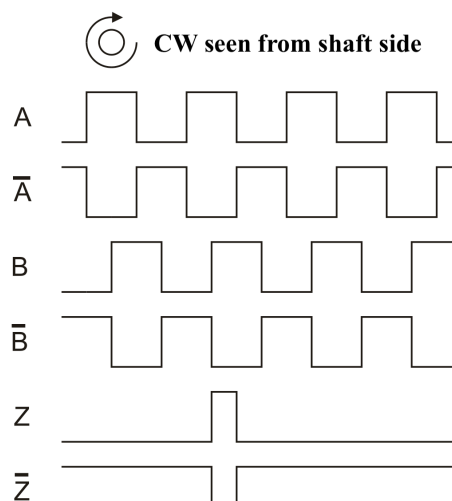


- Heavy Duty Hollow Shaft Encoder - \varnothing 98 mm
- Hollow Bore – \varnothing 12 mm, \varnothing 16 mm or \varnothing 17 mm cone
- IP Rating IP66
- Hybrid Ball Bearings for Shaft Insulation
- Paint on ChromiAL TCP passivation for Offshore Applications
- Built-in Transient Suppression Module and Support for Long Cables
- Status LED and Error Output

Electrical Specifications

Code:	Incremental Magnetic
Supply Voltage	5 VDC or 9 – 30 VDC
Current Consumption	60 mA max. @ 24V (no load) 160 mA max. @ 5V (no load)
Pulses per Revolution	50, 500, 512, 746, 800, 1000, 1024, 1250, 1600, 2000, 2048, 2500, 3072, 4096, 8192
Dividing Error	+/- 36 e°
Channel Separation	90 e° +/- 18 e°
Supply Voltage and Output Specifications	RS422: $V_{sup} = 5 \text{ VDC} \pm 5\%$ Min. differential load (Z_o): 100 Ω $V_{diff} \geq 3.4 \text{ V} @ Z_o = 100 \Omega$ $V_{high} \geq 4.3 \text{ V} @ Z_o = 100 \Omega$ $V_{low} \leq 0.9 \text{ V} @ Z_o = 100 \Omega$ HCHTL: $V_{sup} = 9 \text{ VDC to } 30 \text{ VDC}$ $V_{high} \geq V_{sup} - 2.4 \text{ V} @ I_{out} = -40 \text{ mA}$ $V_{low} \leq 2.0 \text{ V} @ I_{out} = 40 \text{ mA}$
Output Current:	60 mA max. load per output channel
Output Frequency:	200 kHz max. – Depending on cable length
Max. Cable Length:	RS422 Output: 200 meter @ 150 kHz HCHTL Output: 200 meter @ 150 kHz
Output:	RS422: iC-DL Line Driver HCHTL: OL7272 Line Driver
Electrical Protection:	Output short circuit, reverse polarity and transient surge protected through built-in protection module.
Noise Immunity:	Tested to EN61000-6-2 : 2019 and EN 61000-6-3 : 2007 for Electromagnetic Compatibility (EMC)

Output Waveform



Connection

Function	Terminal	M23 Con.	Colour
Vsup	1	12	Red
GND	2	10	Blue
Z	3	3	White
Z-	4	4	Brown
B	5	8	Green
B-	6	1	Yellow
A	7	5	Pink
A-	8	6	Gray
Error	9	11	Violet
Shield	10	Case	Shield

