

Characteristics

- Hollow Shaft Encoder: Ø 50 mm
- Through Hollow Shaft: Ø 6 - 8 mm
- Up to 12.500 ppr
- IP65



Electrical data

Output	Incremental	
Resolution (pulses per revolution) operating temperature: -20°C to 50°C	min. 1, 2, 5, 6, 8, 10, 15, 16, 20, 25, 30, 32, 36, 40, 47, 50, 60, 64, 75, 80, 90, 100, 125, 150, 180, 200, 250, 300, 360, 400, 455, 500, 512, 600, 635, 720, 800, 1.000, 1.024, 1.131, 1.250, 1.500, 2.000, 2.048, 2.400, 2.500, 3.000, 3.600, 4.096, 5.000, 6000, 8.192, 9.000, 10.000, 12.500*(other options on request)	
Supply Voltage	4,5 VDC to 30 VDC (35mA max. - no load)	
Outputs Voltage	High	V _{in} - 0,6 at - 10 mA
	Low	V _{in} - 1,3 at - 25 mA 500 mV max. at 10 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 ($\bar{A}$, $\bar{B}$, $\bar{Z}$) outputs	
Phase Sense	A leads B clockwise from the mounting end of the encoder	
Index	Gated with Channels A and B high	
Accuracy	± 0,26 arc-min.	
Outputs	ASIC Push pull und differential OL7272 Push-pull und differential Line Driver 26C31 Differential Line Driver 5V Output (5 V Input)	
Electrical Protection	Reverse polarity and output short circuit protected	
Noise Immunity	EN 61000-6-2 (2005) EN 61000-6-3 (2007)	

Mechanical data

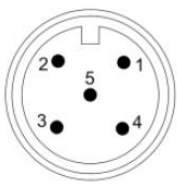
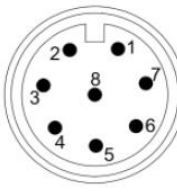
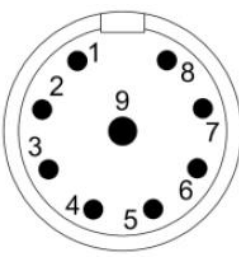
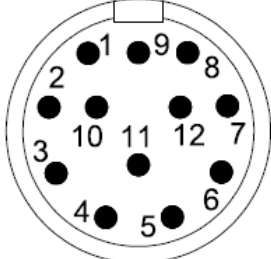
Material: Housing Hollow Shaft Cap	Aluminum Brass Aluminum
Weight: Encoder Cable	~120 gr 60 gr / Meter
Bearing Life	>1,9 x 10 ¹⁰ revolutions at rated load
Shaft Loads: axial radial	max. 20 N max. 20 N
max. Shaft Speed	12.000 rpm
Starting Torque	< 0,01 Nm at 25°C
Mass Moment of Inertia	4,0 gcm ²
Operating Temp.	-40°C to +85°C
Storage Temp.	-40°C to +85°C
Shock	100 G / 11 ms
Vibration	10- 2.000 Hz / 10 G
Bump	10 G / 16 ms (1.000 x 3 Axis)
Humidity	98% RH without condensation
IP Rating	IP65

Connection Option

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

Output Terminations

Channel	Standard Cable	
	Standard Output	Differential Output
	Wire color	
A	pink	pink
$\bar{A}$	gray*	gray
B	green	green
$\bar{B}$	yellow*	yellow
Z	white	white
$\bar{Z}$	brown*	brown
V _{sup}	red	red
GND	blue	blue

