

Characteristics

- Shaft Encoder: Ø 58 mm
- Shaft: Ø 1/4inch to 10mm
- Up to 12.500 ppr
- IP65 / IP67 (optional)



Electrical data

Output	Incremental	
Disk Resolution *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, 256, 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, 4.000, 4.096, 5.000, 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 (A̅, B̅, Z̅) outputs	
Phase Sense	A leads B clockwise from themounting 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

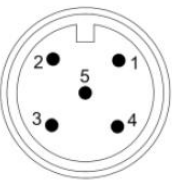
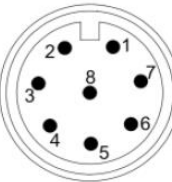
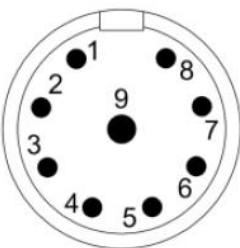
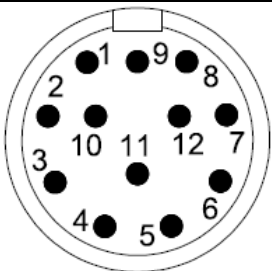
Material: Housing Shaft Cap	Aluminum Stainless steel (AISI 303) Aluminum
Weight: Encoder Cable	~190 gr 60 gr / Meter
Bearing Life	>1,9 x 10 ¹⁰ revolutions at rated load
Shaft Loads: axial radial	max. 50 N max. 50 N
max. Shaft Speed	4.500 rpm -> IP65 3.000 rpm -> IP67
Starting Torque	< 0,02 Nm at 25°C
Mass Moment of Inertia	6,0 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 / IP67 (optional)

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

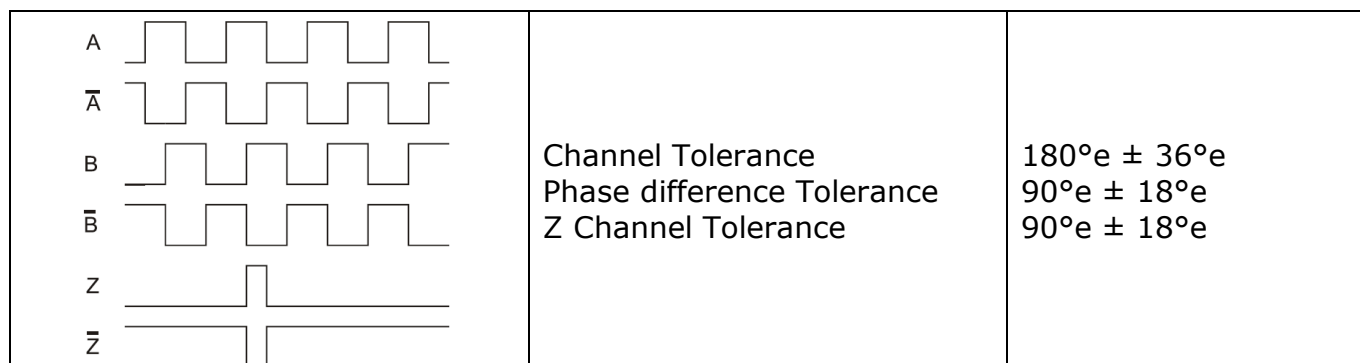
Channel	Standard Cable	
	Standard Output	Differential Output
	Wire color	
A	pink	pink
$\bar{A}$	gray*	gray
B	green	green
$\bar{B}$	yellow*	yellow
Z	white	white
$\bar{Z}$	brown*	brown
V _{sup}	red	red
GND	blue	blue

