



Type 2RMHF-SSI

- Absolute Encoder - Ø 24 mm
- Blind Hollow Shaft - ø 3 mm to ø 1/4 inch
- Singleturn or Multiturn
- SSI Interface
- Binary or Gray Code
- Preset of Zero Position
- Choice of Counting Direction
- Enclosure Rating IP 64 or IP 67

Electrical Specifications

Encoder Type:	Absolute Multiturn
Resolution:	13 bits (8192) points per revolution 12 bits (4096) revolutions 16 bits (65536) revolutions 20 bits (1048576) revolutions 24 bits (16777216) revolutions
Supply Voltage:	5 VDC ±5%
Typical Current Consumption:	30 mA (no load)
Accuracy:	± 0,35°
Interface:	SSI (Synchronous Serial Interface)
Output Code:	Binary or Gray
Electrical Interface:	Differential (RS422) or single ended (TTL)
Clock Frequency:	100 kHz to 1 MHz
Counting Direction:	Increasing clockwise or increasing counter clockwise seen from shaft end of encoder
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

Mechanical Specifications

Material:	Housing: Brass Cap: Electroplated Steel or Aluminum Shaft: Brass
Weight:	Encoder: ~ 55 gr (1,94 oz) Cable: 50 gr / meter (1,76 oz / meter)
Bearing Life:	> 1,9 x 10 ¹⁰ revolutions at rated load
Shaft Speed:	12.000 rpm (max.)
Starting Torque:	< 0,005 Nm (0,708 oz-in) at 25° C
Mass Moment of Inertia:	1,05 gcm ² (1,49 x 10 ⁻⁵ oz-in-sec ²)
Shaft Loads:	Axial: 20 N (4,5 lbs) max. Radial: 20 N (4,5 lbs) max.

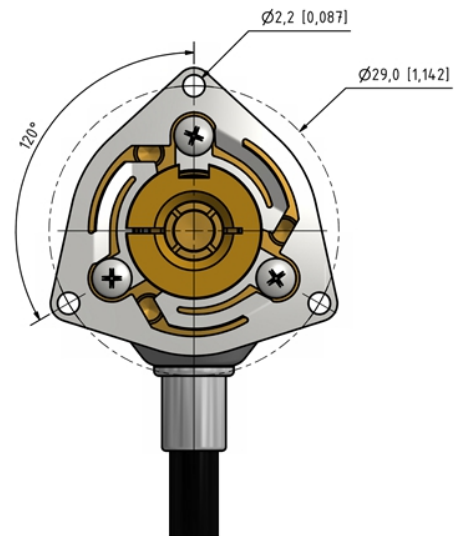
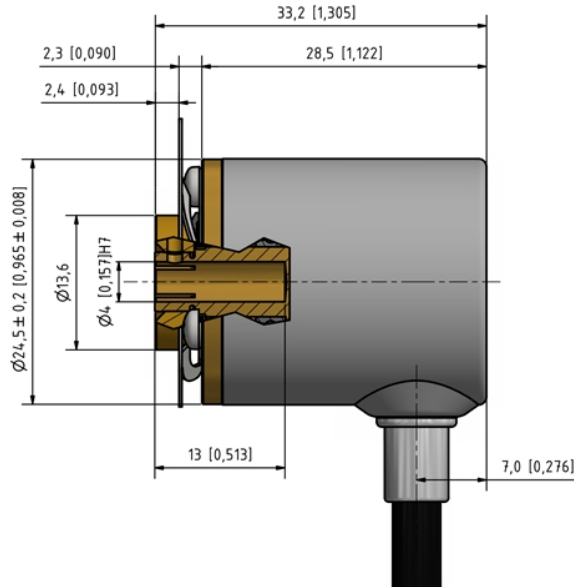
Environmental Specifications

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
Enclosure Rating:	IP 64 / Nema 4 (approx.) IP 67 / Nema 6 (approx.)

