

## Type SCH58B

- Hollow Shaft Encoder -  $\varnothing$  58 mm
- Through Hollow Bore:  $\varnothing$  3/8 in to  $\varnothing$  5/8 in
- Resolution up to 9.000 ppr
- IP 65 ( IP 66 optional )
- With 6, 7 or 10 Pin Mil Connector

### Electrical Specifications

<b>Code:</b>	Incremental
<b>Resolution:</b>	1 to 9000 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: ( $V_{in} - 0,6$ ) at -10 mA ( $V_{in} - 1,3$ ) 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 mounting 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)

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

### Mechanical Specifications

<b>Material:</b>	Housing: Aluminum Cap: Aluminum Hollow Shaft: Brass
<b>Weight:</b>	Encoder: ~ 320 gr (11,29 oz)
<b>Bearing Life:</b>	> 1,9 x 10 <sup>10</sup> revolutions at rated load
<b>Shaft Speed:</b>	4.500 rpm (max. sustained) IP 65 3.000 rpm (max. sustained) IP 66
<b>Starting Torque:</b>	< 0,02 Nm (2,83 oz-in) at 25° C
<b>Mass Moment of Inertia:</b>	107 gcm <sup>2</sup> (8,5 x 10 <sup>-5</sup> oz-in-sec <sup>2</sup> )
<b>Hollow Shaft Loads:</b>	Axial: 50 N (11,24 lbs) max. Radial: 50 N (11,24 lbs) max.

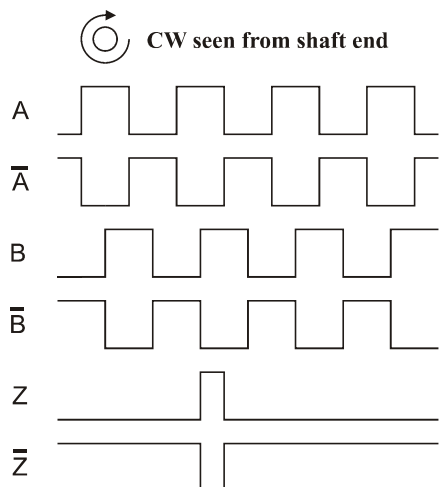
### Environmental Specifications

<b>Operating Temp.:</b>	-40° to +85° C
<b>Storage Temp.:</b>	-40° to +85° 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>IP Rating:</b>	IP 65 / Nema 5 (approx.) IP 66 / Nema 6 (approx.) option

### Connection Options

<b>Connectors</b>	6-pin Mil radial 7-pin Mil radial 10-pin Mil radial
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## Output waveform



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          $90\text{ e}^\circ \pm 18\text{ e}^\circ$

## Disk Resolutions (pulses per revolution)

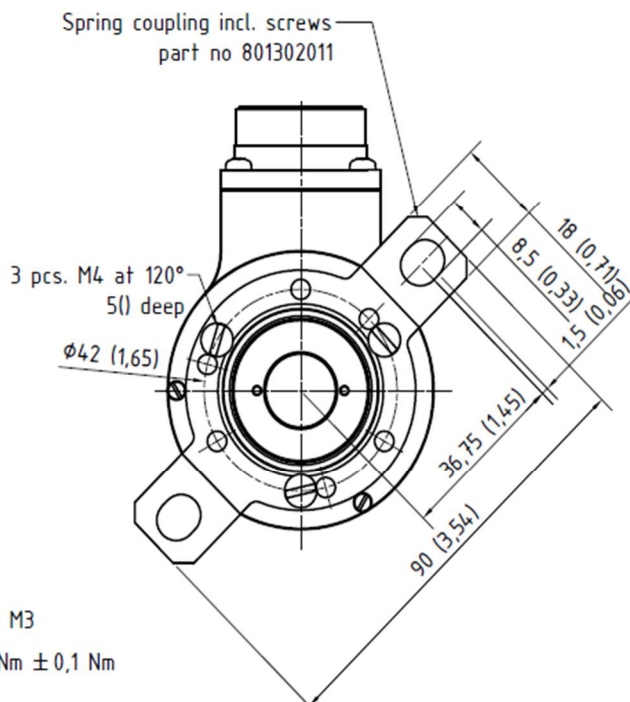
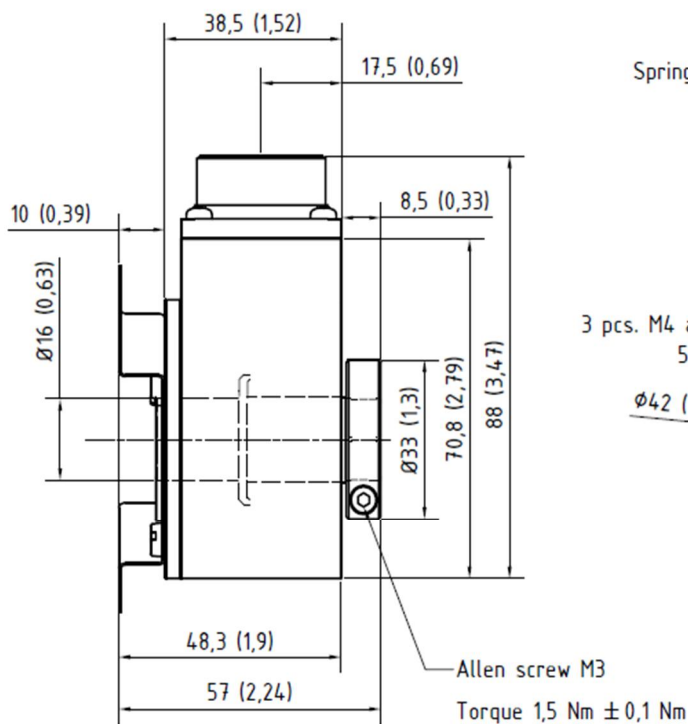
1	32	125	720	3000
2	36	150	800	3072
5	40	180	1000	3600
6	45	200	1000	4000
7	47	250	1024	4096
8	50	256	1131	5000
10	60	300	1200	8192
12	64	360	1250	9000*
15	70	400	1270	
16	75	455	1500	
18	80	500	2000	
20	90	512	2048	
25	100	600	2400	
30	120	635	2500	

