

CDH582MM*8192/65536 EPN NTS 10H7 + FS2

Order-#: CDH582M-00006
7.10.2021 / 010102158201020202



Stock photo



Advantages

- Dewfall proof
- Fast start-up, FSU
- Isochronous applications, IR
- Media-Redundancy Protocol, MRP
- PNO Encoder Profile, CL 3/4
- Preset "on the fly"
- Salt water resistant
- Shared Device
- SIL2, PLd

Technical data for CDH582M-00006

NO.OF STEPS/REV	8.192,000
NO. OF REVOLUTIONS	65.536,000
INTERFACE	PROFINET/PROFISAFE
SUPPLY VOLTAGE	10-30VDC
POWER DISSIPATION	< 3W
CONNECTOR TYPE	1X4P.M12-CONNECTOR (A-COD)
	2X4P.M12-FEMALE (D-COD)
CONNECTOR-POSITION	RADIAL

Subject to change.

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Technical data for CDH582M-00006 continuation

MATING PLUG	NO
FLANGE TYPE	SLOT FOR PIN D4
SHAFT TYPE	10H7 HOLLOW SHAFT
STANDARD	EN 61508
	EN 61800-5-2
	EN 62061 / EN ISO 13849
SAFETY	CDH582MM+FS02 EPN SIL2/PLd
TEMPERATURE RANGE	-10+85°C
PROTECTION Class	IP54
OPTIONS ENC	CONFORMANCE CLASS C
	IEC 61158 / IEC 61784-1
	Legacy-Profil
	MOMENT SUPPORT PIN/GROOVE
	PN Spec. 2.3
	PNO-PROFILE
	PRESET VIA BUS
	PROFIsafe-Profile V2.4
	PROFIsafe-Profile V2.6.1
	TR-Profil
	VELOCITY
PINOUT NO.	TR-ECE-TI-DGB-0323
DRAWING NO.	04-CDH582M-M0001
VERSIONNO	000
DOCUMENTATION NO	DOKUMENTE
AL:	N
ECCN:	N
UL-APPROVALS	USA+CANADA

General data for K-CDH58_2FS-PN-4

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

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General data for K-CDH58_2FS-PN-4 continuation

- 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	magnetic/magnetic
Total resolution	<= 29 Bit
Number of steps per revolution	<= 8192 = 13 bit resolution
Number of revolutions	<= 65536
Accuracy (functional)	8 Bit, Single-Turn; 1.406 °
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)
- 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	<= 1MHz
- SSI-Mono time, typically	15 µs, 20 µs, 50 µs, 500 µs
- Output code	Binary, Gray
- Number of data bits	8...29
- Type of parametrization	programmable
- MTTFd, SSI	150 a
Transmission rate	
- Specific value	100 MBit/s
Cycle time	>= 1000 µs (IRT/RT)
- Not safety related	0.5 ms
- Safety related	3 ms

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General data for K-CDH58_2FS-PN-4 continuation

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	SIL2 / SIL CL 2
- PL-Standardization	DIN EN ISO 13849
- Performance-Level (PL)	PLd / Cat. 3
- Service life	20 Years
- PFH	2.00E-8 1/h
- PFDav, T = 20 a	1.70E-3
- MTTFd	170 a, high
- DCavg	90 %
- Mode	High demand, continuous
- Proof-Test-Interval	T1 = 20 Years
- Accuracy (safety)	7 Bit, Single-Turn; 2.812 °
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

Subject to change.

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General data for K-CDH58_2FS-PN-4 continuation

Shaft load, axial/radial	Own mass
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 data

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	-10...+85 °C
- Derating	$T_w = -0.002 \cdot n + 85$ °C
Storage temperature, dry	-40...+90 °C

Subject to change.

