

Absolute-Encoder CDH582M - EPN + FS3

Ref.: K-CDH58_2FS-PN-1

24.06.2021

010102158201030202



Advantages

- Fast start-up, FSU
- Isochronous applications, IRT
- Media-Redundancy Protocol, MRP
- PNO Encoder Profile, CL 3/4
- Preset "on the fly"
- Salt water resistant
- Shared Device
- SIL3, PLe

General Data

Nominal voltage	
- Specific value	24 VDC
- Limit values, min/max	10/30 VDC
Nominal current, typically	
- Specific value	110 mA
- Specific value	130 mA with second interface
- Condition	unloaded
Supply	
- SELV/PELV	IEC 60364-4-41
- In case of UL / CSA approval	according to NEC Class 2
Device design	
- Type	Multi-Turn
- Redundant scanning system	yes, double
- Design	optical/magnetic
Total resolution	<= 29 Bit
Number of steps per revolution	<= 8192 = 13 bit resolution
Number of revolutions	<= 65536
Accuracy (functional)	12 Bit, Single-Turn; 0.087 °
PROFINET IO - Interface	
- PROFINET IO – Device	IEC 61158, IEC 61784-1
- Physical Layer	Fast Ethernet, ISO/IEC 8802-3
- PROFINET-Specification	V2.3

Subject to change.

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General Data continuation

- Conformance Class	B, C
- Real-Time-Classes	Class 1, 2 (RT), Class 3 (IRT)
- PROFI-safe-Profile	No. 3.192b
- PROFI-safe-Profile	PROFI-safe V2.4 (BP)
- PROFI-safe-Profile	PROFI-safe V2.6.1 (XP)
- Media Redundancy Protocol, MRP	yes, is supported
- PNO Encoder-Profile	Class 3 and 4, V4.2
- Fast Start-Up (FSU)	3-times faster start-up
SSI - Interface	
- Equipment	Optional interface
- SSI-Clock input	RS-422; 2-wire
- SSI-Data output	RS-422, 2-wire
- SSI-Clock frequency	≤ 1 MHz
- SSI-Mono time, typically	15 μ s, 20 μ s, 50 μ s, 500 μ s
- Protocol, TR-specific	Function information + CRC
- Output code	Binary, Gray
- Number of data bits	8...29
- Type of parametrization	programmable
- MTTFd, SSI	150 a
Incremental - Interface	
- Equipment	Optional interface
- Signal form	Square wave
- Signal form, alternative	SIN / COS
- Incremental signals, square	$K1 \pm K2 \pm$
- Incremental signals, SIN/COS	$SIN \pm COS \pm, 1 V_{ss}$
- Impulses, square wave	1024...5120, in steps of 1024
- Impulses, SIN/COS	1024 \square
- Output driver, TTL	RS-422, 5 VDC
- Output driver, HTL	Push-Pull, Supply Voltage
- Type of parametrization	programmable
- MTTFd, square	180 a
- MTTFd, SIN/COS	190 a
Transmission rate	
- Specific value	100 MBit/s
Cycle time	$\geq 1000 \mu$ s (IRT/RT)
- Not safety related	0.5 ms
- Safety related	3 ms
Parameter/Function, changeable	Integration time

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General Data continuation

	Preset parameter
	Scaling parameter
	Monitoring window
	Counting direction
	Velocity parameter
Type of parametrization	programmable
Programming - Tool	Fieldbus-Device
	TCI Device Tool
Functional safety	
- Safety principle	Redundance with cross compare
- SIL-Standardization	DIN EN 61508 / DIN EN 62061
- SIL-Standardization	DIN EN 61800-5-2
- SIL-Level	SIL3 / SIL CL 3
- PL-Standardization	DIN EN ISO 13849
- Performance-Level (PL)	PLe / Cat. 4
- Service life	20 Years
- PFH	1.00E-9 1/h
- PFDav, T = 20 a	8.50E-5
- MTTFd	170 a, high
- DCavg	98 %, high/middle
- Mode	High demand, continuous
- Proof-Test-Interval	T1 = 20 Years
- Accuracy (safety)	8 Bit, Single-Turn; 1.406 °
Safety functions	
- DIN EN 61800-5-2	SLP (safely-limited position)
- DIN EN 61800-5-2	SDI (safe direction)
- DIN EN 61800-5-2	SCA (safe cam)
- DIN EN 61800-5-2	SS1 (safe stop 1)
- DIN EN 61800-5-2	SS2 (safe stop 2)
- DIN EN 61800-5-2	SOS (safe operating stop)
- DIN EN 61800-5-2	SLS (safely-limited speed)
- DIN EN 61800-5-2	SSR (safe speed range)
- DIN EN 61800-5-2	SSM (safe speed monitor)
Internal process safety time	
- Profisafe instances: , Times:	2, DAT <= 14 ms, WCDT <= 7 ms
- Profisafe instances: , Times:	4, DAT <= 18 ms, WCDT <= 8 ms
Maximum Speed, mechanically	<= 6000 1/min
Shaft load, axial/radial	Own mass

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General Data continuation

Bearing life time	$\geq 3.9E+10$ revolutions
Bearing life time - Parameter	
- Speed	3000 1/min
- Operating temperature	60 °C
Shaft type	
- Shaft diameter [mm]	8
- Shaft diameter [mm]	10
- Shaft diameter [mm]	12
- Shaft diameter [mm]	14
- Shaft diameter [mm]	15
- Shaft forming	Parallel key/Groove
Angular acceleration	$\leq 10E+4$ rad/s ²
Moment of inertia, worst-case	$\leq 9.5E-6$ kg m ²
	at shaft diameter 10 mm
	depending from shaft forming
Start-up torque, worst-case	≤ 3.7 Ncm
	at shaft diameter 10 mm
	depending from shaft forming
Concentricity tolerance	± 0.3 mm (static, radial)
Mass, typically	0.3...0.5 kg
Isolation voltage	500 V

