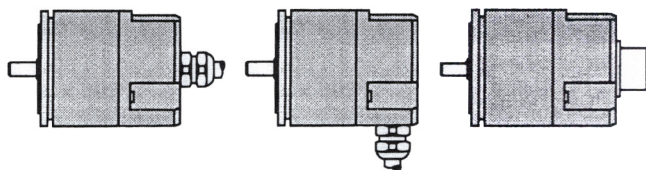


# User's Guide Encoders

## BRG B \_ \_ \_ \_ \_ -K/KA/S

Nr. 639 360 E • Edition 9603.



**CE** The CE-Mark certifies that our products have met the requirement of the CE Guideline 89/336/EEG (EMC Guideline):

- EN 61 326-2-3 (Emission and Noise Immunity)

### Emission Tests:

RF Emission: EN 55011:1997+A1

### Immunity Tests:

Static Electricity (ESD):

EN 61 000-4-2, Severity Level 3

Elektromagnetic Fields (RFI):

EN 61 000-4-3, Severity Level 3

Fast Transients (BURST):

EN 61 000-4-4, Severity Level 4

Line-fed disturbances by high-frequency fields

EN 61 000-4-6, Severity Level 3

## Technical Data

Outputs	6, PNP, short circuit protected
Accuracy	$\pm 1/2$ bit (at 24 V DC)
Repeatability	$\pm 45^\circ$ el.
Switching frequency	$\leq 1,5$ kHz (LSB)
Supply voltage $V_s$	15 ... 30 V DC
Ripple	$\leq 10\%$
Output voltage $V_o$	$\geq V_s - 3$ V (without load)
No-load current $I_R$	typ. 50 mA (at $V_s = 24$ V DC)
Output current $I_o$	$< 50$ mA (at $V_s = 24$ V DC)
Load capacitance $C$	300 nF (incl. cable capacity)
Housing material	aluminium
Mounting method	clamps
Operating temperature	$0^\circ$ to $60^\circ$ °C
Storage temperature	$-20^\circ$ to $+80^\circ$ °C
Enclosure	IP 67 IEC 529
RPM	max. 6000/min
Shaft loading	$F_{AX} \leq 10$ N; $F_{RAD} \leq 25$ N
Vibration	10 g, 10...150 Hz (IEC 68: 2-6)
Shock	50 g/11ms (IEC 68: Part 2-27)

## Safety Advisory

Series BRG encoders are used for electrical detection of mechanical positions (e.g. tool revolvers, drill heads) and may only be used for these or similar purposes.

### Installation and Operation:

Installation and Operation should be carried out by trained personnel only. Unauthorized handling and use will lead to loss of warranty and liability claims. When mounting and wiring, carefully read the corresponding sections of this guide.

### Use and Checking:

Follow all relevant safety procedures when using this product. Take all steps necessary to ensure that failure of this product will not cause danger to persons or equipment (e.g. limit switches, safety devices). Regularly check the functionality of the encoder and all associated components.

### Fault Conditions:

When it is suspected that the encoder is faulty, take it out of service and take measures to ensure that it is not used.

### Scope:

This description pertains to encoders in Balluff Series BRG B \_ \_ \_ \_ -K/KA/S.