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FS2

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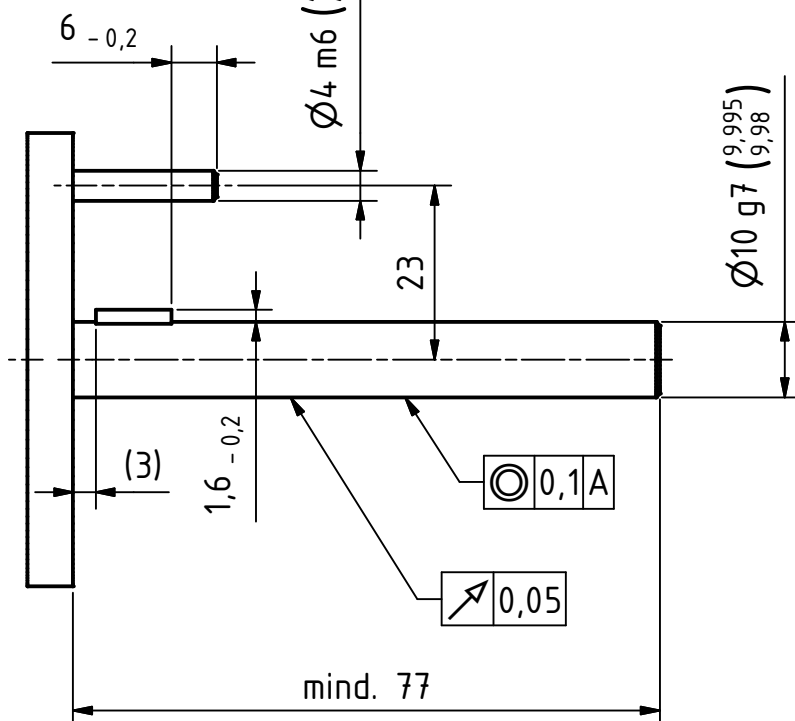
Environmental data continuation

Relative humidity	100 %, Condensing
Protection class	
- Standard	IP54
Resistance	
- against salt (seawater)	DIN EN IEC 60068-2-52
- Test method	Test method 1
- excluded are	Attachment parts

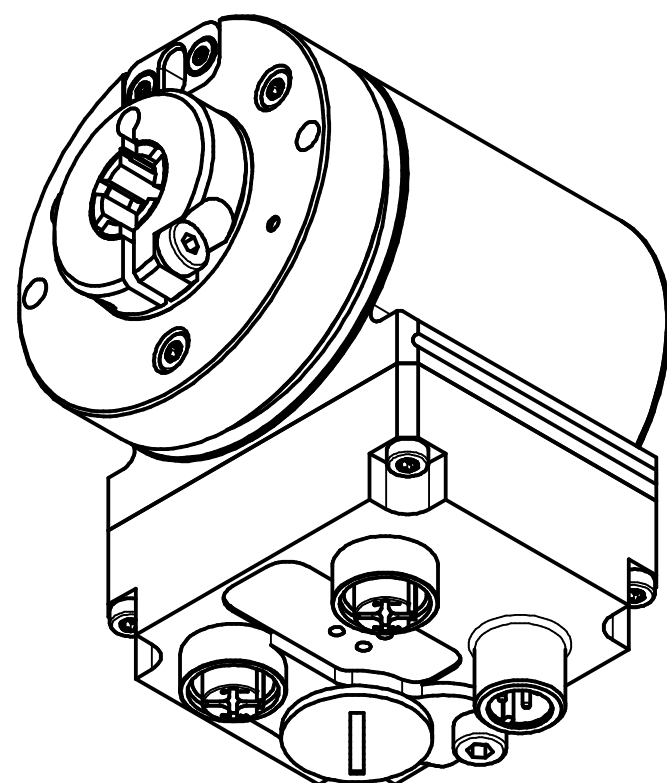
Subject to change.

