CDS582M*8192/65536 EPN+INK NTS 15H7+FS3

Order No.: CDS582M-00052
22.11.2024
010102158201020203

Stock photo

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

Technical data for CDS582M-00052

STANDARD	EN 61508
	EN 61800-5-2
	EN 62061 / EN ISO 13849
	IEC 61800-5-3
SAFETY	CDS582MD+FS03 EPN SIL3/PLe
NO.OF STEPS/REV	8.192,000
NO. OF REVOLUTIONS	65.536,000
SHAFT EXECUTION	(S) Blind shaft
FLANGE TYPE	SLOT FOR PIN D4
SHAFT TYPE	15H7 BLIND SHAFT
SUPPLY VOLTAGE	10-30VDC
POWER DISSIPATION	< 4W

Änderungen vorbehalten.

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Technical data for CDS582M-00052

PROTECTION Class	IP65
OPERATING TEMPERATURE	-40+85°C
OPTIONS ENC	CONFORMANCE CLASS C
	IEC 61158 / IEC 61784-1
	Legacy-Profil
	MOMENT SUPPORT PIN/GROOVE
	PN Spec. 2.3
	PNO-PROFILE
	PRESET ON-THE-FLY
	PROFIsafe-Profile V2.4
	PROFIsafe-Profile V2.6.1
	SICHERE ABSOLUTPOSITION (SAP)
	SICHERE GESCHWINDIGKEIT (SSV)
	TR-PROFILE
INTERFACE	PROFINET/PROFISAFE
CONNECTOR TYPE	1x M12 04-PIN A-CODE MALE
	1x M12 05-PIN A-CODE FEMALE
	2x M12 04-PIN D-CODE FEMALE
CONNECTOR-POSITION	RADIAL
PINOUT NO.	TR-ECE-TI-DGB-0323
SECONDARY INTERFACE	INKREMENTAL
NO. OF INCREMENTS	1024
SIGNALS	K1+K2+NEG
SIGNAL LEVEL	5V
PINOUT NO. 2	TR-ECE-TI-DGB-0330
DRAWING NO.	04-CDS582M-M0007
VERSIONNO	000
MATING PLUG	NO
DOCUMENTATION NO	DOKUMENTE
AL:	N
ECCN:	N
UL-APPROVALS	USA+CANADA

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General data for K-CDS58_2FS-PN-1

General data for K-CDS58_2FS-PN-1

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
- Protection class III	DIN EN 61140
Polarity protection	yes
Short circuit protection	yes
	internal 1 A fuse
Overvoltage protection	yes, up to <= 60 V DC
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)	± 0.045 °
Reproducibility	± 0.01 °
PROFINET IO - Interface - PROFINET IO – Device	IEC 61158, IEC 61784-1
- Physical Layer	Fast Ethernet, ISO/IEC 8802-3
- PROFINET-Specification	V2.3
- Conformance Class	B, C
- Real-Time-Classes	Class 1, 2 (RT), Class 3 (IRT)
- PROFIsafe-Profile	No. 3.192b
- PROFIsafe-Profile	PROFIsafe V2.4 (BP)
- PROFIsafe-Profile	PROFIsafe 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

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General data for K-CDS58_2FS-PN-1

SSI - Interface	
- Equipment	Optional interface
- SSI-Clock input	RS-422; 2-wire
- SSI-Data output	RS-422, 2-wire
- SSI-Clock frequency	<= 1MHz
- SSI-Mono time, typically	15 µs, 20 µs, 50 µs, 500 µs
- Protocol, TR-specific	Function information + CRC
- Output code	Binary, Gray
- Number of data bits	8…29
- Type of parametrization	programmable
- MTTFd, SSI	150 a
- SSI-Refresh time	500 µs, asynchronous
Incremental - Interface	
- Equipment	Optional interface
- Signal form	Square wave
- Signal form, alternative	SIN / COS
- Incremental signals, square	K1± K2±
- Incremental signals, SIN/COS	SIN± COS±, 1 Vss
- Impulses, square wave	1024…5120, in steps of 1024
- Impulses, SIN/COS	1024
- 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
- Duty factor, square	50 %, ± <= 10 %
- Phase angle, square	90 °, ± <= 20 ° (electr.)
Transmission rate	
- Specific value	100 MBit/s
Cycle time	>= 1000 µs (IRT/RT)
- Not safety related	0.5 ms
- Safety related	3.0 ms
Preset writing cycles	>= 16 000 000
Speed output	safety-related
- Resolution	16/32 Bit

