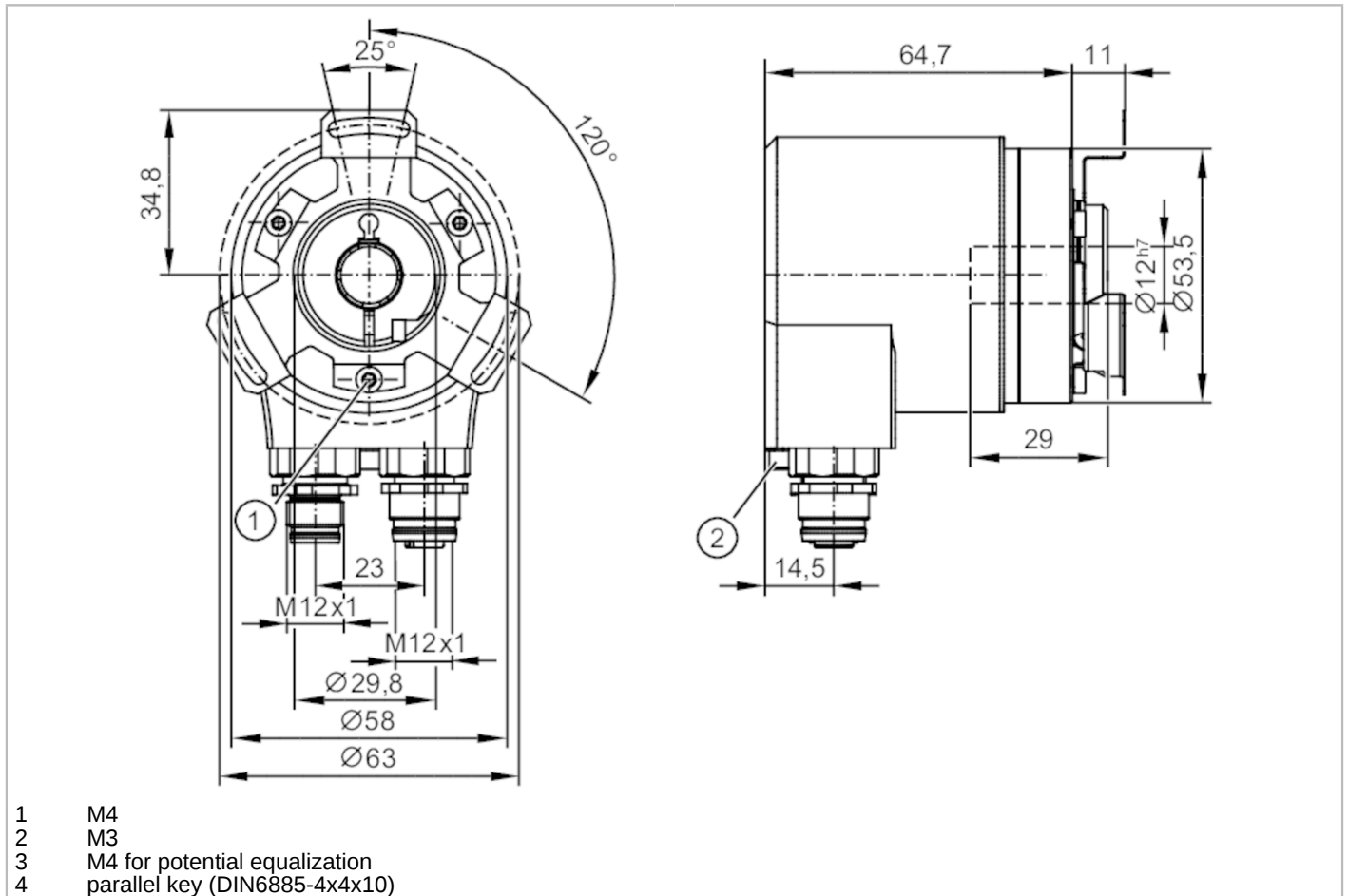


RM903S



Multiturn hollow shaft encoder

RMO12BRU51213bCANS



- 1 M4
- 2 M3
- 3 M4 for potential equalization
- 4 parallel key (DIN6885-4x4x10)



Product characteristics

Resolution	8192 steps; 65536 revolutions; 29 bit
Shaft design	hollow shaft open to one side
Shaft diameter [mm]	12

Application

Function principle	absolute
Revolution type	multiturn
Detection system	magnetic
Application	Mobile applications; cranes and hoist machines
Operating temperature (active) [°C]	-40...85

Electrical data

Operating voltage [V]	8...36 DC
Current consumption [mA]	< 60; ((24 V DC))
Power consumption [W]	1.5
Protection class	III
Reverse polarity protection	yes
Overtoltage protection	yes; (< 60 V DC)
Power-on delay time [s]	< 2

