

## Type SCH68B

- Hollow Shaft Encoder -  $\varnothing$  68 mm (2.68")
- Through Hollow Bore:  $\varnothing$  16 mm to  $\varnothing$  1 inch
- Resolution up to 12500 ppr
- Shaft Loads to 100 N (22.5 lbs)
- IP 65 (IP 66 & 67 options)

### Electrical Specifications

<b>Code:</b>	Incremental
<b>Resolution:</b>	1 to 12,500 ppr (pulses per revolution)
<b>Supply Voltage:</b>	4.5 Vdc min. to 30 Vdc max. (45 mA max. - no load)
<b>Output Voltage:</b>	Low: 500 mV max. at 10 mA High: (Vin - 0.6) at -10 mA (Vin - 1.3) at -25 mA
<b>Output Current:</b>	30 mA max. load per output channel
<b>Frequency Response:</b>	300 kHz max.
<b>Output Format:</b>	Two channel (A, B) quadrature with Index (Z) and optional complementary (A-, B-, Z-) outputs
<b>Phase Sense:</b>	A leads B clockwise (CW) from the shaft end of the encoder
<b>Index:</b>	Gated with Channels A and B high
<b>Accuracy:</b>	+/- 0.8 arc-min.
<b>Outputs:</b>	ASIC Push-pull and Differential OL7272 Push-pull and Differential Line Driver 26C31 Differential Line Driver 5V output (with 5V input)
<b>Electrical Protection:</b>	Reverse polarity and output short circuit protected
<b>Noise Immunity:</b>	Tested to EN61000-6-2 : 2005 (industrial environments) Electromagnetic compatibility (EMC) and EN 61000-6-3 : 2007 (residential, commercial, and light-industrial environments) for Electromagnetic compatibility (EMC)

### Mechanical Specifications

<b>Material:</b>	Housing: Aluminum Cap: Aluminum Hollow Shaft: Brass alloy (CuZn39Pb3)
<b>Weight:</b>	Encoder: Approx. 400 gr (14.11 oz) Cable: 60 gr / meter (2.1 oz / meter)
<b>Bearing Life:</b>	> $1.9 \times 10^{10}$ revolutions at rated load
<b>Shaft Speed:</b>	3,000 rpm max. IP 65 1,500 rpm max. IP 67 (option)
<b>Starting Torque:</b>	< 0.05 Nm (7.08 oz-in) at 25° C IP 65 < 0.1 Nm (14.16 oz-in) at 25° C IP 67
<b>Mass Moment of Inertia:</b>	50 gcm <sup>2</sup> (7.08 x 10 <sup>-4</sup> oz-in-sec <sup>2</sup> )
<b>Shaft Loads:</b>	Radial 100 N (22.50 lbs) max.

### Environmental Specifications

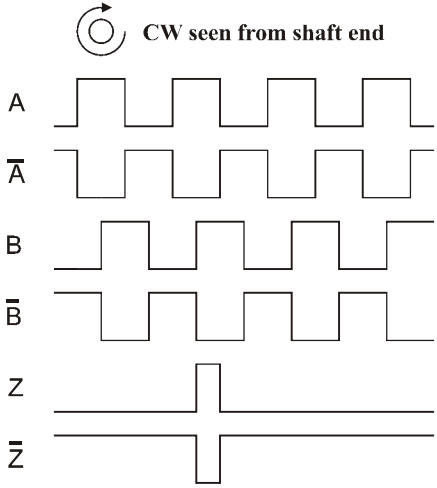
<b>Operating Temperature:</b>	-40° to +100° C
<b>Storage Temperature:</b>	-40° to +100° C
<b>Shock:</b>	100 G @ 11 ms
<b>Vibration:</b>	10-2000 Hz @10 G
<b>Bump:</b>	10 G @ 16 ms (1000 x 3 axis)
<b>Humidity:</b>	98 % RH without condensation
<b>Enclosure Rating:</b>	IP 65 / Nema 4 (approx.) IP 66 / Nema 6 (approx.) option IP 67 / Nema 6 (approx.) option

