

Rotary Encoder BG40, BGI40



Hand operated impulse generator with an optical contact system for quick and easy input of digital values.

- Adjustment forward and backward.
- Fly-wheel effect for quick first adjustment and therefore quick reaching of target value.
- Digit-exact precision adjustment by precise magnetical detent.
- Phase shift between output indicates direction of rotation.
- Wide range of input voltages.
- Low power consumption.
- Special version BGI 40 with additional make contact and momentary function, e.g. for fixing adjusted values.

1.0 Construction

1.1 Function	Rotary encoder with detent mechanism	
1.2 Bearing	Ball bearing/sleeve bearing as cross bearing	
1.3 Detent angle	7° 12'	
1.4 Detent graduation	50 positions per revolution	
1.5 Indication of revolution direction*	2 outputs with phase shift for direction of shaft rotation	
1.6 Contacts	Standard version	Soldering pins 2,5 mm
	Special version for connector	Contact pins 8,3 or 5,3 mm
1.7 Mounting	Central mounting	
	2 point mounting on request	

* See impulse diagram.

2.0 Electrical Data

2.1 Supply voltage	4,5 bis 16 V– bei ϑ_u 25°C	
2.2 Input current max.	60 mA	
2.3 Number of impulses	50 impulses per revolution at each output	
2.4 Outputs optional	Analogue output	2 photo-transistor-gates
	Digital output	2 Schmitt-Triggers for TTL-/C-MOS-technique. Fan out 10 TTL-standard-gates
2.5 Life expectancy mechanical	20x10 ⁶ revolutions with max. 500 U/min.	

3.0 Mechanical Data

3.1 Detent mechanism	Magnetic	
3.2 Operating torque	0,2 Ncm	
3.3 Fastening torque	100 Ncm	
3.4 Axial load	100 N	
3.5 Speed of revolutions, max.	1000 U/min.	
3.6 Vibratory strength	10 g, 10–500 Hz	
3.7 Shock strength	50 g, 11 ms	

4.0 Other Data

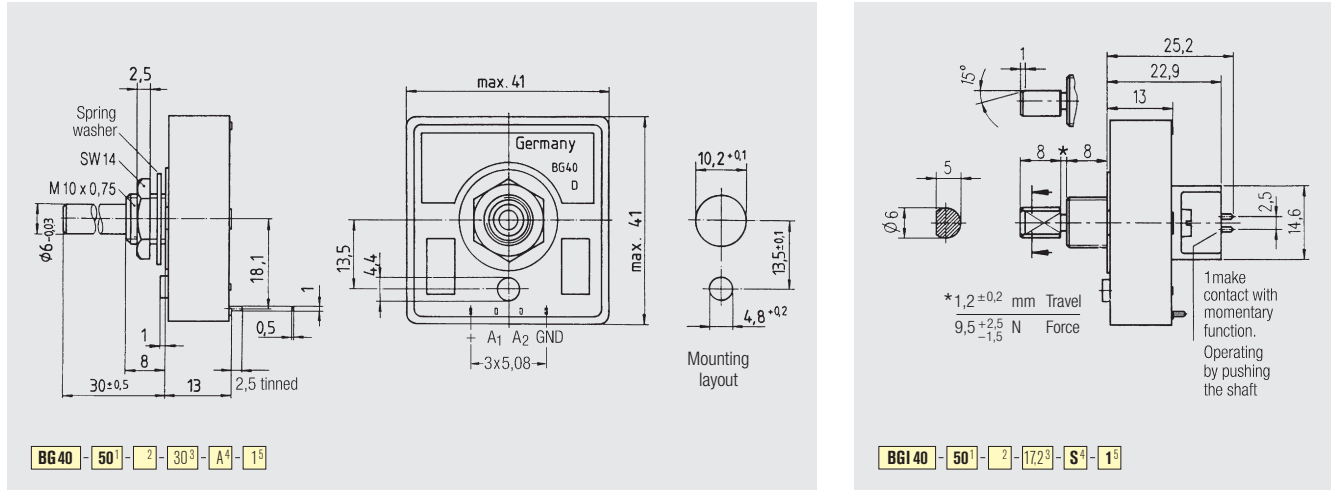
4.1 Contact material	Polyacetal, POM; Code PM	
4.2 Ambient temperature	–20 to 65°C	
4.3 Soldering time and temperature max.	5 s at 260°C	

Ordering Codes

Designation of type	BG 40 or BGI 40	
1. Detent graduations	50 per revolution	
2. Outputs	A = analog, D = digital	
3. Shaft length	in mm	
4. Shaft design	A = standard. S = special version	
5. Contacts	1 = soldering pins 2,5 mm, standard	
	2 = contact pins 8,3 mm for plug and socket connection	
	3 = contact pins 5,8 mm for plug and socket connection with locking device	

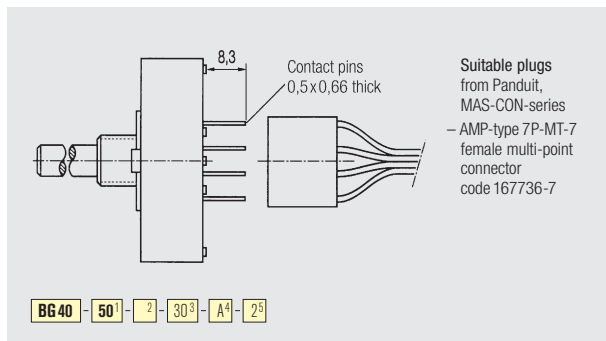
The bold-typed data in the yellow order blocks remain unchanged.
Normal-typed data match the drawings and can be modified according to your wishes.
Blanks need to be completed according to the ordering details on the previous page.

