

Type SCH50IF-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 Environmental Protection
- Formerly named 2RHIF-SR

Electrical Specifications

Code:	Incremental
Resolution:	1 to 12.500 ppr (pulses per revolution)
Supply Voltage:	4,5 Vdc min. to 30 Vdc max. (35 mA max. - no load) **
Output Voltage:	Low: 500 mV max. at 10 mA ** High: ($V_{in} - 0,6$) at -10 mA ($V_{in} - 1,3$) 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 mounting 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:	Reverse polarity and output short circuit protected
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: Stainless Steel - AISI 303 Cap: Stainless Steel - AISI 303 Hollow Shaft: Stainless Steel - AISI 303
Weight:	Encoder: ~ 245 gr (8,64 oz) Cable: 60 gr / meter (2,12 oz / meter)
Bearing Life:	> 1,9 x 10 ¹⁰ revolutions at rated load
Shaft Speed:	6.000 rpm (max.)
Starting Torque:	< 0,01 Nm (1,42 oz-in) at 25° C
Mass Moment of Inertia:	2,0 gcm ² (2,83 x 10 ⁻⁵ oz-in-sec ²)
Hollow Shaft Loads:	Axial: 20 N (4,5 lbs) max. Radial: 20 N (4,5 lbs) max.

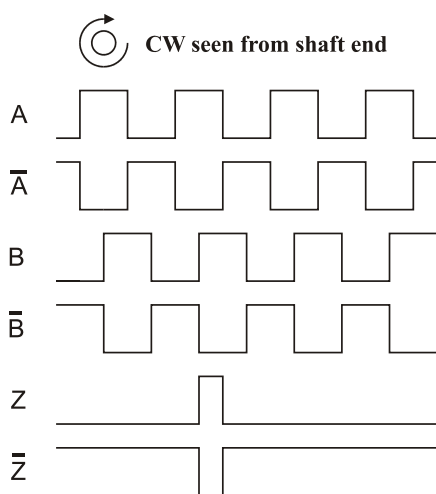
Environmental Specifications

Operating Temp.:	-40° to +85° C
Storage Temp.:	-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 67 / Nema 6 (approx.)

Connection Options

Cable:	8 leads (0,14 mm ² , 26 AWG) twisted pairs; shielded
Connector:	9-pin M23 - <i>not stainless steel</i> 12-pin M23 - <i>not stainless steel</i>

Output waveform



Disk Resolutions (Pulses per revolution)