Environmental conditions

Vibration	DIN EN 60068-2-6
- Specific value	≤ 100 m/s ²
- Sine	50...2000 Hz
Shock	DIN EN 60068-2-27
- Specific value	≤ 1000 m/s ²
- Half sine	11 ms
Immunity to disturbance	DIN EN 61000-6-2
Transient emissions	DIN EN 61000-6-3
Working temperature	
- Standard	-25...+85 °C
- Derating	$T_w = -0.002 * n + 85$ °C
Storage temperature, dry	-40...+90 °C
Relative humidity	98 %, non condensing

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Environmental conditions continuation

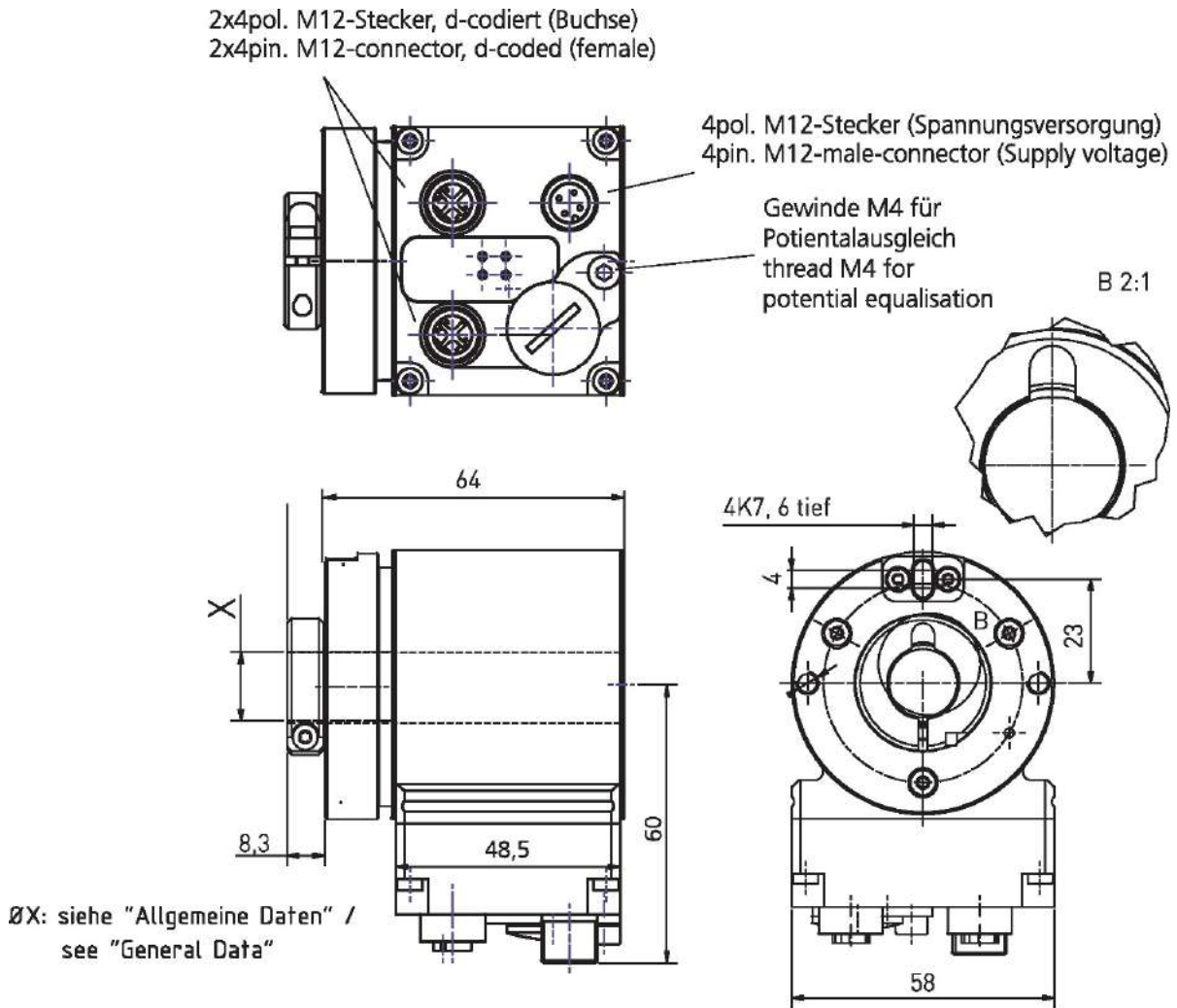
Protection class	
- Standard	IP54
Resistance	
- against salt (seawater)	DIN EN IEC 60068-2-52
- Test method	Test method 1
- excluded are	Attachment parts

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Dimensional drawing



Fehlende Abmaße, siehe Art.-Nr. bezogene Zeichnung /
 Missing dimensions, see drawing related to the order number

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Suggested products

CDH582M*8192/65536 EPN NTS 10H7 + FS3 CDH582M-00011
3xM12 radial

CDH582M*8192/65536 EPN NTS 12H7 + FS3 CDH582M-00012
3xM12 radial

CDH582M*8192/65536 EPN NTS 14H7 + FS3 CDH582M-00013
3xM12 radial

CDH582M*8192/65536 EPN NTS 15H7 + FS3 CDH582M-00014
3xM12 radial

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