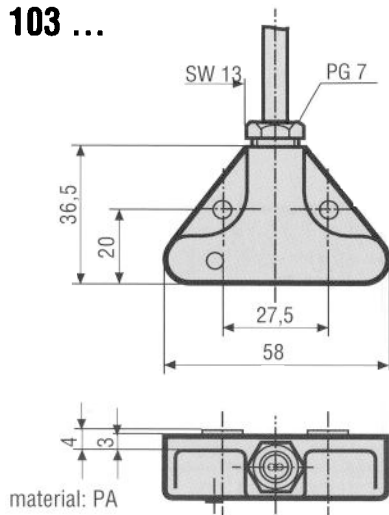


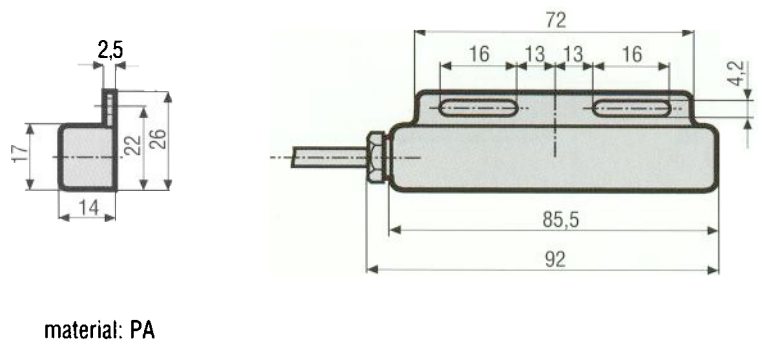
**BIBUS**

Videňská 125 Tel.: +420-547 125 300  
CZ - 639 27 Brno Fax: +420-547 125 310

**103 ...**

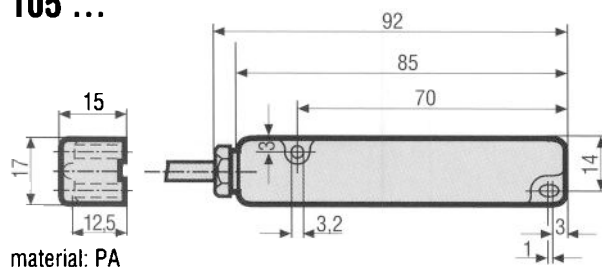


**104 ...**

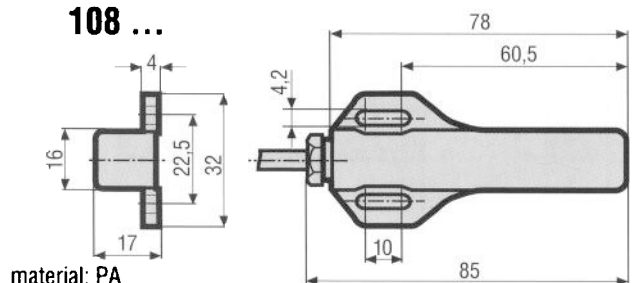


type no.	max. switching voltage (V)	max. switching current (A)	max. switching power (W/VA)	protection class IEC 529	temperature range (°C)	contact* form
103 810	250	3,0	100/100	IP 67	-25...+75	A
103 820	250	3,0	100/100	IP 67	-25...+75	B
103 830	250	1,0	60/80	IP 67	-25...+75	C
103 310	250	1,0	20/30	IP 67	-25...+75	A
103 320	250	1,0	20/30	IP 67	-25...+75	B
104 410	250	3,0	100/100	IP 67	-25...+75	A
104 420	250	3,0	100/100	IP 67	-25...+75	B
104 430	230	0,8	40/60	IP 67	-25...+75	C
104 440	250	1,3	60/80	IP 67	-25...+75	A/B-bi
104 450	230	0,8	40/60	IP 67	-25...+75	C-bi

**105 ...**



**108 ...**

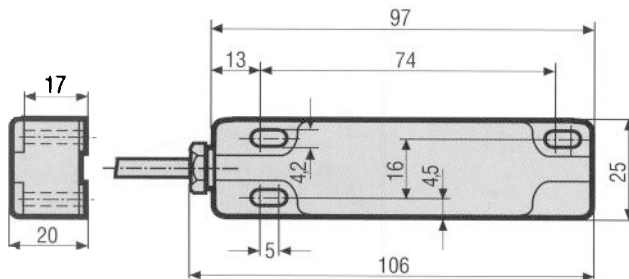


type no.	max. switching voltage (V)	max. switching current (A)	max. switching power (W/VA)	protection class IEC 529	temperature range (°C)	contact* form
105 410	250	3,0	100/100	IP 67	-25...+75	A
105 420	250	3,0	100/100	IP 67	-25...+75	B
105 430	230	0,8	40/60	IP 67	-25...+75	C
105 440	250	1,3	60/80	IP 67	-25...+75	A/B-bi
105 450	230	0,8	40/60	IP 67	-25...+75	C-bi
108 410	250	3,0	100/100	IP 67	-25...+75	A
108 420	250	3,0	100/100	IP 67	-25...+75	B
108 430	230	0,8	40/60	IP 67	-25...+75	C
108 440	250	1,3	60/80	IP 67	-25...+75	A/B-bi
108 450	230	0,8	40/60	IP 67	-25...+75	C-bi

We reserve the right to change specifications without notice.

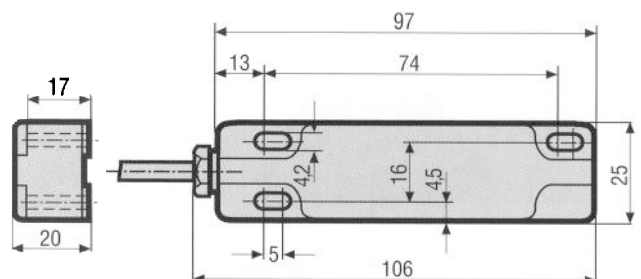
\*A = N/O, B = N/C, C = C/O, A/B-bi = bistable N/O / N/C, C-bi = bistable C/O

**110 ...**



material: zinc diecast

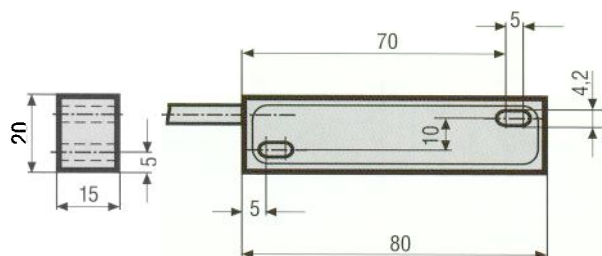
**112 ...**



material: zinc diecast

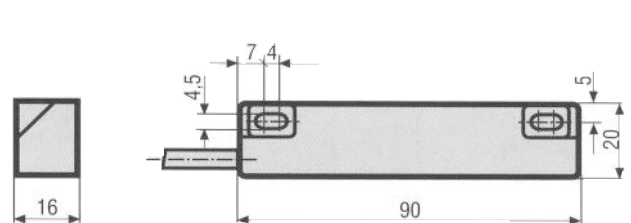
type no.	max. switching voltage (V)	max. switching current (A)	max. switching power (W/VA)	protection class IEC 529	temperature range (°C)	contact* form
110 410	250	3,0	100/100	IP 67	-25...+75	A
110 420	250	3,0	100/100	IP 67	-25...+75	B
110 430	230	0,8	40/60	IP 67	-25...+75	C
110 440	250	1,3	60/80	IP 67	-25...+75	A/B-bi
110 450	230	0,8	40/60	IP 67	-25...+75	C-bi
112 410	250	3,0	100/100	IP 67	-55...+150	A
112 420	250	3,0	100/100	IP 67	-55...+150	B
112 430	230	0,8	40/60	IP 67	-55...+150	C
112 440	250	1,3	60/80	IP 67	-55...+150	A/B-bi
112 450	230	0,8	40/60	IP 67	-55...+150	C-bi

**113 ...**



material: zinc diecast/PBT

**115 ...**



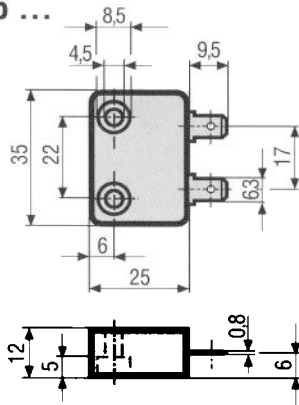
material: PBT

type no.	max. switching voltage (V)	max. switching current (A)	max. switching power (W/VA)	protection class IEC 529	temperature range (°C)	contact* form
113 410	250	3,0	100/100	IP 67	-25...+75	A
113 420	250	3,0	100/100	IP 67	-25...+75	B
113 430	230	0,8	40/60	IP 67	-25...+75	C
113 440	250	1,3	60/80	IP 67	-25...+75	A/B-bi
113 450	230	0,8	40/60	IP 67	-25...+75	C-bi
115 410	250	3,0	100/100	IP 67	-25...+75	A
115 420	250	3,0	100/100	IP 67	-25...+75	B
115 430	230	0,8	40/60	IP 67	-25...+75	C

We reserve the right to change specifications without notice.

