



Incremental Encoder B58N



Quality, precision and confiability

The incremental encoder B58N Series is rugged, compact and very flexible sensor.

A completerange of mechanical options are offered in solid shaft, hollow shaft and spread shaft, besides a variety of mounting flanges and electrical connections.

Based on what's latest in optical and electronic technologies, B58N series has as key specifictions:

- Resolution from 1 to 5000 PPR
- Protection against overvoltage, reverse polarity and short circuit between exits
- External diameter of 58mm
- Operating tempeature from 0° C to 100°C
- Storage temperature from -20°C to 100°C
- Compact with approximately 400g
- 1 year warranty
- Reduced production lead time (on request)



Turbo
Manufacturing



CUSTOMIZED PRODUCTS
MANUFACTURED IN >>>

24h*

* Request service conditions

Mechanical characteristics

| | |
|-------------------------------|--|
| Maximum rotation | 6000 RPM |
| Bearing life | 20.000 hrs (100 N charge and maximum rotation) |
| Starting torque | 0,6N.cm (solid shaft) and 1,0N.cm (hollow shaft, spread shaft and hubshaft) |
| Moment of inertia | 35 g.cm ² (solid shaft), 28 g.cm ² (hollow shaft) and 45g.cm ² (spread shaft) |
| Runout | +/- 0,13 mm |
| Endplay | +/- 1,27 mm |
| Diameter size options: | |
| Solid | 6 mm, 8 mm, 10 mm, 12 mm |
| Hollow | 8 mm, 10 mm, 12 mm or 15 mm |
| Passing | 8 mm |
| Spread | 8 mm or 10 mm |
| Hubshaft | 12 mm |

Electrical characteristics

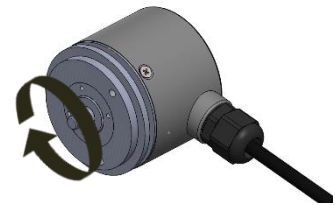
| | |
|--|--|
| Input Power | 5 - 26 Vcc |
| Outputs | HTL (5-26 VCC) or TTL (5 VCC) maximum 40mA |
| Consumption | < 60 mA + outputs loads |
| Frequency response | 125 kHz |
| Resolution | 1 to 3600 PPR |
| Electrical protection | Polarity reversal, short-circuit between outputs and overvoltage |
| Signal format | Two signals (A and B - quadrature) reference signal (Z) and complementary signals. |
| Phase sense | Until 625 PPR: 90° ± 15° Above 625 PPR: 90° ± 30° |
| Symmetry | Until 1024 PPR: 180° ± 18° Above 1024 PPR: 180° ± 25° |
| Referency signal (Z, Marker, Index) | Format 1 - Non-synchronized reference - "Ungated" (standard) Format 2 - Synchronized with the upstream edge of "Gated" B channel (only for 1024 and 2048 PPR) |

Ambiental characteristics

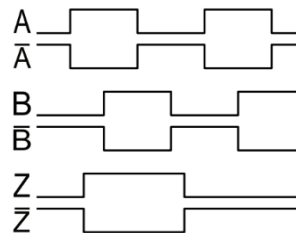
| | |
|------------------------------|--------------------------------|
| Operating temperature | 0°C to 100°C |
| Storage temperature | -20°C to 100°C |
| Impact | 100 G's per 11 miliseconds |
| Vibration | 5 Hz to 2000 Hz to 20 G's |
| Umity | Until 98% without condensation |
| Protection case | IP67 |
| Certifications | RoHS Compliant |

Signal format

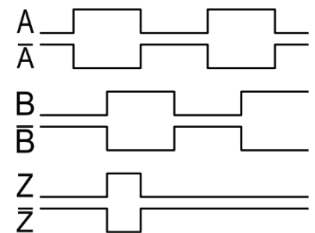
Clockwise rotation direction
Positive lag (rising edge of channel A before B)



Format 1 (Z "Ungated")



Format 2 (Z "Gated")