### Connection Options

<b>Cable:</b>	8 leads (0.14 mm <sup>2</sup> , 26 AWG) twisted pairs; shielded
<b>Connectors:</b>	6-pin Mil radial 7-pin Mil radial 10-pin Mil radial

## Output waveform

## Disk Resolutions (pulses per revolution)



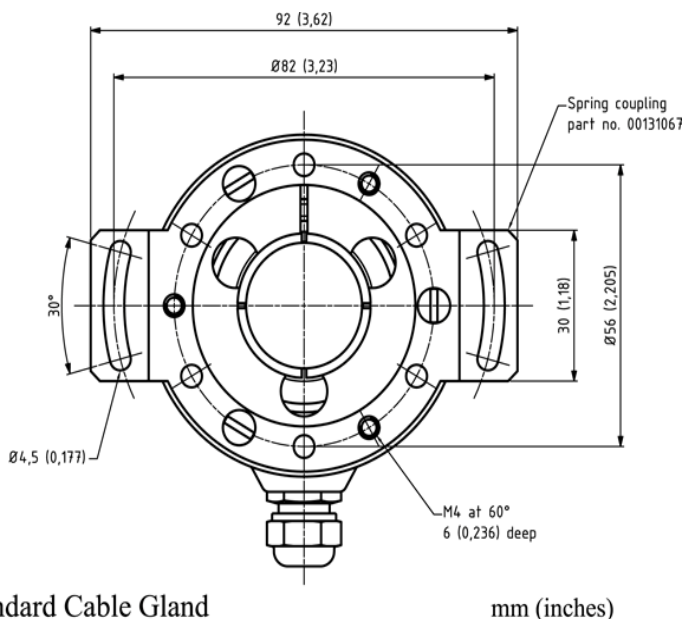
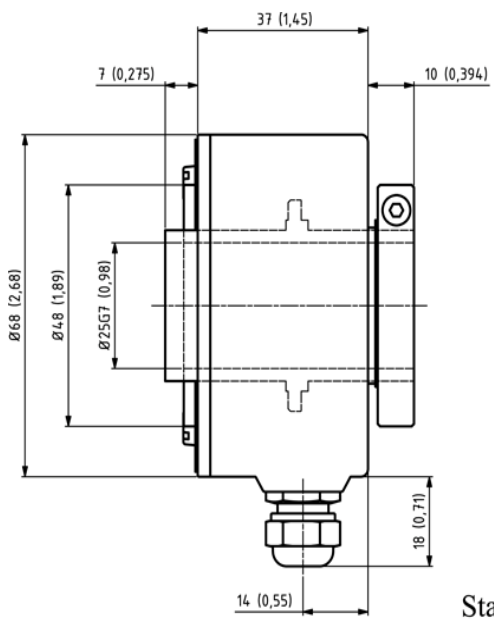
100	400	1024	2048	2500
3072	3600	4096		

*Other resolutions available on request*

Channel tolerance             $180\text{ e}^\circ \pm 36\text{ e}^\circ$   
 Phase difference tolerance     $90\text{ e}^\circ \pm 18\text{ e}^\circ$   
 Z channel tolerance             $90\text{ e}^\circ \pm 18\text{ e}^\circ$

