CDV75M*8192/32768 ETC 50ZB10NT +FS

Order-#: CDV75M-00054
26.2.2024 / 010102007505020201

Stock photo

Advantages

- Functional safety
- Position feedback signals
- Redundant scanning system
- SIL3, PLe

Technical data for CDV75M-00054

NO.OF STEPS/REV	8.192,000
NO. OF INCREMENTS	4096
NO. OF REVOLUTIONS	32.768,000
INTERFACE	ETHERCAT/FSOE
SIGNALS	K1+K2+NEG
SIGNAL LEVEL	5V
SUPPLY VOLTAGE	13V..27V
CONNECTOR TYPE	1X4P.M12-CONNECTOR
	1X5P.M12-STECKER(BUCHSE)
	2X4P.M12-CONN., D-COD(FEMALE)
CONNECTOR-POSITION	RADIAL
MATING PLUG	NO
FLANGE TYPE	ZB50/D65
SHAFT TYPE	10KEYWAY/19,5
STANDARD	EN 61508

Subject to change.

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Technical data for CDV75M-00054 continuation

	EN 62061 / EN ISO 13849
SAFETY	CDV75M-ETC01 SIL3/PLe
OPERATING TEMPERATURE	-25C..+65C
PROTECTION Class	IP65
OPTIONS ENC	ETG.1000 S R 1.0.3
	ETG.5100 S R 1.2.0
	PRESET 1
PINOUT NO.	TR-ECE-TI-DGB-0283
DRAWING NO.	04-CDV75M-M0021
DOCUMENTATION NO	DOKUMENTE
AL:	N
ECCN:	N
UL-APPROVALS	USA+CANADA

General data for K-CDV75-ETC-1

Nominal voltage - Specific value	24 VDC
- Limit values, min/max	13/27 VDC
Nominal current, typically - Specific value	165 mA
- 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	<= 28 Bit
Number of steps per revolution	<= 8192
Number of revolutions	<= 32768
Accuracy (functional)	± 0.045 °
EtherCAT - Interface - EtherCAT	IEC 61158-1–6, IEC 61784-2
- Physical Layer	Fast Ethernet, ISO/IEC 8802-3
- Device profile	CoE, CiA DS-406

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General data for K-CDV75-ETC-1 continuation

- Safety over EtherCAT, FSoE	IEC 61784-3
Incremental - Interface - Equipment	Standard 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, square wave	4096…20480, in steps of 4096
- Impulses, SIN/COS	4096
- Output driver, TTL	RS-422, 5 VDC
- Output driver, HTL	Push-Pull, Supply Voltage
- Type of parametrization	Factory setting
Transmission rate - Specific value	100 MBit/s
Cycle time - Not safety related	0.5 ms
- Safety related	5.0 ms
Preset writing cycles	>= 32 000 000
Parameter/Function, changeable	Integration time
	Preset parameter
	Monitoring window
	Counting direction
	Velocity parameter
Type of parametrization	programmable
Programming - Tool	Fieldbus-Device
Functional safety - Safety principle	Redundance with cross compare
- SIL-Standardization	DIN EN 61508 / DIN EN 62061
- 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]	3.25E-10 1/h
- PFH / PFH [D]	PFH: DIN EN 61508-4
- PFH / PFH [D]	PFH [D]: DIN EN ISO 13849-1
- PFDav, T = 20 a	2.81E-5
- MTTFd	197 a

Subject to change.

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CDV75M*8192/32768 ETC 50ZB10NT +FS

General data for K-CDV75-ETC-1 continuation

- DCavg	98 %
- Accuracy (safety)	± 0.7 °
Maximum Speed, mechanically	<= 6000 1/min
Shaft load, axial/radial	<= 50 N, <= 90 N
Bearing life time	>= 3.9E+10 revolutions
Bearing life time - Parameter - Speed	 3000 1/min
- Operating temperature	60 °C
- Shaft load, axial/radial	<= 50 N, <= 90 N
Point of origin, shaft load	at the shaft end
Shaft type - Shaft diameter [mm]	 10
Angular acceleration	<= 10E+4 rad/s²
Moment of inertia, typically	2.6E-5 kg m²
Start-up torque, 20 °C	0.6 Ncm
Mass, typically	1 kg

Environmental data

Vibration - Specific value	 <= 100 m/s²
- Sine	50…2000 Hz
Shock - Specific value	 <= 600 m/s²
- Half sine	5 ms
Immunity to disturbance	DIN EN 61000-6-2
Transient emissions	DIN EN 61000-6-3
Working temperature - Standard	 Tu = f(n) = -25…+65 °C
Tu for n > 100 1/min	Tu = f(n) = 65°C – (0.002 * n)
Storage temperature, dry	-30…+80 °C
Relative humidity	98 %, non condensing
Protection class - Standard	 IP54
- Optional	extended to IP65