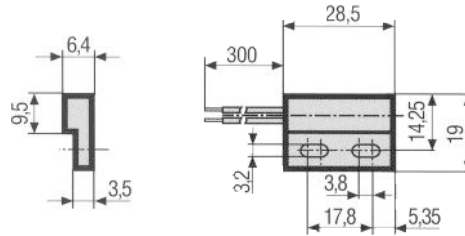
\*A = N/O, B = N/C, C = C/O, A/B-bi = bistable N/O / N/C, C-bi = bistable C/O

**135 ...**



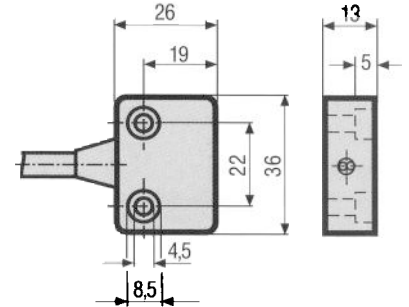
material: PA

**151 SG 0.0**



material: PA

**153 ...**

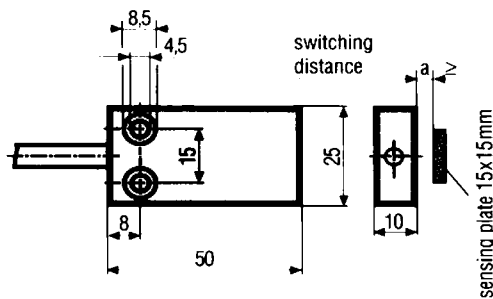


material: PA

type no.	max. switching voltage (V)	max. switching current (A)	max. switching power (W/VA)	protection class IEC 529	temperature range (°C)	contact* form
135 310	250	1,5	20/30	IP 67	-25...+75	A
135 320	250	1,5	20/30	IP 67	-25...+75	B
151 SG 010	48	0,5	10/10	IP 67	-25...+75	A
151 SG 020	48	0,3	3/3	IP 67	-25...+75	B
153 210	48	0,5	10/10	IP 67	-25...+75	A
153 220	48	0,5	10/10	IP 67	-25...+75	B
153 230	48	1,0	20/20	IP 67	-25...+75	C
153 310	250	1,5	20/30	IP 67	-25...+75	A
153 320	250	1,5	20/30	IP 67	-25...+75	B

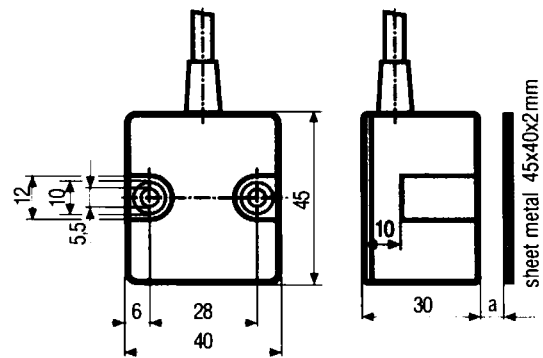
**Steel Sensing Proximity Switches**

**114 010**



material: PA

**161 010**



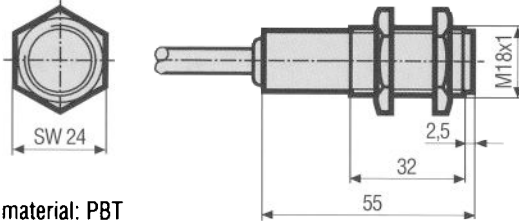
material: PA

type no.	max. switching voltage (V)	max. switching current (A)	max. switching power (W/VA)	protection class IEC 529	switching distance	temperature range (°C)	contact* form
114 010	48 AC/DC	0,5	10/10	IP 67	≤ 4mm with sheet 15x15x2mm	-25...+75	A
161 010	48 AC/DC	0,5	10/10	IP 67	≤ 10mm with sheet 45x40x2mm	-25...+75	A

We reserve the right to change specifications without notice.

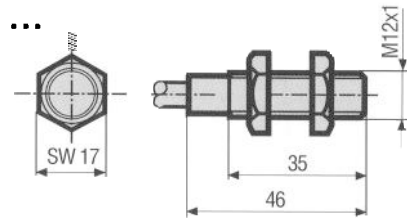
\*A = N/O, B = N/C, C = C/O, A/B-bi = bistable N/O / N/C, C-bi = bistable C/O

## 120 ...



material: PBT

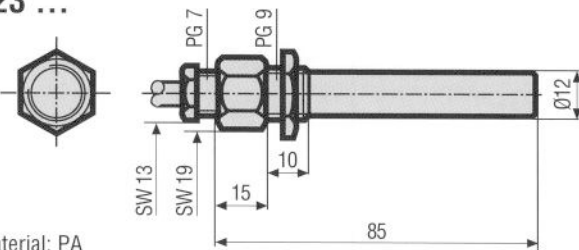
## 122 ...



material: PA

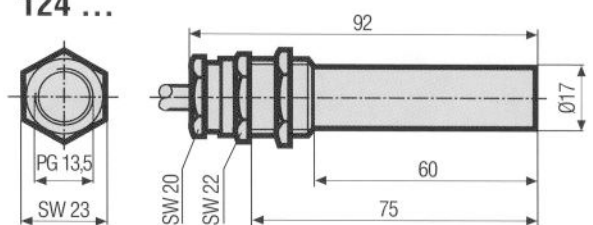
type no.	max. switching voltage (V)	max. switching voltage (A)	max. switching power (W/VA)	protection class IEC 529	temperature range (°C)	contact* form
120 310	250	1,0	20/30	IP 67	-25...+75	A
120 320	250	1,0	20/30	IP 67	-25...+75	B
120 230	48	0,3	3/3	IP 67	-25...+75	C
122 310	250	1,0	20/30	IP 67	-25...+75	A
122 320	250	1,0	20/30	IP 67	-25...+75	B
122 230	48	0,3	3/3	IP 67	-25...+75	C

## 123 ...



material: PA

## 124 ...

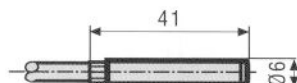


material: PA/brass nickel-plated

type no.	max. switching voltage (V)	max. switching voltage (A)	max. switching power (W/VA)	protection class IEC 529	temperature range (°C)	contact* form
123 010	250	3,0	100/100	IP 67	-25...+75	A
123 020	250	1,0	60/60	IP 67	-25...+75	B
123 030	230	0,8	40/60	IP 67	-25...+75	C
123 040	250	1,3	60/80	IP 67	-25...+75	A/B-bi
124 410	250	3,0	100/100	IP 67	-25...+75	A
124 420	250	3,0	100/100	IP 67	-25...+75	B
124 430	230	0,8	40/60	IP 67	-25...+75	C
124 440	250	1,3	60/80	IP 67	-25...+75	A/B-bi
124 450	230	0,8	40/60	IP 67	-25...+75	C-bi

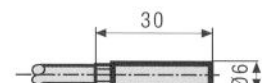
## 125 ...

material: brass



## 126 ...

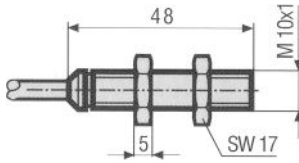
material: PA



type no.	max. switching voltage (V)	max. switching voltage (A)	max. switching power (W/VA)	protection class IEC 529	temperature range (°C)	contact* form
125 210	48	0,5	10/10	IP 67	-25...+75	A
125 220	48	0,5	10/10	IP 67	-25...+75	B
125 230	48	0,3	3/3	IP 67	-25...+75	C
125 310	250**	1,0	20/30	IP 67	-25...+75	A
126 210	48	0,5	10/10	IP 67	-25...+75	A

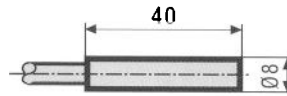
\*\* To fulfill the VDE standard, the switches must be connected to earth if the switching voltage is higher than 48 V.

## 128 ...



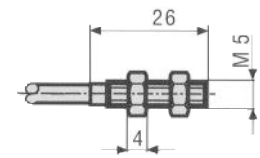
material: brass

## 129 ...



material: PA 6

## 133 ...

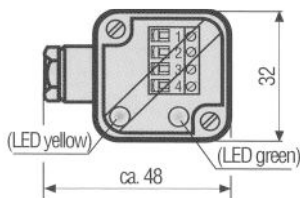


material: brass

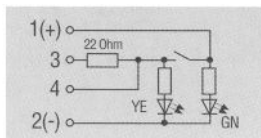
type no.	max. switching voltage (V)	max. switching current (A)	max. switching power (W/VA)	protection class IEC 529	temperature range (°C)	contact* form
128 210	48	0,5	10/10	IP 67	-25...+75	A
128 310	250**	1,0	20/30	IP 67	-25...+75	A
129 310	250	1,0	20/30	IP 67	-25...+75	A
133 210	48	0,5	10/10	IP 67	-25...+75	A

\*\* To fulfill the VDE standard, the switches must be connected to earth if the switching voltage is higher than 48 V.

