

1.8. Rotary Cam Switch GSWF

LEONARD rotary cam switches GSWF (see figure 1.8.1 and 1.8.2) 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 GSWF are normally available with 1 to 6 switching element. If the rotary cam switch GSWFs is built with a worm gear unit, it is available up to 12 switching element. For a switch including a worm gear unit the cam shaft (spindle) comes out on both sides of the housing. Otherwise the cam shaft is only on one side projected. The cam shaft is mounted in deep groove ball bearings and maintenance-free.

The normally ratios of our worm gear unit are as follows:

6,25:1 12,5:1 18,75:1 25:1 37,5:1 50:1 75:1

Other ratios on request.

To actuate the individual switching elements the cam shaft is fitted with cam disk sets in a pitch of 20 mm. Each cam disk set consists of the components listed in figure 1.8.3.

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 cam rings, which have a diameter of 80 mm, are made of steel. The cam disk sets are mounted immediately beside a graduated disk made of zinc die-cast. The graduated disks have an angular scale of 360° with a graduation of 10°, though a precise switching angle resolution is provided. Index marks on the cam rings make the adjustment easier. Based on the surface protection of the cam rings and the graduated disks, a maximum of surface hardness and a maximum of corrosion protection and a maximum of resistance to seawater and many chemical substances is guaranteed.

All parts of the switching element actuator (see figure 1.8.4) are of zinc die-casting and surface treated or of acid-resisting stainless steel. The roller is produced from wear-resistant plastic and is self lubricating. The rotary cam switches dispose of ideal anti-friction properties. Therefore the wear of the rollers in the roller levers is reduced to a minimum.

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 4 cable entries M20. The cover is connected to the housing by 4 eternally fixed screws. All screws are of stainless steel. The rotary cam switch could be mounted with 2 screws M8. Please have a look at all dimensions in figure 1.8.5 to 1.8.7.



Fig. 1.8.1: Rotary Cam Switch GSWF03 RD without Cover



Fig. 1.8.2: Rotary Cam Switch GSWF09 MNS s 12,5:1 without Cover

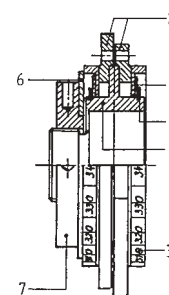


Fig. 1.8.3: Cam Disk Set GSWF

- | | |
|--------------------|-------------------|
| 1 = carrier disk | 5 = retainer ring |
| 2 = cam rings | 6 = clamp spring |
| 3 = graduated disk | 7 = clamp nut |
| 4 = plate spring | |

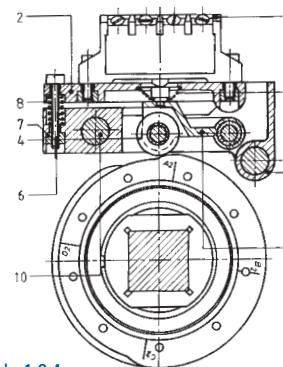


Abb. 1.8.4:

Schaltelementbetätiger GSWF

- | | |
|--------------------|------------------------|
| 1 = bracket | 6 = adjusting screw |
| 2 = contact holder | 7 = self-locking nut |
| 3 = roller lever | 8 = compression spring |
| 4 = roller | 9 = switching element |
| 5 = return spring | 10 = holding bolt |

Fig. 1.8.7: Table of Dimensions GSWF/s

number of switching elements	A [mm]	B [mm]	C [mm]	D [mm]	weight [kg] GSWF	weight [kg] GSWFs
1	52		122		6,5	7,0
2	72		142		7,0	7,5
3	92		162		7,5	8,0
4	112		182		8,0	8,5
5	132		202		8,5	9,0
6	152		222		9,0	9,5
7	112	92	202	274		13,5
8	112	112	182	294		14,0
9	132	112	202	314		14,5
10	132	132	202	334		15,0
11	152	132	222	354		15,5
12	152	152	242	374		16,0

