



H50L



- Hollow Shaft Encoder - $\varnothing$ 50 mm
- Through Hollow Bore: $\varnothing$ 6 in to $\varnothing$ 8 mm
- Resolution up to 12.500 ppr
- Terminal Shut down at 155 °C
- Standard IP 65 Environmental Protection

Electrical Specifications

Code:	Incremental
Resolution:	1 to 12.500 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: ($V_{in} - 0,6$) 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: Aluminum Cap: Aluminum Shaft: Stainless steel
Weight:	Encoder: ~ 120 gr Cable: 60 gr / meter (2,12 oz / meter)
Bearing Life:	> $1,9 \times 10^{10}$ revolutions at rated load
Shaft Speed:	4.500 rpm (max. sustained) IP 65
Starting Torque:	< 0,01 Nm at 25° C
Mass Moment of Inertia:	2,5 gcm ²
Hollow Shaft Loads:	Axial: 20 N max. Radial: 20 N max.

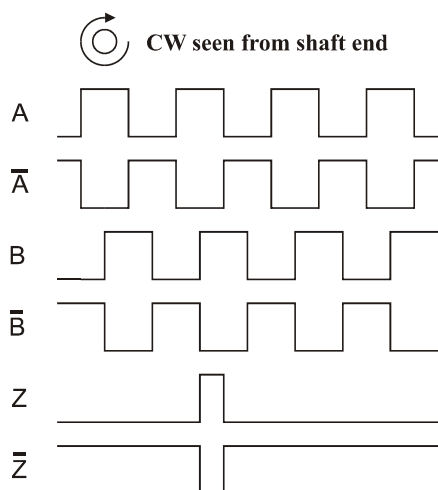
Environmental Specifications

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
IP Rating:	IP 65 / Nema 5 (approx.)

Connection Options

Cable:	8 leads (0,14 mm ² , 26 AWG) twisted pairs; shielded
Connector:	5-pin M12 8-pin M12 9-pin M23 12-pin M23

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)

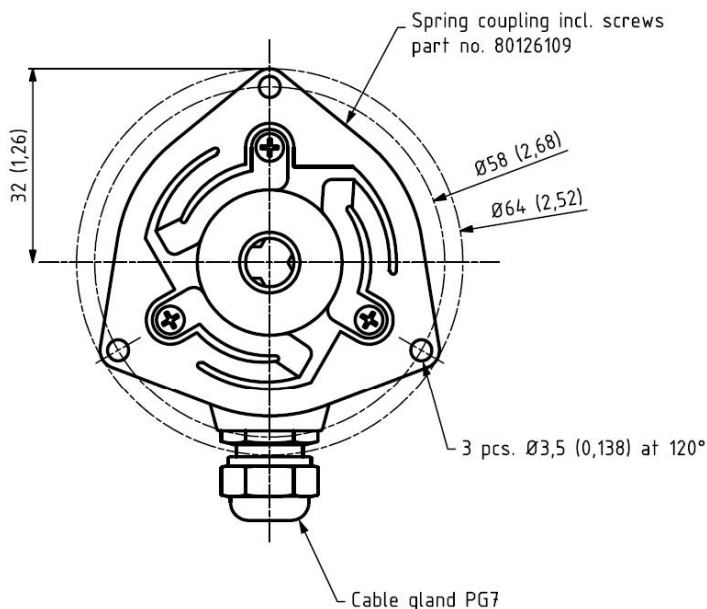
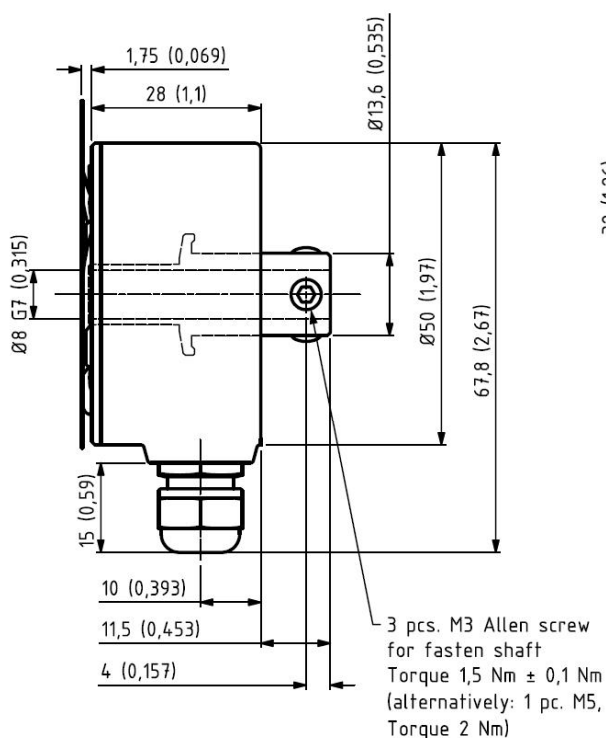
1	32	125	720	3072
2	36	150	800	3600
5	40	180	1000	4000
6	45	200	1024	4096
7	47	250	1131	5000
8	50	256	1200	8192
10	60	300	1250	9000*
12	64	360	1270	10000*
15	70	400	1500	12500*
16	75	455	2000	
18	80	500	2048	
20	90	512	2400	
25	100	600	2500	
30	120	635	3000	