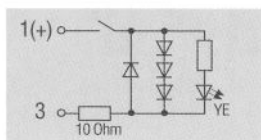
## Cylindrical Proximity Switch with elobau - Connection Box



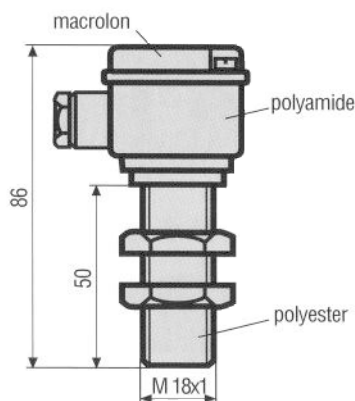
### 12. 216 AU



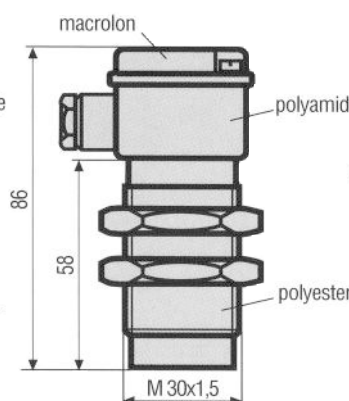
### 12. 217 AU



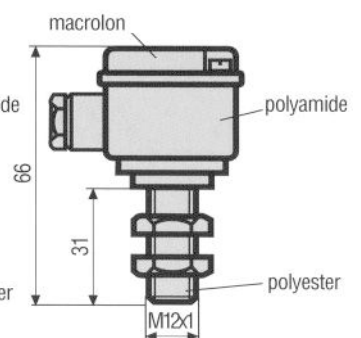
## 120 ... A.



## 121 ... A.



## 122 ... A.

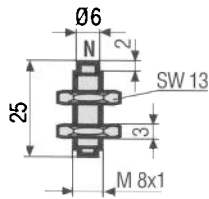


type no.	max. switching voltage(V)	max. switching current (A)	max. switching power(W/VA)	max. rated current (mA)	protection class (IEC 529)	temperature range (°C)	contact* form	series resistor (Ω)	remarks
12. 210 AT	48	0,5	10/10		IP 66	-25...+75	A		
12. 220 AT	48	0,5	10/10		IP 66	-25...+75	B		
12. 230 AT	48	0,3	3/3		IP 66	-25...+75	C		
12. 310 AT	250	1,0	50/50		IP 66	-25...+75	A		
12. 211 AT	48	0,5	10/10	150	IP 66	-25...+75	A	22	
12. 217 AU	150	0,5	10/10	200	IP 66	-25...+75	A	10	1)
12. 216 AU	30	0,5	10/10	(150)	IP 66	-25...+75	A		2)

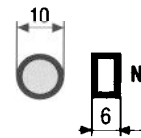
1) LED yellow: switching state 2 wire-technique

2) LED green: supply voltage  
LED yellow: switching state

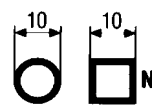
**300 003**



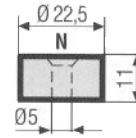
**300 006**



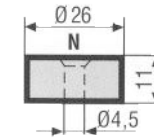
**300 010**



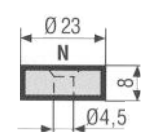
**300 770**



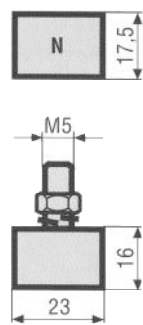
**300 780**



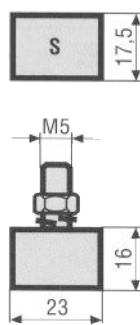
**300 790**



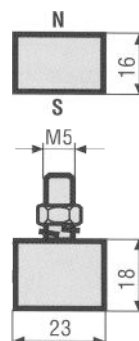
**301 510**



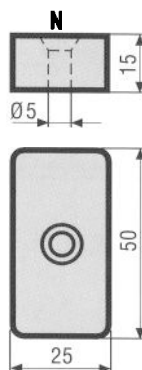
**301 520**



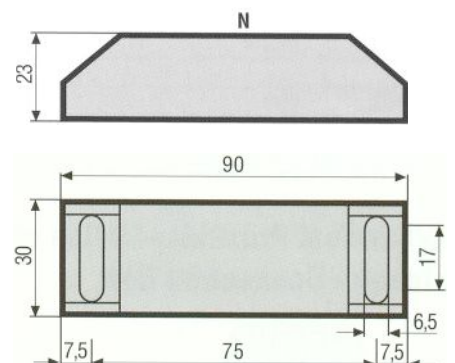
**301 600**



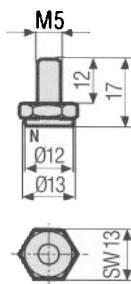
**301 650**



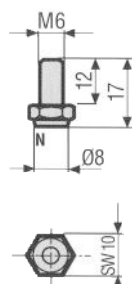
**304 650**



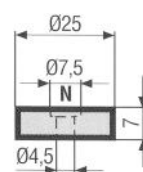
**324 100**



**324 102**



**324 790**

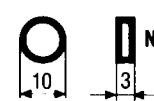


**Plastic Magnets\***

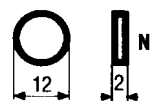
**320 008**



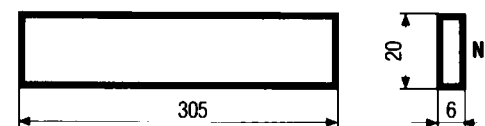
**320 010**



**320 012**

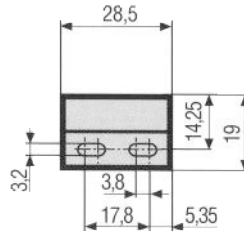


**321 030**



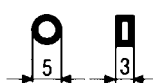
\*other lengths available on request

**324 SG 001**



**SEKO Magnets**

**340 001**



**340 003**



**340 004**



**340 005**



**magnetic and physical values**

energy product (BxH) max.	kJ/m <sup>3</sup>	145 - 175
	MGOe	18 - 22
B=0,41 x H = 320 kA/m		
remanence B. (mean values)	Tesla	0,85 - 0,93
	Gauß	8500 - 9300
coercive field strength	kA/m	660 - 700
B <sub>Hc</sub>	Oersted	8250 - 8750
	kA/m	> 1440
J <sub>Hc</sub>	Oersted	> 18000

curie temperature	725°C
reversible temperature	
coefficient of Br between 20 and 200°C, per °C	-0,04%
max. operating temp.	+200°C
specific resistance	0,6 Ohm x mm <sup>2</sup> /m
rockwell hardness	HR <sub>c</sub> 50
density	8,3 g/cm <sup>3</sup>

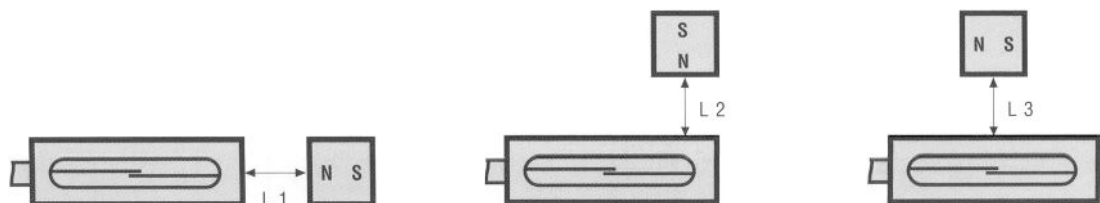
<b>magnet</b> dimensions material housing	300 003 M 8 x 25 ceramic yes	300 006 Ø 10 x 6 ceramic yes	300 010 Ø 10 x 10 ceramic yes	300 770 Ø 22,5 x 11 ceramic yes	300 780 Ø 26 x 11 ceramic yes	300 790 Ø 23 x 8 ceramic yes	301 510 23 x 18 x 16 ceramic yes
--	---------------------------------------	---------------------------------------	--	--	--	---------------------------------------	---