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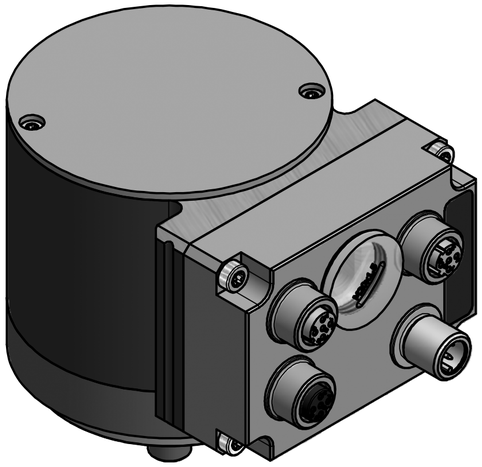

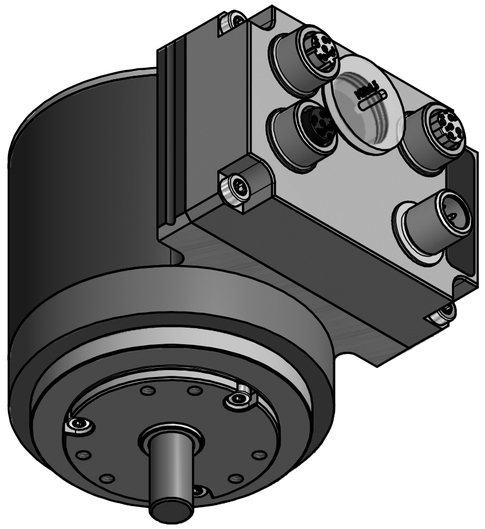

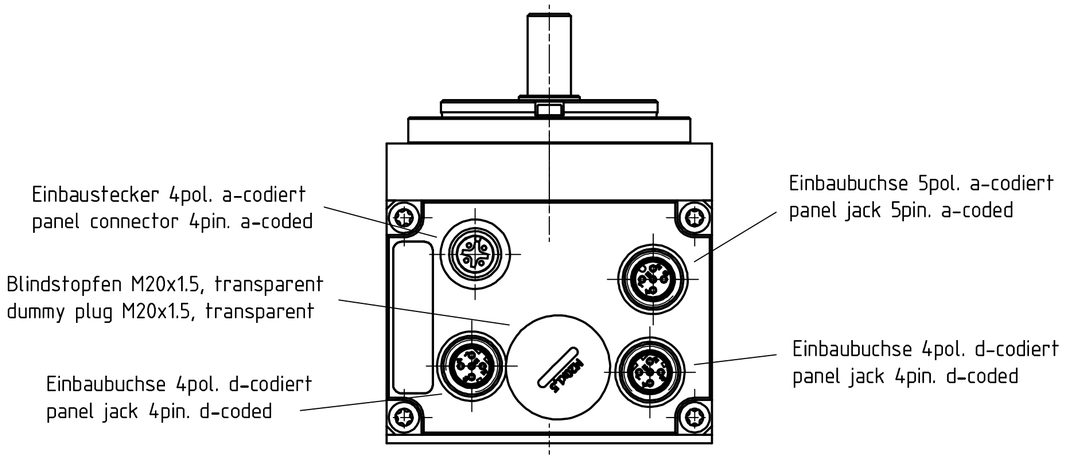

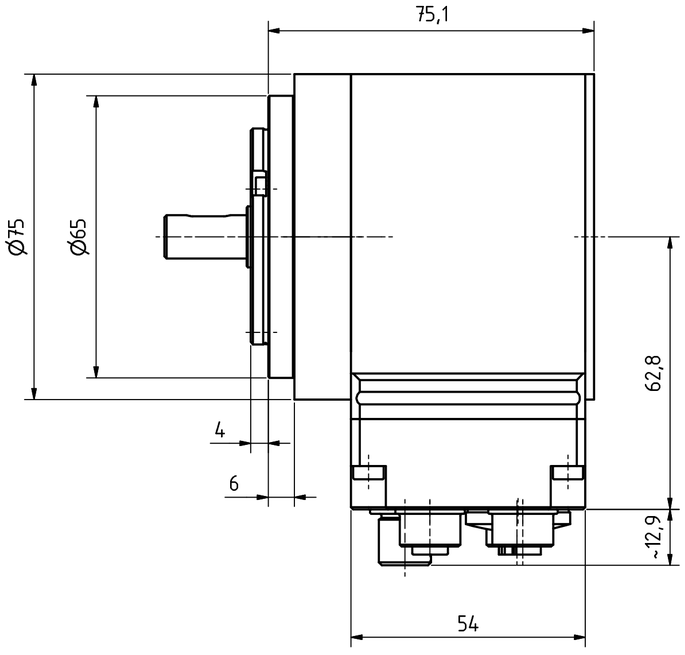

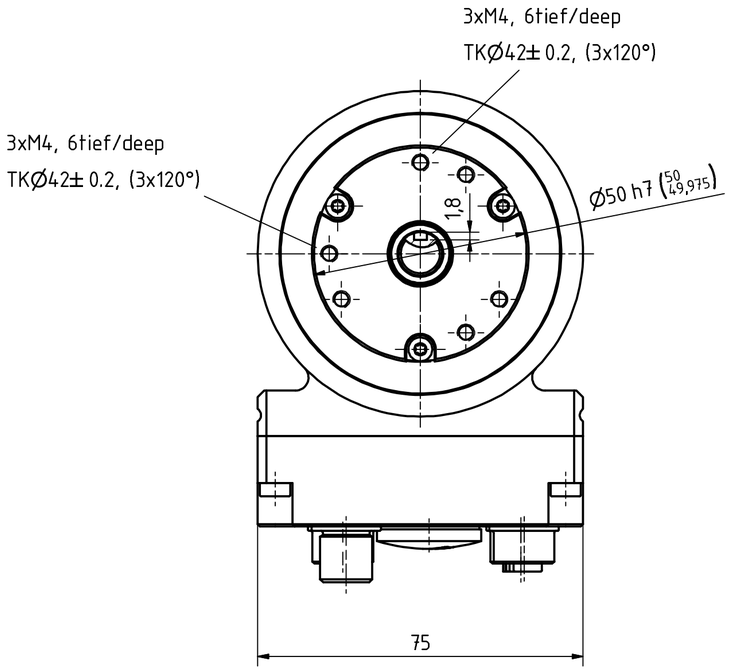

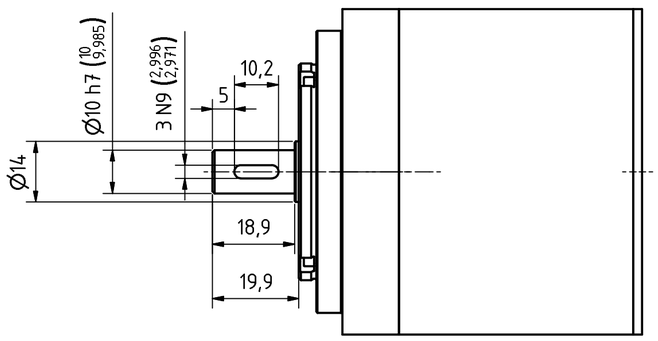

Artikel-Nr. und Steckerbelegung: siehe Datenblatt
Article-No. and pin connections: see data sheet