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

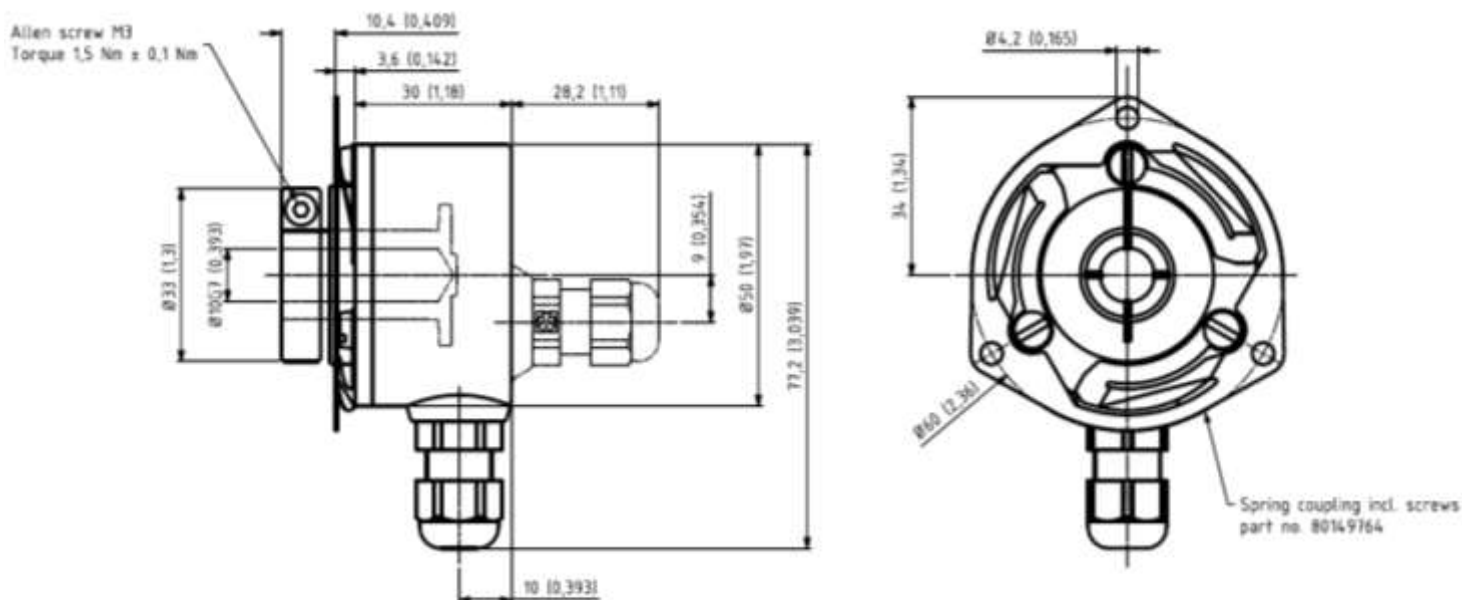
S

Channel tolerance	180 e° +/- 36 e°
Phase difference tolerance	90 e° +/- 18 e°
Z channel tolerance	90 e° +/- 18 e°

Other options on request
 Standard Encoders med aksel/bulaksel, over til ø8
 Pulses per revolution,
 min. 1 – max. 9000

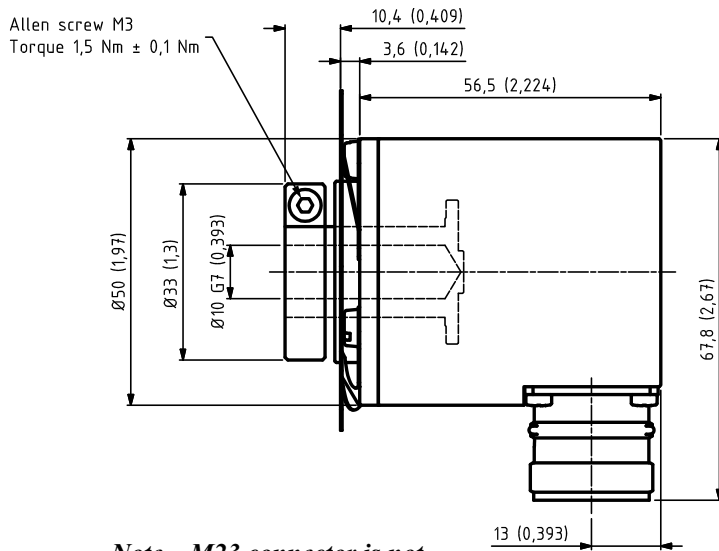
* Operating temperature: -20° C to 50° C

Mechanical Dimensions

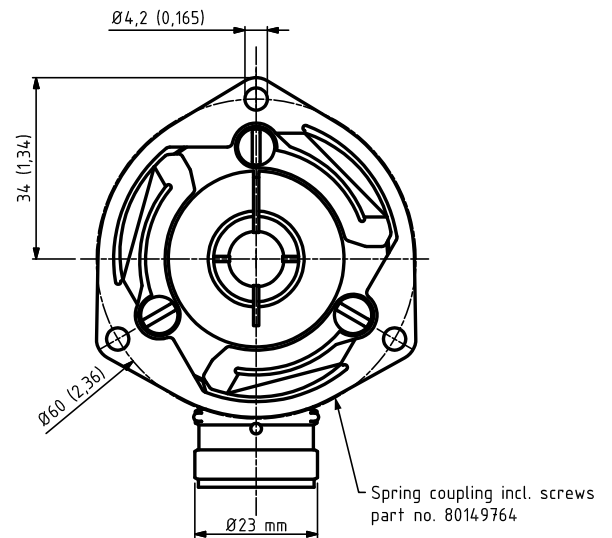


Standard Cable Gland Plastik
 Side (S) or Back (B)

mm (inches)



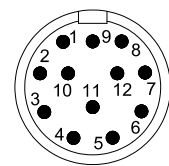
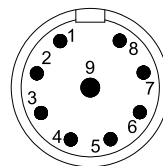
Note – M23 connector is not composed of stainless steel



M23 Connector
Side (S)

mm (inches)

Output Termination



Channel	Standard Cable	
	Standard Output	Differential Output
Channel	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

GND = Circuit Ground

* Internally connected as GND

Pin	M23 9 - pin	M23 9 - pin	M23 12 - pin	M23 12 - pin
	Standard Output	Differential Output	Standard Output	Differential Output
Pin	Channel	Channel	Channel	Channel
1	A	A	GND	B -
2	B	B	NC	NC
3	Z	Z	Z	Z
4	GND	A -	GND	Z -
5	GND	B -	A	A
6	GND	Z -	GND	A -
7	Vsup	Vsup	NC	NC
8	GND	GND	B	B
9	Shield	Shield	Shield	Shield
10			GND	GND
11			NC	NC
12			Vsup	Vsup

GND = Circuit Ground

Shield = Case Ground

Ordering Code

Example: SCH50IF – SR – 1024 – D – 12 – 30 – 67 – 01 – S – 00 – S1

Type

SCH50IF-SR - [] - [] - [] - 30 - 67 - [] - [] - [] - []

Pulses per Revolution

See table

Output

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

Hollow Shaft Dia.

