



## CMX Edge Device Data+ Box

### Description

The Data+ Box is an Edge Device, which is used to acquire, visualize and preprocess sensor or machine data near the machine. According to the system architecture, the Data+ Box can forward its data to a centralized system (e. g. CMX) or an IoT-Cloud (e. g. CMX-Cloud).

Moreover, the Data+ Box is equipped with an internal memory and can be used as a data logger for up to one year of data storage (depending on used SD-card).

### Special Features

- Two separate network interfaces ETH0 and ETH1
- RS485 interface
- CAN interface
- Memory dump to separate hard disk via USB 2.0 interface
- Easy field setup due to M12x1 connectors for each interface
- Easy network and system integration due to industrial network connectors (M12x1)
- Due to a high protection class of IP 65 no switch cabinet for installation required
- Preinstalled CMX software

### Technical specifications

<b>CPU</b>	
Architecture	ARM Cortex-A7 (32 bit)
Frequency	792 MHz
Memory	512 MB DDR3 RAM
<b>Interfaces</b>	
RS485	1 Mbit/s 120 Ω Terminator U <sub>out</sub> according to power supply
USB	USB 2.0 Hi-Speed, up to 480 MBit/s < 0,5 A, shut off at overload
Network	ETH0, ETH1 (10/100 Mbit/s BASE-T)
<b>Ambient conditions</b>	
Operating temperature range	-20 ... 70 °C
Storage temperature range	-40 ... 85 °C
Relative humidity	5 ... 95 %, non-condensing
CE-marked	EN 61000-6-2, EN 55011, EN 61000-6-3
Protection class according to DIN 40050	IP 65
<b>Other data</b>	
Supply voltage	12 ... 24 V DC ± 20 %
Current requirement (module)	80 mA (idle) / 125 mA (under load) (plus connected clients)
Client supply (RS485, CAN)	12 ... 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
Dimensions	172 x 55,3 x 133,7 mm
Housing	Extruded aluminum
Weight	~ 630 g
<b>Internal data memory</b>	
Size	8GB eMMC memory, expandable via µSD-Card
Measurement interval 1 s	~ 1 year at 50 datapoints and 64 GB SD card
Measurement interval 10 s	~ 5 years at 50 datapoints and 32 GB SD card

## Modal code

**Data<sup>+</sup> Box - 032- M / -000**

### Product series

DATA<sup>+</sup> = CMX Edge Device

### Housing

Box = Aluminium Housing IP 65

### Memory size

016 = 16 Gigabyte (only memory type 'S')

032 = 32 Gigabyte

064 = 64 Gigabyte

128 = 128 Gigabyte (nur Speichertyp 'M')

### Type of memory expansion

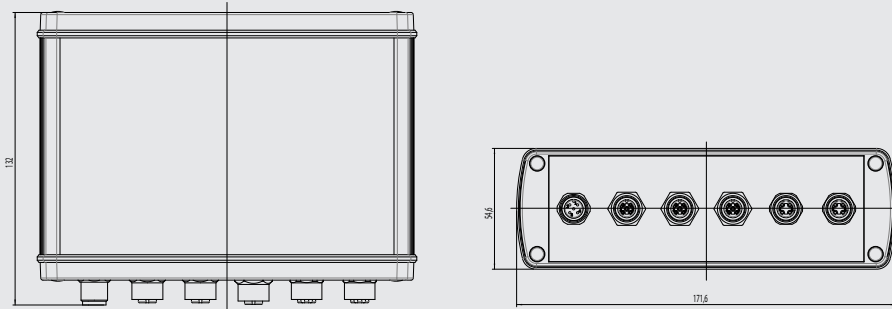
M = MLC Flash

S = pSLC Flash

### Modification

000 = Standard

## Dimensions (mm)



### Application example



## Plug Pin Assignment

Pin	Signal	Description
<b>Power</b>		
1.1	V <sub>in</sub> 12 ... 24 V DC	Power supply +
1.2	n.c.	
1.3	GND	Power supply GND
1.4	n.c.	
1.5	n.c.	
<b>CAN</b>		
2.1	SH	Shield
2.2	V <sub>out</sub> 12 ... 24 V DC	+U <sub>B</sub>
2.3	GND	GND (0 V)
2.4	CANH	CAN high, differentielles data pair
2.5	CANL	CAN low, differentielles data pair
<b>USB</b>		
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
<b>RS485</b>		
4.1	V <sub>out</sub> 12 ... 24 V DC	+U <sub>B</sub>
4.2	RS485_B	Differential data pair
4.3	GND	GND (0 V)
4.4	RS485_A	Differential data pair
4.5	SH	Shield
<b>ETH</b>		
5-6.1	ETH TX+	Network (LAN), Ethernet-Port for Data send +
5-6.2	ETH RX+	Network (LAN), Ethernet-Port for Data receive +
5-6.3	ETH TX-	Network (LAN), Ethernet-Port for Data send -
5-6.4	ETH RX-	Network (LAN), Ethernet-Port for Data receive -

### Note

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

In the event of deviating applications and/or operating conditions, please contact the representative HYDAC department concerned.

Subject to technical modifications.

## Accessories

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

### Vorzugstypen

Designation	Part no.
Data <sup>+</sup> Box-032-M/-000	4534065
Data <sup>+</sup> Box-064-M/-000	4534066
Data <sup>+</sup> Box-128-M/-000	4534068

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