						
	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

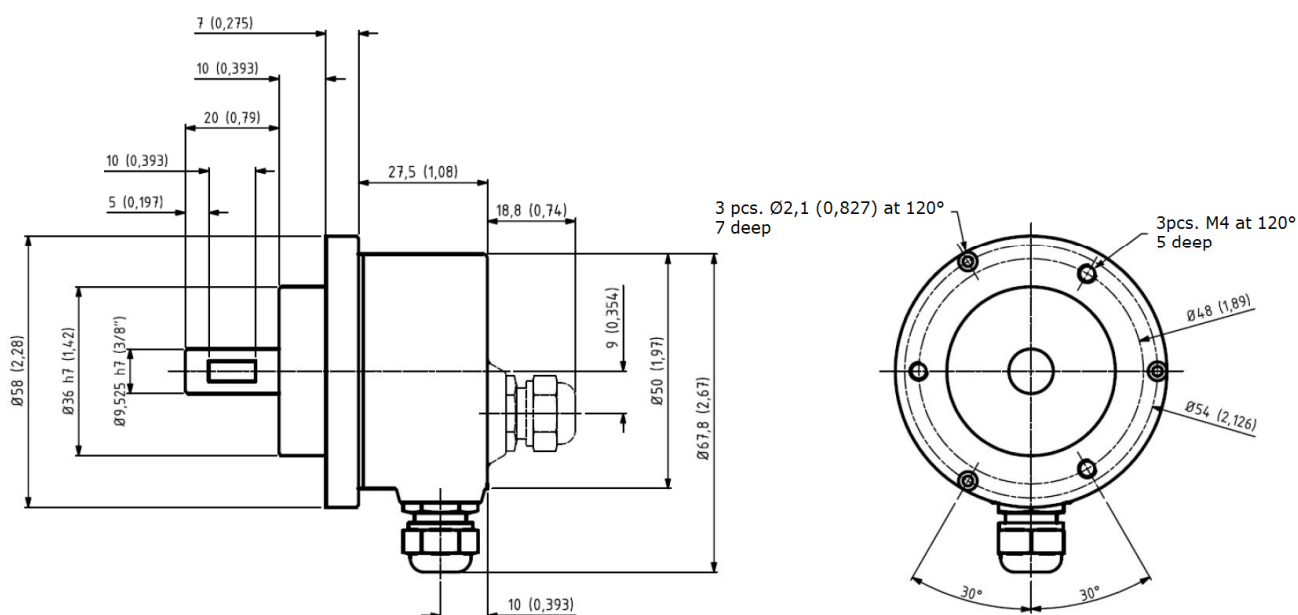
*internally connected as GND

Output waveform

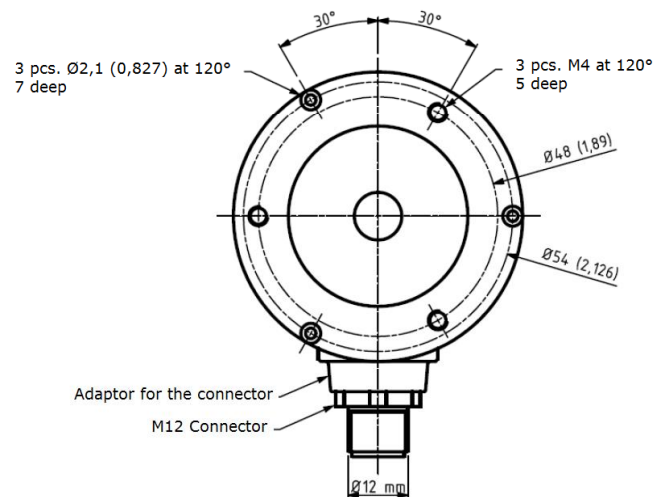
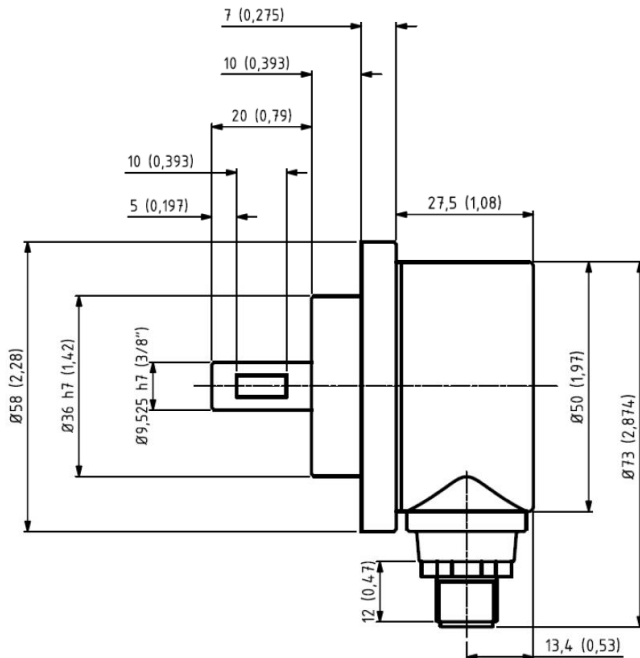