Hollow Shaft Length

8.0 mm x 30 mm	08 - 30
10.0 mm x 30 mm	10 - 30
12.0 mm x 30 mm	12 - 30
14.0 mm x 30 mm	14 - 30
15.0 mm x 30 mm	15 - 30
16.0 mm x 30 mm	16 - 30

IP Rating

IP 67 67

Standard is 1 meter	01
Specify length	XX
No cable	00

Cable Length

Takeout

Cable

Side (radial)	S
Back (axial)	B

Connector

Side (radial)	S
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M23 9-pin *	C9
M23 12-pin *	C12
No connector	00

* Note – M23 connector is not composed of stainless

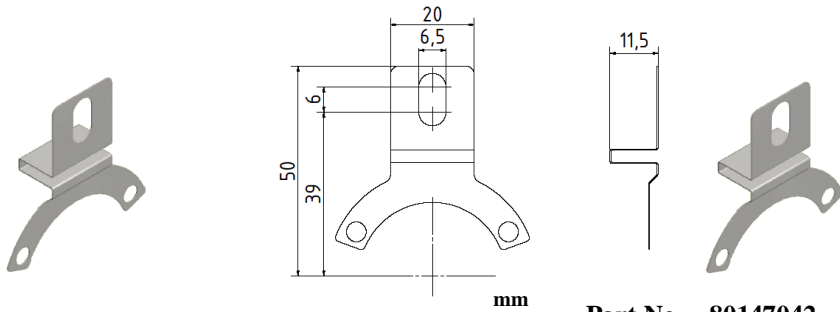
Spring Coupling

1 hole p/n 80130621	S1
2 holes p/n 80149823	S2
3 holes p/n 80149764	S3

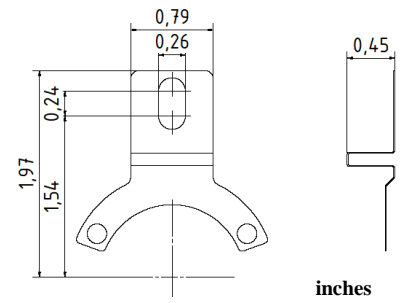
See Accessories for drawings

Other options on request:
Please contact Scancon A/S

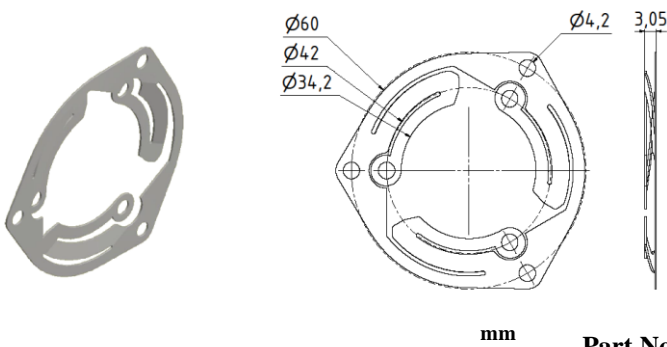
Spring Couplings for SCH50I, SCH50IB, SCH50IF



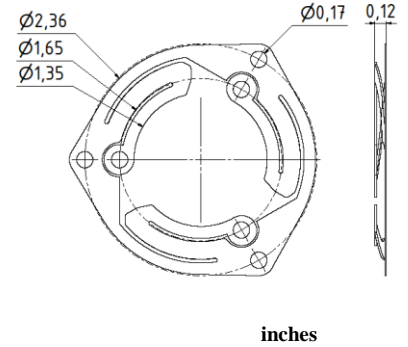
Part No. 80147042
Material: Stainless Steel