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General data for K-CDS58_2FS-PN-1

- Accuracy (output value)	± 0.6 1/min (opt./magn.)
- Accuracy (output value)	± 3.6 1/min (magn./magn.)
- Tracking error	see Safety Manual
Parameter/Function, changeable	Integration time
	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 / PFH [D]	1.00E-9 1/h
- PFH / PFH [D]	PFH: DIN EN 61508-4
- PFH / PFH [D]	PFH [D]: DIN EN ISO 13849-1
- 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)	± 0.7 °
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)

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General data for K-CDS58_2FS-PN-1

- 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
Bearing life time	>= 3.9E+10 revolutions
Bearing life time - Parameter - Speed	 3000 1/min
- Operating temperature	60 °C
- Degree of contamination	normal
- Mounting position	Shaft horizontal
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	<= 10E+4 rad/s²
Moment of inertia, worst-case	<= 9.0E-6 kg m²
	at shaft diameter 10 mm
	depending from shaft forming
Start-up torque, worst-case	<= 3.7 Ncm (IP65,-20 °C,+6 σ)
	<= 10 Ncm (IP67,-20 °C,+6 σ)
	at shaft diameter 10 mm
	depending from shaft forming
Circular runout	± 0.3 mm (static, radial)
Circular runout, TH mounting - TH	 Torque holder
- Type1 (static/dynamic)	Type1 axial ± 0.13/0.1 mm
- Type1 (static/dynamic)	Type1 radial ± 0.25/0.1 mm
- Equipment	optional
Mass, typically	0.3…0.5 kg

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General data for K-CDS58_2FS-PN-1

Isolation voltage	500 V

Environmental data

Vibration	DIN EN 60068-2-6
- Specific value	<= 100 m/s²
- Sine	50…2000 Hz
Shock	DIN EN 60068-2-27
- Specific value	<= 1000 m/s²
- Half sine	6 ms
Immunity to disturbance	DIN EN 61000-6-2
Transient emissions	DIN EN 61000-6-3
Magnetic fields	DIN EN 61000-4-8
- Specific value	30 A/m
- Criteria	A
- Spatial direction	X, Y, Z
Working temperature - Standard	-40…+85 °C
- Derating	Tw = -0.002 * n + 85 °C
- Derating	Tw = -0.004 * n + 85 °C (IP67)
Storage temperature, dry	-40…+90 °C
Relative humidity	98 %, non condensing
Protection class - Standard	IP65
- Optional	extended to IP67
Installation height	<= 5000 m, above sea level
Resistance - against salt (seawater)	DIN EN IEC 60068-2-52
- Test method	Test method 1
- excluded are	Attachment parts

Änderungen vorbehalten.

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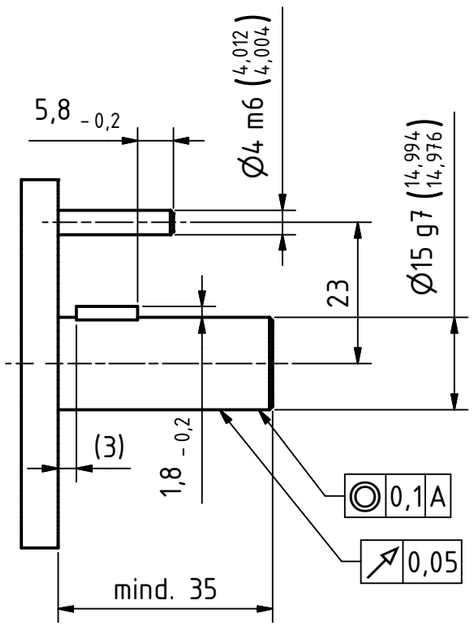
Anforderung an Kundenwelle
requirements for the customer shaft