Dimensional Drawings · Dimensions in mm

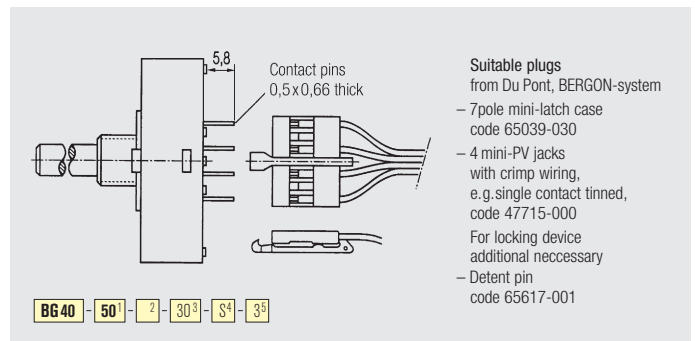


BG 40 · Standard version

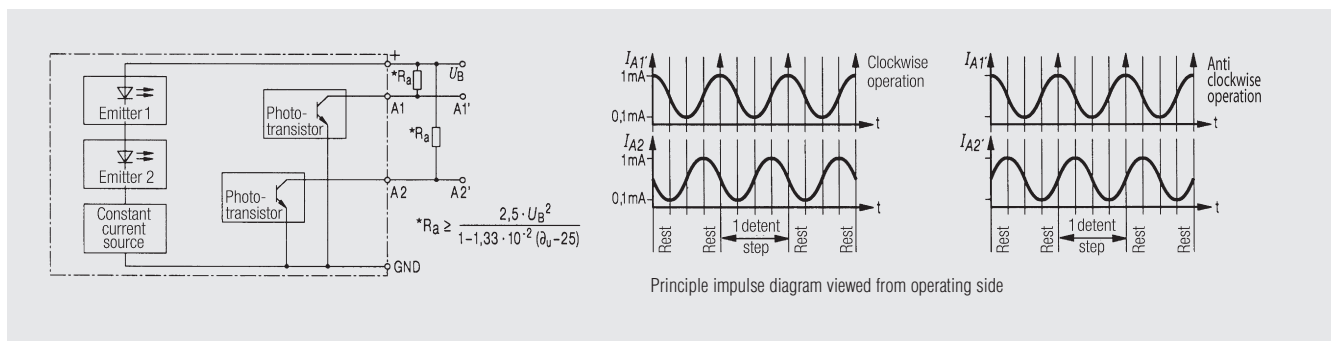
BG 140 · Version with additional make contact



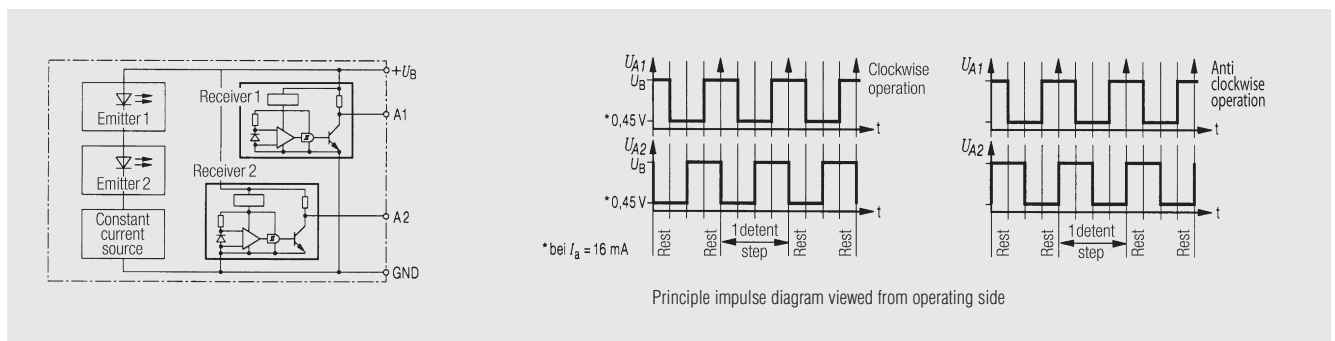
BG 40 · Pins 8,3 mm for plug and socket connection



BG 40 · Pins 5,8 mm for plug and socket connection with locking device



BG 40 · Principle circuit diagram and impulse diagram for analog output



BG 40 · Principle circuit diagram and impulse diagram for digital output