

# Type SCH50IB-SR



- Hollow Shaft Encoder -  $\varnothing$  50 mm
- Hollow Bore:  $\varnothing$  8 mm to  $\varnothing$  16 mm
- Stainless Steel - AISI 303
- Resolution up to 9000 ppr
- IP 67

## Electrical Specifications

<b>Code:</b>	Incremental
<b>Resolution:</b>	Up to 9.000 ppr (pulses per revolution)
<b>Supply Voltage:</b>	4,5 Vdc min. to 30 Vdc max. (35 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: Stainless Steel - AISI 303 Cap: Stainless Steel - AISI 303 Hollow Shaft: Stainless Steel - AISI 303
<b>Weight:</b>	Encoder: ~ 245 gr (8,64 oz) Cable: 60 gr / meter (2,12 oz / meter)
<b>Bearing Life:</b>	> $1,9 \times 10^{10}$ revolutions at rated load
<b>Shaft Speed:</b>	6.000 rpm (max.)
<b>Starting Torque:</b>	< 0,01 Nm (1,42 oz-in) at 25° C
<b>Mass Moment of Inertia:</b>	2,0 gcm <sup>2</sup> ( $2,83 \times 10^{-5}$ oz-in-sec <sup>2</sup> )
<b>Hollow Shaft Loads:</b>	Axial: 20 N (4,5 lbs) max. Radial: 20 N (4,5 lbs) max.

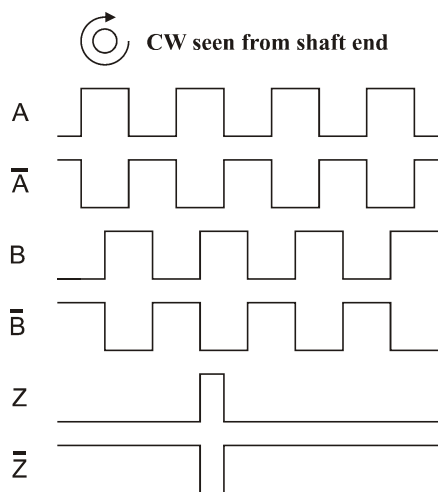
## Environmental Specifications

<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>Enclosure Rating:</b>	IP 67 / Nema 6 (approx.)

## Connection Options

<b>Cable:</b>	8 leads (0,14 mm <sup>2</sup> , 26 AWG) twisted pairs; shielded
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## Output waveform



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

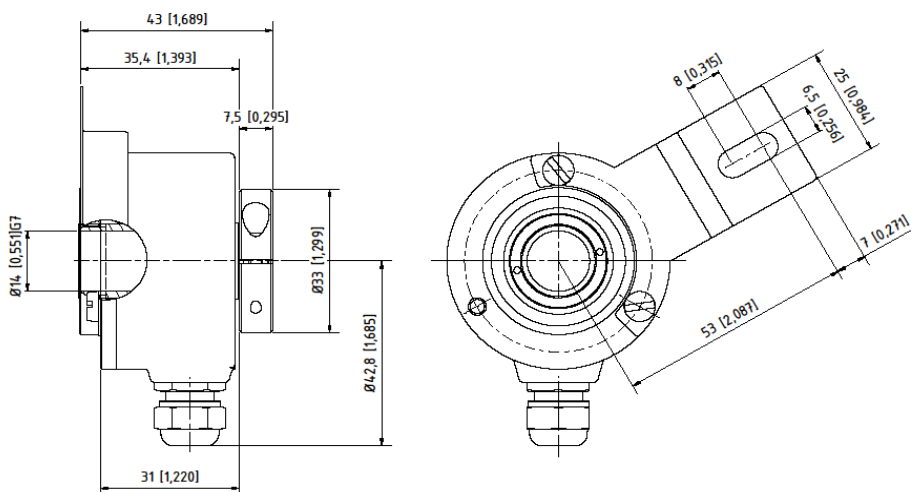
## Disk Resolutions (Pulses per revolution)

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. 9.000

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

## Mechanical Dimensions

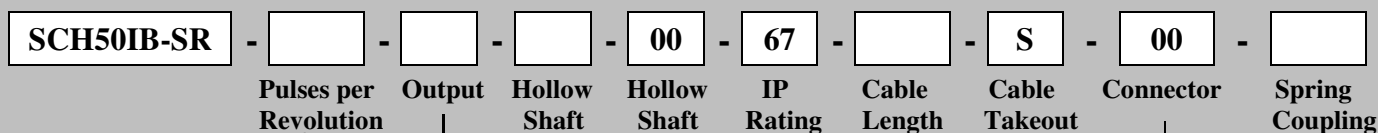


## Output Termination

Channel	Standard Output	Differential Output
	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

## Ordering Code

Example: SCH50IB-SR - 1024 - D - 14 - 00 - 65 - 01 - S - 00 - S1



See table

Standard	N
Standard - Open Collector NPN	NON
Standard - Open Collector PNP	NOP
Differential	D
26C31 Line Driver 5V / 5V only	L
OL 7272 Line Driver	M

IP 67\* **67**

Standard is 1 meter	<b>01</b>
Specify length	<b>XX</b>
No Cable	<b>00</b>

<u>Cable</u>	
Side radial	<b>S</b>

14 mm x 43 mm	<b>14</b>	-	<b>00</b>
15 mm x 43 mm	<b>15</b>	-	<b>00</b>

No Connector	<b>00</b>
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1 hole p/n 80147042	<b>S1</b>
1 hole p/n 80131035	<b>S2</b>
1 hole p/n 80130621	<b>S3</b>
2 holes p/n 80149823	<b>S4</b>
3 holes p/n 80149764	<b>S5</b>
4 holes p/n 80131333	<b>S6</b>
2 holes p/n 80149662	<b>S7</b>
No spring coupling	<b>00</b>

See Accessories for drawings

Other options on request:  
Please contact Scancon A/S