Other options on request

Pulses per revolution,
 min. 1 – max. 12.500

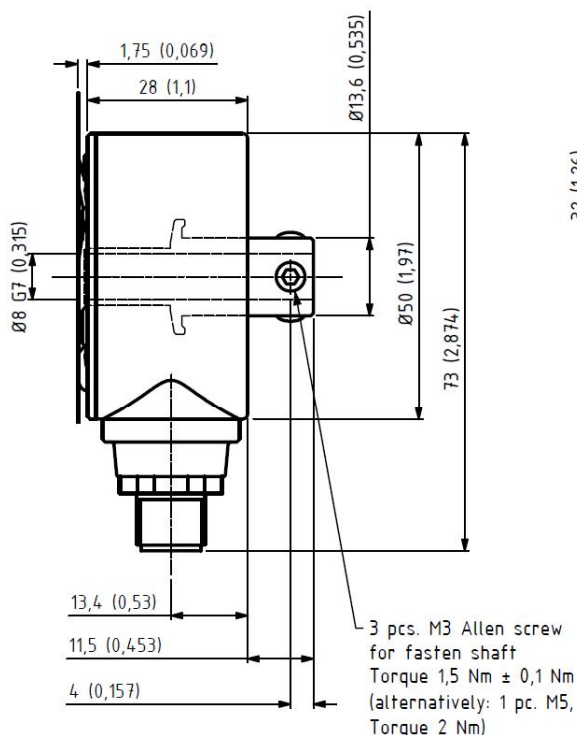
* Operating temperature: -20°C to 50°C

Mechanical Dimensions

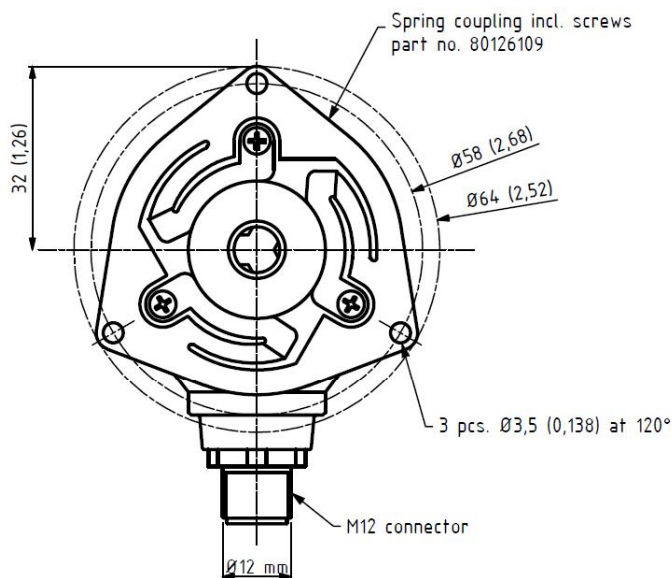


Standard Cable Gland

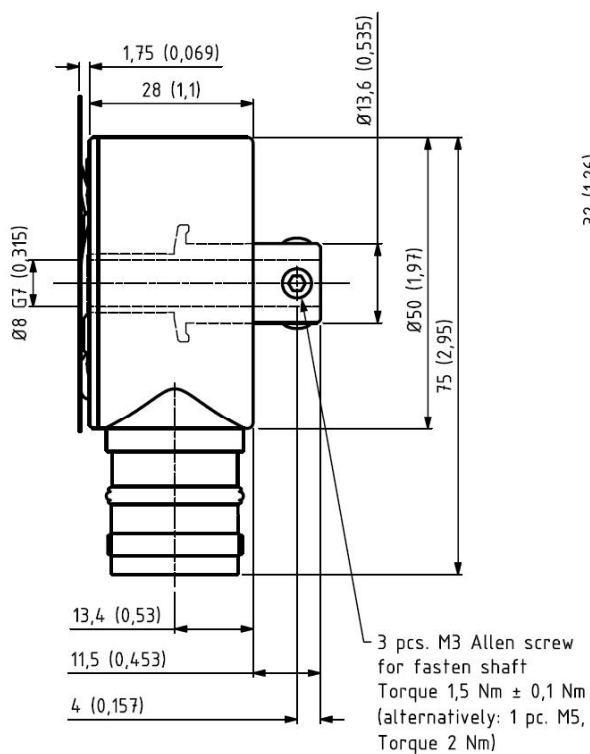
mm (inches)



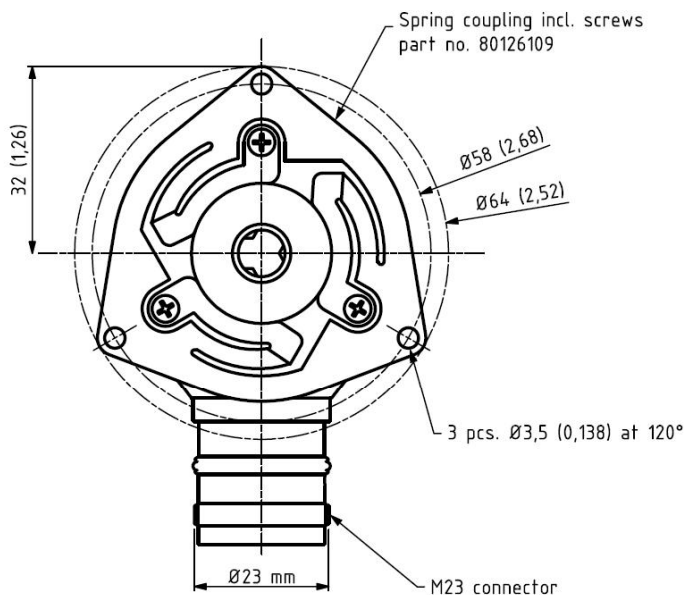
M12 Connector



mm (inches)

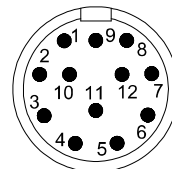
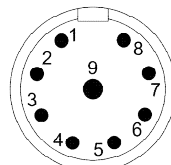
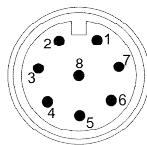
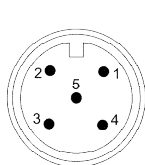


M23 Connector



mm (inches)

Output Terminations



Standard Cable			M12 5 - pin		M12 8 - pin		M23 9 - pin		M23 9 - pin		M23 12 - pin		M23 12 - pin	
	Standard Output	Differential Output		Standard Output		Differential Output		Standard Output		Differential Output		Standard Output		Differential Output
Channel	Wire Color		Pin	Channel	Channel		Channel	Channel	Channel		Channel	Channel	Channel	
A	Pink	Pink	1	Vsup	A		A	A	A		GND	B -		
A -	Gray*	Gray	2	B	Vsup		B	B	B		NC	NC		
B	Green	Green	3	GND	A -		Z	Z	Z		Z	Z		
B -	Yellow*	Yellow	4	A	B		GND	A -	A -		GND	Z -		
Z	White	White	5	Z	B -		GND	B -	B -		A	A		
Z -	Brown*	Brown	6		Z		GND	Z -	Z -		GND	A -		
Vsup	Red	Red	7		GND		Vsup	Vsup	Vsup		NC	NC		
GND	Blue	Blue	8		Z -		GND	GND	GND		B	B		
			9				Shield	Shield	Shield		Shield	Shield		
			10								GND	GND		
			11								NC	NC		
			12								Vsup	Vsup		

GND = Circuit Ground

* Internally connected as GND

GND = Circuit Ground

Shield = Case Ground

Ordering Code

Example: SCH50L – 1024 – D – 08 – 26 – 65 – 01 – S – 00 – S1

[illegible]

Other options on request:
Please contact Scancon A/S