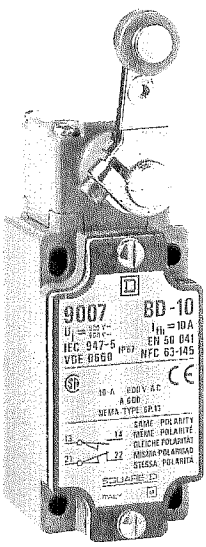


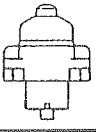
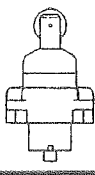
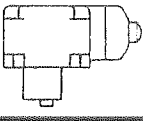
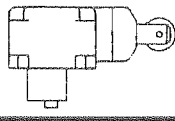
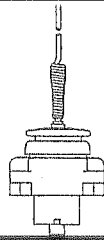
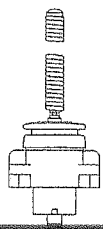
Turret Head Position Switches

Type Cenelec EN 50041

	Contact Elements ↓	Turret Heads →	EN 50041 Form A		EN 50041 Form A1		DIN 43694
			Description of heads		Lever type w. spring return		Lever type w. spring return
		Contacts	w/o lever arm ⑤ ⑥	with lever arm ⑤			⑤ ⑥
 <p>BD - 10 L</p>	Snap action Single pole Type FO-1	1 N.O. 1 N.C.	BD - 10	BD - 10 L			BD - 1 L Series A (with lever) BD - 1 Series A (w/o lever) ⑧
	Snap action Double pole Type FO-2	1 N.O. 1 N.C. + 1 N.O. 1 N.C.	BD - 12	BD - 12 L			—
	Snap action with positive opening Type FO-3 (Safety version with forced break contacts)	1 N.O. 1 N.C.	BD - 13	BD - 13 L			—
Operating Characteristics	Pretravel		26°	23°	26°	23°	18°
	Total travel		70°	80°	70°	80°	75°
	Differential		12°	7°	12°	7°	7°
	Operating torque/ force		3 Kg x cm	2,2 Kg x cm	3 Kg x cm	2,2 Kg x cm	2 Kg x cm
	Repetitive accuracy ⑦		± 0,05 mm	± 0,05 mm	± 0,05 mm	± 0,05 mm	± 0,05 mm

NOTE

- ① The contact element FO-2 contains two separate elements electrically separated, each 1 NO+1NC. The polarity must be the same inside each element, but can be different between the two elements.
- ② Contacts are single pole, double throw, 1 NO+1NC. These circuits can be used on opposite polarities.
- ③ Positive opening contacts to VDE 0660 P. 206 Art. 7-8, IEC 947-5-1 Chapter 3.
- ④ The devices BD-13 and BD-13 L have the heads fitted with positioning holes for the lever arm. This lever, supplied as part of the BD-13 L, has a pin which fits into above mentioned holes, thus providing a precise and reliable mounting.
- ⑤ The lever type switches are supplied arranged for both CW and CCW operation. They can be easily converted to operate contacts in one direction only. See page 3.
- ⑥ With lever type FD-5 this device complies to EN 50041 Form D.

											
EN 50041 Form B DIN 43694 Form C 1		EN 50041 Form C DIN 43694 Form D 1		EN 50041 Form F		EN 50041 Form G					
Top Plunger Spring return		Top Roller Plunger Spring return		Side Plunger Spring return		Side Roller Plunger Spring return		Cat whisker Spring return		Wobble Stik Coil Spring Extension	
BD - 20		BD - 30		BD - 40		BD - 50		BD - 60		BD - 70	
BD - 22		BD - 32		BD - 42		BD - 52		BD - 62		BD - 72	
BD - 23		BD - 33		BD - 43		BD - 53		-		-	
1,6 mm	1,6 mm	1,6 mm	1,6 mm	1,6 mm	1,6 mm	1,6 mm	1,6 mm	20°	20°		
5,3 mm	5,3 mm	5,3 mm	5,3 mm	5,6 mm	5,6 mm	5,6 mm	5,6 mm	90°	90°		
0,9 mm	0,7 mm	0,9 mm	0,7 mm	0,9 mm	0,7 mm	0,9 mm	0,7 mm	10°	10°		
1,7 Kg	1,2 Kg	1,7 Kg	1,2 Kg	2,2 Kg	1,8 Kg	2,2 Kg	1,8 Kg	0,5 Kg x cm		1,2 Kg x cm	
± 0,025 mm	± 0,025 mm	± 0,025 mm	± 0,025 mm	± 0,025 mm	± 0,025 mm	± 0,025 mm	± 0,025 mm	-		-	

⑦ Referred to the movement of a cam at 30 degrees per EN 50041 / DIN 43694

⑧ The lever type BA-1 is supplied as part of the device

Technical Data:

Ingress Protection: IEC 529 IP 67, NEMA 2-6P-13

Operating Temperature Range: -25°C + 85°C

Die cast zinc enclosure, paint finish

Silver Alloy Contacts

Wiring: 1 mm² min., 2 x 2,5 mm² max

Short circuit protection:

Fuse rating 10A type g' or g" per IEC 269-2

Contact ratings:

See page 4

Turret Head Position Switches

To Cenelec EN 50041

Contact Ratings to IEC 947-5-1				Contact Arrangement (Positive opening version shown)
U _i = 500 V AC 600 V DC		I _m = 10A		
VOLT	AC-15 -	DC-13		
		one contact used	both contacts used	
24	6 A	3 A	1,5 A	
110 - 120	6 A	0,55 A	0,22 A	
220 - 240	3 A	0,27 A	0,11 A	
380	1,9 A	0,17 A	-	
500	1,4 A	0,13 A	-	
600	-	0,10 A	-	

Conversion of the mode of operation

The lever type turret heads can be easily converted in the field from both CW and CCW to CW only or CCW only, without removing them from the body (see figure 1).