Dimension

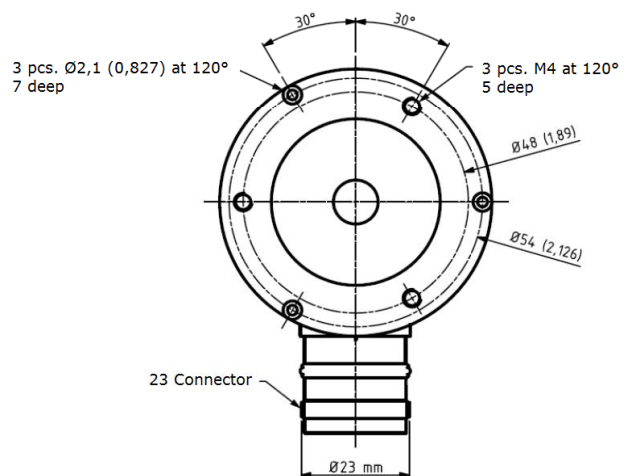
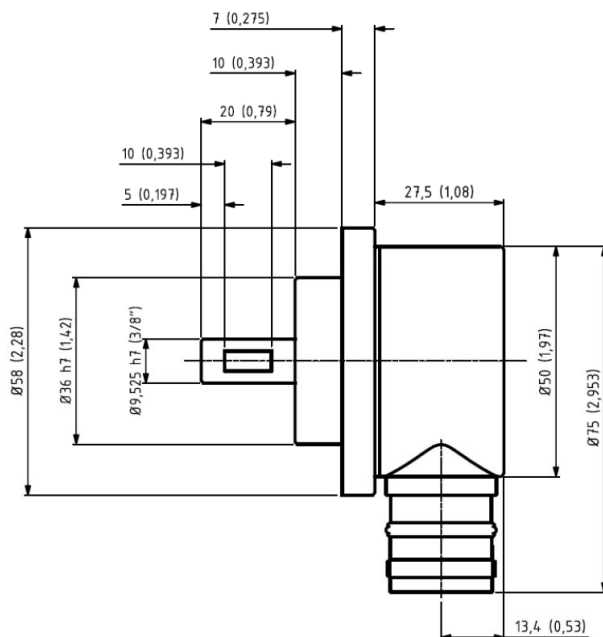
Standard Cable Gland mm (inches)



M12 Connector mm (inches)



M23 Connector mm (inches)



Ordering example

Type	2RK	-	<u>100</u>	-	<u>D</u>	-	<u>3/8-20</u>	-	<u>65</u>	-	<u>01</u>	-	<u>S</u>	-	<u>P5</u>
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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
5L = 26C31 Line Driver 9 to 30V
in/ 5V out

Shaft Dia. - Shaft Length

3/8-20 = 3/8inch x 20mm
1/4-20 = 1/4inch x 20mm
08-20 = 8 x 20mm
10-20 = 10 x 20mm

IP

65 = IP65
67 = IP67

Cable Length

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

Takeout

Cable

S = radial
B = axial

Connector

S = radial
B = axial

Connector

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