

Type SCH68B

- 68 mm (2.68") Servo mount
- Through Hollow Shaft – rear clamp
- Hollow bore \varnothing 16 mm to 1"
- Shaft Loads to 100 N (22.5 lbs)
- Resolution up to 10,000 ppr.
- IP 65 (IP 66 & 67 options)

Electrical Specifications

Code:	Incremental
Resolution:	1 to 10,000 ppr (pulses per revolution)
Supply Voltage:	4.5 Vdc min. to 30 Vdc max. ** (45 mA max. - no load)
Output Voltage:	Low: 500 mV max. at 10 mA High: (Vin - 0.6) at -10 mA (Vin - 1.3) at -25 mA
Output Current:	30 mA max. load per output channel **
Frequency Response:	300 kHz max. **
Output Format:	Two channel (A, B) quadrature with Index (Z) and optional complementary (A-, B-, Z-) outputs
Phase Sense:	A leads B clockwise (CW) from the shaft end of the encoder
Index:	Gated with Channels A and B high
Accuracy:	+/- 0.8 arc-min.
Outputs:	ASIC Push-pull and Differential OL7272 Push-pull and Differential Line Driver 26C31 Differential Line Driver 5V output (with 5V input)
Electrical Protection:	Output short circuit protected Reverse polarity protected (ASIC and MP (OL7272) outputs only)
Noise Immunity:	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)

** = It is recommended user not to combine max. Value for all 3 parameters

Mechanical Specifications

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

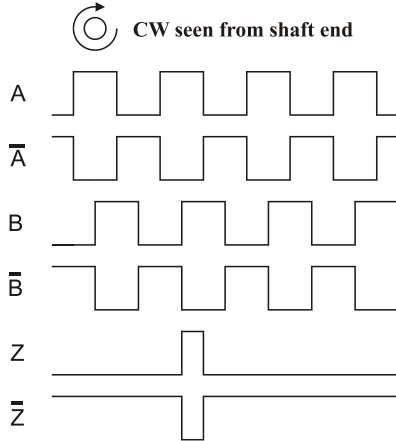
Environmental Specifications

Operating Temperature:	-40° to +85° C
Storage Temperature:	-40° to +85° C
Shock:	100 G @ 11 ms
Vibration:	10-2000 Hz @ 10 G
Bump:	10 G @ 16 ms (1000 x 3 axis)
Humidity:	98 % RH without condensation
Enclosure Rating:	IP 65 / Nema 4 (approx.) IP 66 / Nema 6 (approx.) option IP 67 / Nema 6 (approx.) option

Connection Options

Cable:	8 leads (0.14 mm ² , 26 AWG) twisted pairs; shielded
Connectors:	5-pin M12 8-pin M12 6-pin Mil radial 7-pin Mil radial 10-pin Mil radial

Output waveform



Disk Resolutions (pulses per revolution)