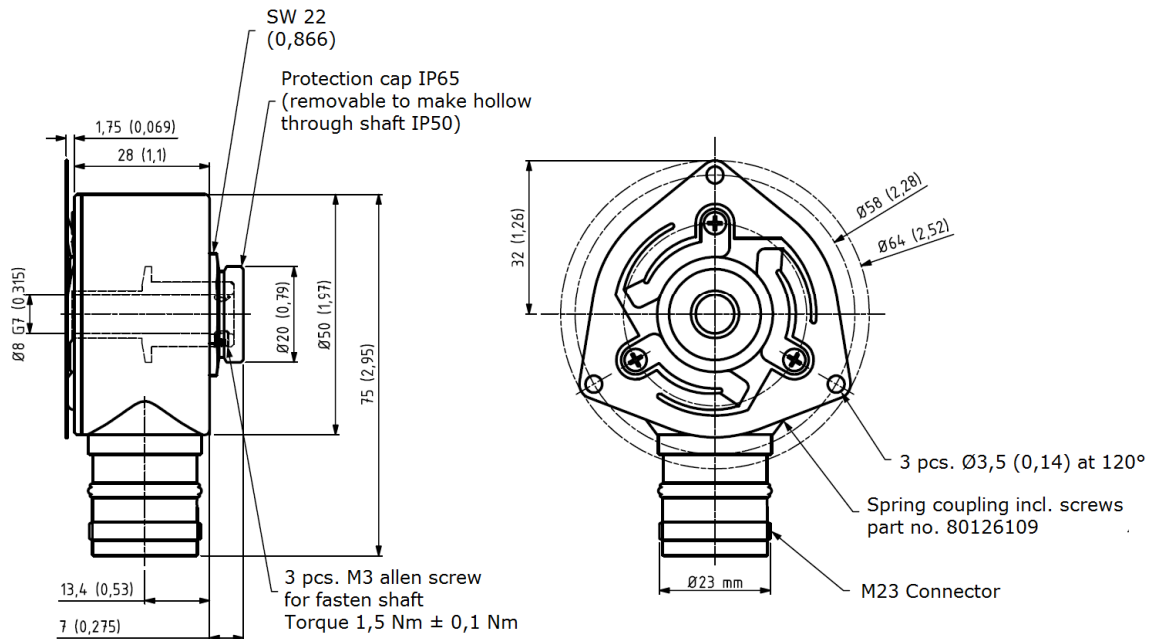
						
	M12 5-pin	M12 8-pin	M23 9-pin		M23 12-pin	
	Standard Output	Differential Output	Standard Output	Differential Output	Standard Output	Differential Output
Pin	Channel					
1	V _{sup}	A	A	A	GND	$\bar{B}$
2	B	V _{sup}	B	B	NC	NC
3	GND	$\bar{A}$	Z	Z	Z	Z
4	A	B	GND	$\bar{A}$	GND	$\bar{Z}$
5	Z	$\bar{B}$	GND	$\bar{B}$	A	A
6		Z	GND	$\bar{Z}$	GND	$\bar{A}$
7		GND	V _{sup}	V _{sup}	NC	NC
8		$\bar{Z}$	GND	GND	B	B
9			Shield	Shield	Shield	Shield
10					GND	GND
11					NC	NC
12					V _{sup}	V _{sup}