GND = Circuit Ground

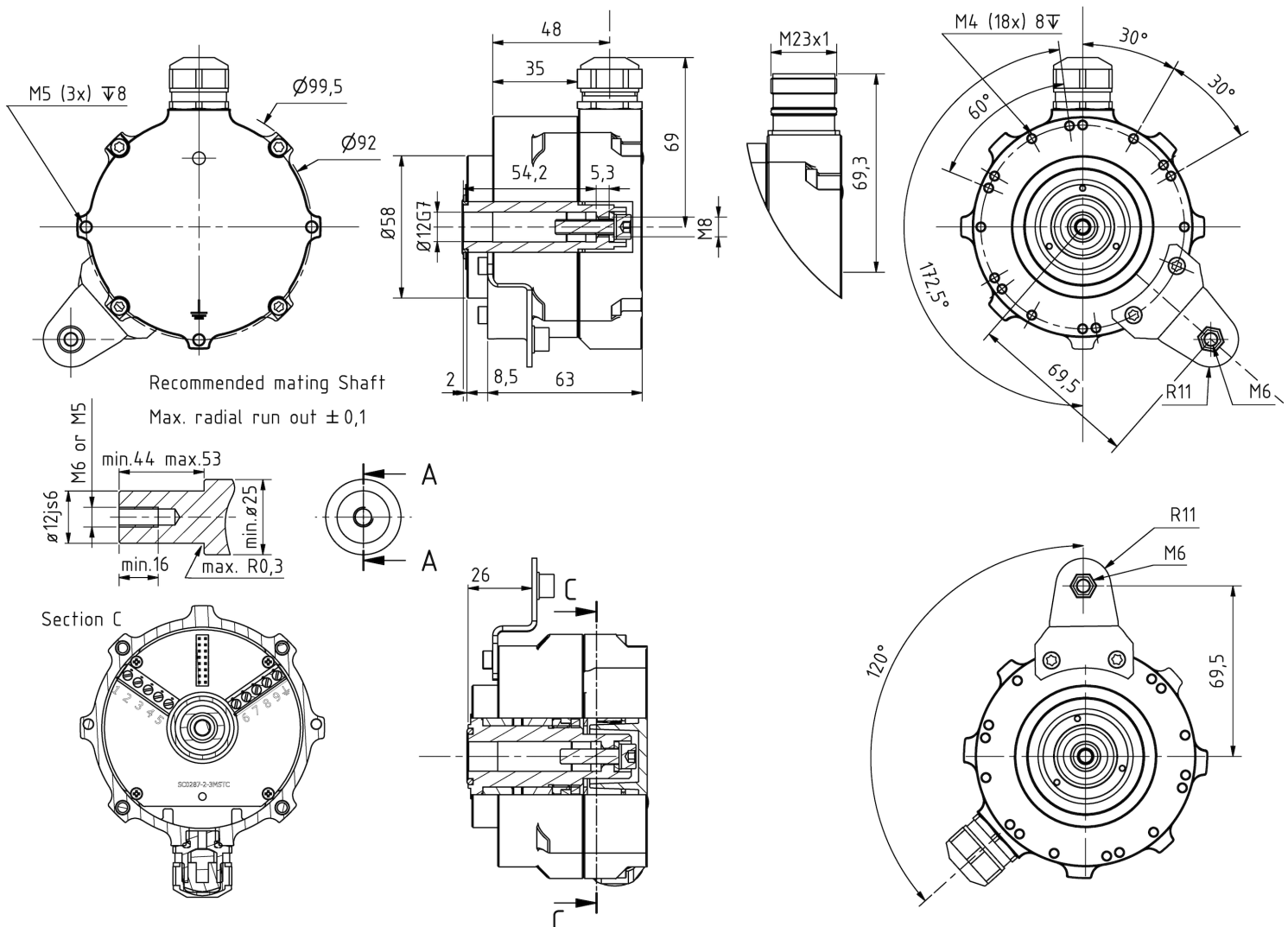
Mechanical Specifications

Material:	Housing: Aluminum Cap: Aluminum Hollow shaft: Stainless Steel (AISI 303)
Weight:	Approx. 900 g. (32 oz)
Bearing Life:	> 1.9 x 10 ¹⁰ revolutions at rated load
Shaft Speed:	3,000 rpm continuous (max.)
Starting Torque:	< 0.2 Nm (28.3 oz-in) at 25° C
Mass Moment of Inertia:	90 gcm ² (1.3 x 10 ⁻³ oz-in-sec ²)
Shaft Loads:	Axial 400 N (90 lbs) max. Radial 800 N (180 lbs) max.

Environmental Specifications

Operating Temperature:	-40° to +105° C
Storage Temperature:	-40° to +105° C
Shock:	100 G @ 11 ms
Vibration:	10 G @ 10-2000 Hz
Bump:	10 G @ 16 ms (1000 x 3 axis)
Surface Treatment	Paint (RAL7045) on Chromital TCP passivation
Shaft Insulation	Hybrid Ball Bearings for shaft insulation up to 2.5 kV

Mechanical dimensions



Ordering Code

SCH98M-1 - - - - - 66 - - - -

1 2 3a 3b 4 5 6 Bracket Torque Arm

1: Pulses per Revolution

See page 1

2: Output

HCHTL - 9-30 V supply/9-30 V output.....3MS

RS422 - 5 V supply/5 V output.....MT

3a and b: Hollow Shaft

12 mm x 54 mm12 - 54

16 mm x 54 mm16 - 54

17 mm x 20 mm Cone....17 - 20

4: IP Rating

IP66.....66

5: Cable length

Standard - 1 meter.....01

Specify cable length.....XX

No Cable - Cable Gland or Connector.....00

6: Cable, Cable Gland, Connector

Cable

Side (radial) takeout.....S

Cable Gland (Terminal Block - no cable)

ø8 to ø11 mm cable.....CG1

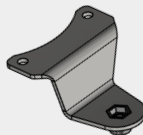
ø11 to ø14 mm cable ...CG2

M23 12-pin Connector

Clockwise pins.....CW

Counter clockwise pins CCW

Mounting kits – include screws and washers. NOTE: Must be ordered along with encoder.

Bracket – KIT 01:	Part no. 80231717 
Torque Arm (Electrical insulated) M6 – 160 mm:	Part no. Ruby-160
Torque Arm (Electrical insulated) M6 – 200 mm:	Part no. Ruby-200
Other length on request:	Part no. Ruby-xxx