## Identifying the Encoder

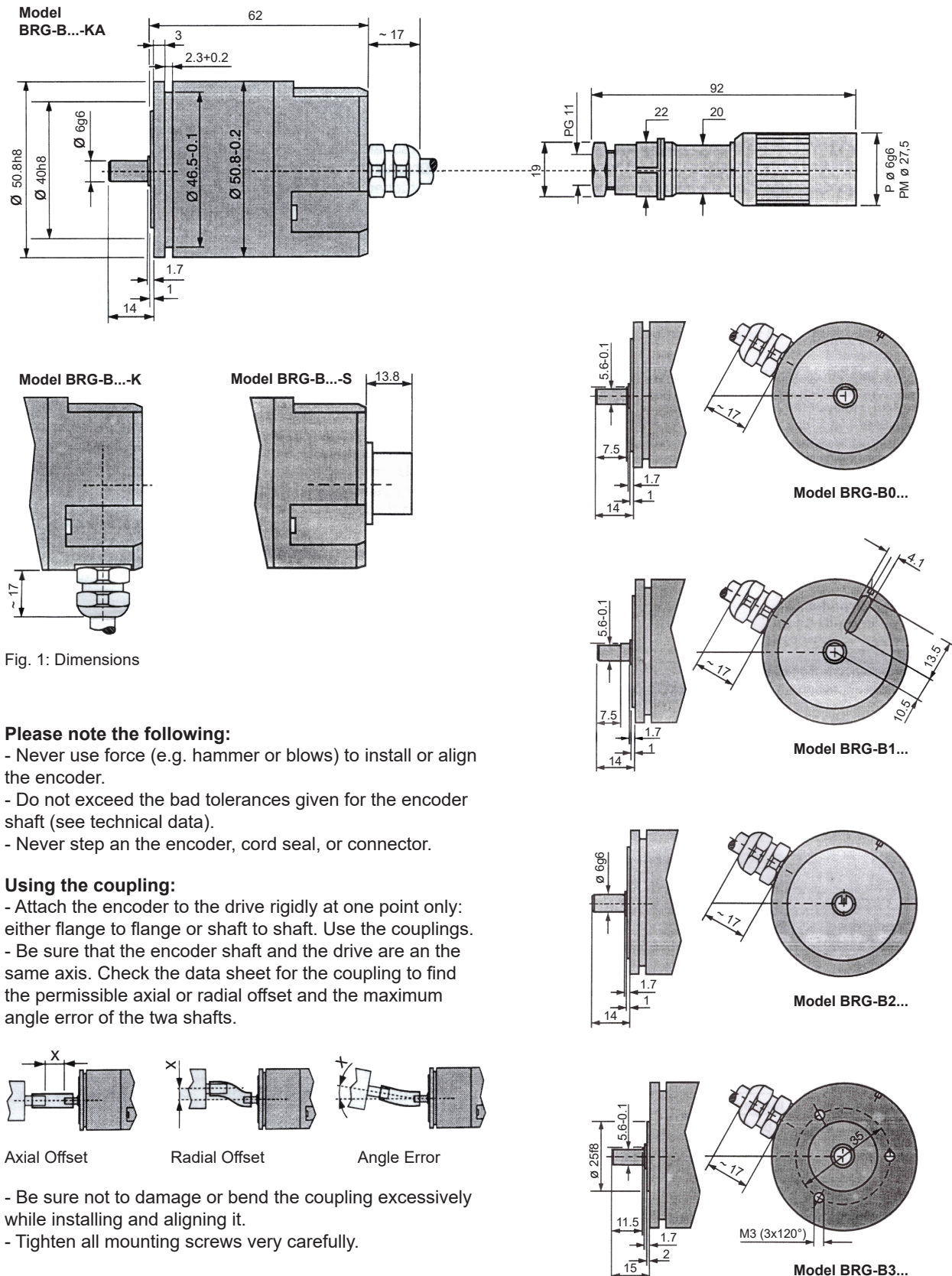
### Ordering Code

Example: BRG B 2-WBB-08-EP-P-L-K-02

Type	
Series	
Version	0, 1, 2, 3
Coding (see truth table) (upon request)	
No. of Positions	
Parity	EP = even OP = odd 00 = no
Outputs	P = High Side Driver
Rotation (looking at shaft end)	L = left (CCW) R = right (CW)
Connection type	K = Radial cable KA = Axial cable S = Connector

Subject to change without notice

### Installation



### Elektrische Anschlüsse

#### Note the following:

- Connect all cable according to the table at lower right.
- Isolate all unused grounds (to avoid short circuit).
- Make sure that self-wired connectors are sealed properly. Oil or water entering along the cable can enter the electronics area and destroy the unit.
- The IP 67 rating can be assured only if your connections, especially in the case of short cables, meet the IP 67 specification also.
- Do not route the BRG encoder cable parallel to AC lines, in order to avoid noise coupling.
- Use shielded cable only, in order to avoid noise coupling.
- Ground the shield on the control side only.
- Plug or unplug the encoder connector only after power has been turned off.
- Turn power on and off to the encoder and the input device at the same time only.

#### Output Driver:

At overload all outputs will be switched off and after the fault has been removed the outputs will be switched on again automatically.

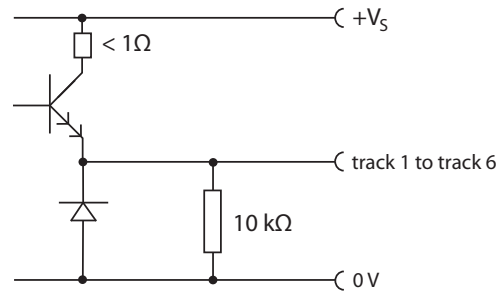


Fig. 5: Output circuit

Pin Configuration:  
Solder side view of  
the connector

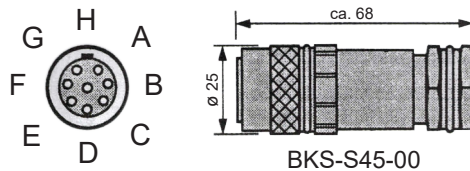


Fig. 3: Connector for BRG-B-...S

#### Pin Configuration

Track	Cable
+Vs	BN brown
0 V	BU blue
1	BK black
2	WH white
3	YE yellow
4	GN green
5	VI violett
6	PK pink

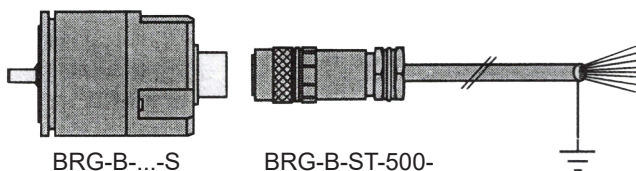


Fig. 4: Cable/ connector assembly for BRG-B-...S

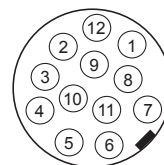


Fig. 6: Pin configuration 12-pole special version