Passfeder DIN 6885-A 5x5x10
parallel key DIN 6885-A 5x5x10



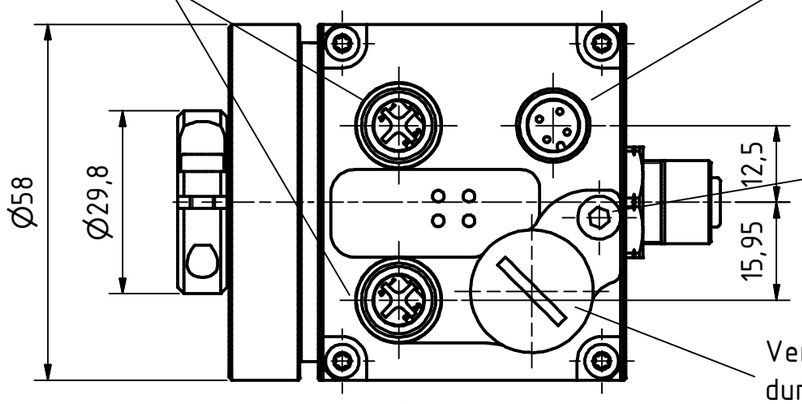
A Geberanbau
encoder mounting

2x4pol. M12-Stecker, d-codiert (Buchse)
2x4pin. M12-connector, d-coded (female)

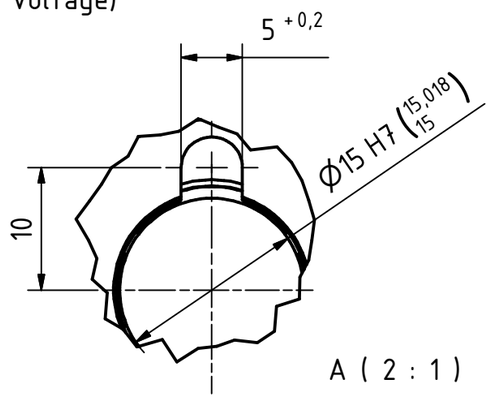
4pol. M12-Stecker (Spannungsversorgung)
4pin. M12-male-connector (Supply voltage)

Gewinde M4 für
Potientalausgleich
thread m4 for
potential equalisation

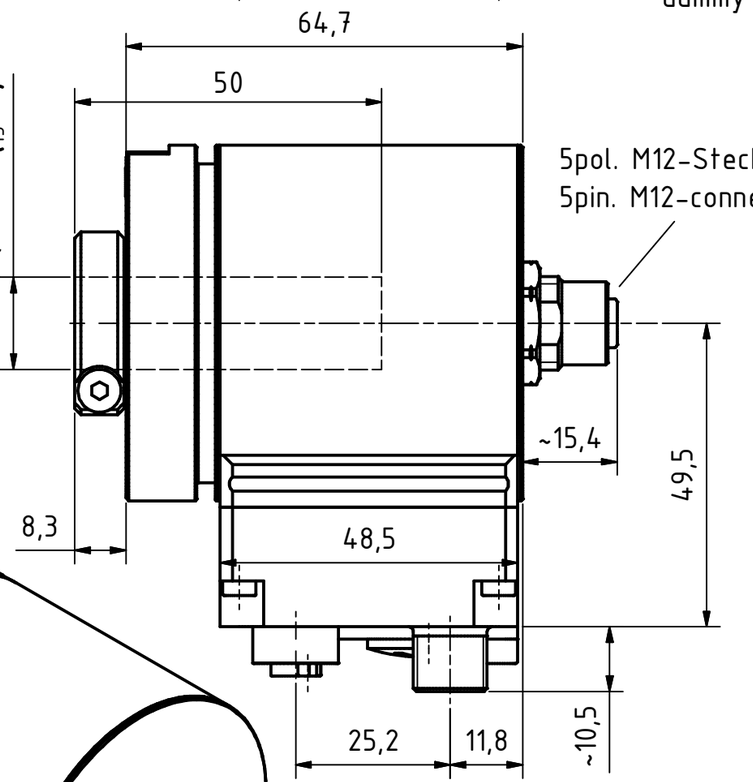
Verschlußstopfen M16x1.5
dummy plug M16x1.5



