

Preliminary

Overview

- Encoder multiturn / CANopen® redundant
- Redundant sensing with galvanical separation
- E1 compliant design
- High protection IP 67
- High resistance to shock and vibrations
- Protection against corrosion CX (C5-M)
- Wire cross section 0.5 mm²
- Applicable up to PLd (ISO 13849)
- Option: Baud rate 250 kbits/s
- Option: Code sequence CCW


Technical data
Technical data - electrical ratings

Voltage supply	10...30 VDC
Consumption typ.	35 mA (24 VDC, w/o load)
Initializing time	≤ 1 s after power on
Interface	CANopen®
Function	Multiturn
Profile conformity	CANopen® CiA Communication profile DS 301 LSS profile DSP 305 Device profile DS 406
Steps per revolution	≤16384 / 14 bit
Number of revolutions	≤262144 / 18 bit
Absolute accuracy	±0.15 ° (+20 ±15 °C) ±0.25 ° (-40...+85 °C)
Sensing method	Magnetic
Code sequence	CCW: ascending values with counter-clockwise sense of rotation; looking at flange
Output stages	CAN-Bus, LV (5 V) compatible ISO 11898
Interference immunity	EN 61000-6-2 ISO 11452-2:2004* / -5:2002* ISO 7637-2:2011* ISO 16750-2:2012* ISO 10605:2008 + Amd 1:2014 (CD ±8 kV / AD ±15 kV) * Severity level according to ECE R10 (Rev. 5)
Emitted interference	EN 61000-6-4 CISPR 25:2008 (30...1000 MHz) ISO 7637-2:2011* * Severity level according to ECE R10 (Rev. 5)

Technical data - electrical ratings

MTTF _d (ISO 13849)	High (>100 years) per channel Use in safety functions exclusively based on Application Note and MTTFd reliability prediction (request separately).
Approval	UL approval / E217823

Technical data - mechanical design

Size (flange)	ø58 mm
Shaft type	ø10...15 mm (blind hollow shaft)
Protection EN 60529	IP 67 (with shaft seal)
Operating speed	≤6000 rpm
Starting torque	≤2.5 Ncm (+20 °C, IP 67)
Moment of inertia	46.75 gcm ²
Material	Housing: steel, powder-coated Flange: aluminium Hollow shaft: stainless steel
Corrosion protection	IEC 60068-2-52 Salt mist for ambient conditions CX (C5-M) according to ISO 12944-2
Operating temperature	-40...+85 °C (see general information)
Relative humidity	95 %
Resistance	EN 60068-2-6 Vibration 30 g, 10-2000 Hz EN 60068-2-27 Shock 500 g, 1 ms
Weight approx.	250 g
Connection	Flange connector M12, 5-pin

Preliminary

General information

Self-heating interrelated to speed, protection, attachment method and ambient conditions as well electronics and supply voltage must be considered for precise thermal dimensioning. Self-heating is supposed to approximate 12 K (IP 67 protection) per 1000 rpm. Operating the encoder close to the maximum limits requires measuring the real prevailing temperature at the encoder flange.

Terminal assignment

Cable

for connection reference **-L**

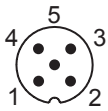
Core colour	Signals
white	0 V
brown	+Vs
green	CAN_H
yellow	CAN_L
grey	CAN_GND

Cable data: 5 x 0.5 mm²

Flange connector M12, 5-pin

for connection reference **-N**

Pin	Signals
1	CAN_GND
2	+Vs
3	0 V
4	CAN_H
5	CAN_L



CANopen® features

Operating modes	Timer-driven (Event-Time) Synchronously triggered (Sync)
Node Monitoring	Heartbeat Node guarding
Programmable parameters	Operating modes Total resolution Scaling
Diagnosis	Multiturn sensing Position error Temperature exceeding Speed exceeding
Default	250 kbit/s Channel A: Node ID 1 Channel B: Node ID 2

Preliminary

Dimensions

