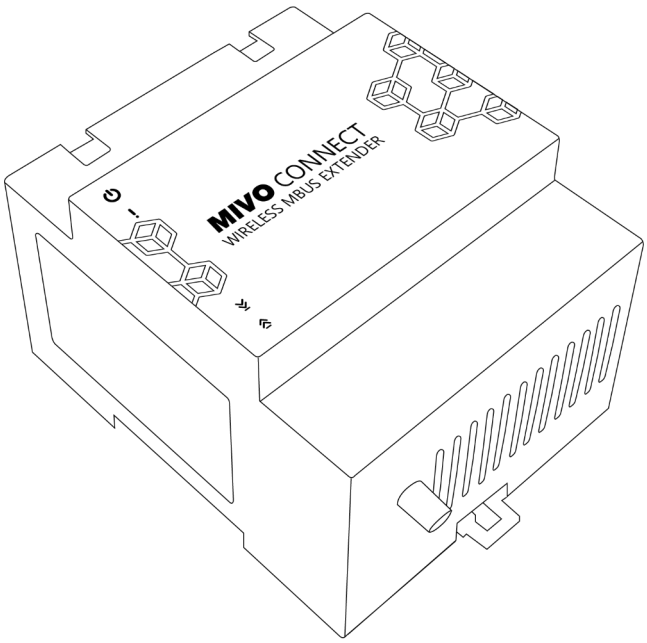
MIVO

Better Data. Efficient Buildings



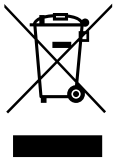
WIRELESS MBUS EXTENDER

Content

Important Notes

All information contained in this manual is based on the time of publication and in subject to change without prior notice. It's always recommended to download the latest manual from www.mivo.se/doc.

EU Waste Electrical and Electronic Equipment (WEEE) Directive



This Symbol on the product indicates that this product should not be treated as household waste. Instead, it should be taken to an applicable collection point for the recycling of electrical and electronic equipment. If the product is disposed correctly the recycling of materials will help to conserve natural resources. For more information about recycling this product, please contact your local city office, your household waste disposal service or the distributor where you purchased the product. Please also make sure to separate the packaging and dispose this in accordance with local guidelines.

Symbols

The warning symbol is used to mark information that is of high importance for safe operation, to avoid damage to the product and/or risk of losing data.

The high voltage sign indicates a location or section where hazardous voltage might be present and extra precaution is necessary to avoid serious injury or death.

Safety Information

Make sure to read and understand this manual before installing, operating, or servicing an installation containing a MIVO Connect. MIVO Technology AB assumes no liability for customer's failure to comply with these precautions.
Installation should be performed by a qualified electrician in accordance with local electrical standards.

This equipment design typically applies to commercial or industrial equipment expected to be installed in locations where only adults are normally present.

Installation

Device Overview

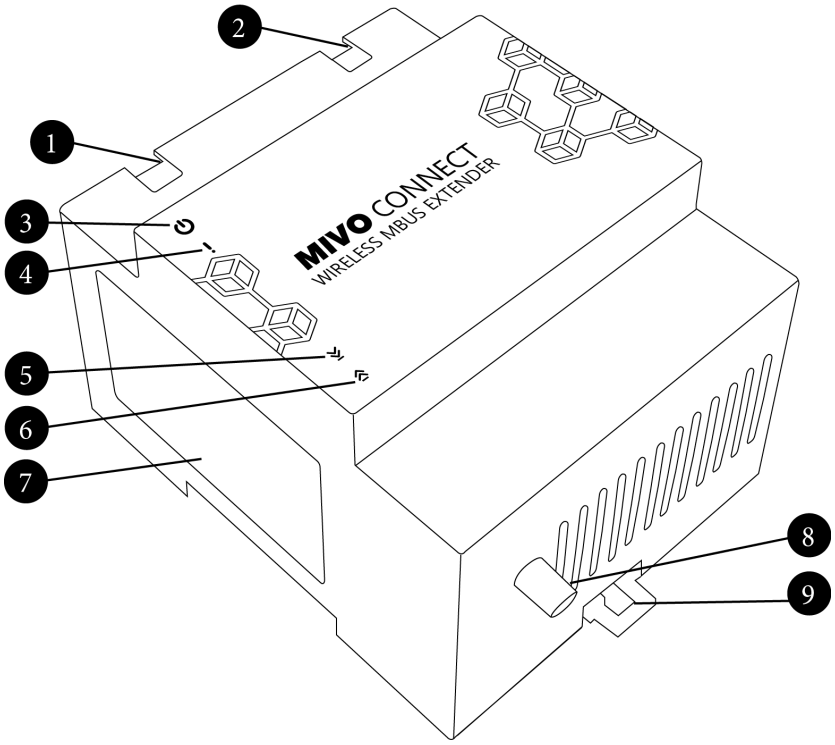


Figure 1 Product description

1. Connection to previous extender or MIVO Connect (Contains hazardous voltage)
2. Connection to next extender (Contains hazardous voltage)
3. Status indication LED
4. Wireless MBUS status LED
5. Wireless MBUS communication transmit LED
6. Wireless MBUS communication receive LED
7. Product information label
8. Connection for Wireless MBUS Antenna (SMA)
9. DIN rail fixing latch.