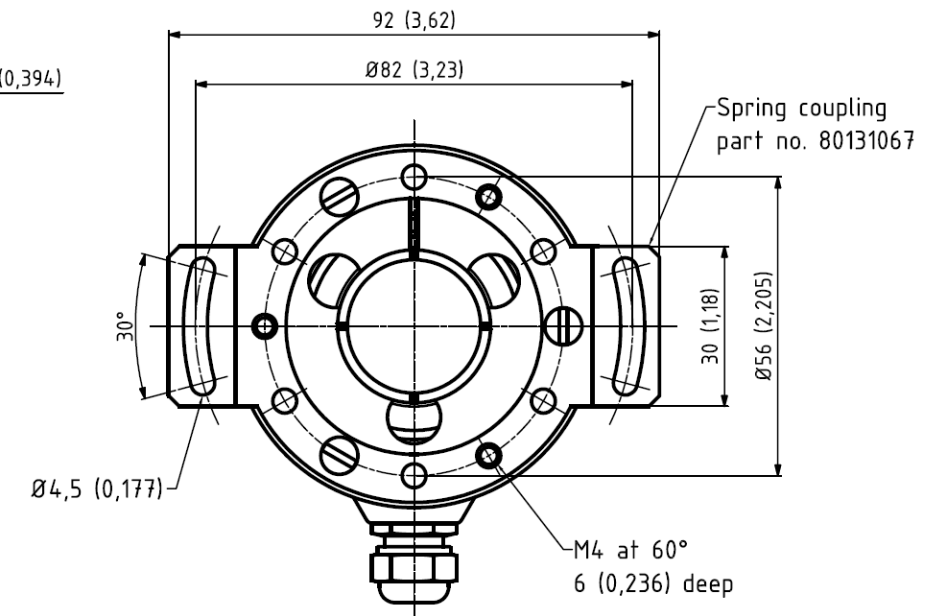
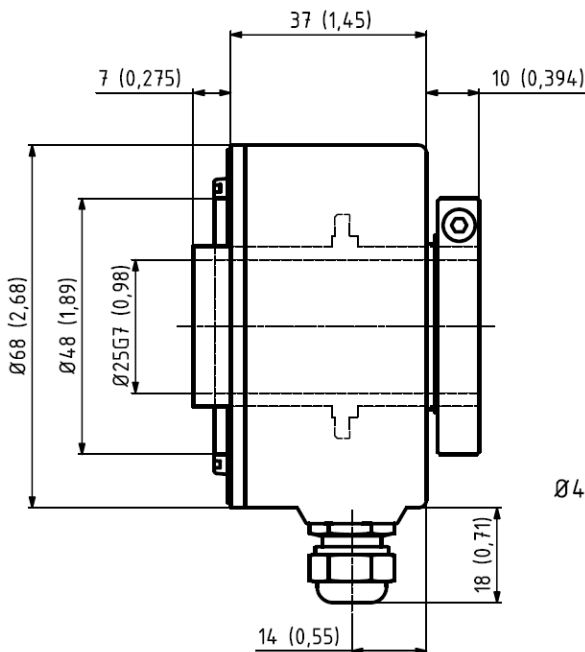
25	32	40	100
400	800	1024	2000
2048	2500	3072	3600
4096			

Other options on request

Pulses per revolution,
min. 1 – max. 10.000