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Outputs	
Contact rating	max. 1,5 A (24 V DC)
Code	binary
Measuring/setting range	
Resolution	8192 steps; 65536 revolutions; 29 bit
Accuracy / deviations	
Accuracy [°]	safety 0.5
Accuracy [°]	non-safety 0.2
Repeatability	± 0,1 °; (magnetic)
Reaction times	
Response time to safety request [ms]	7
Software / programming	
Parameter setting options	scaling; preset; Baud rate; node ID; limit switch; gear function; monitoring window; Counting direction; speed parameters; integration time; ifm mode
Interfaces	
Number of CAN interfaces	2
Transmission rate	20 kBit/s... 1 MBit/s
Terminating resistor	yes; (Extern M12 (z.B. E11590))
CAN	
Protocol	CANopen; CANopen Safety; CAN Spezifikation 2.0 A
Factory settings	Baud rate: 250 kBit/s node ID: 32
Version	CiA 406 V4.1.0; CiA 301 V4.2.0; CiA DSP-305 V3.0.0 LSS; EN 50325-4; EN 50325-5; ISO 11898
Operating conditions	
Ambient temperature [°C]	-40...85
Storage temperature [°C]	-40...90
Note on storage temperature	dry
Max. relative air humidity [%]	98
Max. height above sea level [m]	5000
Protection	IP 67; IP 69K; (with ifm socket duly screwed on)

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Chemical media	test according to ISO 16750-5	
	the following media were tested at 85 °C for 22 hours	diesel
		biodiesel
		hydraulic fluids
		(Fuchs Hydrotherm 46 M HFC,
		(Fuchs Renoling B15 VG 46 HLP,
		Liqui Moly Hydrauliköl HEES 46)
		brake fluid
		(K2 TURBO DOT 4)
		urea
		(Adblue)
	the following media were tested for 22 hours at 23 °C	preservative
		(Pfinder W550)
		cold cleaner
		(Nigrin cold cleaner)
		ammonia-based cleaner
		(EMSAL Kraft und Grundreiniger)
	the following media were tested for 2 hours at 23 °C	alkaline cleaner
		(Kärcher RM 69 FloorPro)
		windscreen washer fluid
(SONAX Clear View 1:100 Concentrate)		
vehicle cleaning product		
(Förch R527 car shampoo concentrate)		
wheel rim cleaner		
(SONAX Xtreme)		
the following media were tested for 10 minutes at 23 °C	de-icer	
	(Eastman Clearway)	
	lead-free petrol	
	alcohol	

Tests / approvals		
EMC	IEC 61000-4-2 ESD 6	6 kV CD / 15 kV AD
	IEC 61000-4-3 HF radiated	20 V/m (27...1000MHz)
		10 V/m (1000...2000MHz)
		3 V/m (2000...6000MHz)
	IEC 61000-4-4 Burst	4 kV
	IEC 61000-4-5 Surge	2 kV (screen)
	IEC 61000-4-6 HF	20 V
	IEC 55011	class B
	IEC 61000-4-8 magnetic fields	30 A/m (50 Hz) / 1000 A/m (0 Hz) Failure criterion A
	Shock resistance	IEC 60068-2-27
Vibration resistance	IEC 60068-2-64	15 g Sinus / 50...2000 Hz
	ISO 19014-3	5.7 g RMS
Salt spray test	IEC 60068-2-52	severity level 5
Standard	compliant with ECE R 10 Rev. 6	

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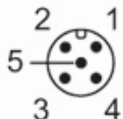
Safety classification	
Complies with the requirements	ISO 13849-1 Category 3, PL d IEC 61508 SIL 2 IEC 61800-5-2 IEC 61800-5-3
Mission time TM [h]	175800
Mission time TM (additional indication)	20 years
PFH [1/h]	2,00E-8

Mechanical data	
Weight [g]	726.95
Housing	tubular
Dimensions [mm]	Ø 58 / L = 64.7
Material	sealings: NBR/HNBR; Display: UV-stabilized polycarbonate; Connections: diecast zinc nickel-plated (axial)/(radial)
Max. revolution, mechanical [U/min]	6000
Max. starting torque [Nm]	0.05
Reference temperature torque [°C]	20
Shaft design	hollow shaft open to one side
Shaft diameter [mm]	12
Shaft material	stainless steel (1.4305 / 303)
Fixing flange	direct flange; Ø 63 mm

Remarks	
Remarks	material for secure mounting not supplied; fixing must be done by the user meets the EMC requirements for use in agricultural and forestry machinery, earthworks and construction machines and industrial trucks can be used in applications up to Ag PL d in accordance with ISO 25119, up to MPL d in accordance with ISO 19014-3
Pack quantity	1 pcs.

Electrical connection - CAN-in

Connector: 1 x M12; coding: A; (open M12 connections must be covered with appropriate protective caps)



1	CAN screen
2	VBB
3	GND
4	CAN_H
5	CAN_L
	PE via housing screw

RM903S

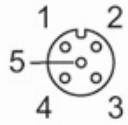


Multiturn hollow shaft encoder

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