

# MBX1

## Technical Data



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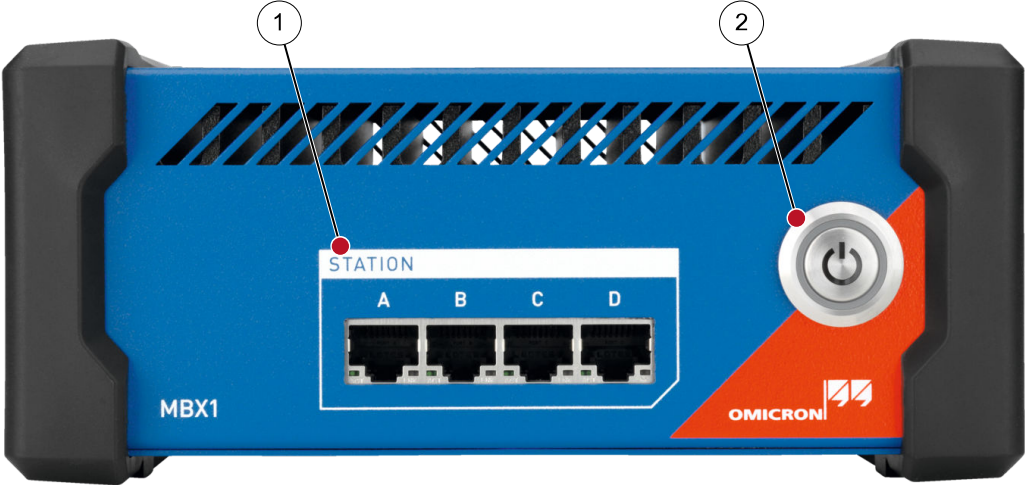
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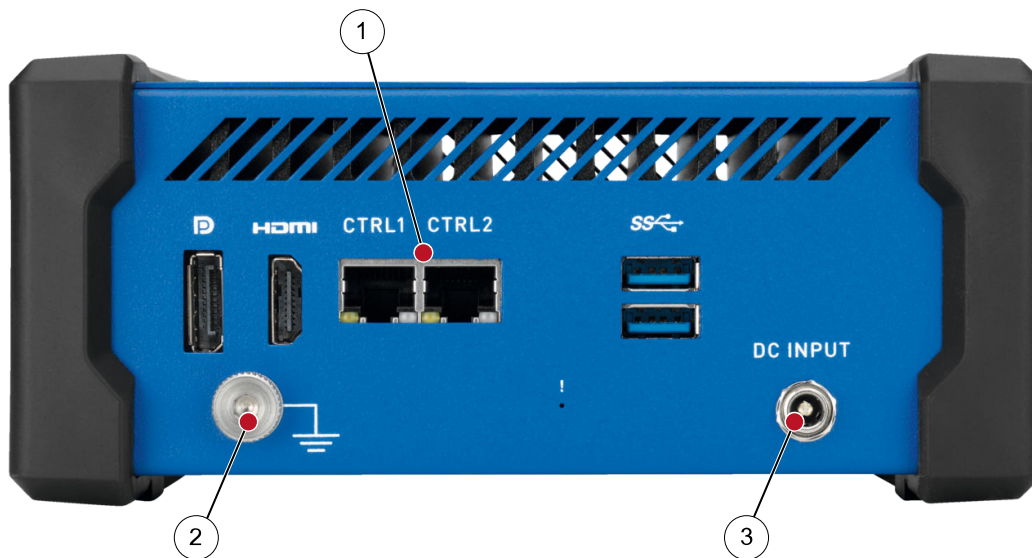
# Contents

<b>1</b>	<b>Device overview</b> .....	<b>4</b>
<b>2</b>	<b>MBX1 technical data</b> .....	<b>6</b>
2.1	External power supply unit .....	6
2.2	Connectors .....	7
2.3	Environmental conditions .....	8
2.4	Electromagnetic compatibility and safety standards .....	8

# 1 Device overview



Front view		
1	STATION – A, B, C, D	Ethernet connectors for connection to substation and accessory devices
2	Power button	Button to switch the <i>MBX1</i> on and off The LED lights up when the <i>MBX1</i> is switched on.