## switches

distances in mm

<b>proximity switches</b>	104 410	L1	---	---	---	9	11	---	12
		L2	---	---	---	11	15	6	15
		L3	---	---	---	10	13	---	14
	105 410	L1	---	---	---	---	4	---	8
		L2	---	---	---	8	10	2	14
		L3	---	---	---	5	10	---	12
	108 410	L1	---	---	---	4	8	---	8
		L2	---	---	---	8	10	4	13
		L3	---	---	---	7	10	---	13
	110 410	L1	---	---	---	---	---	---	---
		L2	---	---	---	7	10	3	12
		L3	---	---	---	5	9	---	11
	112 410	L1	---	---	---	---	---	---	2
		L2	---	---	---	10	12	4	14
		L3	---	---	---	5	10	---	12
	113 410	L1	---	---	---	---	5	---	6
		L2	---	---	---	10	11	6	16
		L3	---	---	---	9	10	---	13
115 410	L1	---	---	---	---	---	---	---	
	L2	---	---	---	10	15	---	17	
	L3	---	---	---	12	15	5	16	
153 210	L1	2	4	7	19	22	13	25	
	L2	---	---	---	5	11	5	15	
	L3	3	---	4	13	16	7	16	

<b>cylindrical proximity switches</b>	120 310	L1	---	---	2	12	15	8	9
		L2	---	---	7	15	18	11	19
		L3	---	---	7	17	19	10	13
	122 310	L1	---	---	---	17	21	12	22
		L2	---	---	---	14	17	11	24
		L3	---	---	---	16	20	12	19
	123 010	L1	---	---	---	10	14	5	14
		L2	---	4	6	18	21	13	20
		L3	6	2	7	18	20	11	18
	124 410	L1	---	---	---	10	12	5	14
		L2	---	---	---	14	18	9	18
		L3	---	---	---	13	17	7	17
	125 210	L1	2	6	9	20	22	13	23
	128 210	L2	7	10	11	19	21	14	22
	129 210	L3	13	9	12	22	23	16	23
	125 310	L1	---	2	7	14	17	10	19
		L2	5	6	9	16	17	12	21
		L3	10	6	10	17	20	13	20
	126 210	L1	7	13	12	23	27	17	28
		L2	7	10	11	19	20	15	18
		L3	12	9	13	22	25	16	24
	129 310	L1	---	3	8	17	20	13	21
		L2	6	8	9	17	17	12	20
		L3	11	7	10	18	20	12	20
	133 210	L1	7	6	11	22	24	15	26
		L2	8	10	13	18	18	15	21
		L3	12	11	13	22	24	17	24



We reserve the right to change specifications without notice.

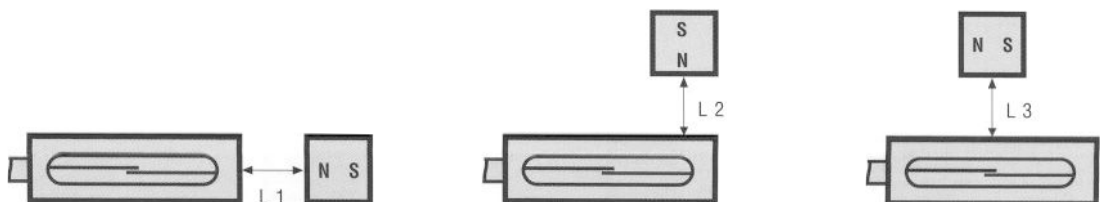
<b>magnet</b> dimensions material housing	301 650	304 650	324 100	324 102	324 790	340 001	340 003
	50 x 25 x 14 ceramic yes	90 x 30 x 23 ceramic yes	M5 fix. screw plastic yes	M6 fix. screw seko yes	Ø 25 x 7 plastic yes	Ø 5 x 3 seko no	Ø 7 x 3 seko no

## switches

distances in mm

<b>proximity switches</b>	104 410	L1	36	36	---	---	---	---	---
		L2	36	36	---	---	---	---	---
		L3	28	21	---	---	---	---	---
	105 410	L1	30	28	---	---	---	---	---
		L2	31	28	---	---	---	---	---
		L3	24	25	---	---	---	---	---
	108 410	L1	32	31	---	---	---	---	---
		L2	28	28	---	---	---	---	---
		L3	36	28	---	---	---	---	---
	110 410	L1	24	23	---	---	---	---	---
		L2	29	30	---	---	---	---	---
		L3	25	22	---	---	---	---	---
112 410	L1	25	23	---	---	---	---	---	
	L2	32	28	---	---	---	---	---	
	L3	24	23	---	---	---	---	---	
113 410	L1	30	28	---	---	---	---	---	
	L2	36	35	---	---	---	---	---	
	L3	27	25	---	---	---	---	---	
115 410	L1	23	20	---	---	---	---	---	
	L2	37	37	---	---	---	---	---	
	L3	31	30	---	---	---	---	---	
153 210	L1	52	52	---	---	11	---	---	
	L2	34	33	---	---	---	---	---	
	L3	28	27	---	---	4	---	---	

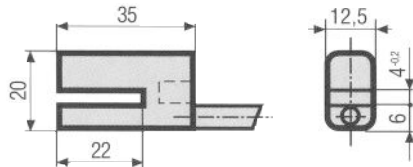
<b>cylindrical proximity switches</b>	120 310	L1	35	34	---	---	---	---	---
		L2	37	38	---	---	---	---	---
		L3	32	33	---	---	---	---	---
	122 310	L1	46	43	---	---	6	---	2
		L2	35	31	---	---	10	5	5
		L3	34	34	---	---	7	4	6
	123 410	L1	40	39	---	---	3	---	---
		L2	42	42	---	---	8	---	---
		L3	37	35	---	---	3	---	---
	124 410	L1	37	36	---	---	2	---	---
		L2	40	38	---	---	8	---	---
		L3	33	30	---	---	---	---	---
	125 210	L1	46	45	2	2	12	---	4
		L2	38	41	---	6	13	---	10
		L3	39	38	7	5	14	---	9
	125 310	L1	42	40	---	---	7	---	3
		L2	37	33	---	---	10	---	4
		L3	33	33	---	---	10	---	4
	126 210	L1	52	52	7	5	16	5	8
		L2	39	43	7	8	10	5	9
		L3	38	37	6	6	12	5	8
	129 310	L1	42	37	---	---	11	---	---
		L2	37	35	---	5	10	---	---
		L3	34	33	---	3	9	---	---
133 210	L1	51	48	4	7	14	4	6	
	L2	42	38	6	8	13	6	9	
	L3	37	37	7	6	13	6	8	



We reserve the right to change specifications without notice.

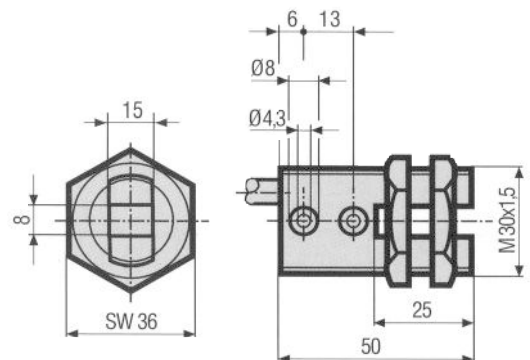


**140 ...**



material: PA

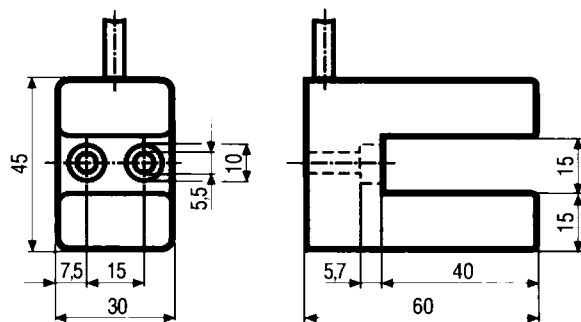
**140 5..**



material: PA

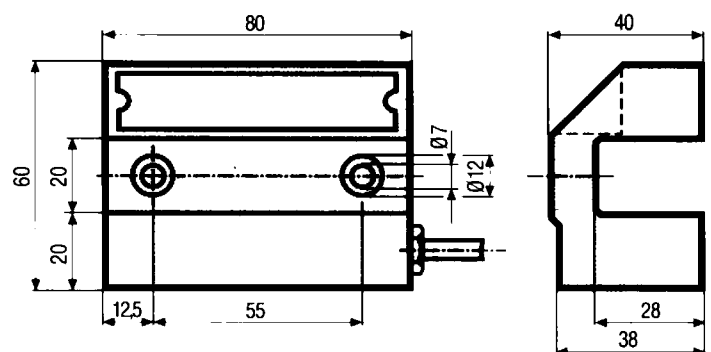
type no.	max. switching voltage (V)	max. switching current (A)	max. switching power (W/VA)	protection class IEC 529	temperature range (°C)	contact* form
140 320	250	0,8	20/20	IP 67	-25...+75	B
140 230	48	0,3	3/3	IP 67	-25...+75	C
140 510	48	0,5	10/10	IP 67	-25...+75	A
140 520	48	0,5	10/10	IP 67	-25...+75	B
140 530	48	0,5	10/10	IP 67	-25...+75	C