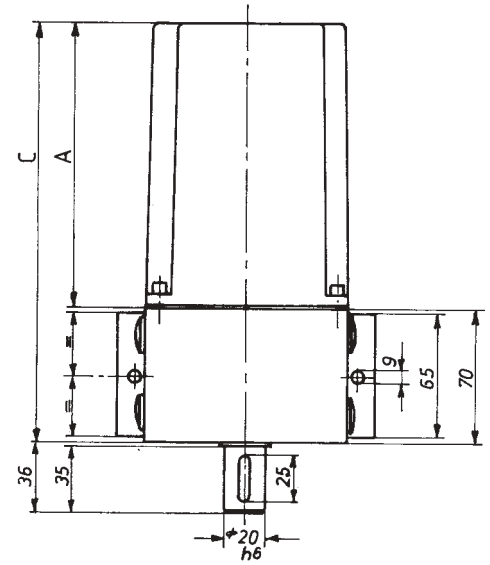
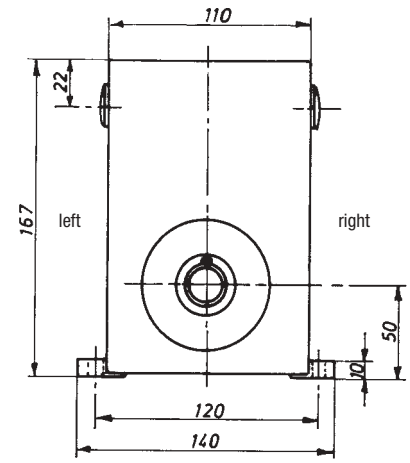


Fig. 1.8.5: Dimensioned Drawing GSWF

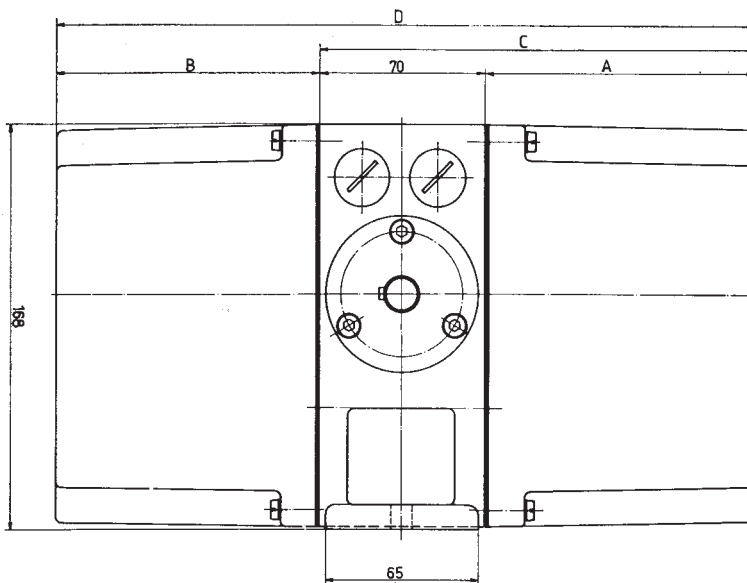
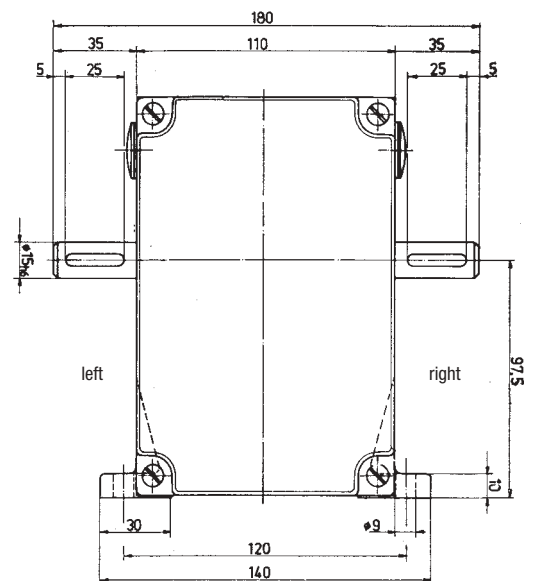


Fig. 1.8.6: Dimensioned Drawing GSWFs



Ordering instructions for type GSWF:

type	number of switching elements *1)	type of switching elements	gearbox *2)	ratio *2)	drive side (input) *3)
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Product overview:

GSWF					
	01	MNS	[no statement]	[no statement]	[no statement]
	02	MNSG	s	6,25:1	l [left side]
	03	RD		12,5:1	r [right side]
	04			18,75:1	
	05			25:1	
	06			37,5:1	
	07			50:1	
	08			75:1	
	09				
	10				
	11				
	12				

Example:

GSWF 06 MNS s 12,5:1 l

*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.

*3) This information is only necessary for a switch with a worm gear unit: The spindle comes out only on the driving side of the switch. If this information is missing, the spindle comes out on both sides.

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"!