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	Datum	Name
Erstellt	08.10.2014	FLAIG
Bearb.	08.10.2014	FLAIG
Gepr.	14.10.2014	NEMECZ
Norm		

Zust.	Änderungen	Datum	Name

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Maßstab 1:1 DIN A2 Projekt-Nr.:

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

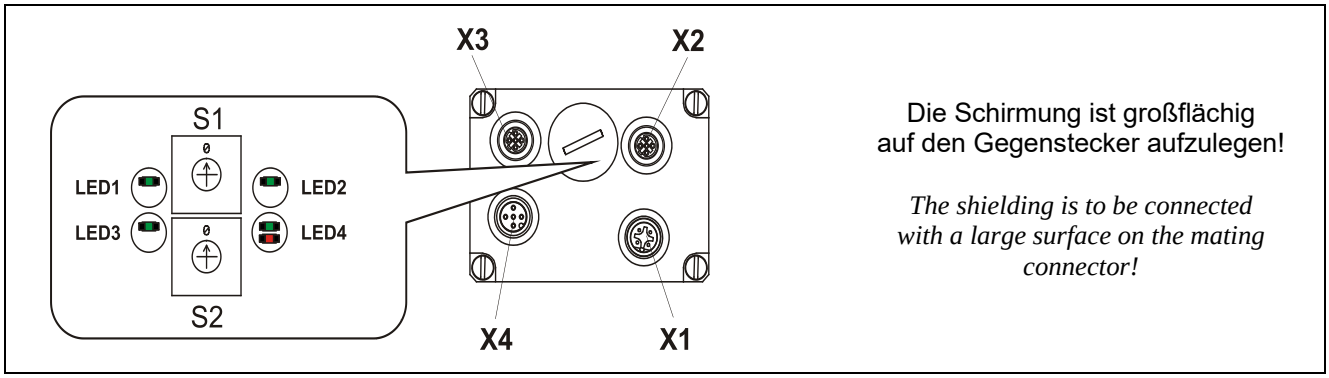
CDV-75-M, 50er Zentr.