Connection Options

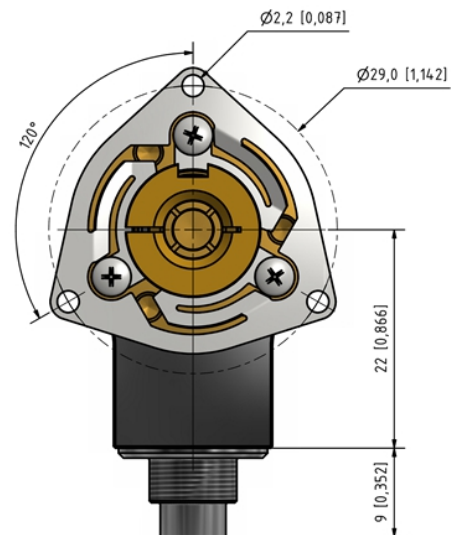
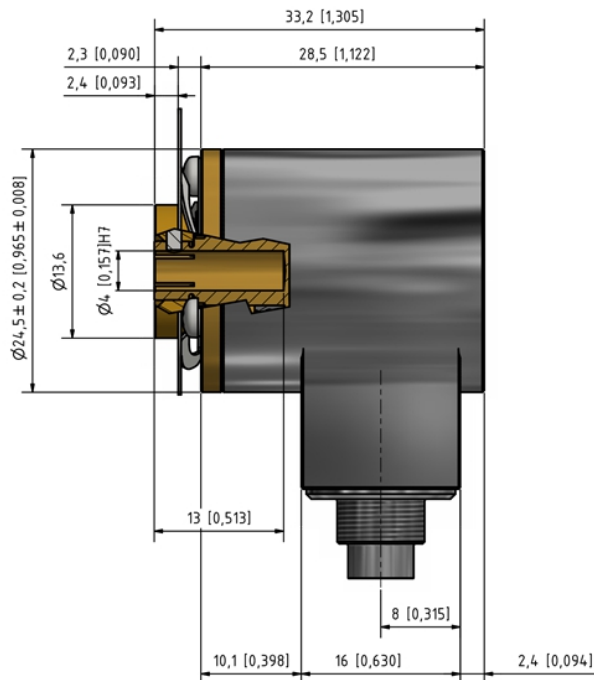
Cable:	8 leads (0,05 mm ² , 30 AWG) - Twisted pairs shielded
Connector:	M9 8-pin M12 8-pin

Mechanical Dimensions



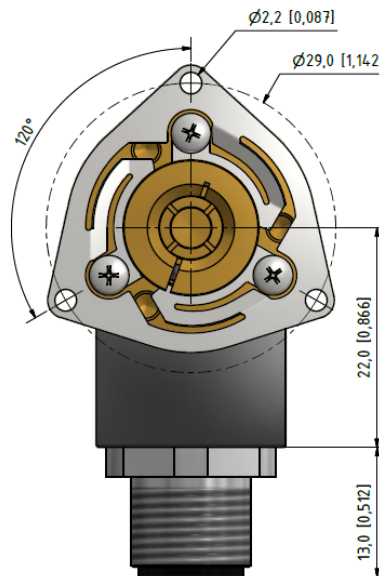
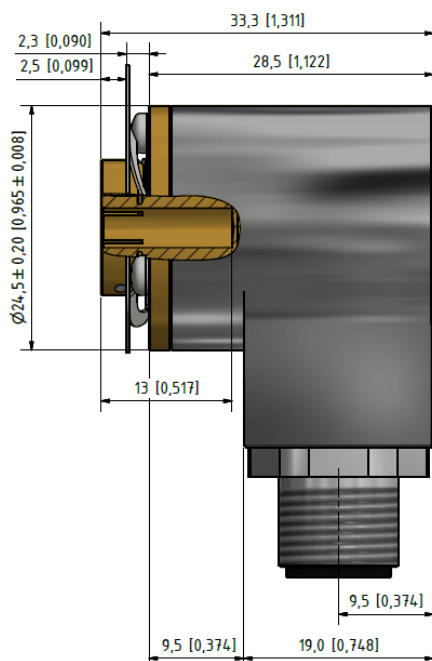
Standard Cable Gland

mm [inches]



M9 Connector

mm [inches]



M12 Connector

mm [inches]

Output Terminations

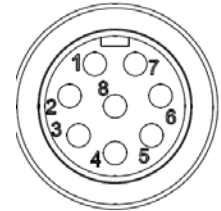
Signal	Cable
	Differential Input/output
Signal	Wire Color
CLK+	Pink
CLK-	Gray
DO+	Green
DO-	Yellow
Direction	White
Preset	Brown
Vsup	Red
GND	Blue

Shield connected to case ground

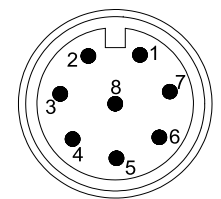
M9/12 Connector	
Differential Input/output	Single Ended Input/output
Pin Number	
1	1
2	Not Connected
3	3
4	Not Connected
5	5
6	6
7	7
8	8

Shield must be connected to connector housing

M9 Connector



M12 Connector



Implementation

During the initial set-up and installation of the encoder, it is possible to set the direction of rotation and preset the encoder to zero.

Setting of Direction.

The connection designated “Direction” is used to set the direction of rotation. If the line is open or connected to Vsup, the value will increase when the shaft is rotated clockwise when seen from the shaft end. If the line is connected to GND the value will increase when the shaft is rotated counter clockwise when seen from the shaft end.

Notice, that the encoder must not be powered when the direction of rotation is set/changed. Notice also, that the encoder will change its position value when the direction of rotation is changed.

Preset to Zero

The connection designated “Preset” is used to preset the encoder to zero. If the line is open or connected to Vsup, the encoder will not be preset to zero. If the line is connected to GND, the encoder will be preset to zero. The encoder will be held at zero as long as the line is connected to GND, even though the shaft is turned. The line must be connected to GND for at least 100 mSec. for the preset to take effect. The new zero point will be stored permanently in the encoder.

Notice, that the encoder must be powered when it is preset to zero.

Ordering Code

Example: 2RMHF-SSI – 1213 – B – D – 04 – 13 – 64 – 01 – S – 00 – S1

