

1.2. Rotary Cam Switch GSW100E

LEONARD rotary switches GSW100E (see figure 1.2.1 and 1.2.2) are cased in housings made of cast aluminum and fitted out with electronic switching elements and switch drums. The technical data of all available switching elements are listed in figure 1.0.4.

The rotary cam switches GSW100E are normally available with 4, 8, 12, 16, 20 and 28 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 transparent safety cover has some index marks for the scale ring underneath. 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 switch drums – in opposite to other rotary cam switches with at least 180° cam disk sets. The new design of these switch drums consists of plastic drums incorporating a thin steel foil which can be extended or retracted to any extent required.

The switch drums are arranged in a pitch of 15 mm (see figure 1.2.5). Because of the reduction of the interval from 20 to 15 mm compared with the rotary cam switch GSW100 and GSW100M, the number of switching points in the same size of housing could be increased.

All mounting dimensions as well as the length and the centre height of the cam shaft are identical with the LEONARD rotary cam switches GSW100 and GSW100M. Therefore the switches are interchangeable at any time.

Each switch drum consists of the components listed in figure 1.2.3. The steel foil in the switching foil drum and the carrier disk have an angular scale from 5° up to 360° with 2° graduation. By means of these two on the same level, directly adjacent scales it is possible to set the pulse beginning and the pulse duration (switching angle) quickly and accurately: At first the two adjustment tools must be insert in one of the six radial slots on both sides of the switch drum. While keeping one adjustment tool and turning the second adjustment tool clockwise or anticlockwise the steel foil will be extended out of the drum or retracted back into the drum until the required pulse length is obtained. Subsequently the pulse beginning is carried out the same way. For this purpose the first adjustment tool is inserted in one of the six slots of the switching foil drum and the second adjustment tool is inserted in the compression spring. By turning clockwise or anticlockwise the beginning of the steel foil in the switching foil drum is set to the required angle, which is read off on the directly adjacent carrier disk.

The unique construction of our switch drums guarantee a quick and easy modification of the pulse duration (switching angle) at any time. For that purpose the adjustment tool must only be insert in the switch drum and turn clockwise or anticlockwise.

The infinitely adjustable switch drums, 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 switch drums can be adjusted when the clamp nut is slackened. After setting all the switch drums 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 switch drums are positively located in the position set.

Because the switch drums are camless, no unbalance acts upon the cam shaft. Thus permits higher speeds and increases the life of the deep groove ball bearings.



Fig. 1.2.1:
Rotary Switch GSW100E-04 EGA400.5
without Cover



Fig. 1.2.2: Rotary Switch GSW100E-12/03
EGA400.5 Poti without Cover

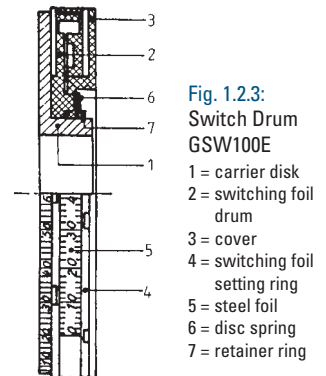


Fig. 1.2.3:
Switch Drum
GSW100E
1 = carrier disk
2 = switching foil
drum
3 = cover
4 = switching foil
setting ring
5 = steel foil
6 = disc spring
7 = retainer ring

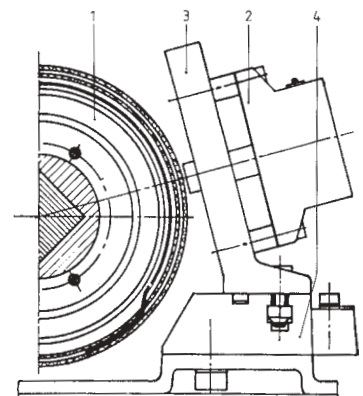


Fig. 1.2.4:
Contact Strip with Switching Element
GSW100E
1 = switch drum
2 = switching element
3 = contact holder
4 = contact strip

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. The housing is divided into the bottom section and the top section at the spindle centre. Both parts are eternal connected by hinges and screws of stainless steel. The rotary cam switch could be mounted with 4 screws M8. Please have a look at all dimensions in figure 1.2.6 and figure 1.2.7.

