**Series NS-NSM**

- Absolute rotary encoder with shaft
- Available in single-turn and multi-turn
- Profinet
- Accessories from page 70

### Mechanical specifications

- **Housing:** Aluminium
- **Flange:** Aluminium
- **Shaft:** stainless steel
- **Bearing:** 2 ball bearings
- **Weight:** 400 g
- **Protection type:** IP 67
- **Max. speed:** 6000 U/min
- **Torque:** < 0.5 Ncm
- **Moment of inertia:** 20 g/cm²
- **Max. shaft load:**
  - Axial: 20 N - Rad: 40 N
  - Axial: 40 N - Rad: 60 N

### Electrical specifications

- **Supply voltage:** 10-30 V +/- 5%
- **Power:** max. 4 watt
- **Interface:** Ethernet
- **Protocol:** Profinet (NRT, RT, IRT)
- **Transfer rate:** 100 MBit/s
- **Cycle time:** <= 1 ms (IRT); <= 10 ms (RT)
- **Resolution:**
  - Single-turn 16-bit
  - Multi-turn 30-bit (16-bit single-turn - 14-bit multi-turn)
- **Linearity:** +/- 2 LSB x 16-bit, 1 LSB x 14-bit
  - +/- 1/2 LSB 12-bit
- **Output code:** Binary
- **Programmability:**
  - Resolution turn
  - Resolution total
  - Preset
- **Terminating resistor:** adjustable with DIP switches
- **Operating temperature:**
  - Standard: -10°C...+60°C
  - Option R: -40°C...+85°C

### Mechanical dimensions

#### Flange H

Single-turn *L = 69.00  
Multi-turn *L = 80.00

#### Flange 3

Single-turn *L = 69.00  
Multi-turn *L = 80.00
**Mechanical dimensions**

**Flange T**

Single-turn *L = 69.00
Multi-turn *L = 80.00

**Order reference**

- **Design**
  - S = Single-turn
  - M = Multi-turn

- **Shaft**
  - 3 = Ø 6 mm
  - L 10 mm

- **Flange**
  - H = Flange H
  - 3 = Flange 3
  - T = Flange T

- **Output**
  - 2 = Standard

- **Connection**
  - M = M12 (bus cover with 3 Connector M12 4 Pin)

- **Option**
  - P = None

- **Bit Single-turn**
  - 12 = 12-bit

- **Bit Multi-turn**
  - 13 = 13-bit
  - 16 = 16-bit

*Extended temperature range*