Back view		
<b>1</b>	<b>CTRL1, CTRL2</b>	Ethernet connectors for connection to computer
<b>2</b>	Grounding screw	For connection to ground (e.g. with a 6 m/19.8 ft grounding cable with a battery clamp and an M6 cable lug)
<b>3</b>	<b>DC INPUT</b>	Connection to power supply
–	Display port	<i>Future use</i>
–	HDMI port	<i>Future use (service port)</i>
–	USB ports	<i>Future use</i>

## 2 MBX1 technical data

This section lists general technical data for the *MBX1*.

<b>Mechanical data</b>	
Weight	2.4 kg 5.3 lb
Dimensions W × H × D	180 × 80 × 180 mm 7.1 × 3.15 × 7.1 in
Ingress protection	IP40

### 2.1 External power supply unit

<b>AC power supply</b>	
Connection	C14 connector in accordance with IEC 60320-1
Power connector	Standard DC barrel jack, positive center pin Ø 2.1 × 5.5 × 11 mm Ø 0.08 × 0.22 × 0.43 in
<b>Input voltage, single phase</b>	
Nominal voltage	100 V <sub>AC</sub> ... 240 V <sub>AC</sub>
Maximum input current	1.8 A
Overvoltage category	II
<b>Output</b>	
Output voltage	12 V <sub>DC</sub> (±5 %)
Output power	96 W
<b>Frequency</b>	
Nominal frequency	50 Hz / 60 Hz
Operational range	47 Hz ... 63 Hz (±1 Hz)

## 2.2 Connectors

Ethernet ports CTRL1 and CTRL2	
Type	10/100/1000Base-TX
Connector	RJ45
Cable type	LAN cable of category 5 (CAT5) or better
Status indication	Green LED: physical link present
	Yellow LED: traffic on interface

Ethernet ports STATION A, B, C, D	
Type	10/100/1000Base-TX
Connector	RJ45
Cable type	LAN cable of category 5 (CAT5) or better
Status indication	Green LED: physical link present
	Yellow LED: traffic on interface

USB	
Type	USB 3.0 ( <i>SuperSpeed</i> , 5 GBit/s)
Connector	USB type A

HDMI (service port)	
Type	HDMI 1.4, 3840 × 2160 at 30 Hz
Connector	HDMI type A

Display port	
Type	DisplayPort 1.2, 3840 × 2160 at 60 Hz
Connector	Full-size DisplayPort

## 2.3 Environmental conditions

Environmental conditions		
Temperature	Operating	0 °C ... +45 °C 32 °F ... 113 °F
	Storage	-20 °C ... +80 °C -4 °F ... +176 °F
Maximum altitude	Operating	4,000 m 13,123 ft
	Storage	15,000 m 49,212 ft
Humidity	20 % ... 80 % relative humidity; non-condensing	

## 2.4 Electromagnetic compatibility and safety standards

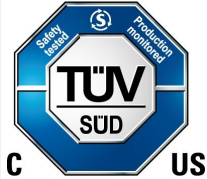
### Electromagnetic compatibility (EMC)

Electromagnetic interference (EMI)	
Europe	EN 61326-1
	EN 61000-3-2/3, EN 55032 (Class B)
International	IEC 61326-1
	IEC 61000-3-2/3
	CISPR 32 (Class B)
USA	47 CFR 15 Subpart B (Class B) of FCC

Electromagnetic susceptibility (EMS)	
Europe	EN 61326-1 (industrial electromagnetic environment)
	EN 61000-6-5 (substation/interface type 2) <sup>1</sup>
International	IEC 61326-1 (industrial electromagnetic environment)
	IEC 61000-6-5 (substation/interface type 2) <sup>1</sup>

<sup>1</sup> Classified as passive monitoring equipment.



<b>Safety standards</b>	
Europe	EN 62368-1
International	IEC 62368-1
USA	UL 62368-1
Canada	CAN/CSA-C22.2 No 62368-1
Certificates	 <p>The image shows the TUV SUD logo, which is a blue octagon with a white border. Inside the octagon, the letters 'TUV' are prominently displayed in white, with 'SUD' below it. The octagon is surrounded by a blue ring containing the text 'Safety tested' on the left and 'Production monitored' on the right. Below the octagon, the letters 'C' and 'US' are printed in black, indicating certification for Canada and the United States.</p>

