

## 1.9. Rotary Cam Switch GSWFK

LEONARD rotary cam switches GSWFK (see figure 1.9.1 to 1.9.4) are cased in housings made of cast aluminum and fitted out with mechanic switching elements. The technical data of all available switching elements are listed in figure 1.0.1.

The rotary cam switches GSWFK are normally available with 1 to 12 switching elements. The rotary cam switches could be supplied with direct drive or with a gearbox inside. The gearboxes have a life lubrication. The cam shaft is mounted in two deep groove ball bearings and maintenance-free.

The figure 1.9.7 to 1.9.9 show the three different constructions of this rotary cam switch: flange mounted (GSWFK), foot mounted (GSWFKu) or with a short flange (GSWFKK).

To actuate the individual switching elements the cam shaft is fitted with cam disk sets in a pitch of 15 mm. Each cam disk set consists of the components listed in figure 1.9.5. Roller levers manipulate the individual switching elements (see figure 1.9.6).

The infinitely adjustable cam disk sets, which run almost entirely free from unbalance by virtue of their special design, are individually tensioned by disc springs. This tension is such that all cam disk sets can be adjusted when the clamp nut is slackened. After setting all the cam disk sets the complete adjustment can be checked on start up for trial operation. Only after all switching adjustments have been tested, the clamp nut is tightened against the disc spring. All cam disk sets are positively located in the position set.

The normal cam rings have 180° long cams. For switching elements with force separation the cam rings are available with cam length of 15°, 30°, 45° or 90°. The cam rings, which have a diameter of 80 mm, are made of wear-resistant plastic. They have index marks with a graduation of 10°, though a precise switching angle resolution is provided.

The housing of the rotary cam switch is made of aluminum alloy and painted in RAL6011. Optional the switch can be supplied in a seawaterproof performance. All housings have two cable entries M32. The cover is connected to the housing by 4 eternally fixed screws. All screws are of stainless steel. The rotary cam switch GSWFK could be mounted with 4 screws M8 on the flange while the switch GSWFKu could be mounted with 2 screws M8 on the foot. Please have a look at all dimensions in figure 1.9.7 to 1.9.10.

If a rotary cam switch with a gearbox is required, the spur gear unit will be integrated in the housing of the switch. The gearboxes have a life lubrication. They are maintenance free. The normal ratios of our gearboxes are as follows:

1:10	2:1	10:1	35:1	175:1	504:1	1500:1	7020:1
1:8	3:1	12:1	45:1	200:1	560:1	2024:1	
1:6	4:1	15:1	54:1	248:1	624:1	2414:1	
1:5	5:1	16:1	75:1	300:1	740:1	3024:1	
1:4	6:1	18:1	100:1	352:1	900:1	3509:1	
1:3	7:1	20:1	125:1	400:1	1000:1	4004:1	
1:2	8:1	25:1	154:1	430:1	1225:1	5564:1	

Other ratios on request.



Fig. 1.9.1: Rotary Cam Switch GSWFK 03 SR without Cover



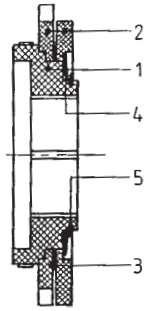
Fig. 1.9.2: Rotary Cam Switch GSWFKu 03 SR without Cover



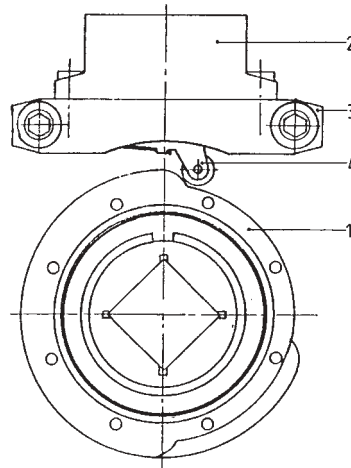
Fig. 1.9.3: Rotary Cam Switch GSWFKK 03 SR G 16:1 without Cover



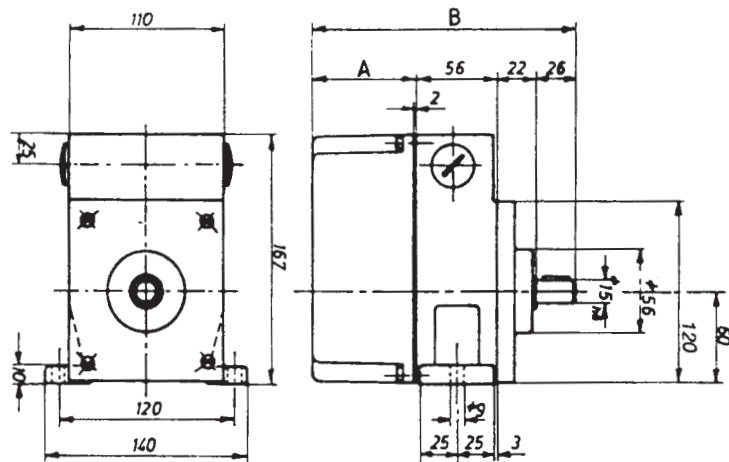
Fig. 1.9.4: Rotary Cam Switch GSWFK 03 SR Poti without Cover