### Other options on request

Pulses per revolution,  
 min. 1 – max. 9000

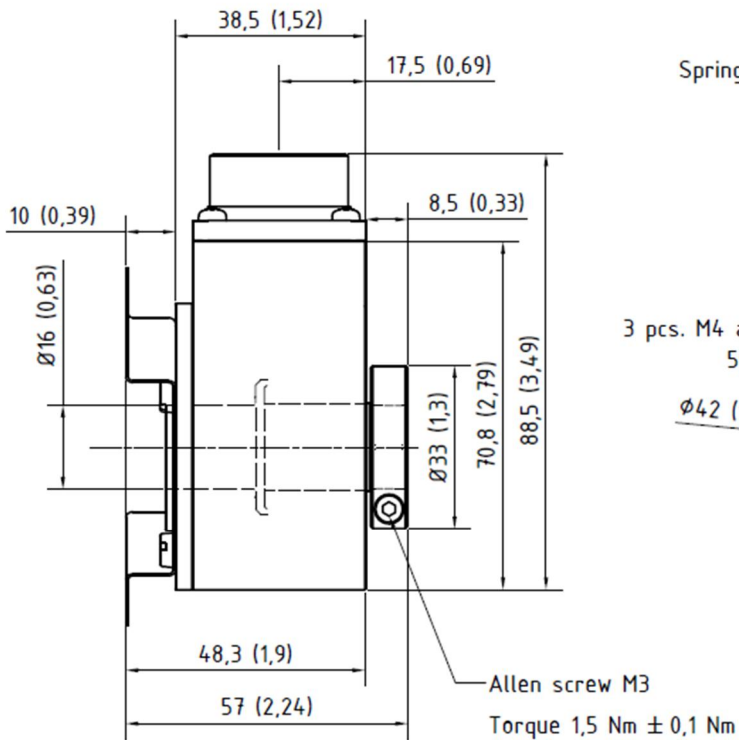
\* Operating temperature:  $-20^\circ\text{C}$  to  $50^\circ\text{C}$