Ordering Information

| Code 1: Model | Code 2: PPR | Code 3: Mounting | Code 4: Shaft | Code 5: Output | Code 6: Termination | Code 7: Cable length | Code 8: Plug |
|------------------|----------------|---|------------------|---|------------------------|---|--|
| B58N | □□□□ | □ | □ | □ | □ | □ | □ |
| B58N | 0001 | Solid Shaft | | Format 1 "Ungated" | | 1 1,5 m 2 2 m 3 3 m 4 4 m 5 5 m 6 6 m 7 7 m 8 8 m 9 9 m A 10 m B 15 m C 20 m D 25 m E 30 m F 35 m G 40 m I 50 m P 0,15 m S 0,5 m T 1,0 m | 0 Sem plug CONIN (M23) A Female cw / internal thread B Female ccw / internal thread S Male cw / external thread R Male ccw / external thread 8 Pin Connector L Plug Military 10 Pin 2 Male 7 Male + Plug DB9 Connector K Male |
| | 0024 | S Synchro Flange | 6 6 mm | A 5 Vdc – TTL | | | |
| | 0025 | K Clamping Flange | 8 8 mm | B 5 Vdc / 26 Vdc – HTL | | | |
| | 0035 | Q Square Flange | A 10 mm | Format 2 "Gated" ³ | | | |
| | 0040 | A Round Flange | C 12 mm | | | | |
| | 0050 | Z Special "BA" Flange | | C 5 Vdc – TTL | | | |
| | 0060 | | | D 5 Vdc / 26 Vdc – HTL | | | |
| | 0100 | Hollow Shaft | | | | | |
| | 0120 | D Frount Mounting | 8 8 mm | | | | |
| | 0192 | H Rear Mounting | A 10 mm | | | | |
| | 0200 | (except for 15 mm model) | C 12 mm | | | | |
| | 0240 | | F 15 mm | | | | |
| | 0250 | Spread Shaft | | | | | |
| | 0256 | X Spread Shaft | 8 8 mm | | | | |
| | 0300 | | A 10 mm | | | | |
| | 0360 | Solid Passing Shaft | | | | | |
| | 0500 | P Solid Passing Shaft | 8 1 mm | | | | |
| | 0512 | | | | | | |
| | 0600 | Hubshaft | | | | | |
| | 0625 | D Hubshaft | G 12 mm | | | | |
| | 0720 | | | | | | |
| | 1000 | Note: By choosing hollow shaft, spread shaft or solid passing shaft, the connection (Code 6) must be radial. | | | | | |
| | 1024 | | | | | | |
| | 1200 | | | | | | |
| | 1250 | | | | | | |
| | 1440 | | | | | | |
| | 2000 | | | CONIN (M23)¹ C Radial CW D Radial CCW E Axial CW F Axial CCW CONIN (M23)² G Radial CW H Radial CCW Q Axial CW R Axial CCW 8 pin connector J Axial ¹ L Radial ¹ S Radial ² | | | |
| 2048 | | | | | | | |
| 2500 | | | | | | | |
| 2540 | | | | | | | |
| 2600 | | | | | | | |
| 3600 | | | | | | | |

Contact our
Factory for
options
below
4096, 5000

¹ Mating plug supplied
² Mating plug not supplied
³ Only for 1024 PPR and 2048 PPR

Ordering code example

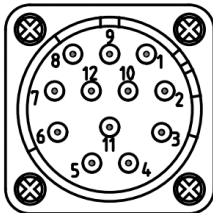
B58N 0512 SA BA 1A

Encoder B58N 512 PPR, solid 10mm shaft, 5Vdc / 26Vdc - HTL output, 1,5m axial cable, M23 cw plug

PINNING

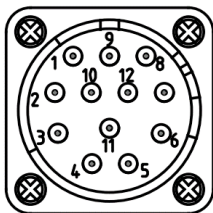
CODE 6 - ELECTRICAL CONNECTION

- C/E/G/Q (CONIN M23)



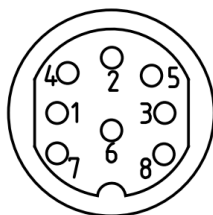
| Pin | Function |
|-----|--------------|
| 1 | GND |
| 2 | Power Source |
| 3 | Channel A+ |
| 4 | Channel B+ |
| 5 | Channel A- |
| 6 | Channel B- |
| 7 | Channel Z+ |
| 8 | Channel Z- |
| 9 | Case |
| 10 | - |
| 11 | - |
| 12 | - |

- D/F/H/R (CONIN M23)



| Pin | Function |
|-----|--------------|
| 1 | Channel B- |
| 2 | - |
| 3 | Channel Z+ |
| 4 | Channel Z- |
| 5 | Channel A+ |
| 6 | Channel A- |
| 7 | - |
| 8 | Channel B+ |
| 9 | Case |
| 10 | GND |
| 11 | - |
| 12 | Power Source |

- J/L/S (8 pin)*

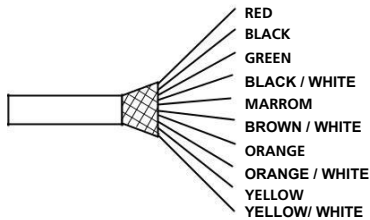


| Pin | Function |
|-----|--------------|
| 1 | GND |
| 2 | Power Source |
| 3 | *Channel A+ |
| 4 | *Channel B+ |
| 5 | *Channel A- |
| 6 | *Channel B- |
| 7 | Channel Z+ |
| 8 | Channel Z- |

*negative gap

CODE 8 - PLUG 10 WIRE CABLE

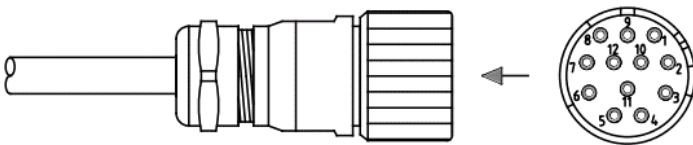
- 0 (Without Plug)



| Wire | Function |
|----------------|--------------|
| Red | Power Source |
| Black | GND |
| Green | Case |
| Black / white | - |
| Brown | Channel A+ |
| Brown / white | Channel A- |
| Orange | Channel B+ |
| Orange / white | Channel B- |
| Yellow | Channel Z+ |
| Yellow / white | Channel Z- |

