

1.5. Rotary Cam Switch GGSW100 and GGSW120

LEONARD rotary cam switches GGSW100 and GGSW120 (see figure 1.5.1) are cased in housings of gray cast iron 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 GGSW100 and GGSW120 are normally available with 6 and 12 switching elements. The cam shaft (spindle) comes out on both sides of the housing so that several switches can be coupled together. The second end of the shaft, which is normally unused, is protected by a safety cover. The cam shaft is mounted in two deep groove ball bearings and maintenance-free.

To actuate the individual switching elements the cam shaft is fitted with cam disk sets in a pitch of 20 mm resp. 30 mm (see figure 1.5.2). Each cam disk set consists of the components listed in figure 1.5.3.

The infinitely adjustable cam disk sets of both rotary cam switch types, 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 and graduated disks of the switch GGSW100 have a diameter of 100 mm and a scale of 360° with a graduation of 2°, though a high and precise switching angle resolution is provided. The accurate adjustment of the switching points is guaranteed, because the cam rings have a switch-on and switch-off point index mark. The cam rings as well as the graduated disks are made of die-cast aluminum. Thus reduces the inertia forces and increases the life of the deep groove ball bearings. Based on the surface protection of the cam rings and the graduated disks, they are "hard coated", a maximum of surface hardness, a maximum of corrosion protection and a maximum of resistance to seawater and many chemical substances is guaranteed.

The switch GGSW120 has cam disk sets with a diameter of 120 mm made of wear-resistant plastic. The cam disk sets are mounted immediately beside it graduated disks made of die-cast aluminum. The cam rings as well as the graduated disk have an angular scale of 360°, though a precise switching angle resolution is provided.

All parts of the switching element actuator (see figure 1.5.4) are of zinc die-casting and surface traded 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 gray cast iron and painted in RAL6011. Optional the switch can be supplied in a seawaterproof performance. The top section of the housing is connected to the bottom section by 8 screws M6. All screws are of stainless steel. The rotary cam switch could be mounted with 3 screws M8. Please have a look at all dimensions in figure 1.5.5 and figure 1.5.6.

For driving the LEONARD rotary cam switch GGSW100 and GGSW120 the gearbox GV is suitable.



Fig. 1.5.1:
Rotary Cam Switch GGSW100-06 MNST
without Cover

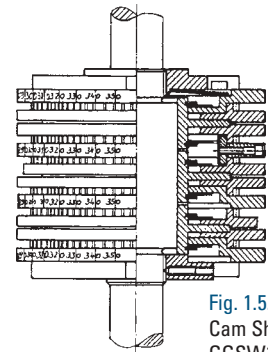


Fig. 1.5.2.a:
Cam Shaft
GGSW100-04

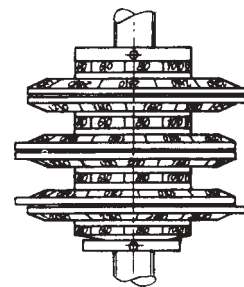


Fig. 1.5.2.b:
Cam Shaft
GGSW120-03

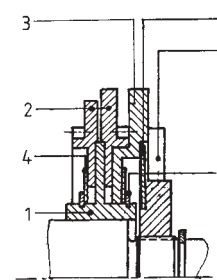


Fig. 1.5.3.a: Cam Disk Set GGSW100

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

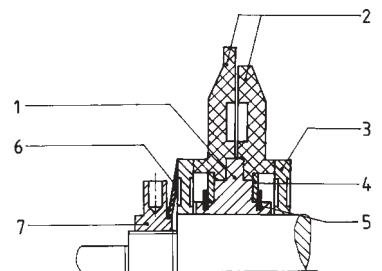


Fig. 1.5.3.b: Cam Disk Set GGSW120

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

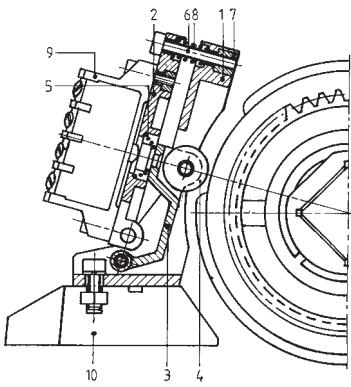


Fig. 1.5.4.a:
Switching Element Actuator GGSW100

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

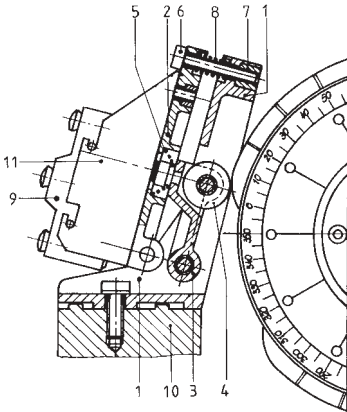


Fig. 1.5.4.b:
Switching Element Actuator GGSW120

- 1 = bracket
- 2 = contact holder
- 3 = roller lever
- 4 = roller
- 5 = return spring
- 6 = adjusting screw
- 7 = self-locking nut
- 8 = compression spring
- 9 = switching element
- 10 = contact strip
- 11 = support frame

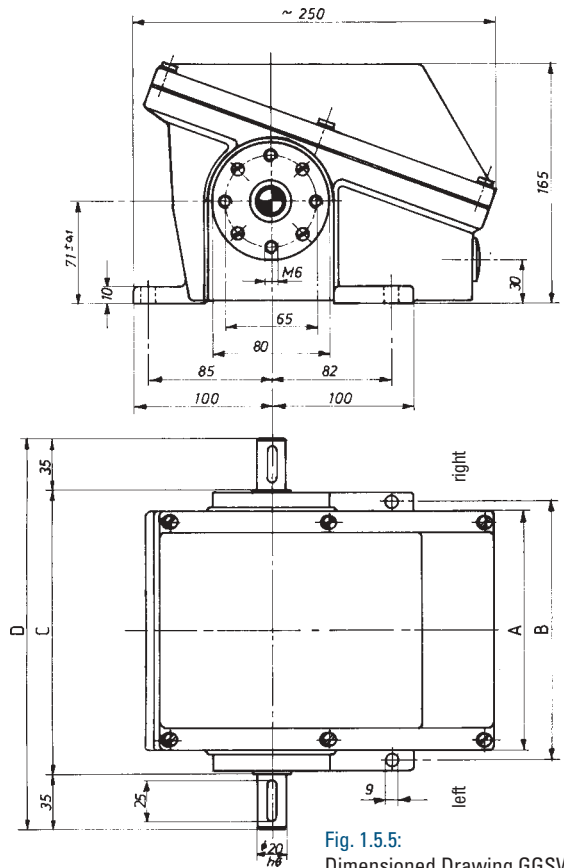


Fig. 1.5.5:
Dimensioned Drawing GGSW

Fig. 1.5.6: Table of Dimensions GGSW (without gear)

type	number of cable entries M32	A [mm]	B [mm]	C [mm]	D [mm]	weight [kg]
GGSW100-06 GGSW120-06	4	252	260	275	345	20,0
GGSW100-12 GGSW120-12	6	432	440	455	525	29,9

Ordering instructions for type GGSW100 and GGSW120:

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

Product overview:

type	number of switching elements	type of switching elements	gearbox	ratio	drive side (input)
GGSW100- GGSW120-	06 12	MNS MNSG MNST RD	[no statement] GV	[no statement] Have a look at the technical data of our gearboxes!	[no statement] l [left side] r [right side]

Example:

GGSW120-06 MNS GV 175:1 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) If this information is missing, the input is on the right side of the switch.

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"!