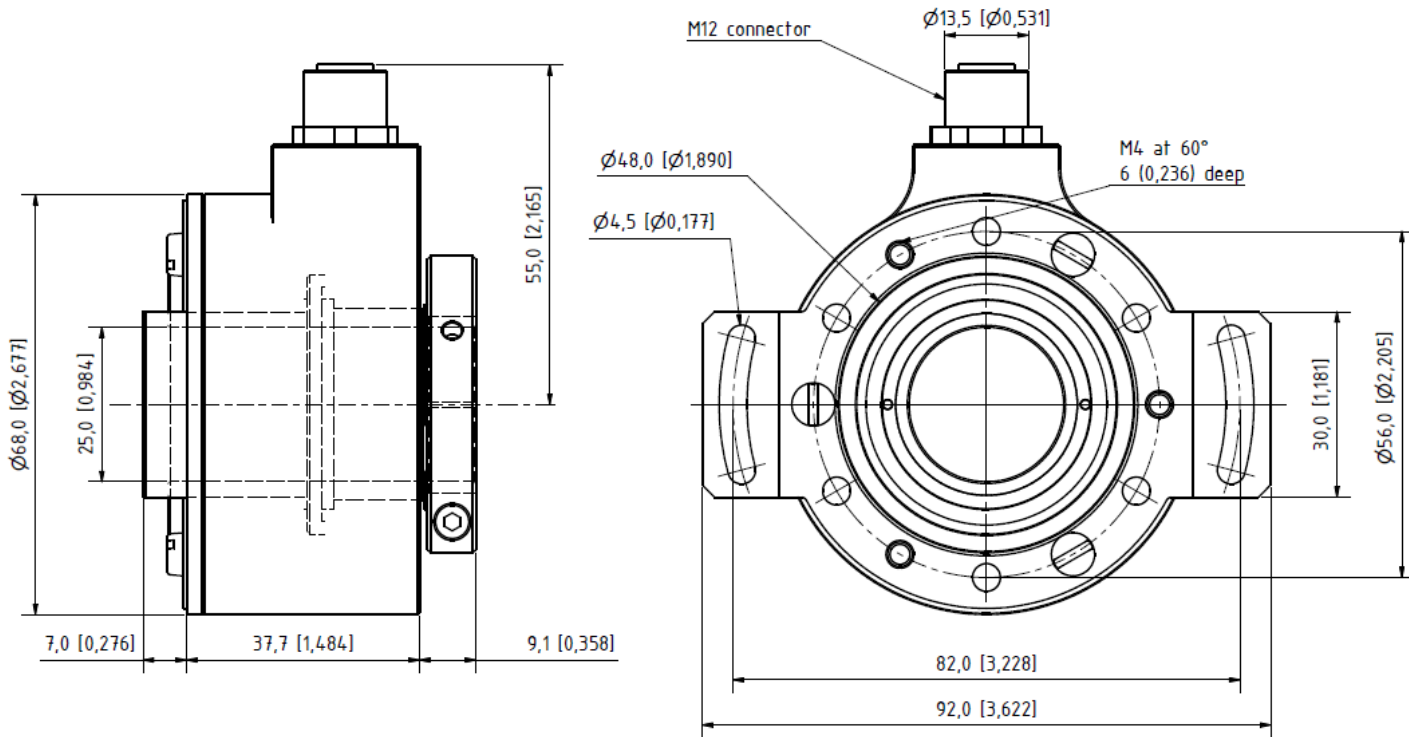
Channel tolerance $180 e^{\circ} \pm 36 e^{\circ}$
Phase difference tolerance $90 e^{\circ} \pm 18 e^{\circ}$
Z channel tolerance $180 e^{\circ} \pm 36 e^{\circ}$