**140 9..**



material: PA

**142 4..**



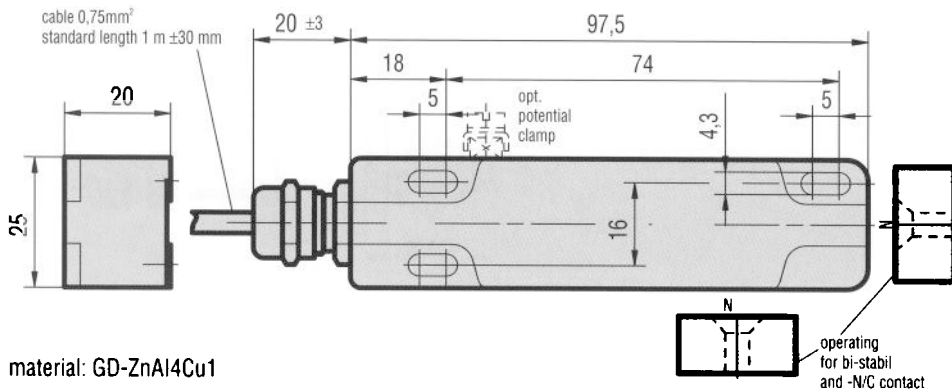
material: zinc diecast

type no.	max. switching voltage (V)	max. switching current (A)	max. switching power (W/VA)	protection class IEC 529	temperature range (°C)	contact* form
140 910	250	0,5	50/50	IP 67	-25...+75	A
140 920	250	0,5	50/50	IP 67	-25...+75	B
140 930	48	1,0	20/20	IP 67	-25...+75	C
142 410	250	3,0	100/100	IP 67	-25...+75	A
142 420	250	3,0	100/100	IP 67	-25...+75	B
142 430	230	0,8	40/60	IP 67	-25...+75	C

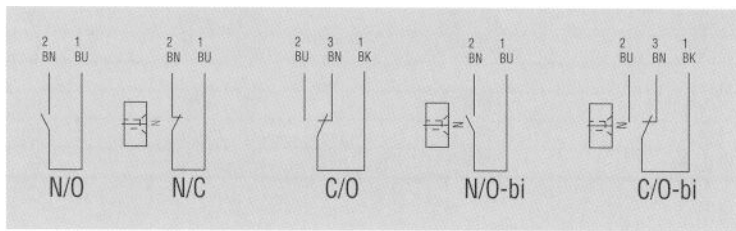
We reserve the right to change specifications without notice.

\*A = N/O, B = N/C, C = C/O, A/B-bi = bistable N/O / N/C

## 610 0...0 Proximity Switch approved to 94/9 EG (ATEX)\*



material: GD-ZnAl4Cu1



type no.	DC (V/A/W)	AC (V/A/VA)	protection class IEC 529	temperature range (°C) T5	temperature range (°C) T6	contact form
610 010 ..0	250/3/100	250/3/100	IP 67	-25...+85	-25...+70	A
610 020 ..0	250/3/100	250/3/100	IP 67	-25...+85	-25...+70	B *
610 030 ..0	230/1/60	230/1/60	IP 67	-25...+85	-25...+70	C *
610 040 ..0	250/1/60	250/1/60	IP 67	-25...+85	-25...+70	A/B bi
610 045 ..0	230/0,6/45	230/0,6/45	IP 67	-25...+85	-25...+70	C bi

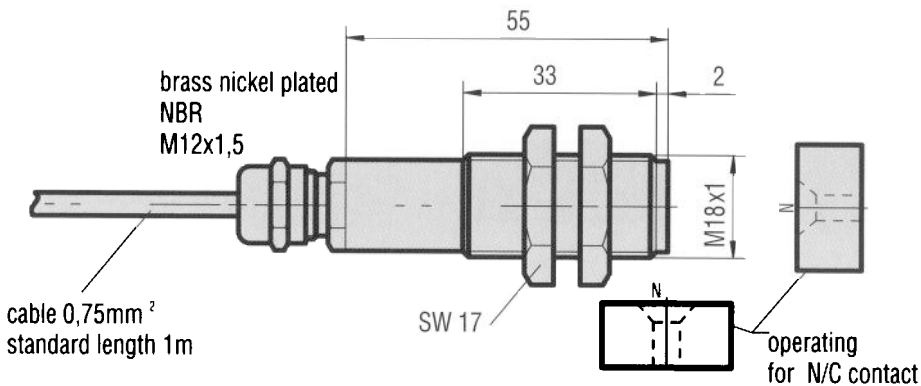
cable	1 = PVC 0,75mm <sup>2</sup>	-5°C...+105°C	(-40°C...+105°C)
	2 = silicone 0,75mm <sup>2</sup>	-25°C...+180°C	
Ex-version	M = encapsulation (m)		
	N = encapsulation with potential clamp		
	I = intrinsically safe (ia)		
	K = intrinsically safe with potential clamp		

can be installed in zone:  
zone 0 / cat. 1 (ia)  
zone 1 / cat. 2 (m)  
zone 21/cat. 2 (m)

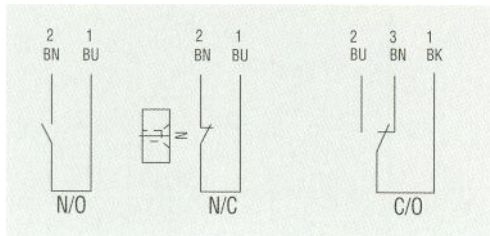


\* explosion protection types:  
γ<sub>u</sub> II 1 G EEx ia IIC T6/T5  
γ<sub>u</sub> II 2 G EEx m II T6/T5  
γ<sub>u</sub> II 2 D IP671T 100°C

## 620 0.0 ..0 Cylindrical Proximity Switch approved to 94/4 EG (ATEX)\*



material: PA 66



type no.	DC (V/A/W)	AC (V/A/VA)	protection class IEC 529	temperature range (°C) T5	temperature range (°C) T6	contact* form
620 010 ..0	230/2/60	230/2/60	IP 67	-25...+85	-25...+70	A
620 020 ..0	230/2/60	230/2/60	IP 67	-25...+85	-25...+70	B
620 030 ..0	48/1/20	48/1/20	IP 67	-25...+85	-25...+70	C

cable	1 = PVC 0,75mm <sup>2</sup>	-5°C...+105°C (-40°C...+105°C)
	2 = silicone	-25°C...+180°C
Ex-version	M = encapsulation (m)	
	I = intrinsically safe (ia)	

Switch must be installed to be protected against impacts higher than 4 joules.

can be installed in zone:

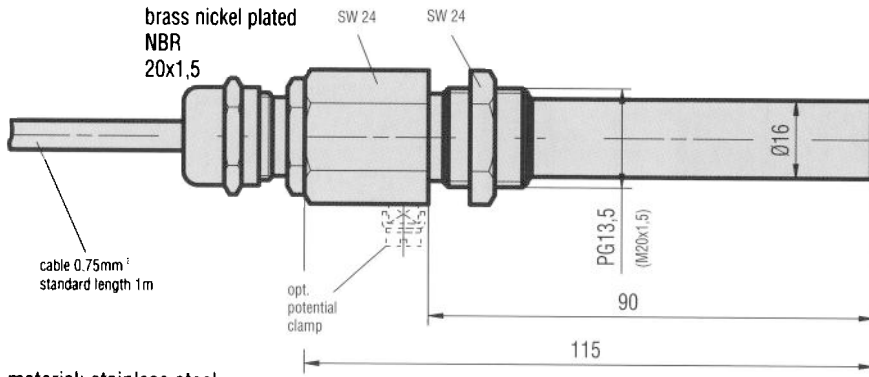
- zone 0 / cat. 1 (ia)
- zone 1 / cat. 2 (m)
- zone 21/cat. 2 (m)



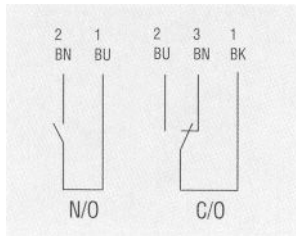
\* explosion protection types:

- γ<sub>u</sub> II 1 G EEx ia IIC T6/T5
- γ<sub>u</sub> II 2 G EEx m II T6/T5
- γ<sub>u</sub> II 2 D IP671T 100°C

## 650 0.0 ..0 Cylindrical Proximity Switch approved to 94/9 EG (ATEX)\*



material: stainless steel



type no.	switching voltage (V)	switching current (A)	switching power (W/VA)	contact form *	protection class (IEC 529)	temperature range (°C) T5	temperature range (°C) T6
650 010 ..0	250 AC/DC	3 AC/3 DC	100 W/100 VA	A	IP 67	-25...+85	-25°C...+70
650 030 ..0	230 AC/DC	1 AC/1 DC	60 W/60 VA	C	IP 67	-25...+85	-25°C...+70