Anforderung an Kundenwelle
requirements for the customer shaft

Passfeder DIN 6885-A 3x3x10
parallel key DIN 6885-A 3x3x10



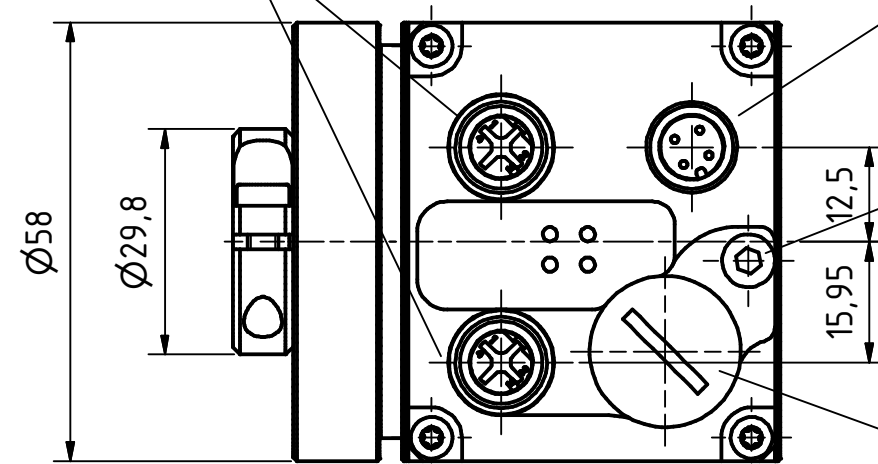
A Geberanbau
encoder mounting



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

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

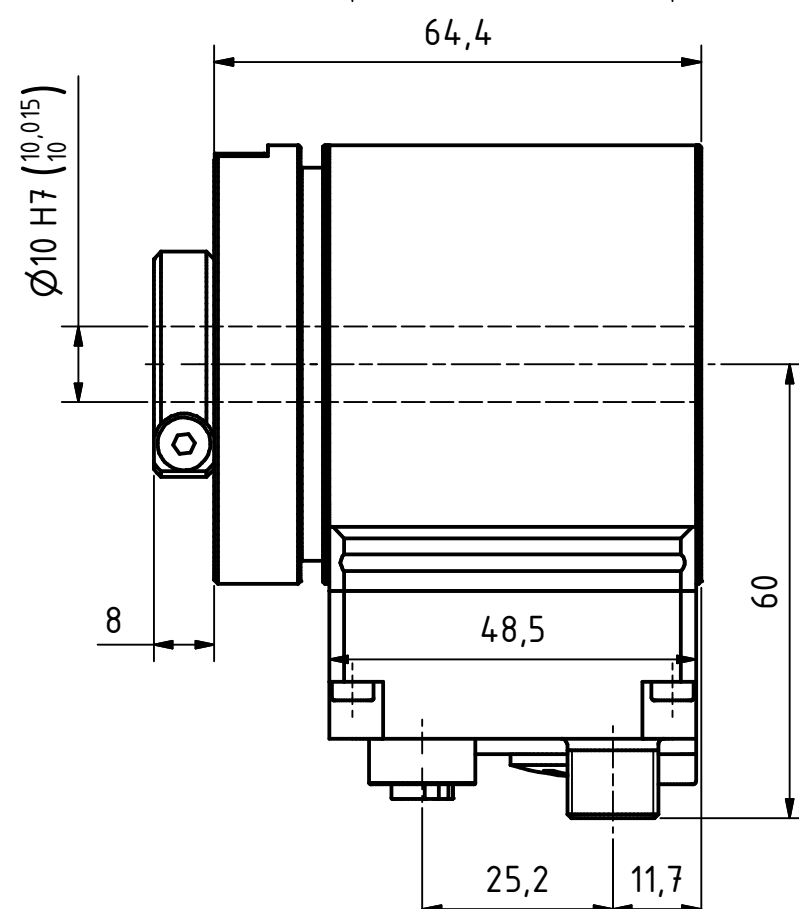
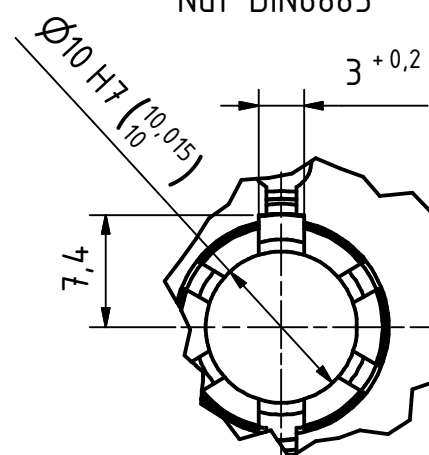
A (2 : 1)



