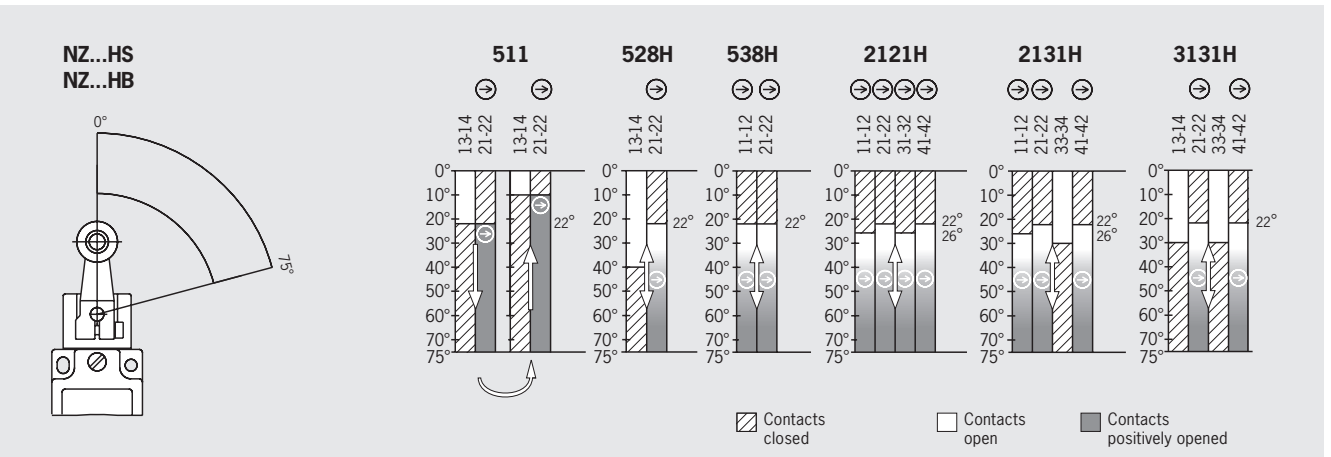
Travel diagram NZ.RS/NZ.RG



Travel diagram
NZ.RL



Travel diagram
NZ.HS/NZ.HB



Travel diagram
NZ.PS/NZ.PB