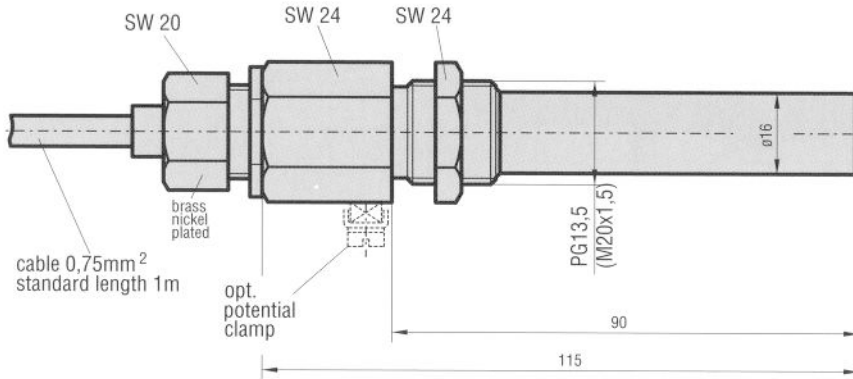
cabel	1 = PVC 0,75mm <sup>2</sup>	-5°C...+105°C (shielded: -40°C...+105°C)
	2 = silicone 0,75mm <sup>2</sup>	-25°C...+180°C
Ex-version	M = encapsulation (m)	
	I = intrinsically safe (ia)	

can be installed in zone:  
 zone 0 / cat. 1 (ia)  
 zone 1 / cat. 2 (m)  
 zone 21/cat. 2 (m)

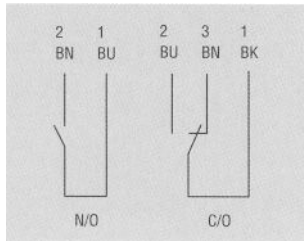


\* explosion protection types:  
 γL II 1 G EEx ia IIC T6/T5  
 γL II 2 G EEx m II T6/T5  
 γL II 2 D IP67T 100°C

**650 3.0 ..0 Cylindrical Proximity Switch approved to RL 94/9 EG (ATEX)\***




material: stainless steel



type no.	switching voltage (V)	switching current (A)	switching power (W/VA)	contact form *	protection class (IEC 529)	temperature range (°C) T5	temperature range (°C) T6
650 310 ..0	250 AC/DC	3 AC/3 DC	100 W/100 VA	A	IP 67	-25...+85	-25...+70
650 330 ..0	230 AC/DC	1 AC/1 DC	60 W/60 VA	C	IP 67	-25...+85	-25...+70

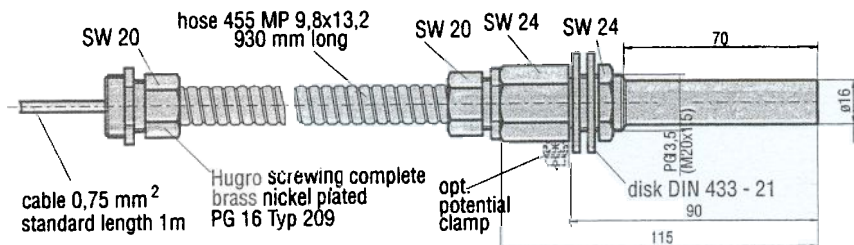
cable	1 = PVC 0,75mm <sup>2</sup>	-5°C...+105°C (shielded: -40°C...+105°C)
	2 = silicone 0,75mm <sup>2</sup>	-20°C...+180°C
Ex-version	M = encapsulation (m)	
	I = intrinsically (ia)	

can be installed in zone:  
 zone 0 / cat. 1 (ia)  
 zone 1 / cat. 2 (m)  
 zone 21/cat. 2 (m)

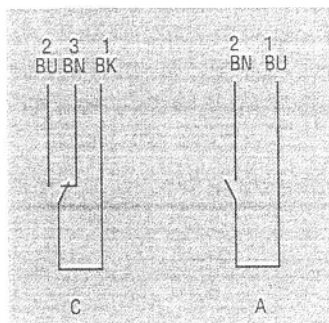
\* explosion protection types:  
 γ<sub>u</sub> II 1 G EEx ia IIC T6/T5  
 γ<sub>u</sub> II 2 G EEx m II T6/T5  
 γ<sub>u</sub> II 2 D IP671T 100°C

# Explosion Proof Switches

## 650 3.0 ..1 Cylindrical Proximity Switch approved to RL 94/9 EG (ATEX)\*



material: stainless steel/brass nickel-plated



type no.	switching voltage (V)	switching current (A)	switching power (W/VA)	contact form *	protection class (IEC 529)	temperature range (°C) T5	temperature range (°C) T6
650 310 ..1	250 AC/DC	3 AC/3 DC	100 W/100 VA	A	IP 67	-25...+85	-25...+70
650 330 ..1	230 AC/DC	1 AC/0,6 DC	60 W/60 VA	C	IP 67	-25...+85	-25...+70

cable	1 = PVC 0,75mm²	-5°C...+105°C (-40°C...+105°C)
	2 = silicone 0,75mm²	-25°C...+180°C
Ex-version	M = encapsulation (m)	
	I = intrinsically safe (ia)	

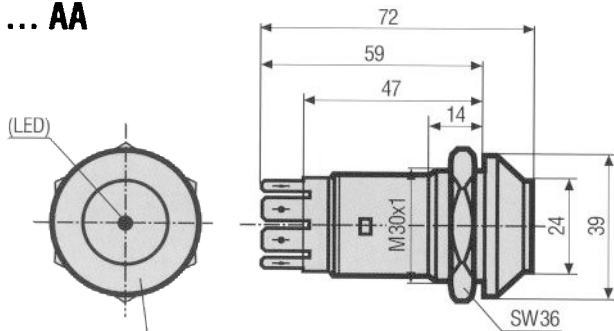
can be installed in zone:  
 zone 0 / cat. 1 (ia)  
 zone 1 / cat. 2 (m)  
 zone 21/cat. 2 (m)



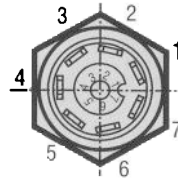
\* explosion protection types:  
 γ<sub>u</sub> II 1 G EEx ia IIC T6/T5  
 γ<sub>u</sub> II 2 G EEx m II T6/T5  
 γ<sub>u</sub> II 2 D IP671T 100°C



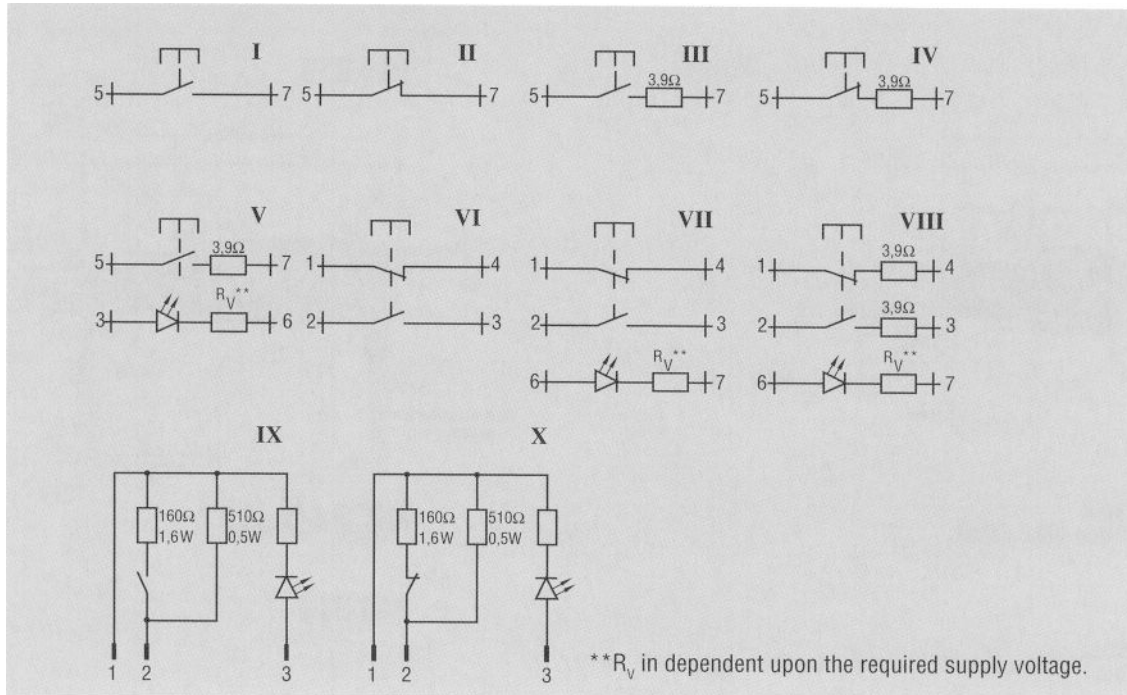
## 145 ... AA



spade terminal 6,3 mm  
max. 7 pol.



