Absolute Single-Turn Encoder

AS360

Absolute Single-Turn Solid Shaft Encoder

- **Housing Size Ø 36 mm**
- **Industry Standard**
- **Gearless and Battery-Free Design**
- **Shaft Diameter: 6 mm, 6.35 mm [1/4”], and 8 mm**
- **Resolution from 1 to 16 Bits**
- **Supply Voltage 5 VDC or 8 to 30 VDC**

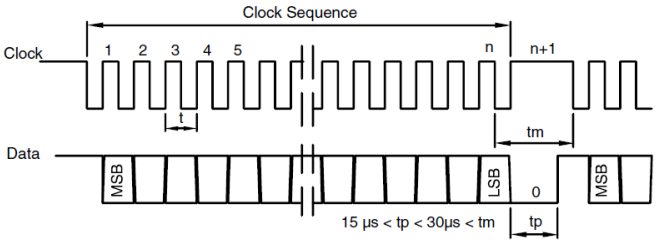
Mechanical Specification

Material Body & Cover	Aluminum
Material Shaft	Stainless Steel
Max. Speed	12,000 RPM
Mass Moment of Inertia	$\leq 2.5 \cdot 10^{-6}$ kgm^2
Starting Torque *(at 25 °C)*	> 0.3 Nm
Max. Loading on Shaft	Axial 50 N, Radial 50 N
Shock Resistance *(6 ms)*	$\leq$ 5000 m/s^2
Vibration Resistance *(55-2000 Hz)*	$\leq$ 300 m/s^2
Protection Class *(DIN EN 60529)*	IP65
Operating Temperature	-40 °C to +70 °C [-40 °F to +158 °F]
Weight	ca. 0.110 kg [0.242 lb]

Electrical Specification SSI

Supply Voltage V_{cc}	5 VDC, 8–30 VDC
Current Consumption *(no load)*	Max. 85 mA at 27 VDC
Output Circuit	RS485/RS422
Pulse Frequency	compatible
Coding	Max. 500 kHz
Direction Setting DIR <->	Binary or Gray
	DIR = GND → cw,
Preset/Reset Setting	DIR = V_{cc} → ccw
	Set: Preset = V_{cc} for 2s
Short Circuit Protection	Reset: Preset = GND
Reverse Polarity Protection	100 %
per Channel	100 %

Signals SSI



SSI Single Transmission Protocol

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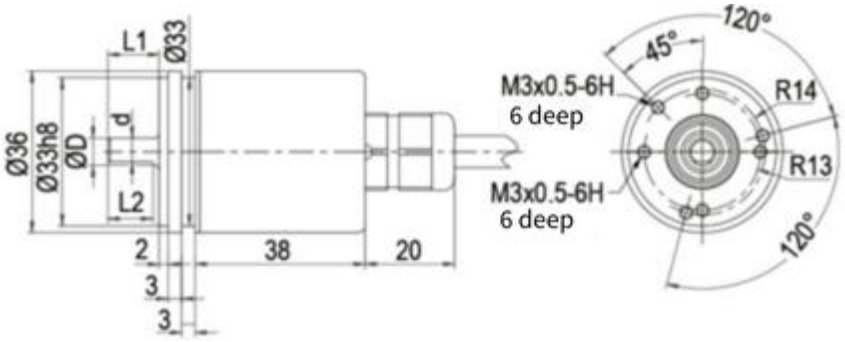
Geometry

