MS22 — Hall-Effect Rotary Position Sensor

Hall-effect angular position sensor for rotary angle measurement. Reference configuration MS223S001: SSC interface, SPI-compatible, 15-bit absolute angle output.

PART NUMBER MS223S001

1 PURPOSE

Hall-effect angular position sensor for rotary angle measurement. This specification defines the technical requirements and environmental suitability of the sensor and serves as the primary basis for design, manufacture and acceptance.

2 TECHNICAL REQUIREMENTS

2.1 Input voltage range	3.3 V +0.5 V
2.2 Current consumption	< 16 mA
2.3 Output interface	Synchronous Serial Communication (SSC), SPI-compatible. Bidirectional SSC interface, 8 Mbit/s.
2.4 Wire colours	Red: +3.3 V. Black: GND. White: Data. Blue: CS. Yellow: SCK.
2.5 Mechanical travel	360°
2.6 Angle output	15-bit absolute angle output
2.7 Maximum axial and radial load	10 N
2.8 Output-shaft rotational damping torque	≤ 5 mNm
2.9 Lead-wire pull strength	≥ 4.9 N (each wire pulled individually)
2.10 Service life	Not less than 1×10^7 revolutions
2.11 Ingress protection	IP53
2.12 Shaft-to-housing runout	Radial runout ≤ 0.01 mm
2.13 Weight	≤ 25 g
2.14 Outline	See Figure 1.

3 ENVIRONMENT AND STORAGE

3.1 Operating altitude	0 to 6 km
3.2 Operating temperature	−40 to 60 °C
3.3 Operating relative humidity	≤ 95 % at 25 °C
3.4 Storage temperature	−45 to 105 °C
3.5 Storage relative humidity	≤ 75 % at 25 °C
3.6 Storage life	≥ 12 years

4 STRUCTURE DRAWING — FIGURE 1

