

# MzSG Series

## Multi-Turn Absolute Shaft Encoder

Maximum Resolution ..... 30 bits

Shaft Diameter ..... 6 or 10mm

### MECHANICAL SPECIFICATIONS

RPM ..... Max.  
 6000 Torque ..... IP65, 7Ncm  
 Loading ..... Axial 40N, Radial 110N  
 Weight ..... 200g  
 Temperature ..... -20°C to +70°C

### ELECTRICAL

Current ..... 400mA @ 10V - 180mA @ 24V  
 Signal frequency for the LSB ..... 100kHz  
 Max Switching load ..... 20mA

### FEATURES

The MzSG Series is an IP65 protected industrial encoder designed for normal industrial environments. The output data is a true parallel code; suitable for reading direct into a panel meter or standard PLC input card.

**NOTE:** All output signals are short circuit protected. The input control wire is protected against open circuit or connection to the positive supply.

Refer to COUPLING data sheet for our range of zero backlash shaft couplings, which must be used to drive these encoders.

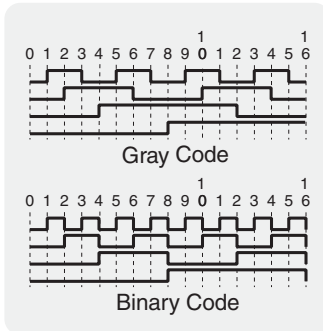
### NOTE

Three control inputs are provided to customise the encoder to suit different applications while retaining a single stock item.

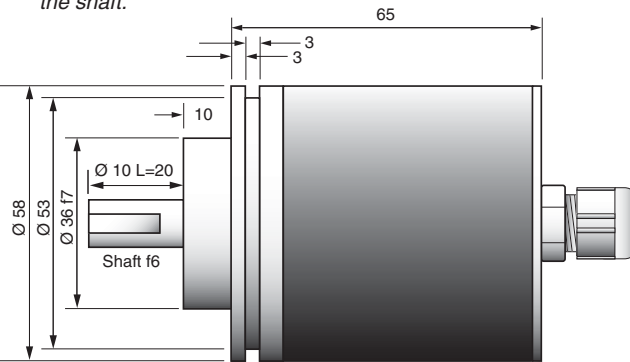
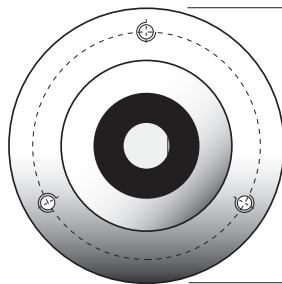
1. **PRESET** Connect to the + supply for greater than 100ms to reset the output bits to all read zero. This feature eliminates the necessity to co-ordinate the mechanical and electrical zero positions.

2. **LATCH** Connect to the + supply to hold the output data from changing, updates immediately the signal returns to logic 0.

3. **COUNT DIRECTION** When at logic 0 the output will count UP with clock wise (CW) rotation, when connected to + supply the output will count up with counter clockwise rotation (CCW) of the shaft.



3 x M4 Mounting Holes at 48mm PCD & 120° Apart



PG7 Cable gland and metal plug base, extends approximately 22mm



Optional side entry

**NOTE:** Wiring code can vary, refer to product label for final details.

### MzSG Series Multi-turn Absolute

Signal	Plug Pin	Cable
Bit 1	1	White
Bit 2	2	Brown
Bit 3	3	Green
Bit 4	4	Yellow
Bit 5	5	Grey
Bit 6	6	Pink
Bit 7	7	Blue
Bit 8	8	Red
Bit 9	9	Black
Bit 10	10	Violet
Bit 11	11	Grey-Pink
Bit 12	12	Red-Blue
Bit 13	13	White-Green
Bit 14	14	Brown-Green
Bit 15	15	White-Yellow
Bit 16	16	Yellow-Brown
Bit 17	17	White-Grey
Bit 18	18	Grey-Brown
Bit 19	19	White-Pink
Bit 20	20	Pink-Brown
Bit 21	21	White-Blue
Bit 22	-	Brown-Blue
Bit 23	-	White-Red
Bit 24	-	Brown-Red
Bit 25	-	White-Black
Preset	22	Brown-Black
Latch	23	Grey-Green
CW/CCW	24	Yellow-Grey
+10-30 V	25	Pink-Green
0 Volts	26	Yellow-Pink

## Part Number Selection Guide

Series	Mechanical Options	Electrical Options	Reading Range
1 2 3 4	5 6 7 8	9 10 11 12	12, 13 or 16 Bits
M <input type="text"/> <input type="text"/> S G	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> A M /	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
<b>Number Of Shaft Turns</b>	<b>Wiring Entry</b>	<b>Options</b>	12 Bit = 04,096
4 Bit = 16 ..... V	Rear or Axial .... R	None available ..... A	13 Bit = 08,192
8 Bit = 256 ..... C	*Side or Radial .... S	10-30V Push Pull ..... M	16 Bit = 65,536
12 Bit = 4,096 ..... J	* Only available for aluminium housing	<b>Parallel Output Code</b>	
14 Bit = 16,348 ..... L	<b>Wiring Method</b>	Gray ..... A	
<b>Stainless Steel Shaft</b>	Cable 2 Metres ..... 2	Binary ..... B	
Metric ..... 06 or 10mm	Cable 5 Metres ..... 3		
<b>Housing Material</b>	Cable - Custom Length ... 4		
IP65 Aluminium ..... H	Plug 26 Pin ..... P		
IP66 Aluminium ..... J			
IP66 Stainless Steel ..... S			

Made by Fraba of Germany serviced in Australia by **PCA**

**NOTE:** Refer to NzSG Series for serial Buss encoders.

**NOTE:** When determining the resolution of the encoder, remember to consider that the number of pins in the plug, or cores in the cable will ultimately determine the number of bits you can select. The sum of the bits limit for a 26 Pin plug = 21 Bits and Cable = 25 Bits.