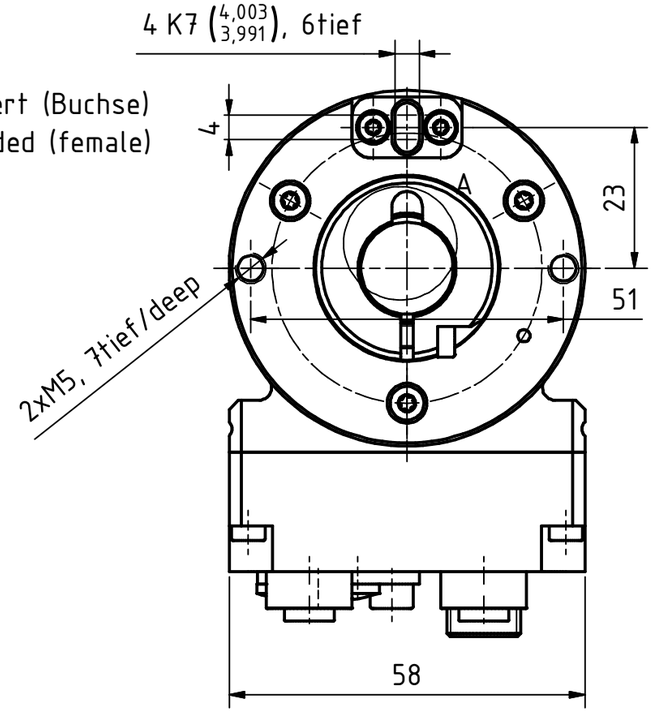
Nut DIN6885

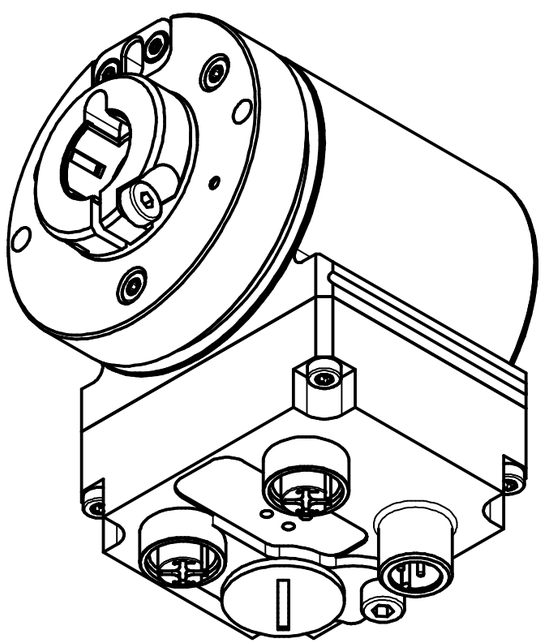


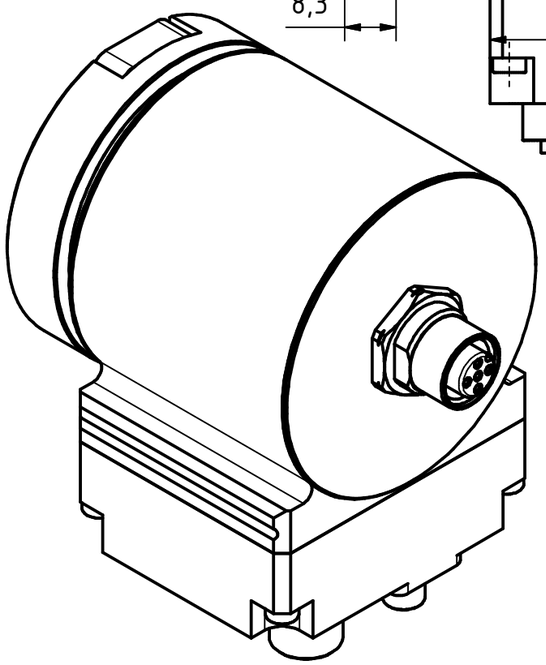
A (2 : 1)



5pol. M12-Stecker, a-codiert (Buchse)
5pin. M12-connector, a-coded (female)







Artikel-Nr. und Steckerbelegung: siehe Datenblatt
Article-No. and pin connections: see data sheet

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Zust.	Änderungen	Datum	Name
1	Stecker in Buchse	08.02.19	Flaig

	Datum	Name
Erstellt	20.11.2018	FLAIG
Bearb.	08.02.2019	FLAIG
Gepr.	11.02.2019	NEMECZ
Norm		

www.tr-electronic.de
DXF+Info:
info@tr-electronic.de

Maßstab 1:1 DIN A3 Projekt-Nr.:

Zeichnungs-Nr. nur für diese Ausführung gültig
Drawing-No. only for this type valid

CDS-582-M, Ø15H7

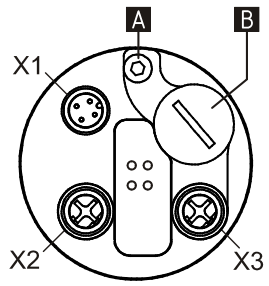
Zeichnungs-NR../Drawing-No.:
04-CDS582M-M0007