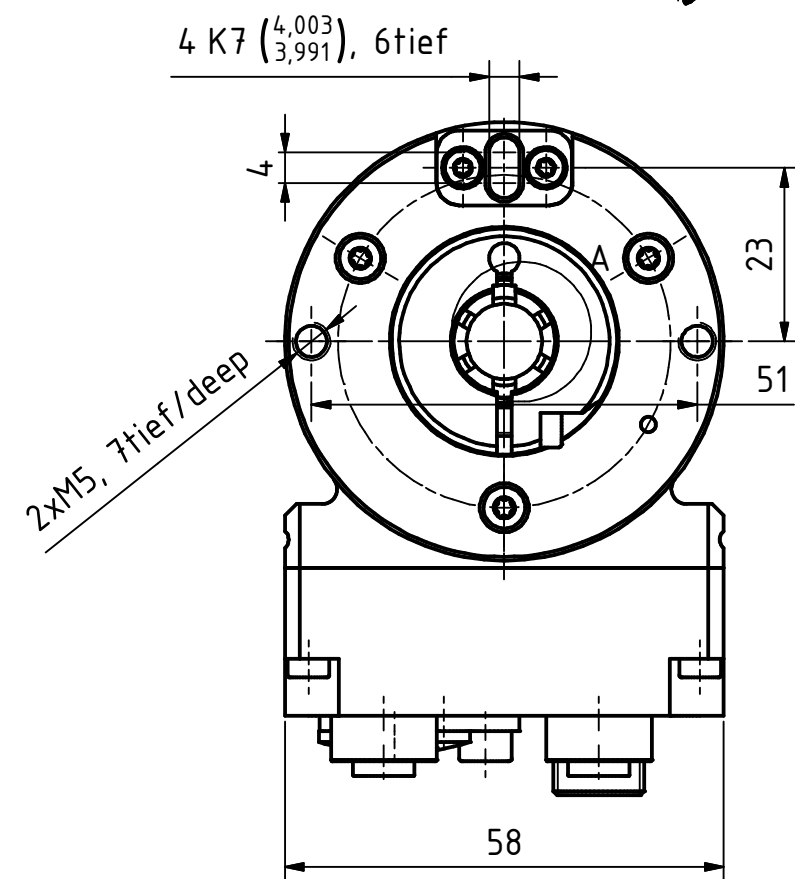
Gewinde M4 für
Potentialausgleich
thread m4 for
potential equalisation

Verschlußstopfen M16x1,5
dummy plug M16x1,5

Nut DIN6885



4 K7 (4,003
3,991), 6tief



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

 TR-electronic GmbH Eglshalde 6 D-78647 Trossingen phone +49 7425 228.0 www.tr-electronic.de				Maßstab 1:1 DIN A3		Projekt-Nr.:
				Zeichnungs-Nr. nur für diese Ausführung gültig		
				Drawing-No. only for this type valid		
				Datum		Name
				Erstellt	02.05.2018	FLAIG
				Bearb.	30.07.2019	FLAIG
				Gepr.	31.07.2019	NEMECZ
				Norm		
3	Kundenwelle	30.07.19	Flaig	www.tr-electronic.de DXF+Info: info@tr-electronic.de		Blatt 1
2	Steckerausrichtung	15.08.18	Flaig			
1	Kundenwelle	02.07.18	Flaig			
Zust.	Änderungen	Datum	Name			1 Bl.

