Sine-Cosine Encoder

SH150

Sine-Cosine Hollow Shaft Encoder

- Size Ø 150 mm
- Shaft-mounted
- Shaft Bore Diameter from 60 to 100 mm [2 1/2” – 3 3/4”]
- Resolution 1024 ppr or 2048 ppr
- Supply Voltage 5 VDC or 8 to 30 VDC

Electrical Specification

Supply Voltage V_{cc}	5 VDC, 8 to 30 VDC
Current Consumption *(no load)*	Max. 40 mA
Output Circuit	Analog Line Driver
Pulse Frequency	Max. 100 kHz
Short Circuit Protection	100 %
Reverse Polarity Protection per Channel	100 %
Output Signals	Sine/Cosine $1V_{pp}$

Mechanical Specification

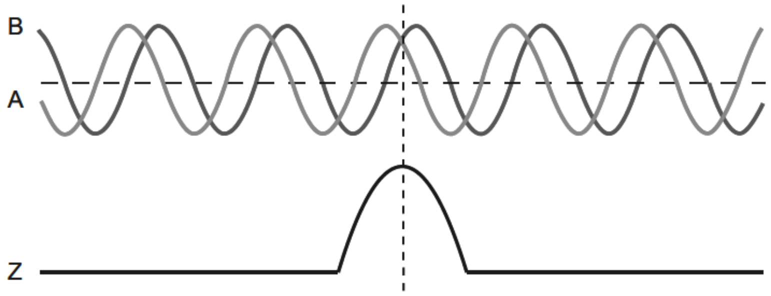
Material Body & Cover	Aluminum
Material Shaft	Aluminum or Steel Stainless
Max. Speed	4000 RPM
Mass Moment of Inertia	$210 \cdot 10^{-6}$ kgm^2 (Bore Diameter D = 65 mm) $320 \cdot 10^{-6}$ kgm^2 (Bore Diameter D = 100 mm)
Starting Torque *(at 25°C)*	> 0.2 Nm
Max. Loading on Shaft	Axial 60 N, Radial 80 N
Shock Resistance *(6ms)*	$\leq$ 1000 m/s^2
Vibration Resistance *(55-2000 Hz)*	$\leq$ 200 m/s^2 (Cable) $\leq$ 100 m/s^2 (Connector)
Protection Class *(DIN EN 60529)*	IP65
Operating Temperature	-20 °C to +70 °C [-4 °F to +158 °F] +100 °C [+212 °F] (Optional: Special Option SHT0)
Weight	ca. 2 kg [4.4 lb]