## Mechanical Dimensions

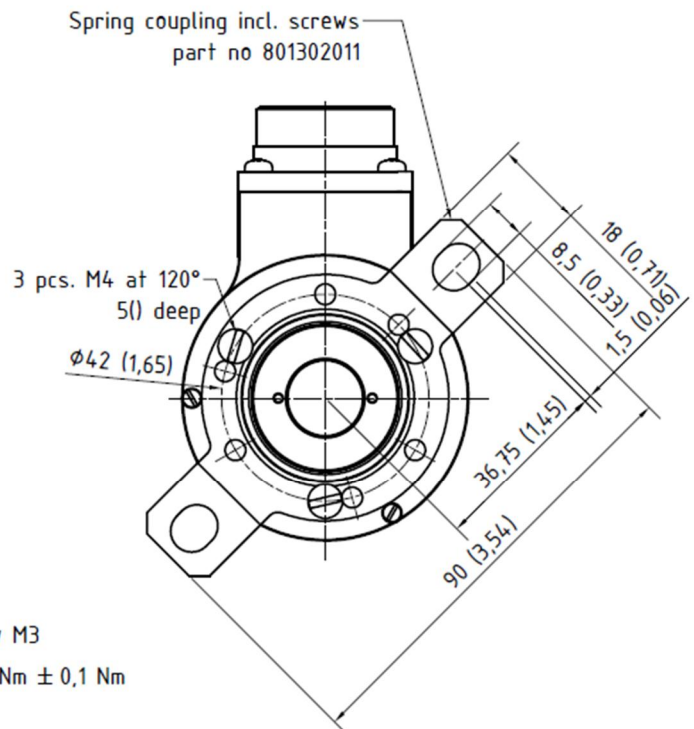


SCH50B with 6 pin Mil

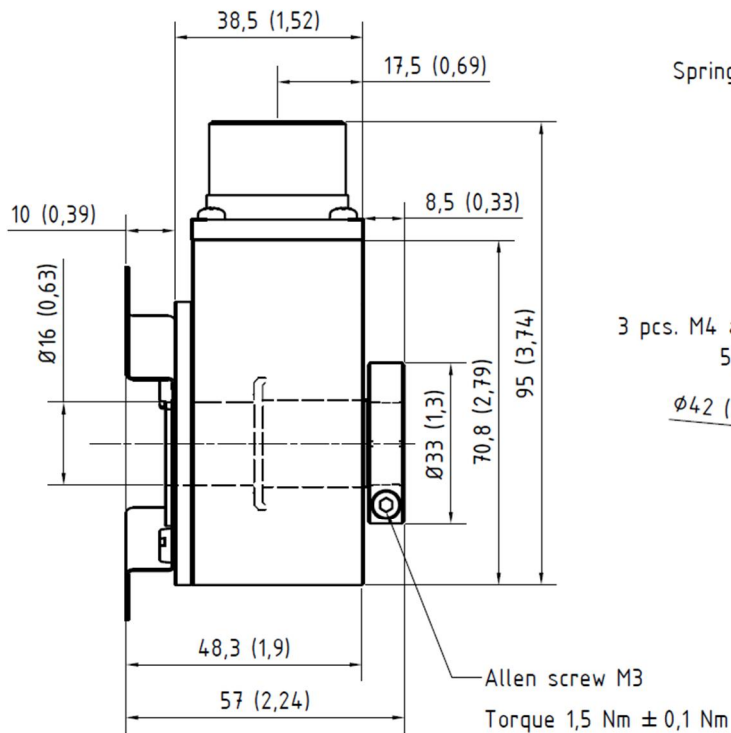
mm (inches)



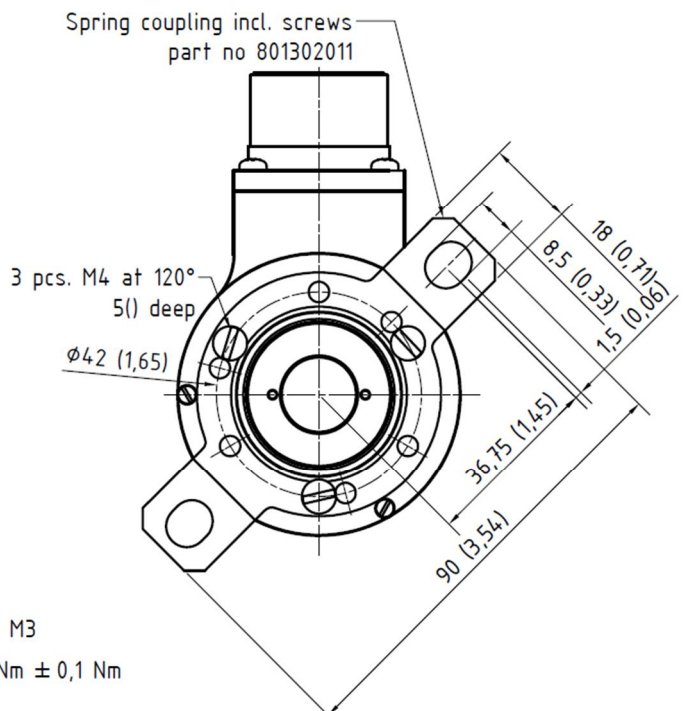
SCH58B with 7 pin Mil



mm (inches)