The contact holders are made of plastic.

For driving the LEONARD rotary cam switch GSW100E the gearbox GV is suitable.

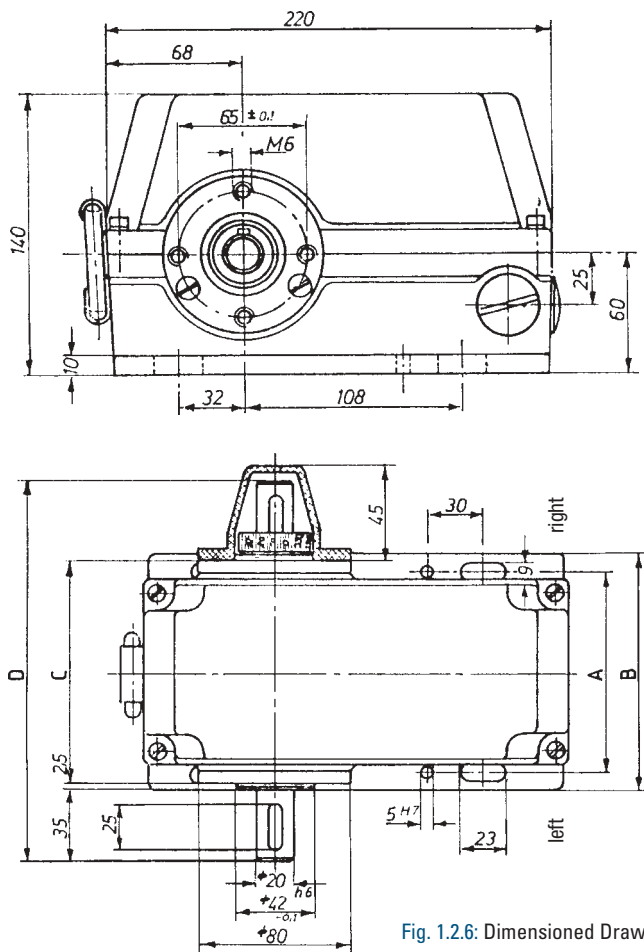


Fig. 1.2.6: Dimensioned Drawing GSW100E

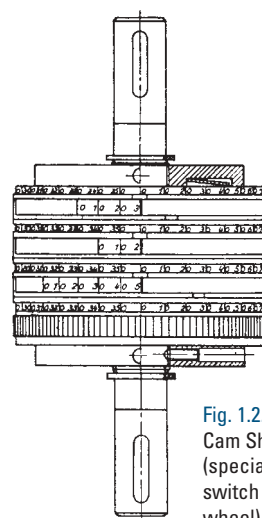


Fig. 1.2.5: Cam Shaft GSW100E-04 (special design with 3 switch drums and 1 pulse wheel)

Fig. 1.2.7: Table of Dimensions GSW100E (without gear)

type	number of cable entries M32	A [mm]	B [mm]	C [mm]	D [mm]	weight [kg]
GSW100E-04	3	105	124	114	184	4,6
GSW100E-08	4	165	184	174	249	7,0
GSW100E-12	5	225	244	234	309	9,4
GSW100E-16	6	285	304	294	369	12,0
GSW100E-20	7	370	390	380	455	15,0
GSW100E-28	8	483	503	492	576	20,0

Ordering instructions for type GSW100E:

type *0)	number of switching elements *1)	type of switching elements	gearbox *2)	ratio *2)	drive side (input) *3)
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Product overview:

GSW100E-	04	EGA400.2	[no statement]	[no statement]	[no statement]
	08	EGA400.5	GV	Have a look at the technical data of our gearboxes!	l [left side]
	12	EWÖ25.1			r [right side]
	16	EWS25.1			
	20				
	28				

Example:

GSW100E-08 EGA 400.5 GV 175:1 l

*0) This type is identical with the formerly type GSW100 with switch drums and electronic switching elements!

*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"!