LED Description

Status indication LED

Color	Description
Off	Device not powered up
Solid Red	Serious failure, please contact MIVO support.
Solid Green	System operating successfully
Red /Green blink	System is booting up

Wireless MBUS Status LED

Color	Description
Off	Wireless MBUS Ok
Solid Red	Serious failure, please contact MIVO support.

Wireless MBUS Communication Transmit LED

Color	Description
Off	No communication
Green blink	Communication on wireless MBUS, Transmit

Wireless MBUS Communication Receive LED

Color	Description
Off	No communication
Green blink	Communication on wireless MBUS, Receive

Mounting

The MIVO Connect is designed for indoor use and must be mounted in an electrical enclosure with a suitable IP rating and supported on a DIN-Rail. The Enclosure must cover the power terminals and the expansion connector.

The product must be mounted vertically with terminal connector 1 and 2 in figure 2 facing upwards, no other rotation is allowed.

Always allow good ventilation clearances, 40mm above and 20mm below, to prevent it from overheating. Keep other heat generating devices more than 10mm from this product.

Mounting

1. Tilt the product up and place the topmost latches on top of the DIN-Rail.
2. Tilt the product down until the bottom latch snaps in place, if necessary, use a small screwdriver to pull the latch (item 16 in Figure 1) down.

Removal

Make sure power is disconnected before proceeding.

1. Disconnect all cables.
2. Pull the bottom latch (item 16 in Figure 1) down with a screwdriver and tilt the product upwards.
3. Lift the device up and then move the product straight out.

Connection to MIVO Connect

The Expansion port contains both hazardous voltage and communication. Always make sure the MIVO Connect system is disconnected from the power source before any expansions are connected or disconnected to or from the system. The included cables must not be extended or modified in any way.

The MIVO Connect system is equipped with an expansion port to expand the capabilities of the system with one or more external interfaces. The expansions are attached side by side and uses the included cable to power and communicate with the expansions. A longer cable (60cm) is available from the manufacturer to continue the system on another row in the cabinet.

The expansion port is designed for up to 10 expansions on every MIVO Connect.

Connection

1. Make sure the power to the system is disconnected.
2. Connect the wider of the two cable connectors to the connector labeled “Expansion In” on the Extender and push firmly until the latch engages with a click.
3. Connect the other end of the cable to the previous Expansion or Expansion Out port in the same way.
4. Repeat the process for all Extenders.

Disconnect

1. Make sure the power to the system is disconnected.
2. Hold down the connector latch and pull the connector straight out.

Wireless M-Bus

The MIVO Wireless MBUS Extender is designed to collect wireless sensor information form sensors and meters. The extender is equipped with a high-performance radio receiver that includes both Filters to block 4/5G disturbance and a Low-Noise amplifier to achieve long range and reliable communication. The extender uses a external antenna connector for optimal antenna placement, the antenna should be manufactured for the 868MHz band and suitable for the designated mounting location. The antenna is connected to the Wireless MBUS Extender using a SMA male connector.

Connection of Wireless MBUS antenna

1. Screw the cable connector nut clockwise onto the expansion antenna connector.
2. Tighten the connector with a small wrench, the recommended torque is 0.3Nm, 0.5Nm max.

Warning! Too high torque will permanently damage the expansion.

Disconnection of wireless M-Bus antenna

Screw the connector nut counterclockwise until the connectors are separated.

Troubleshooting

Problem	Indication	Cause
The device does not operate	The status indication Led (3) is off	• Check expansion cable. • Make sure the MIVO Connect software version is higher than 1.15.xx
The device does not operate	The status indication Led is solid red	Contact support
The device does not operate	The status indication Led is solid green, but no extender is visible under Infrastructure tab.	Make sure the MIVO Connect software version is higher than 1.15.xx

Support

If you run into problems or have any questions, please don’t hesitate to contact us at support@mivo.se

Technical Specification

Mechanics	
Dimensions (width x height x depth)	70 x 85 x 57 mm (4 DIN Modules)
Weight	100g
Protection class	IP20
Environmental	
Storage temperature	-25 to +55°C
Operating temperature	-25 to +55°C
Operating humidity	5 to 90% non-condensing
Max operating altitude	2000m
Pollution degree 2	2
Usage environment	Indoors
Connections - Expansion	
Voltage	230Vac ±10%, 50Hz
Power consumption	<1W
Installation / Overvoltage category	CAT 3
Connections - Wireless MBUS (EN 13757)	
Mode	C&T / S
Sensitivity (typ.)	-109dBm
Encryption modes	OMS Mode 5 & 7, AES-128CTR
External antenna connector	SMA Female
Approvals	
EMC	EN 61000-6-2, EN 61000-6-3
Safety	EN 62368-1
Environmental	RoHS, WEEE