Blatt 1
1 Bl

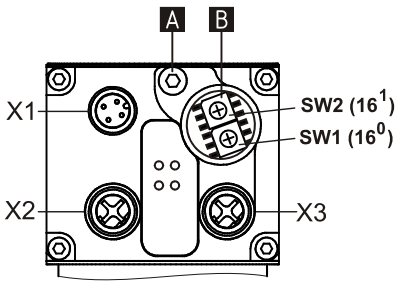
Steckerbelegung / Pin assignment

AD_-582 / CD_-582 PROFINET / PROFIsafe

axialer Steckerabgang /
axial connector outlet



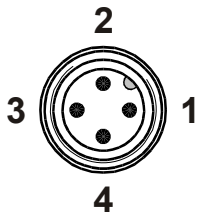
radialer Steckerabgang /
radial connector outlet

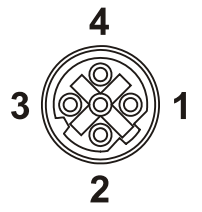


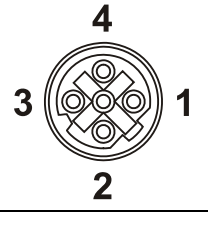
A Potentialausgleich /
Potential equalisation

B PROFIsafe-Zieladresse /
PROFIsafe destination address
- Valid addresses = 1 – 255

Rücksetzen auf Werkseinstellungen /
Reset to factory settings
- Set SW1 / SW2 = 0x00
- 3 Sek. warten
- Set SW2 / SW1 = 0x52
- Wait 3s -> LED green 2 Hz
- Set SW1 / SW2 = 0x00

X1	Flanschstecker / *Male socket* (M12x1-4 pol. A-coded)			
1	10 – 30 V DC	Encoder-Versorgungsspannung / *Encoder-Supply Voltage*	Steckseite *Mating Face*	
2	-	N.C.		
3	0 V	Encoder-Versorgungsspannung / *Encoder-Supply Voltage*		
4	-	N.C.		

X2 = PORT 1		Flanschdose / *Female socket* (M12x1-4 pol. D-coded)			
1	TxD+	Sendedaten +	*Transmission Data +*	Steckseite *Mating Face*	
2	RxD+	Empfangsdaten +	*Receive Data +*		
3	TxD–	Sendedaten –	*Transmission Data –*		
4	RxD–	Empfangsdaten –	*Receive Data –*		

X3 = PORT 2		Flanschdose / *Female socket* (M12x1-4 pol. D-coded)			
1	TxD+	Sendedaten +	*Transmission Data +*	Steckseite *Mating Face*	
2	RxD+	Empfangsdaten +	*Receive Data +*		
3	TxD–	Sendedaten –	*Transmission Data –*		
4	RxD–	Empfangsdaten –	*Receive Data –*		

Die Schirmung ist großflächig auf das Gegensteckergehäuse aufzulegen!
Empfehlung: Potentialausgleich [A] großflächig mit dem Erdungsanschluss verbinden. /

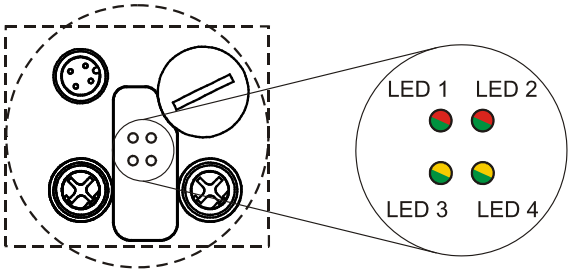
The shielding is to be connected with large surface on the mating connector housing!
Recommendation: Connect the potential equalisation [A] to the grounding connection across a sufficiently sized surface.

Betriebsanleitung beachten! - *Observe User Manual!*

Änderungen vorbehalten / Subject to change

Steckerbelegung / Pin assignment

Status-LEDs



LED1: Device Status
(grün, rot / *green, red*)

LED2: Net Status
(grün, rot / *green, red*)

LED3: PORT1, Data / Link
(grün, gelb / *green, yellow*)

LED4: PORT2, Data / Link
(grün, gelb / *green, yellow*)

●	EIN / *ON*	○	AUS /*OFF*	◉	BLINKEND / *FLASHING*

LED1, Device Status

grün / *green*	
○	Versorgung fehlt, Hardwarefehler / *No supply voltage, hardware error*
●	Betriebsbereit / *Operational*
◉ 3x 2.5 Hz	Re-Integration gefordert / *Re-integration required*

rot / *red*	
●	System- oder Sicherheitsfehler / *System or safety relevant error*
◉ 3x 2.5 Hz	Warnungen, Parameter- oder F-Parameterfehler / *Warnings, Parameter- or F-Parameter error*