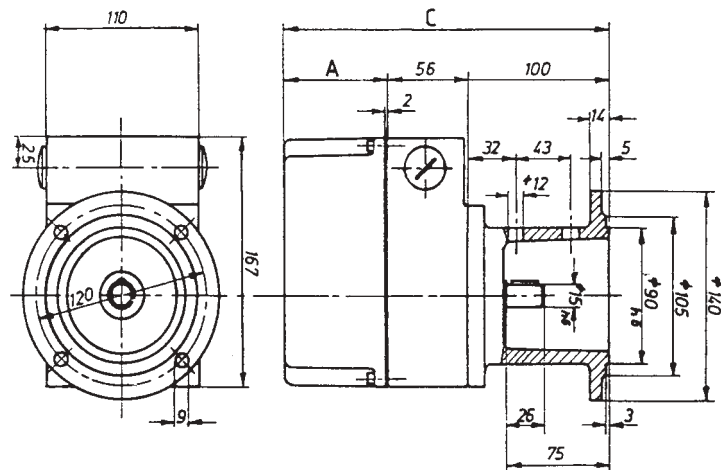
**Fig. 1.9.5:**  
Cam Disk Set GSWFK  
1 = carrier disk  
2 = cam rings  
3 = distance ring  
4 = plate spring  
5 = retainer ring



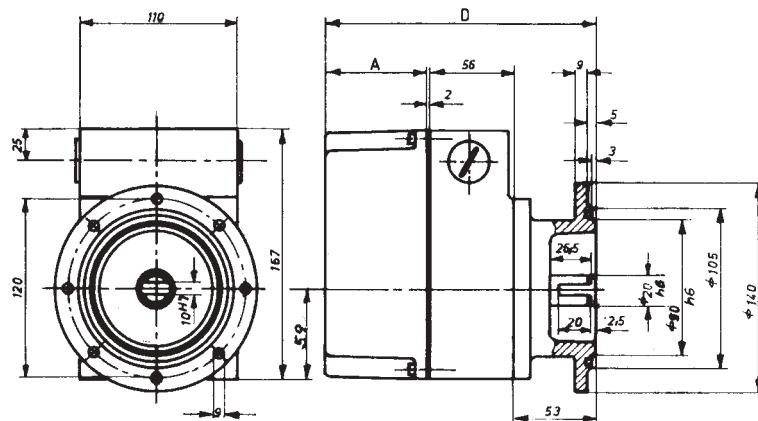
**Fig. 1.9.6:**  
Cam Disk Set with  
Switching Element GSWFK  
1 = cam disk set  
2 = switching element  
3 = contact holder  
4 = roller lever



**Fig. 1.9.7:**  
Dimensioned Drawing GSWFKu



**Fig. 1.9.8:**  
Dimensioned Drawing GSWFK



**Fig. 1.9.9:**  
Dimensioned Drawing GSWFKK

**Fig. 1.9.10: Table of Dimensions GSWFKu, GSWFK and GSWFKK**

number of switching elements	A [mm]	B [mm]	C [mm]	D [mm]	weight [kg] GSWFKu	weight [kg] GSWFK	weight [kg] GSWFKK
1	52	156	208	161	4,5	5,5	5,3
2	72	176	228	181	5,0	6,0	5,8
3	92	196	248	201	5,0	6,0	5,8
4	112	216	268	221	5,5	6,5	6,3
5	112	216	268	221	5,5	6,5	6,3
6	132	236	288	241	6,0	7,0	6,8
7	152	236	308	241	6,0	7,0	6,8
8	182	256	338	261	6,5	7,5	7,3
9	212	256	368	261	6,5	7,5	7,3
10	212	286	368	291	7,0	8,0	7,8
11	232	286	388	291	7,0	8,0	7,8
12	252	316	408	321	8,5	9,5	9,3
exclusiv gear (ca. 1,5 kg)							

**Ordering instructions for type GSWFK:**

type	number of switching elements *1)	type of switching elements	gearbox *2)	drive side (input) *2)
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**Product overview:**

GSWFK	01	SR	[no statement]	[no statement]
GSWFKu	02		G	see above
GSWFKK	03			
	04			
	05			
	06			
	07			
	08			
	09			
	10			
	11			
	12			

**Example:**

GSWFKu 06 SR G 175:1

\*1) If the rotary cam switch is not fitted out with the complete number of switching elements, we need the max. possible number of switching elements. The actually fitting must be described "in plain text"!

\*2) We don't need this information for a rotary cam switch without a gearbox.

If you need a rotary cam switch with different switching elements or a switch in a special design, please give a precise description "in plain text"!