material: PBT  
button cap available in the colours  
red, yellow, blue, green, orange, black



type no.	max. switching voltage (V)	max. switching current (A)	max. switching power (W/VA)	LED	circuit diagramm	contact form*	series resistor
145 000AA	48	0,5	10/10	no	I	A	no
145 010AA	48	0,5	10/10	no	II	B	no
145 100AA	48	0,3	10/10	no	III	A	yes
145 110AA	48	0,3	10/10	no	IV	B	yes
145 101AA	48	0,3	10/10	yes	V	A	yes
145 040AA	48	0,5	10/10	no	VI	A+B	no
145 041AA	48	0,5	10/10	yes	VII	A+B	no
145 141AA	48	0,3	10/10	yes	VIII	A+B	yes
145 105AA	16	0,1	—	yes	IX	A	yes
145 115AA	16	0,1	—	yes	X	B	yes
145 300AA	240	1,5	50/50	no	I	A	no

Other contact arrangements and switching voltages available on request. Please enquire.

button stroke: 5mm  
operating pressure: ca. 25N  
temperature range: -20°C...+100°C

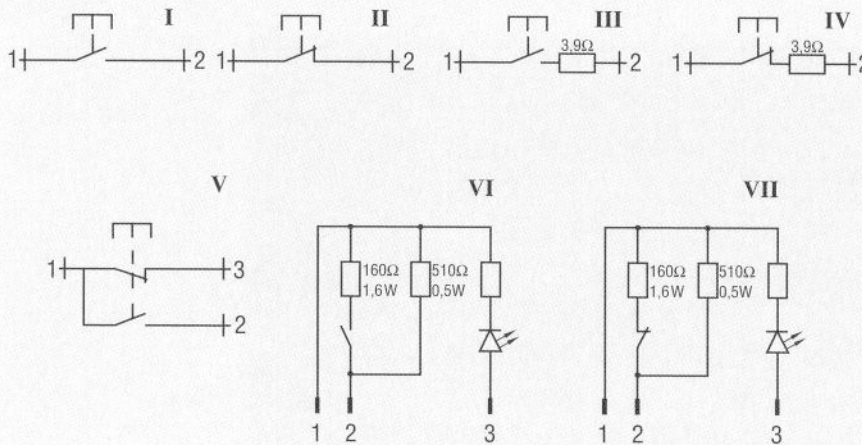
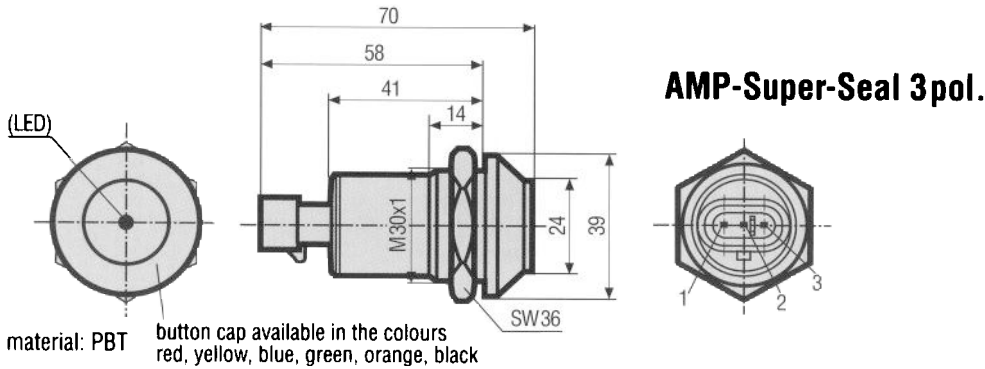
protection class: connections: IP 00 (IEC 529)  
switch chamber: IP 67 (IEC 529)  
button top: IP 64 (IEC 529)

We reserve the right to change specifications without notice.

\*A = N/O, B = N/C



## 145 ... AB



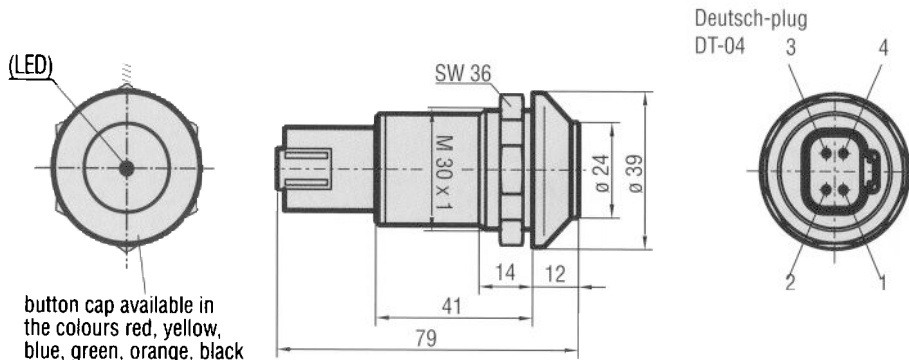
type no.	max. switching voltage (V)	max. switching current (A)	max. switching power (W/VA)	LED	circuit diagramm	contact form*	series resistor
145 000AB**	48	0,5	10/10	no	I	A	no
145 010AB**	48	0,5	10/10	no	II	B	no
145 040AB**	48	0,5	10/10	no	V	A/B	no
145 100AB**	48	0,3	10/10	no	III	A	yes
145 110AB**	48	0,3	10/10	no	IV	B	yes
145 105AB**	16	0,1	–	yes	VI	A	yes
145 115AB**	16	0,1	–	yes	VII	B	yes

Other contact arrangements and switching voltages available on request. Please enquire.

button stroke: 5mm  
 operating pressure: ca. 25N  
 temperature range: -20°C...+100°C

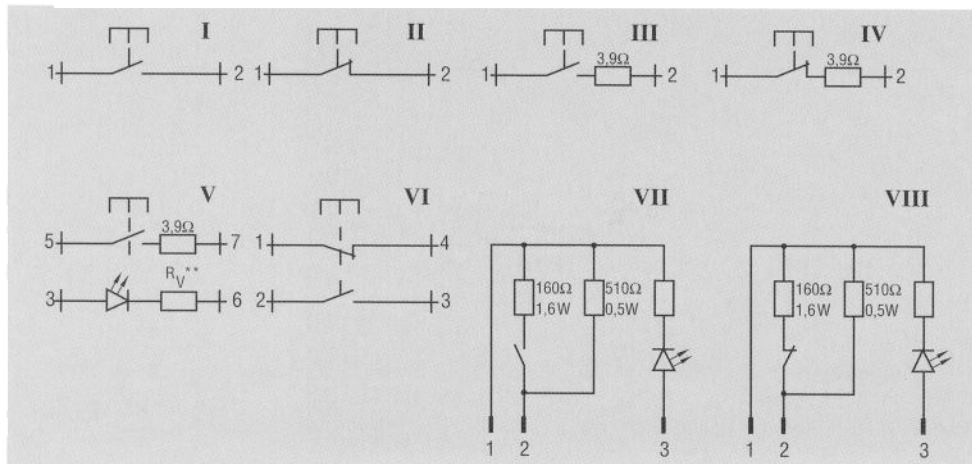
protection class: connections: IP 67 (IEC 529)  
 switch chamber: IP 67 (IEC 529)  
 button top: IP 64 (IEC 529)

## 145 ... AE



button cap available in the colours red, yellow, blue, green, orange, black

material: PBT



type no.	max. switching voltage (V)	max. switching current (A)	max. switching power (W/VA)	LED	circuit diagramm	contact form*	series resistor
145 000AE	48	0,5	10/10	no	I	A	no
145 010AE	48	0,5	10/10	no	II	B	no
145 100AE	48	0,3	10/10	no	III	A	yes
145 110AE	48	0,3	10/10	no	IV	B	yes
145 101AE	48	0,3	10/10	yes	V	A	yes
145 040AE	48	0,5	10/10	no	VI	A+B	no
145 105AE	16	0,1	—	yes	VII	A	yes
145 115AE	16	0,1	—	yes	VIII	B	yes

Other contact arrangements and switching voltages available on request. Please enquire.

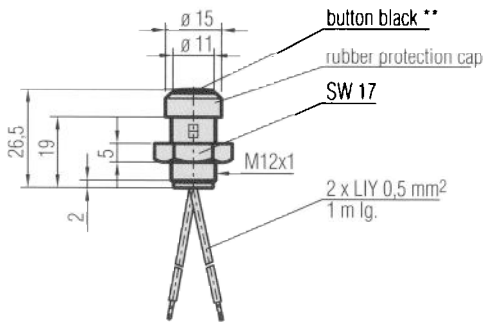
button stroke: 5mm  
 operating pressure: ca. 25N  
 temperature range: -20°C...+100°C

protection class: connections: IP 67 (IEC 529)  
 switch chamber: IP 67 (IEC 529)  
 button top: IP 64 (IEC 529)

We reserve the right to change specifications without notice.