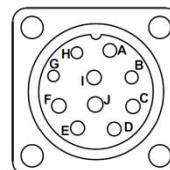
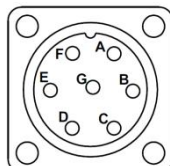
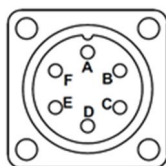


SCH58B with 10 pin Mil



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	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

GND = Circuit Ground

\* Internally connected as GND

GND = Circuit Ground

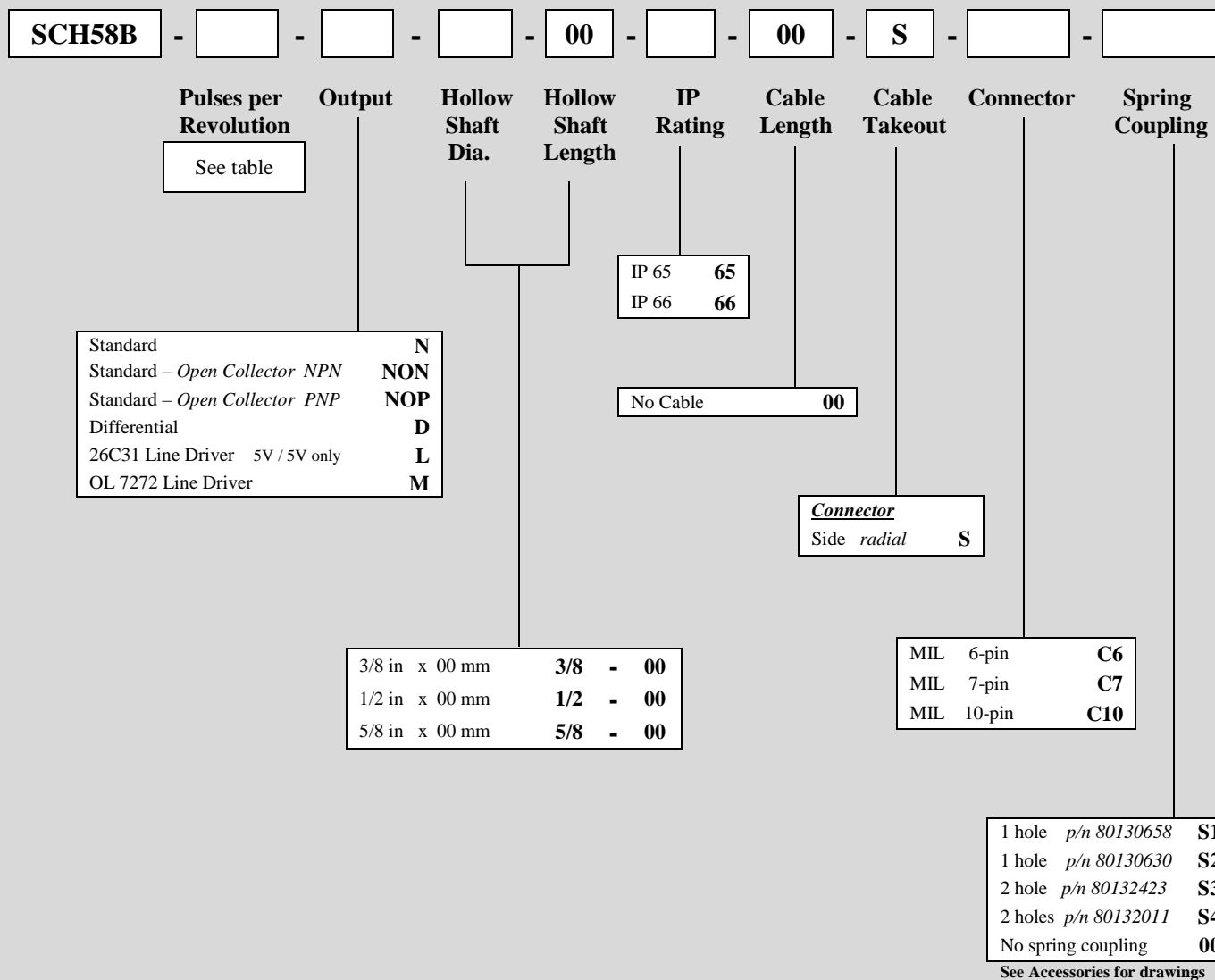
Shield = Case Ground

Channel	Standard Cable	
	Standard Output	Differential Output
	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

\* Gray, Yellow, and Brown are internally connected as Ground

**Ordering Code**

Example: SCH58B – 1024 – D – 3/8 – 00 – 65 – 00 – S – 00 – S1



**Other options on request:**  
 Please contact Scancon A/S