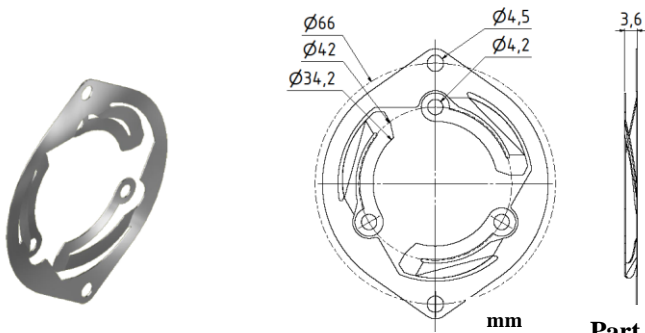
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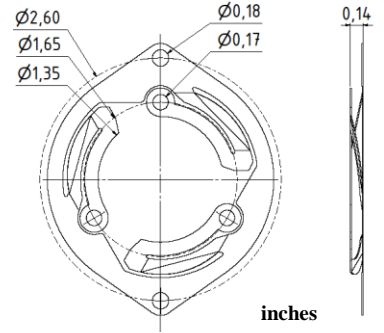
Part No. 80149764
Material: Stainless steel



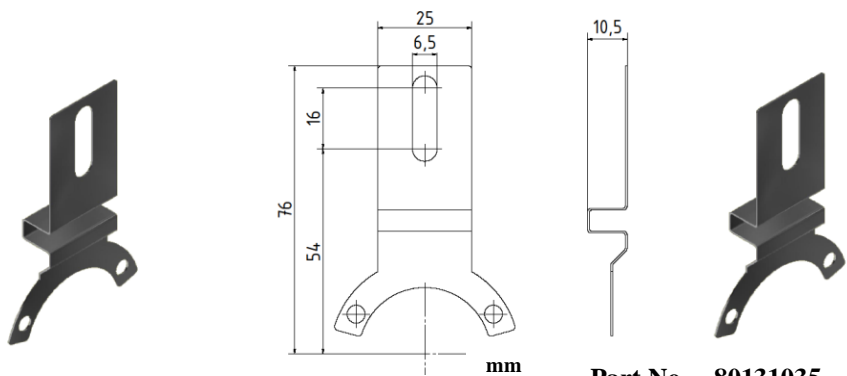
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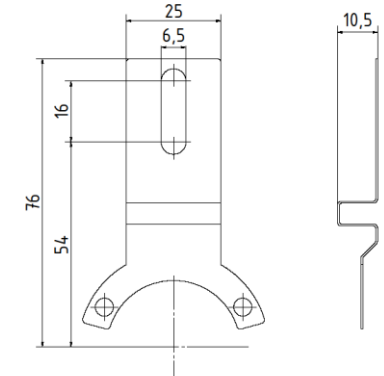
Part No. 80149823
Material: Stainless steel



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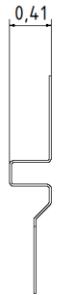
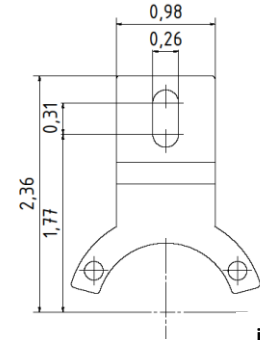
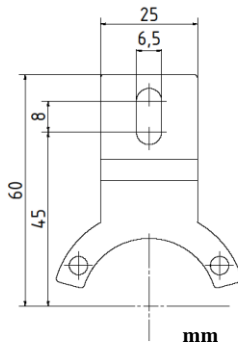


Part No. 80131035
Material: Stainless steel

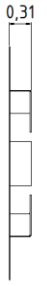
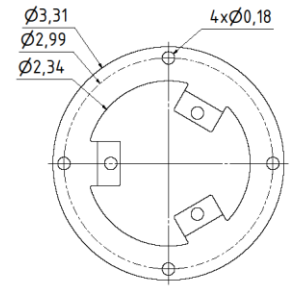
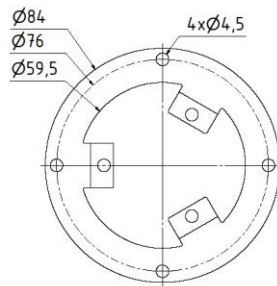


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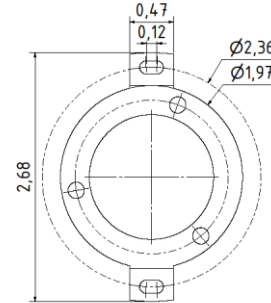
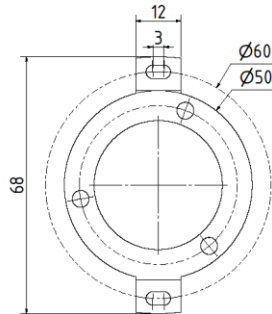
Spring Couplings for SCH50I, SCH50IB, SCH50IF



Part No. 80130621
 Material: Stainless steel



Part No. 80131333
 Material: Stainless steel



Part No. 80149662
 Material: Stainless steel