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

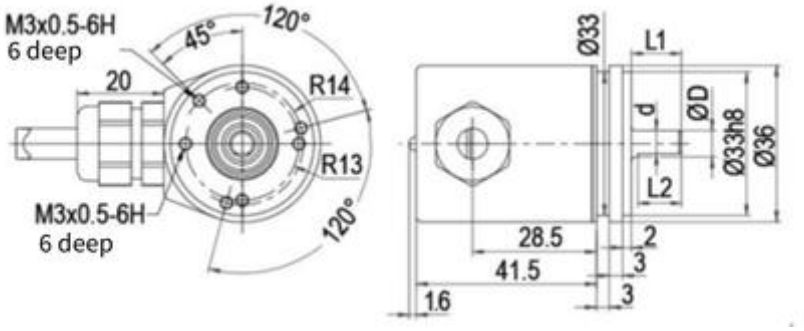
Different Shaft Diameters (D) Available—see ordering code

D	L1	d	L2
6 f7	11.5	5.3	10
6.35 (1/4") f7	11.5	5.3	10
8 f7	18	7	14

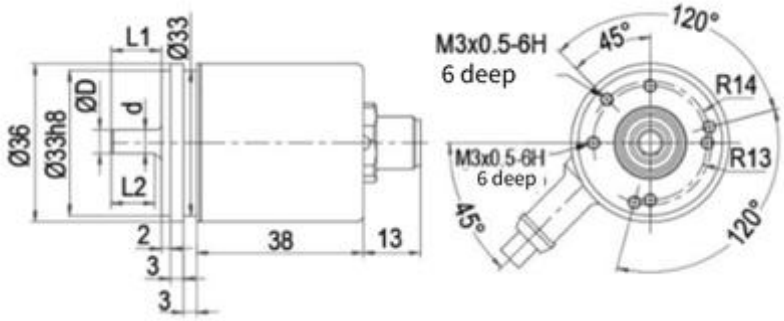
Axial Cable Exit



Radial Cable Exit



8 Pin M12 Axial Plug



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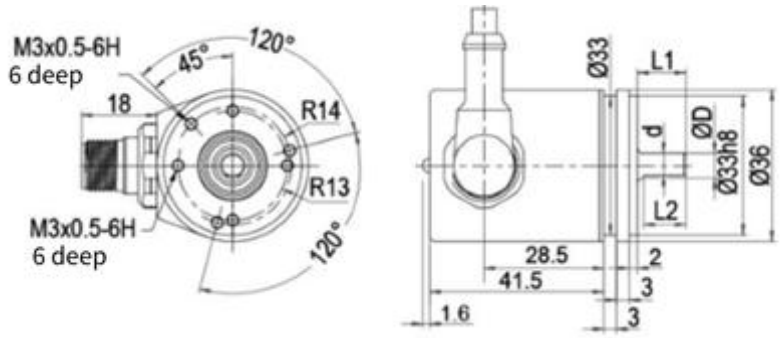
8 Pin M12 Radial Plug



Ordering Code

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

a. = Group Function
AS = Absolute Solid Shaft Encoder

b. = Basic Series Number
360

c. = Shaft Size D
Selectable from 6 mm, 6.35 mm [1/4"], and 8 mm
06 = 6 mm, 08 = 8 mm,
AA = 6.35 mm [1/4"]

d. = Mechanical Option
0 = None

e. = Connection Type
0 = 2 m Cable [6`]
Q = 8 Pin M12 Plug

f. = Connector Location
A = Axial
R = Radial

g. = Output Signals/Interface
J = Binary Code SSI
Y = Gray Code SSI

h. = Output, Supply Voltage
F = SSI, 5 VDC
G = SSI, 8–30 VDC

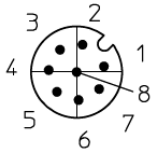
i. = Resolution
Selectable from 1 to 16 Bits
08 = 8 Bit, 16 = 16 Bit

* 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.

Connections

Function SSI	Cable Color Code	Pin *(8 Pin M12)*
GND	white	1
V_{cc}	brown	2
SSI Clock +	green	3
SSI Clock -	yellow	4
SSI Data +	grey	5
SSI Data –	pink	6
Preset/ Reset	blue	7
Direction Setting/DIR	red	8
Screen	Housing	Housing

Pinout



8 Pin M12 A-code