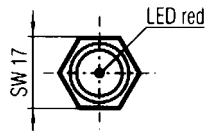
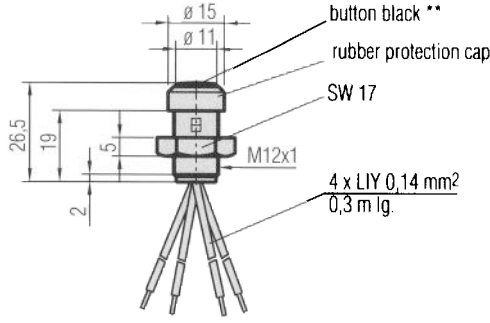
\*A = N/O, B = N/C

## 145 MT 0.A ..



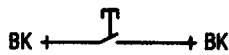
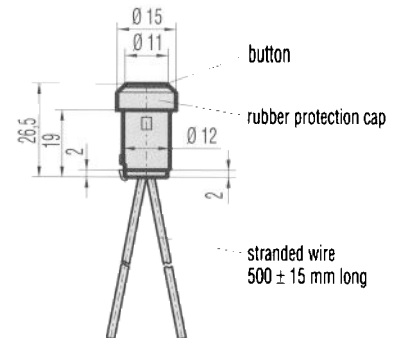
material: PEI translucent black

## 145 MT 00B 01

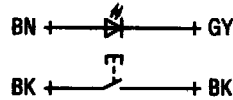


material: PEI translucent black

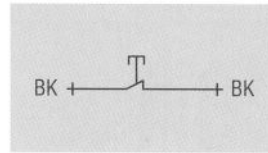
## 145 MT 0.D ..



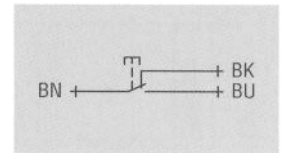
circuit diagram I



circuit diagram II

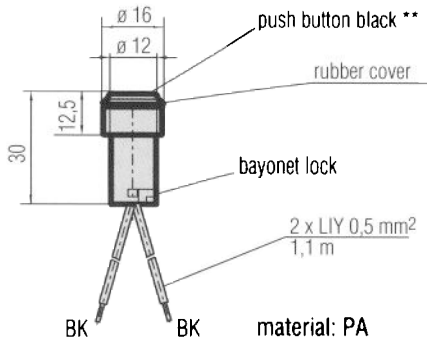


circuit diagram III



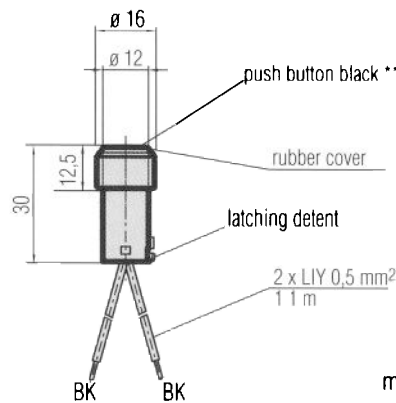
circuit diagram IV

## 145 SG 00B 01



material: PA

## 145 SG 10B 01



material: PA

type no.	max. switching voltage (V)	max. switching current (A)	max. switching power (W/VA)	LED	contact* form	circuit diagram
145 MT 00D ..	48	0,5	10	no	A	I
145 MT 01D ..	48	0,2	1	no	B	III
145 MT 02D ..	48	0,2	1	no	C	IV
145 MT 01A ..	48	0,2	1	no	B	III
145 MT 02A ..	48	0,2	1	no	C	IV
145 MT 00A 01	48	0,5	10	no	A	I
145 MT 00B 01	24	0,1	1	yes	A	II
145 SG 00B 01	48	0,5	10	no	A	I
145 SG 10B 01	48	0,5	10	no	A	I

Other arrangements available on request. Please enquire.

button stroke: 2 mm temperature range: -20°C...+75°C

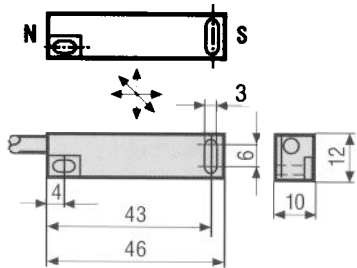
protection class: IP 67 (IEC 529)

We reserve the right to change specifications without notice.

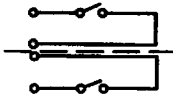
\*A = N/O  
\*B = N/C  
\*C = C/O

\*\* Also available in green, yellow, red, blue, orange or black.

## 100 0..



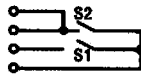
type 100 060



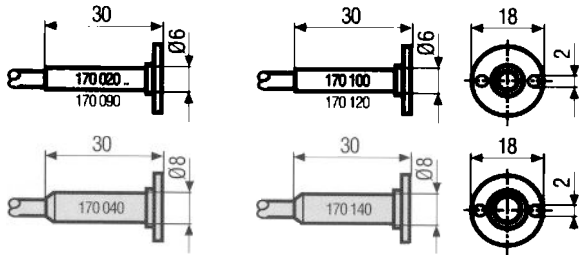
type 100 070



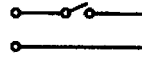
type 100 071



## 170 ...



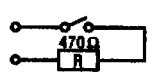
type  
100 000/100 010  
170 090/170 100



type  
100 020/170 020  
170 120/170 020 01



type 100 040/  
170 040/170 140



type no.	contact form	connections	max. switching			max. contact resistance	breakdown voltage	classification	VDS no.
			power W	current A	voltage V				
100 000	A	cable 2x0,14	10	0,5	70	150	250	A	-
100 010	A	stranded wire 2x0,14	10	0,5	70	150	250	A	-
100 020	A	cable 4x0,14	10	0,5	70	150	250	B	-
100 040	A	cable 2x0,14	10	0,5	70	150	250	B	-
100 060	A	cable 4x0,14	10	0,5	70	150	250	B	-
100 070	A	cable 4x0,14	10	0,5	70	150	250	C	G 177 061*
100 071	A	cable 4x0,14	10	0,5	48	150	250	C	-
100 090	A	solder tabs 0,55x10	10	0,5	70	150	250	A	-

\*use only in combination with magnet type 314 080

type no.	contact form	connections	max. switching			max. contact resistance	breakdown voltage	classification	VDS no.
			power W	current A	voltage V				
170 020	A	cable 4x0,14	10	0,5	70	150	250	B	-
170 040	A	cable 2x0,14	10	0,5	70	150	250	B	-
170 090	A	solder tabs 0,55x10	10	0,5	70	150	250	A	-
170 100	A	cable 2x0,14	10	0,5	70	150	250	A	-
170 120	A	cable 4x0,14	10	0,5	70	150	250	B	-
170 140	A	cable 2x0,14	10	0,5	70	150	250	B	-

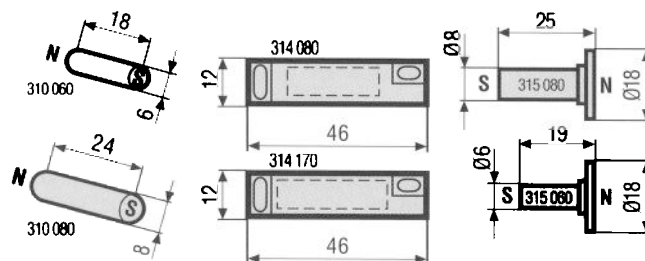
### Remarks:

The housing of type 100 010, 100 090 and the housing of magnet 314 170 are normally produced in white P.A. plastic. If brown plastic is required, then the fourth digit of the part number becomes a 5.

Example: 100 570 becomes a switch with one N/O contact, twin wire cable and a brown housing.

**VDS approvals:** The 100 020, 100 040, 100 070, 170 020, 170 040, 170 120 and 170 140 are approved by VDS. Other approvals applied for.

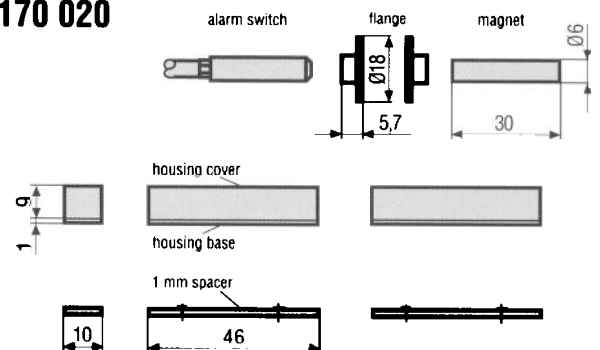
**Normal cable length is 1 m**, longer cable length at extra cost.



type no.	material	Mounting	switching distance	
			end	side
310 060	Alnico 500	hole mounted	10 mm	10 mm
310 080	Alnico 500	hole mounted	15 mm	20 mm
314 170	Alnico 500	surface mounted	-	10 mm
314 080	Alnico 500	surface mounted	-	20 mm
315 060	Alnico 500	hole mounted	10 mm	-
315 080	Alnico 500	hole mounted	15 mm	-

**Note:**  
All listed alarm switches and magnets are interchangeable except switch 100 070 which must be used with magnet 314 080.

## Set 170 020



4 screws DIN 7971 2,2x16 A2 are included in the kit. The various fittings are also available separately.