Mechanical Dimensions

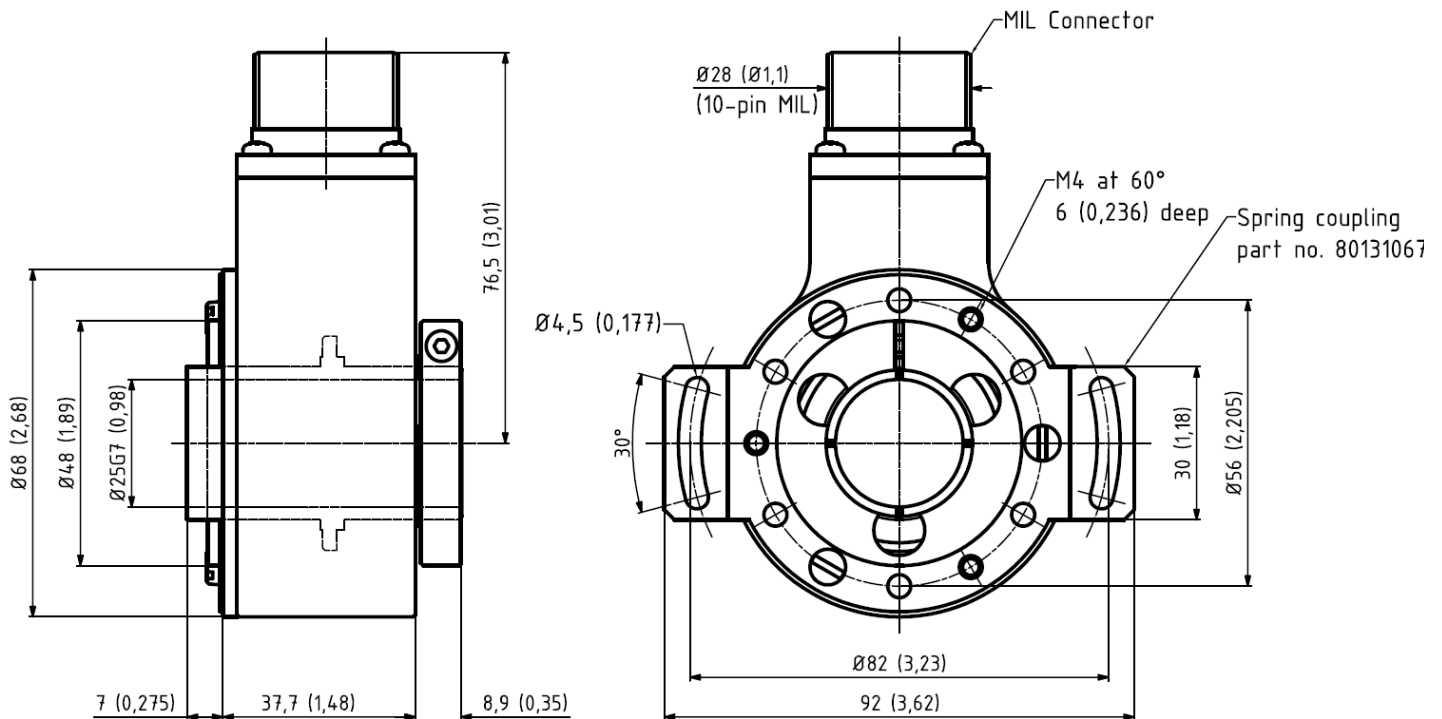


Standard Cable Gland

mm (inches)



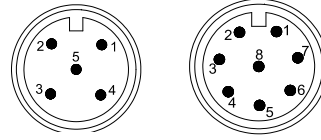
M12 Connector



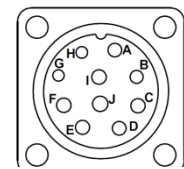
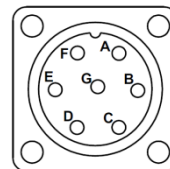
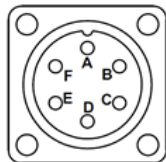
Mil Connector

mm (inches)

Output Terminations



Channel	Standard Cable		Pin	M12 5 - pin	M12 8 - pin
	Standard Output	Differential Output		Standard Output	Differential Output
	Wire Color			Channel	Channel
A	Pink	Pink	1	Vsup	A
A -	Gray*	Gray	2	B	Vsup
B	Green	Green	3	GND	A -
B -	Yellow*	Yellow	4	A	B
Z	White	White	5	Z	B -
Z -	Brown*	Brown	6		Z
Vsup	Red	Red	7		GND
GND	Blue	Blue	8		Z -



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	0 volt	0 volt	Ch. A	Ch. A	Ch. A	Ch. A	Ch. A
B	Vsup	Vsup	Ch. B	Ch. B	Ch. B	Ch. B	Ch. B
C	Z	A -	Ch. Z	NC	Ch. A -	Ch. Z	Ch. A -
D	B	B	Vsup	Vsup	Vsup	Vsup	Vsup
E	A	A	NC	NC	Ch. B -	NC	Ch. B -
F	NC	B -	0 volt	0 volt	0 volt	0 volt	0 volt
G			Shield	Shield	Shield	Shield	Shield
H						Ch. A -	NC
I						Ch. B -	NC
J						Ch. Z -	NC

* ID number required

Ordering code

Example: SCH68B – 1024 – D – 1/1 x 50 – 65 – 01 – S – 00 – S1

Type

SCH68B - [] - [] - [] - 50 - [] - [] - S - [] - []

Pulses per Revolution

See Table

Output

Standard	N
Differential	D
26C31 Line Driver 5V	L
26C31 Line Driver 9 to 30V input / 5V output	5L
OL 7272 Line Driver	M

Hollow Shaft Dia.

Hollow Shaft Depth

16 mm	16	x	50
20 mm	20	x	50
25 mm	25	x	50
5/8" (15,875 mm)	5/8	x	50
1" (25.4 mm)	1/1	x	50

IP Rating

IP 65	65
IP 66	66
IP 67	67

Cable Length

Cable	
Standard is 1 meter	01
Specify length	XX
No cable	00

Takeout

Side Radial S

Connector

M12 5 pins	P5
M12 8 pins	P8
MIL 6 pins	C6
MIL 7 pins	C7
MIL 10 pins	C10
No connector	00

Spring Coupling

1 holes p/n 80131017	S1
2 holes p/n 80131067	S2
1 holes p/n 80132464	S3
2 holes p/n 80131062	S4
No spring coupling	00

See Accessories for drawings

Other options on request:
Please contact Scancon A/S