CMX edge device
Data+ Box

Description

The Data+ Box is an edge device that can be used to collect, visualise and pre-process sensor or machine data close to the machine. Depending on the system set-up, the Data+ Box can forward the collected data to a centralised system (e.g. CMX) or an IoT cloud (e.g. CMX Cloud).

The Data+ Box is also equipped with an internal memory card and can therefore be used as a data logger with enough memory for roughly one year's worth of data (depending on the memory card used).

Special features

- Two separate network interfaces ETH0 and ETH1
- RS485 interface
- CAN interface
- Memory export to separate hard drive via USB 2.0 interface
- Simple installation in the field thanks to M12x1 connector for every interface
- Simple network and system integration thanks to industrial network connector (M12x1)
- High protection class with IP 65, no switch cabinet is required
- Pre-installed CMX software

Technical data

CPU	
Architecture	ARM Cortex-A7 (32 bit)
Frequency	792 MHz
Memory	512 MB DDR3 RAM
Interfaces	
RS485	1 Mbit/s 120 Ω terminator U_{Out}-dependent supply voltage
USB	USB 2.0 Hi-Speed, up to 480 MBit/s < 0.5 A, overcurrent causes shutdown
Network	ETH0, ETH1 (10/100 Mbit/s BASE-T)
Environmental conditions	
Operating temperature range	-20 to 70 °C
Storage temperature range	-40 to 85 °C
Relative humidity	5 to 95%, non-condensing
CE marking	EN 61000-6-2, EN 55011, EN 61000-6-3
Protection class according to DIN 40050	IP 65
Other data	
Supply voltage	12 to 24 V DC ± 20%
Current consumption (module)	80 mA (idle) / 125 mA (under load) (plus connected clients)
Client supply (RS485, CAN)	12 to 24 V DC (max. 3 A)
Electrical connection	– Supply voltage: connector, M12, 5-pole, male – RS485, CAN, USB: connector, M12, 5-pole, female – ETH0, ETH1: connector, M12, 4-pole, female
Housing dimensions	172 x 55.3 x 133.7 mm
Housing	Extruded aluminium
Weight	~ 630 g
Internal data memory	
Size	8GB eMMC memory, can be expanded via µSD card
Measurement interval 1 s	~ 1 year with 50 data points and 64 GB SD card
Measurement interval 10 s	~ 5 years with 50 data points and 32 GB SD card

Model code

Data+ Box - 032- M / -000

Product series
DATA+ = CMX edge device

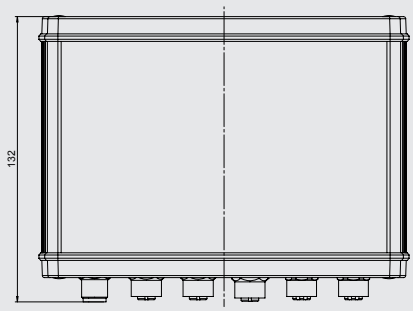
Housing
Box = aluminium housing IP 65

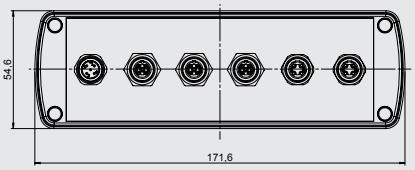
Memory size
032 = 32 gigabytes

Expansion card memory type
M = MLC flash

Modification
000 = standard

DIMENSIONS





Pin connections

Pin	Signal	Description
Power		
1.1	V_{in} 12 to 24 V DC	Supply voltage +
1.2	n.c.	
1.3	GND	GND supply voltage
1.4	n.c.	
1.5	n.c.	
CAN		
2.1	SH	Shield
2.2	V_{out} 12 to 24 V DC	$+U_B$
2.3	GND	GND (0 V)
2.4	CANH	CAN high, differential data pair
2.5	CANL	CAN low, differential data pair
USB		
3.1	VBUS_HOST1	USB VBUS (+5.0 V)
3.2	X_USB_OTG1_DN	Differential data pair
3.3	X_USB_OTG1_DP	Differential data pair
3.4	GND	USB GND (0 V)
3.5	SH	Shield
RS485		
4.1	V_{out} 12 to 24 V DC	$+U_B$
4.2	RS485_B	Differential data pair
4.3	GND	GND (0 V)
4.4	RS485_A	Differential data pair
4.5	SH	Shield
ETH		
5-6.1	ETH TX+	Network (LAN), Ethernet port for transmitting data +
5-6.2	ETH RX+	Network (LAN), Ethernet port for receiving data +
5-6.3	ETH TX-	Network (LAN), Ethernet port for transmitting data -
5-6.4	ETH RX-	Network (LAN), Ethernet port for receiving data -

Accessories

Designation	Part no.
Supply voltage	
PS5 Power supply unit 100–240 V AC, 50–60 Hz, 1.1 A, IP40; Connector M12, 5-pole, female	3399939
CANopen connection cable	
ZBE 62S-01 Connection cable CANopen, female/male 5-pole, length = 1 m	4571647
ZBE 62S-05 Connection cable CANopen, female/male 5-pole, length = 5 m	4571649
ZBE 75S T-adapter 2x female / 1x male 5-pole	4571681
ZBE 65 CANopen terminator 120 ohm	4571666
RS485 connection cable	
ZBE 70S-01 Connection cable RS485, female/male 5-pole, length = 1 m	4571667
ZBE 70S-05 Connection cable RS485, female/male 5-pole, length = 5 m	4571668
ZBE 75S T-adapter 2x female / 1x male 5-pole	4571681
ZBE 76S RS485 terminator 120 ohm	4571684
USB connector cable	
ZBE 80S Adapter cable USB-A, length = 2 m	4571705
Ethernet connection cable	
ZBE 45-05 Connection cable Ethernet, M12x1 / RJ45 4-pole, length = 5 m	3346100

Preferred models

Designation	Part no.
Data+ Box-032-M/-000	4534065

NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

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