Zeichnungs-NR../Drawing-No.: 04-CDV75M-M0021

Blatt 1
1 Bl

Steckerbelegung / Pin assignment

CD_-75, CDV-115 EtherCAT / FSoE

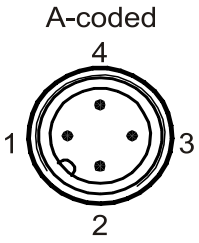


Die Schirmung ist großflächig auf den Gegenstecker aufzulegen!

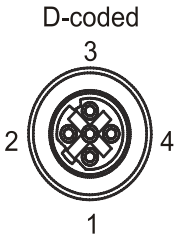
The shielding is to be connected with a large surface on the mating connector!

Steckseite / *Mating Face*

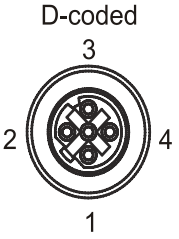
X1	Stift / *Male Connector* (M12 x 1, 4 pol.)	
1	+24 V DC	**Supply Voltage**
2	N.C.	
3	0 V, GND	
4	N.C.	



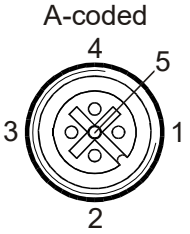
X2	Buchse / *Female Connector* (M12 x 1, 4 pol.)	
1	TxD+, Transmission Data +	**PORT-OUT**
2	RxD+, Receive Data +	
3	TxD–, Transmission Data –	
4	RxD–, Receive Data –	



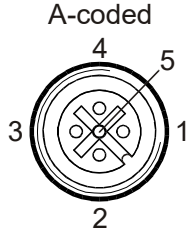
X3	Buchse / *Female Connector* (M12 x 1, 4 pol.)	
1	TxD+, Transmission Data +	**PORT-IN**
2	RxD+, Receive Data +	
3	TxD–, Transmission Data –	
4	RxD–, Receive Data –	



X4	Buchse / *Female Connector* (M12 x 1, 5 pol.)	
1	B +, 5 V differential / 11…27 V DC	**INCREMENTAL** **Pegel siehe Typenschild /** ***Level see name plate***
2	B –, 5 V differential / 11…27 V DC	
3	A +, 5 V differential / 11…27 V DC	
4	A –, 5 V differential / 11…27 V DC	
5	0 V, GND	



X4 '	Buchse / *Female Connector* (M12 x 1, 5 pol.)	
1	SIN +, 1 Vss	**Alternative** **SINUS/COSINE, differential**
2	SIN –, 1 Vss	
3	COS +, 1 Vss	
4	COS –, 1 Vss	
5	0 V, GND	



Betriebsanleitung beachten! - *Observe User Manual!*

Änderungen vorbehalten / Subject to change

Steckerbelegung / Pin assignment

FSoE-Address	
Über die Hex-Adress-Schalter S1 und S2 in der Anschlusshaube wird die Safety-Adresse eingestellt: S1 = 16^0, S2 = 16^1. Gültige Adressen = 1...255 (1...0xFF).	*By means of the hex address switches S1 and S2 in the connection hood the safety-address is adjusted:* *S1 = 16^0, S2 = 16^1.* *Valid addresses = 1...255 (1...0xFF).*

Link / Data Activity PORT-IN, LED1 + PORT-OUT, LED2

	grün	*green*
OFF	keine Ethernet Verbindung	*No Ethernet connection*
ON	Ethernet Verbindung hergestellt	*Ethernet connection established*
Flickering	Datenübertragung TxD/RxD	*Data transfer TxD/RxD*

RUN, LED3

	grün	*green*
OFF	Gerät ist im *INIT* Zustand	*Device is in INIT state*
Single flash	Gerät ist im *PRE-OPERATIONAL* Zustand	*Device is in PRE-OPERATIONAL state*
Double flash	Gerät ist im *SAFE-OPERATIONAL* Zustand	*Device is in SAFE-OPERATIONAL state*
ON	Gerät ist im *OPERATIONAL* Zustand	*Device is in OPERATIONAL state*

Safety State, LED4

	grün	*green*
OFF	Initialisierung, Gerät aus	*Initialization, device off*
Single flash	INIT-State, Hochlauf	*INIT-State, start-up*
Double flash	Data State – Ausgabe von Safe-Daten	*Data State – output of safe data*
ON	Data State – Ausgabe von Prozessdaten	*Data State – output of process data*

rot / *red*	grün / *green*		
Single flash	OFF	Fehlerquittierung durch den Anwender erforderlich	*Error acknowledgment by the user required*
ON	OFF	System- oder Sicherheitsfehler	*System or safety error*