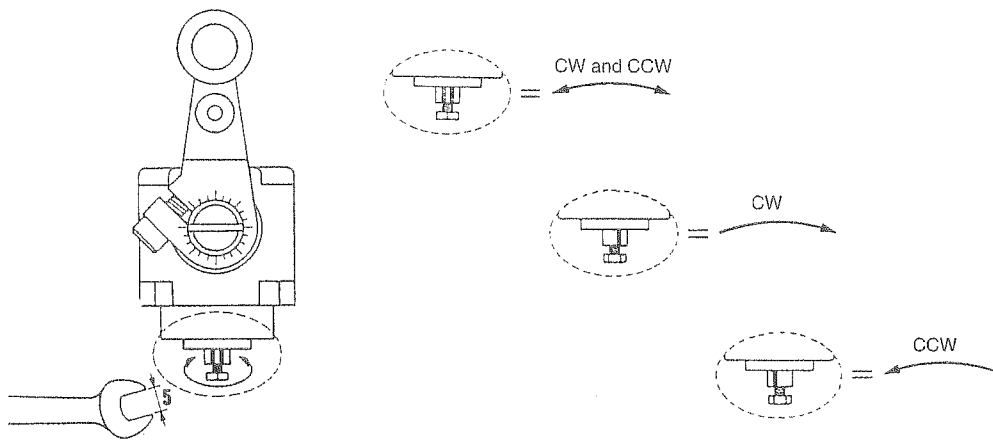


Figure 1

Turret Head Position Switches

Dimensions

mm

<p>* $\varnothing 19$ on BD - 13L</p>	<p>Conduit entries Pg 13.5 to DIN 40430</p>
<p>BD - 10, BD - 10L, BD1 Series A, BD - 1L Series A, BD - 13, BD 13L BD - 12, BD 12L</p> <p>A = 67 A = 74</p>	
<p>BD - 20, BD - 23 BD - 22</p> <p>A = 67 A = 74</p>	<p>BD - 30, BD - 33 BD - 32</p> <p>A = 67 A = 74</p>
<p>BD - 60, BD - 70 BD - 62, BD - 72</p> <p>A = 67 A = 74</p>	
<p>BD - 40, BD - 43 BD - 42</p> <p>A = 67 A = 74</p>	<p>BD - 50, BD - 53 BD - 52</p> <p>A = 67 A = 74</p>

Position Switches type BD

Levers Arms

Roller is hardened oil - impregnated sintered iron

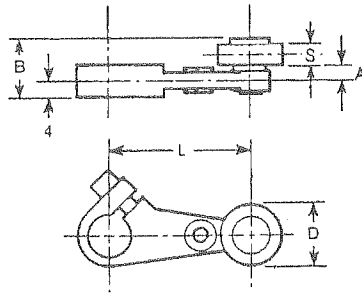
Die Cast Lever Arm



Die Cast Lever Arm

Arm Length mm	Roller		Dimension				
	Ø 16 mm S= 6 mm	Ø 19 mm S= 6 mm	L	D	S	A	B
	Type	Type					
22	AA-1	-	22	16	6	2,4	14
35	BA-1	-	35	16	6	2,4	14
38	MA-1	MA-11	51	16	6	2,4	14
51	CA-1	-	63	16	6	2,4	14
63	DA-1	-	76	16	6	2,4	14
76	EA-1	-	38	16	6	2,4	14
			38	19	6	2,4	14

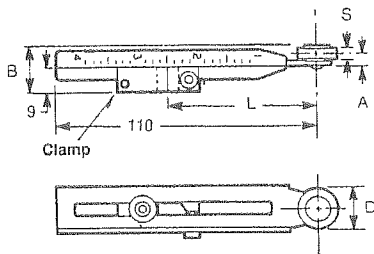
S= Roller wide



Adjustable Length Lever Arms



Length L is adjustable from 22 mm to 100 mm



Type HA-1

Lever Arm Type	L*	Dimension			
		D	S	A	B
HA-1	Adjustable from 22 mm to 100 mm	16	6	5	18
HA-19		25	6	5	18

* With arm and clamp in position shown above (Type HA-1), distance from switch shaft to centre of arm roller (Dimension L) is adjustable from 22 mm to 92 mm. By removing arm from clamp, turning clamp upside down and replacing arm, Dimension L is adjustable from 33 mm to 100 mm.

Rod Type Lever Arm



Description	Type
Steel Rod 4 mm Dia. 254 mm Length	FA-1
Speing Rod, DELRIN ▲ 6 mm Dia. 200 mm Length	FD-5

▲ DELRIN is a Registered Trademark of Du Pont

Other types of Lever Arms are available, contact Schneider Office