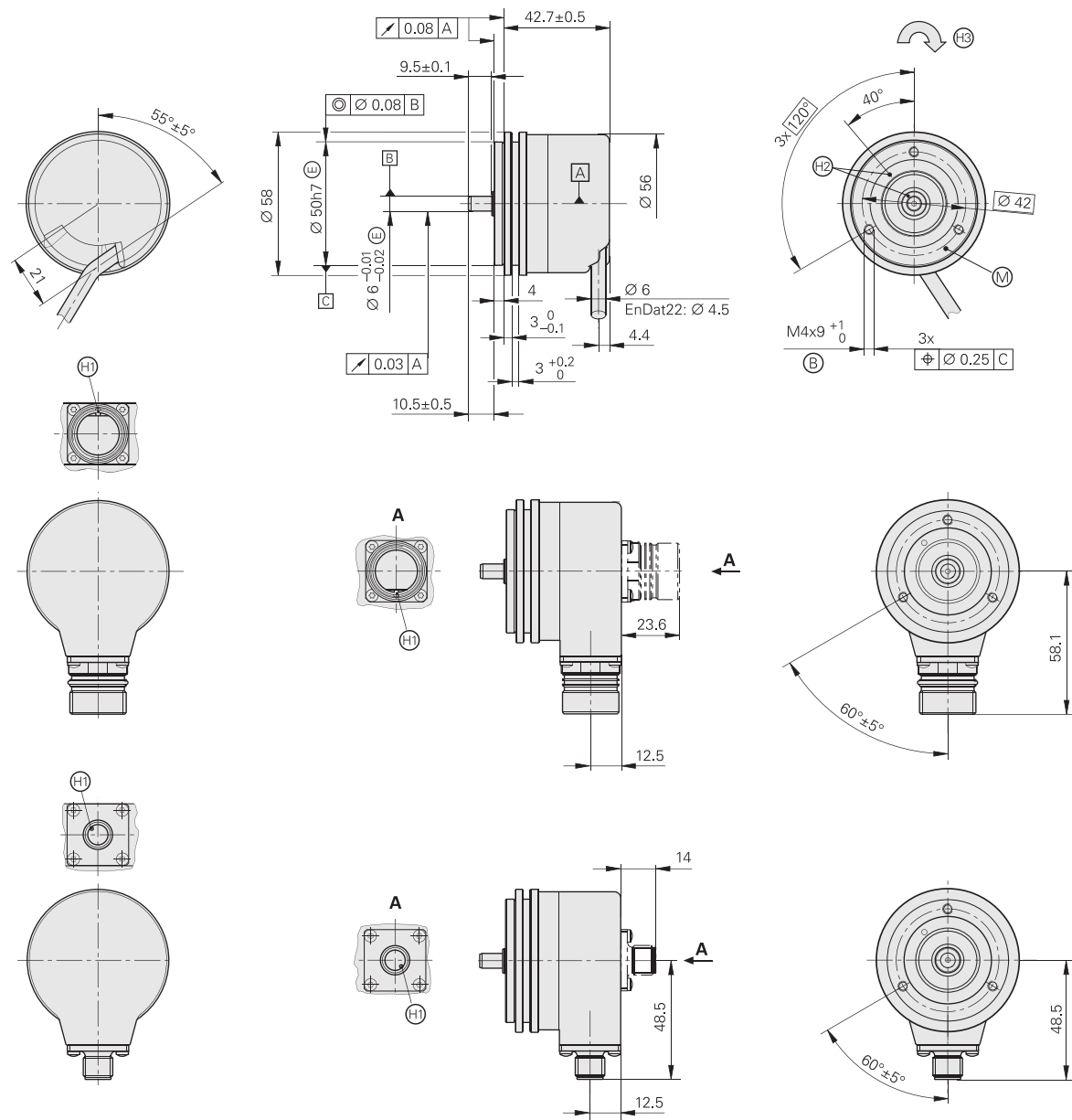


# ROC/ROQ/ROD 400 and RIC/RIQ 400 series

Absolute and incremental rotary encoders

- Synchro flange
- Solid shaft for separate shaft coupling



mm  
  
 Tolerancing ISO 8015  
 ISO 2768 - m H  
 < 6 mm: ±0.2 mm

Cable radial, also usable axially  
 A = Bearing  
 B = Threaded mounting hole; the thread depth applies as of November 2012; previous depth: 5 mm  
 C = Measuring point for operating temperature  
 H1 = Connector coding  
 H2 = ROD reference mark position on shaft and flange ±30°  
 H3 = Direction of shaft rotation for output signals as per the interface description

	Incremental			
	ROD 426	ROD 466	ROD 436	ROD 486
Interface	TTL		HTL	~ 1 V <sub>pp</sub> <sup>1)</sup>
Line counts*	50 100 150 200 250 360 <b>500</b>	512 720	-	
	<b>1000 1024 1250</b>	1500 1800 <b>2000 2048 2500 3600 4096 5000</b>	-	
	6000 <sup>2)</sup> 8192 <sup>2)</sup> 9000 <sup>2)</sup> 10000 <sup>2)</sup>		-	
Reference mark	One			
Cutoff frequency -3 dB	-			≥ 180 kHz
Scanning frequency	≤ 300 kHz/≤ 150 kHz <sup>2)</sup>			-
Edge separation a	≥ 0.39 μs/≥ 0.25 μs <sup>2)</sup>			-
System accuracy	1/20 of grating period			
Electrical connection*	<ul style="list-style-type: none"> <li>• Flange socket M23, radial and axial</li> <li>• Cable 1 m/5 m, with or without coupling M23</li> </ul>			
Voltage supply	5 V DC ± 0.5 V	10 V to 30 V DC	10 V to 30 V DC	5 V DC ± 0.5 V
Current consumption without load	≤ 120 mA	≤ 100 mA	≤ 150 mA	≤ 120 mA
Shaft	Solid shaft D = 6 mm			
Mechanically permissible speed n	≤ 16000 min <sup>-1</sup>			
Starting torque	≤ 0.01 Nm (at 20 °C)			
Moment of inertia of rotor	≤ 2.7 · 10 <sup>-6</sup> kgm <sup>2</sup>			
Shaft load <sup>3)</sup>	Axial: ≤ 40 N; Radial: ≤ 60 N at shaft end			
Vibration 55 to 2000 Hz	≤ 300 m/s <sup>2</sup> (EN 60068-2-6)			
Shock 6 ms	≤ 2000 m/s <sup>2</sup> (EN 60068-2-27)			
Max. operating temp. <sup>4)</sup>	100 °C	70 °C	100 °C <sup>5)</sup>	
Min. operating temp.	Flange socket or fixed cable: -40 °C Moving cable: -10 °C			
Protection EN 60529	IP 67 at housing, IP 64 at shaft inlet (IP 66 available on request)			
Weight	Approx. 0.3 kg			

**Bold:** This preferred version is available on short notice.

\* Please select when ordering

<sup>1)</sup> Restricted tolerances: Signal amplitude: 0.8 to 1.2 V<sub>pp</sub>

<sup>2)</sup> Signal periods; generated through integrated 2-fold interpolation (TTL x 2)

<sup>3)</sup> See also *Mechanical design types and mounting*

<sup>4)</sup> For the correlation between the operating temperature and the shaft speed or supply voltage, see *General mechanical information*

<sup>5)</sup> 80° for ROD 486 with 4096 or 5000 lines