LED2, Net Status

grün / *green*	
○	Versorgung fehlt, Hardwarefehler / *No supply voltage, hardware error*
●	Datenaustausch / *Data exchange*

rot / *red*	
●	Keine Verbindung zum IO-Controller / *No link to the IO-Controller*

LED3 / LED4, PORT1 / PORT2 - Link/Data LEDs

grün / *green*	
○	keine Ethernet-Verbindung hergestellt / *No ethernet connection established*
●	Ethernet-Verbindung hergestellt / *Ethernet connection established*

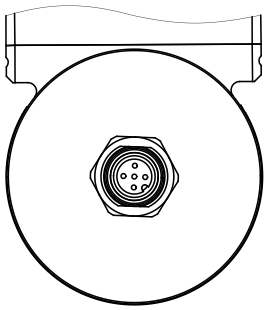
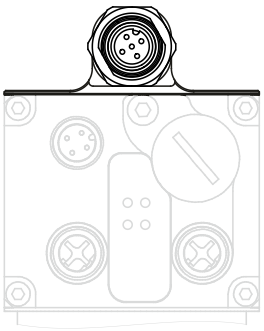
gelb / *yellow*	
◉ / ●	Datenaustausch aktiv / *data exchange active*

Betriebsanleitung beachten! - *Observe User Manual!*

Änderungen vorbehalten / Subject to change

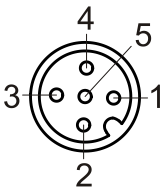
Steckerbelegung / Pin assignment

CD_-582 Zweitschnittstelle / *Additional Interface* INK / INC (RS422)

Axial outlet	Radial outlet
	

Die Schirmung ist großflächig auf das Gegensteckergehäuse aufzulegen!
Empfehlung: Potentialausgleich großflächig mit dem Erdungsanschluss auf der Bushaube verbinden.

The shielding is to be connected with large surface on the mating connector housing!
Recommendation: Connect the potential equalisation to the grounding connection at the bus cover across a sufficiently sized surface.

Pin	Flanschdose / *Female socket*			M12x1-5 pin A-coded
1	K2 +	Kanal /*Chanel* B	5 V RS422	Steckseite *Mating Face* 
2	K2 -	Kanal /*Chanel* /B	5 V RS422	
3	K1 +	Kanal /*Chanel* A	5 V RS422	
4	K1 -	Kanal /*Chanel* /A	5 V RS422	
5	GND	-	0 V	

Kabelspezifikation: min. 0,25 mm^2 und geschirmt. Zur Sicherstellung der Signalqualität und zur Minimierung möglicher Umwelteinflüsse wird empfohlen, zusätzlich ein paarig verseiltes Kabel zu verwenden.

Cable specification: min. 0.25 mm^2 and shielded. To guarantee the signal quality and minimization of possible environmental influences it is recommended urgently to use a shielded twisted pair cable.

Bestellangaben zum Steckverbinder, passend zur Flanschdose M12- 5 pol. A-kodiert.
Order number for the connector, suitably for the A-coded female socket M12- 5 pin.

Hersteller / *Manufacturer*	Bezeichnung / *Name*	Art-No.:
TR – Electronic GmbH	Systemkabel – gerade	90-426-XXX.X (z.B. 90-426-005.0 – 5m)
Binder (HTN: 99 1437 812 05)	Kabelstecker – gerade	62 000 1388
Murr (HTN: 7000-13321-0000000)	Kabelstecker – gerade	62 000 1388
Belden (HTN: 56438)	Kabelstecker – gerade	62 000 1388
Phoenix Contact (HTN: 1508352)	Kabelstecker – gerade	62 000 1388
TR – Electronic GmbH	Systemkabel – gewinkelt	90-428-XXX.X (z.B. 90-428-015.5 – 15,5m)
Binder (HTN: 99 1437 882 05)	Kabelstecker – gewinkelt	62 000 1944
Murr (HTN: 7000-13361-0000000)	Kabelstecker – gewinkelt	62 000 1944
Phoenix Contact (HTN: 1694282)	Kabelstecker – gewinkelt	62 000 1944
Murr	Systemkabel – gerade	680-00083 (2 m)
Murr	Systemkabel – gerade	680-00084 (5 m)