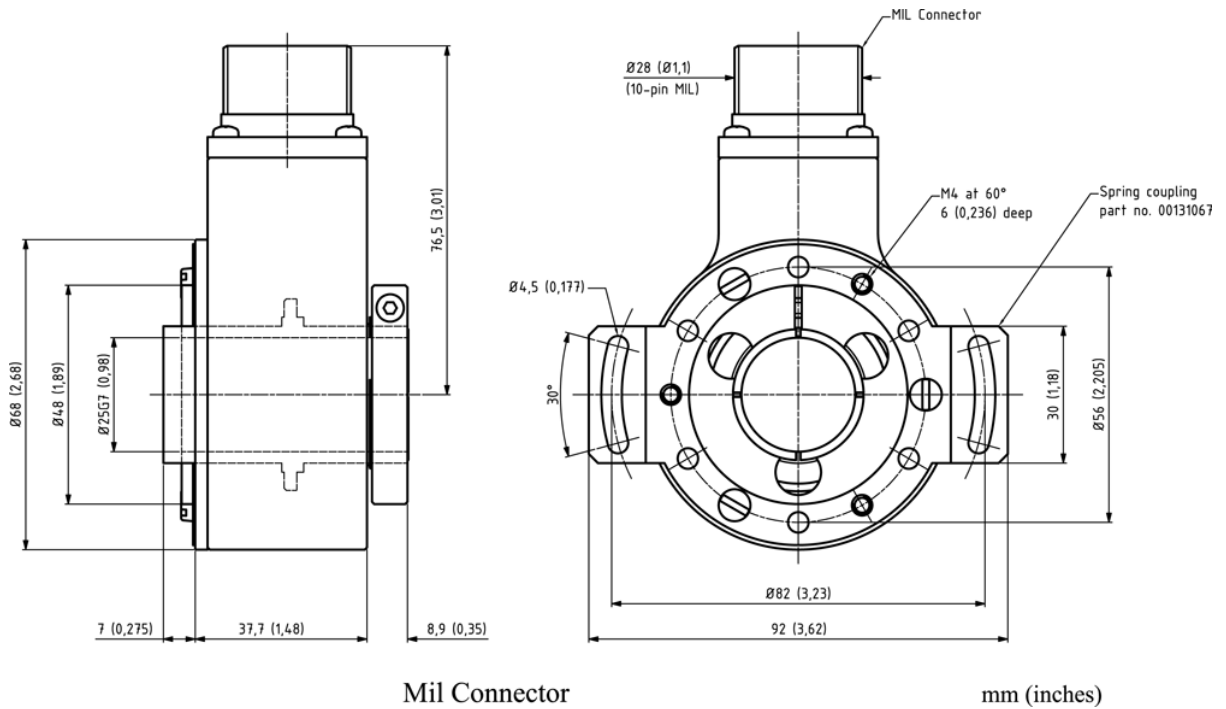
*Contact Scancon for other gating options*

## Mechanical Dimensions

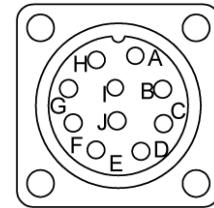
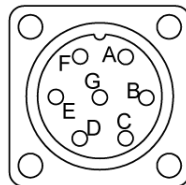
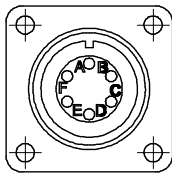


Standard Cable Gland

mm (inches)



## Output Terminations



Pin	6-pin Mil Connector		7-pin Mil Connector			10-pin Mil Connector	
	Standard Output	Differential Output	Standard Output	Optional Standard Output *	Differential Output	Differential Output	Optional Differential Output *
	Channel	Channel	Channel	Channel	Channel	Channel	Channel
A	GND	GND	Ch. A	Ch. A	Ch. A	Ch. A	Ch. A
B	Vsup	Vsup	Ch. B	Ch. B	Ch. B	Ch. B	Ch. B
C	Ch. Z	Ch. A -	Ch. Z	NC	Ch. A -	Ch. Z	Ch. A -
D	Ch. B	Ch. B	Vsup	Vsup	Vsup	Vsup	Vsup
E	Ch. A	Ch. A	NC	NC	Ch. B -	NC	Ch. B -
F	NC	Ch. B -	GND	GND	GND	GND	GND
G			Shield	Shield	Shield	Shield	Shield
H						Ch. A -	NC
I						Ch. B -	Ch. Z
J						Ch. Z -	Ch. Z -

\* ID number required

GND = Circuit Ground

Shield = Case Ground

Standard Cable		
	Standard Output	Differential Output
Channel	Wire Color	Wire Color
A	Pink	Pink
A -	Gray*	Gray
B	Green	Green
B -	Yellow*	Yellow
Z	White	White
Z -	Brown*	Brown
Vsup	Red	Red
GND	Blue	Blue

\* Internally connected as Ground

GND = Circuit Ground

## Ordering Code

Example: SCH68B - 1024 - D - 1/1 - 50 - 65 - 00 - S - C7 - S1

### Type