Sine-Cosine Encoder

SH150

Sine-Cosine Hollow Shaft Encoder

Output Signals

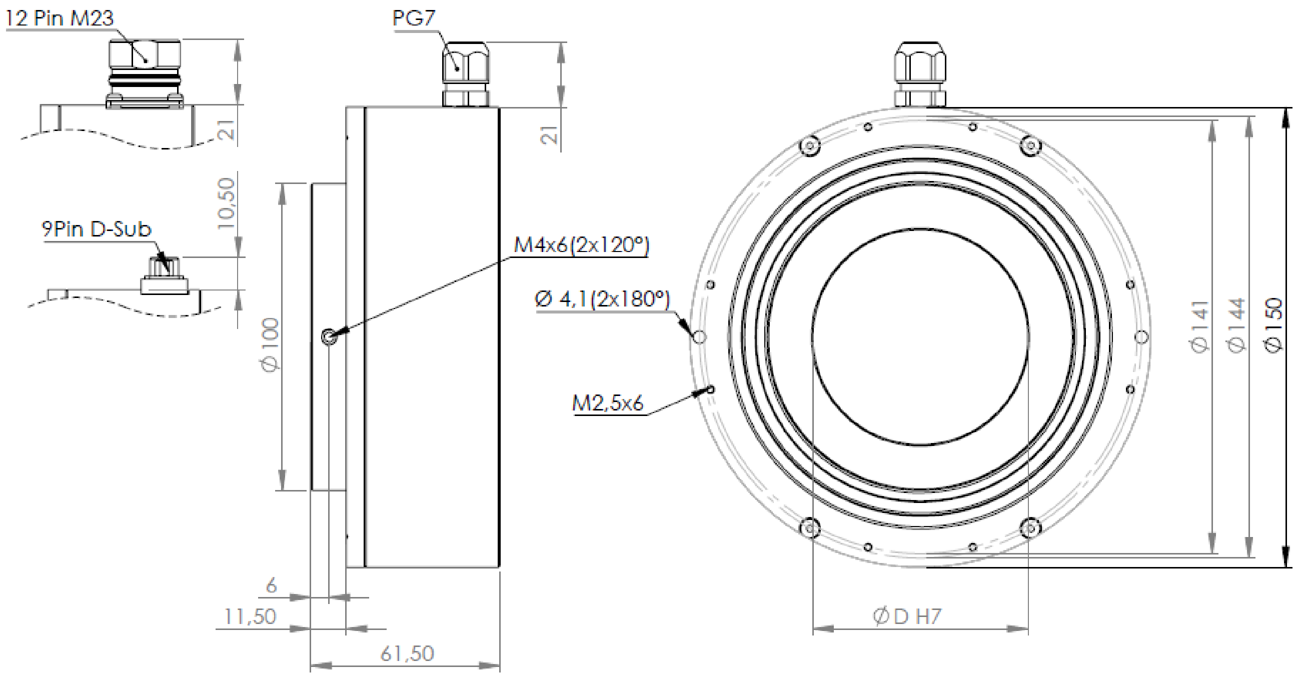


A leads B in the Clockwise Direction (facing shaft)
Complementary Signals are also available (see ordering code)

Geometry

Dimension in mm (drawing available as: dxf-,iges-, step-,sld-file)

Different Bore Diameters (D) Available—see ordering code



Sine-Cosine Encoder

SH150

Sine-Cosine Hollow Shaft Encoder

Ordering Code

a	b	-	c	d	e	f	g	h	-	i	i	i	i	i	-	Sxxx*

<u>a. = Group Function</u>
SH = Sine-Cosine Hollow Shaft Encoder

<u>b. = Basic Series Number</u>
150

<u>c. = Shaft Size</u>
Selectable from 60 to 100 mm
[2 1/2"–3 3/4"]
70 = 70 mm, 98 = 98 mm, AU = 2",
BJ = 3 3/4"

<u>d. = Mechanical Option</u>
0 = None
5 = Shaft Seal
P = Tether/Clip Mounted to Front Side 9 O'clock
R = Tether/Clip Mounted to Front Side 12 O'clock
S = Tether/Clip Mounted to Front Side 3 O'clock

<u>e. = Connection Type</u>
0 = 2 m Cable [6`]
6 = 9 Pin D-Sub Plug
7 = 12 Pin M23 Plug

<u>f. = Connector Location</u>
R = Radial

<u>g. = Output Signals</u>
I = A + B + Z (Sin/Cos, 1 V_{pp})
C = A + B+ Z + A\ + B\ + Z\ (Sin/Cos, 1 V_{pp})

<u>h. = Output, Supply Voltage</u>
1 = 5 VDC
5 = 8 to 30 VDC

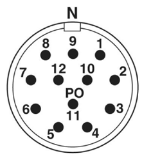
<u>i. = Resolution</u>
Selectable from 1024 or 2048 ppr
1024 = 1024 ppr, 2048 = 2048 ppr

* Any special functions and design will be designated by a code (Sxxx) at the end of the part number. Consult our Office for your region for further details. If this encoder does not fit your needs, please also consult us for help.

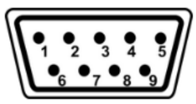
Connection

Function	Cable Color Code	Pin *(12 Pin M23, 9 Pin D-Sub)*
GND	white	1
V_{cc}	brown	2
A	green	3
B	yellow	4
Z	grey	5
A\	pink	6
B\	blue	7
Z\	red	8

<u>Pinout</u>



12 Pin M23



9 Pin D-Sub

Sine-Cosine Encoder

SH150

Sine-Cosine Hollow Shaft Encoder

Accessories SH150

Torque Arm

TA-001 – Torque Arm Length 120 mm

TA-002 – Torque Arm Length 180 mm

TA-003 – Torque Arm Length 220 mm

TA-004 – Torque Arm Length 100 mm

TA-005 – Torque Arm Length 80 mm

Mating Connector/Female Plug

KD-12-M23 – Mating Connector/Female Plug 12 Pin M23

KD-9-SubD – Mating Connector/Female Plug 9 Pin D-Sub

Tether/Mounting Clip and Pin

TEH-150 – Tether Kit for Encoder Series 150

MOC-040 – Mouning Clip MOC-040

MOP-055 – Mounting-Pin MOP-055

MOP-075 – Mounting-Pin MOP-075