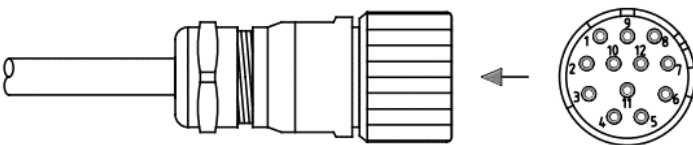
CONIN (M23)

- A



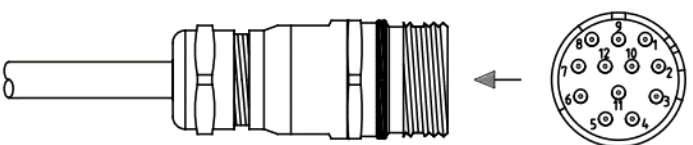
| Pin | Function |
|-----|--------------|
| 1 | GND |
| 2 | Power Source |
| 3 | Channel A+ |
| 4 | Channel B+ |
| 5 | Channel A- |
| 6 | Channel B- |
| 7 | Channel Z+ |
| 8 | Channel Z- |
| 9 | Case |
| 10 | - |
| 11 | - |
| 12 | - |

- B



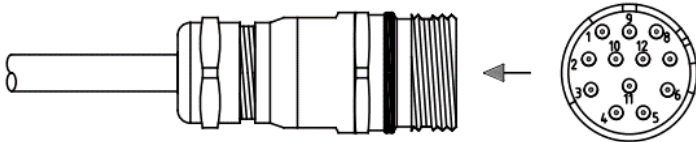
| Pin | Function |
|-----|--------------|
| 1 | Channel B- |
| 2 | - |
| 3 | Channel Z+ |
| 4 | Channel Z- |
| 5 | Channel A+ |
| 6 | Channel A- |
| 7 | - |
| 8 | Channel B+ |
| 9 | Case |
| 10 | GND |
| 11 | - |
| 12 | Power Source |

- S



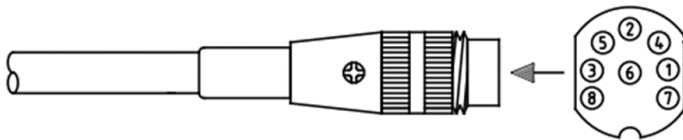
| Pin | Function |
|-----|------------|
| 1 | GND |
| 2 | VCC |
| 3 | Channel A+ |
| 4 | Channel B+ |
| 5 | Channel A- |
| 6 | Channel B- |
| 7 | Channel Z+ |
| 8 | Channel Z- |
| 9 | Case |
| 10 | - |
| 11 | - |
| 12 | - |

- R



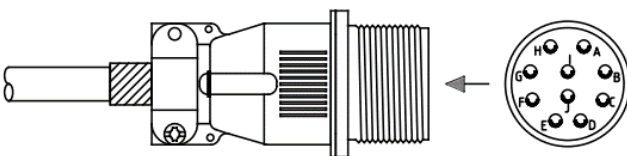
8 PIN CONNECTOR

- L



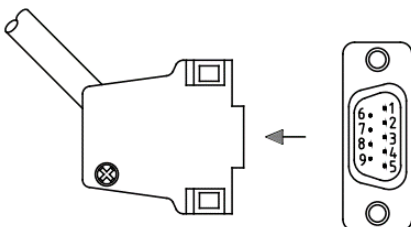
MILITARY 10 PIN

- 2 or 7



DB9 CONNECTOR

- K



| Pin | Function |
|-----|--------------|
| 1 | Channel B- |
| 2 | - |
| 3 | Channel Z+ |
| 4 | Channel Z- |
| 5 | Channel A+ |
| 6 | Channel A- |
| 7 | - |
| 8 | Channel B+ |
| 9 | Case |
| 10 | GND |
| 11 | - |
| 12 | Power Source |

| Pin | Function |
|-----|--------------|
| 1 | GND |
| 2 | Power Source |
| 3 | *Channel A+ |
| 4 | *Channel B+ |
| 5 | *Channel A- |
| 6 | *Channel B- |
| 7 | Channel Z+ |
| 8 | Channel Z- |

***negative gap**

| Pin | Function |
|-----|--------------|
| A | Channel A+ |
| B | Channel B+ |
| C | Channel Z+ |
| D | Power Source |
| E | - |
| F | GND |
| G | Case |
| H | Channel A- |
| I | Channel B- |
| J | Channel Z- |

| Pin | Function |
|-----|--------------|
| 1 | GND |
| 2 | Channel B+ |
| 3 | Channel B- |
| 4 | Channel A- |
| 5 | Channel A+ |
| 6 | - |
| 7 | Channel Z+ |
| 8 | Channel Z- |
| 9 | Power Source |