GND = Circuit Ground

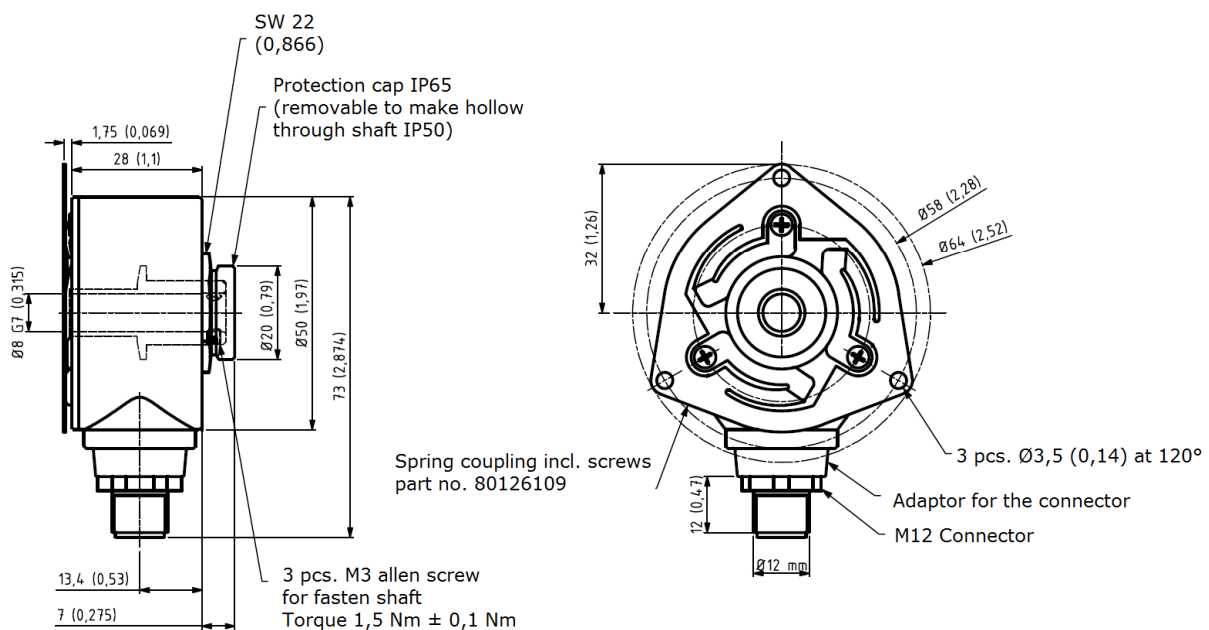
*internally connected as GND

Dimension

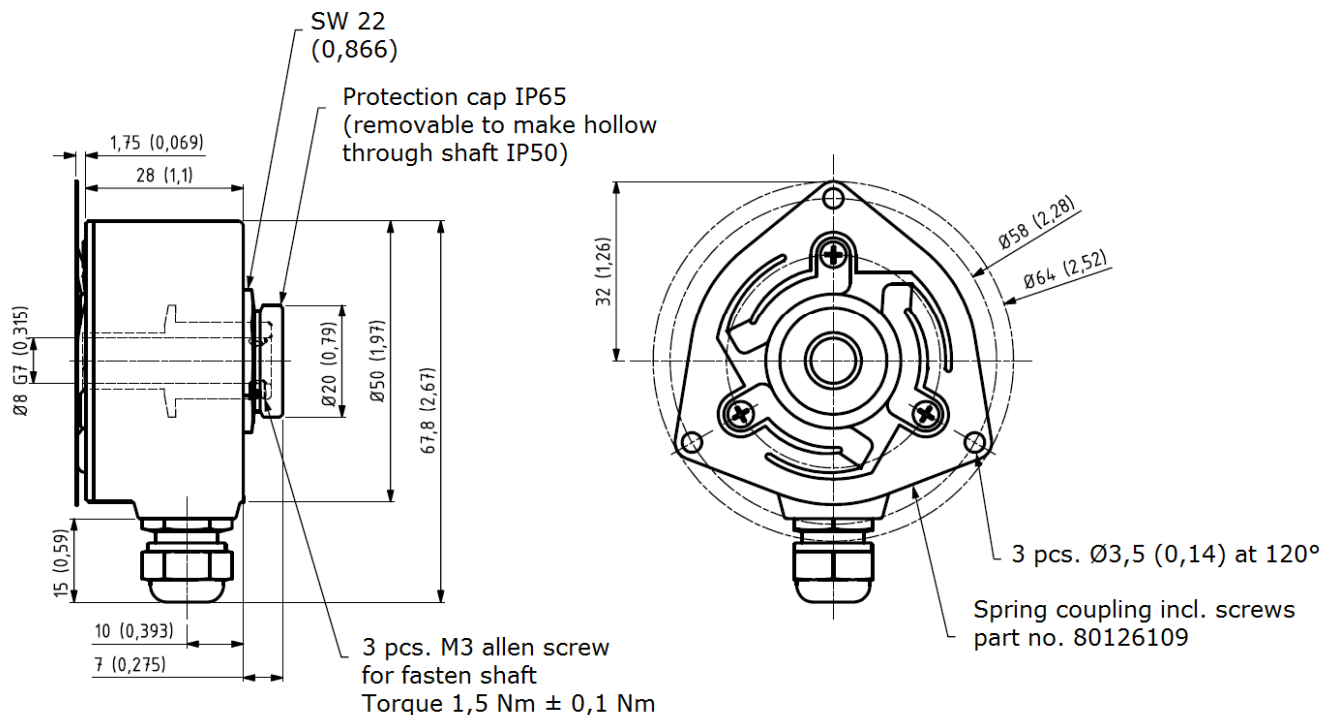
M23 Connector mm (inches)



M12 Connector mm (inches)



Standard Cable Gland mm (inches)



Output waveform

A		Channel Tolerance Phase difference Tolerance Z Channel Tolerance	180°e ± 36°e 90°e ± 18°e 90°e ± 18°e
$\bar{A}$			
B			
$\bar{B}$			
Z			
$\bar{Z}$			

Ordering example

Type SCH50B - 100 - D - 06-34 - 65 - 01 - S - C9 - S1

Pulse per Revolution

see table

Output

D = Differential
N = Standard
L = 26C31 Line Driver 5V/5V only
M = OL2727 Line Driver
NON = open collector NPN
NOP = open collector PNP

Shaft Dia. - Shaft Length

06-34 = 6 x 34 mm
08-34 = 8 x 34 mm

IP

65 = IP65

Cable Length

01 = 1 m
XX = specify length
00 = no cable

Takeout

Cable

S = radial

Connector

S = radial

Connector

C9 = M23/ 9-pin
C12= M23/ 12-pin
00 = no Connector
P5 = M12/ 5-pin
P8 = M12/ 8-pin

Spring Coupling

S1 = 1 hole p/n 80146636
S2 = 1 hole p/n 80141075
S3 = 3 holes p/n 80126109