CDH-582-M, Ø10H7

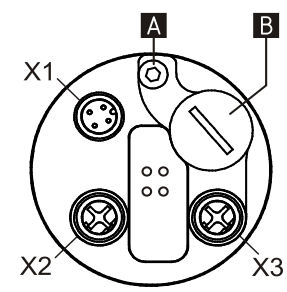
Zeichnungs-NR./Drawing-No.:

04-CDH582M-M0001

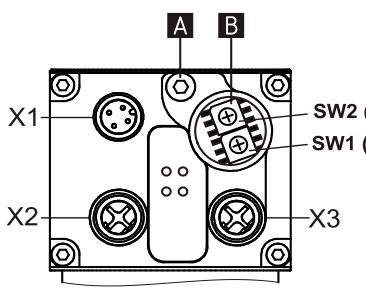
Steckerbelegung / Pin assignment

CD_-582 PROFINET / PROFI-safe

axialer Steckerabgang /
axial connector outlet



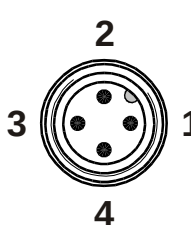
radialer Steckerabgang /
radial connector outlet

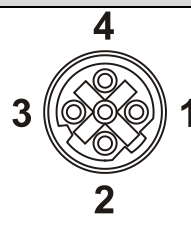


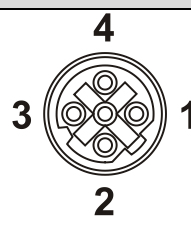
A Potentialausgleich /
Potential equalisation

B PROFI-safe-Zieladresse /
PROFI-safe 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 / <i>Male socket</i> (M12x1-4 pol. A-coded)			Steckseite <i>Mating Face</i>	
1	10 – 30 V DC	Encoder-Versorgungsspannung / <i>Encoder-Supply Voltage</i>			
2	-	N.C.			
3	0 V	Encoder-Versorgungsspannung / <i>Encoder-Supply Voltage</i>			
4	-	N.C.			

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

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

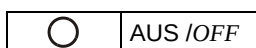
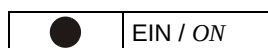
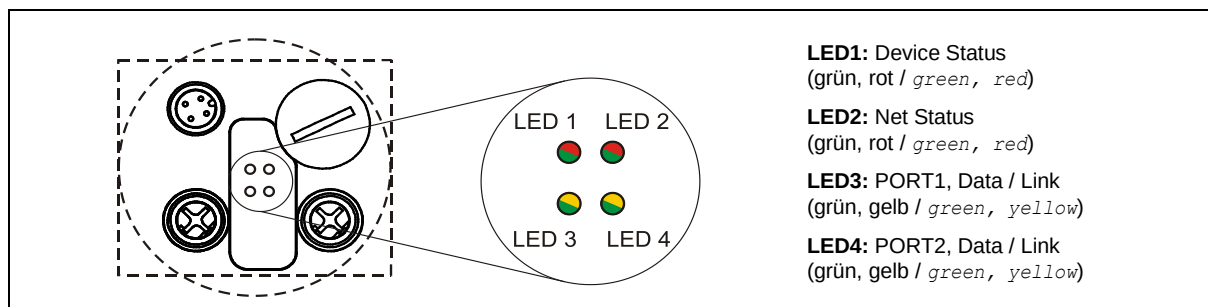


Die Schirmung ist großflächig auf das Gegensteckergehäuse aufzulegen!
Empfehlung: Potentialausgleich [A] großflächig mit dem Erdungsanschluss verbinden. /

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.

Steckerbelegung / Pin assignment

Status-LEDs



LED1, Device Status

grün / green	
	Versorgung fehlt, Hardwarefehler / No supply voltage, hardware error
	Betriebsbereit / Operational
	Re-Integration gefordert / Re-integration required
rot / red	
	System- oder Sicherheitsfehler / System or safety relevant error
	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!

