- 1x Ethernet Port
- 2x RS485 / BUS-2
- Modbus RTU/TCP
- TCP-Server/TCP-Client
- Security System Bus Support:
  ASSET, GALAXY, HUB-PRO, MB-SECURE
- Up to 30 METEL IO Modules on each RS485 Bus
- LAN/RS Port Conversion Speed from 3ms
- 600W Surge Protection for All Ports in Wave 10/1000µs
- Encrypted SNMPv3 Management
- Installation on a Flat Surface or DIN35
- Power Input 12VDC
- Operating Range –40°C to +70°C
- Operating Range of Used Parts from –40°C to +85°C

PRODUCT NAME	CODE	SUPPLY
miniLAN-4B2	2-105-573	12VDC
Holder for Mounting DIN35 and Flat Surface is Included.		

Functions Description

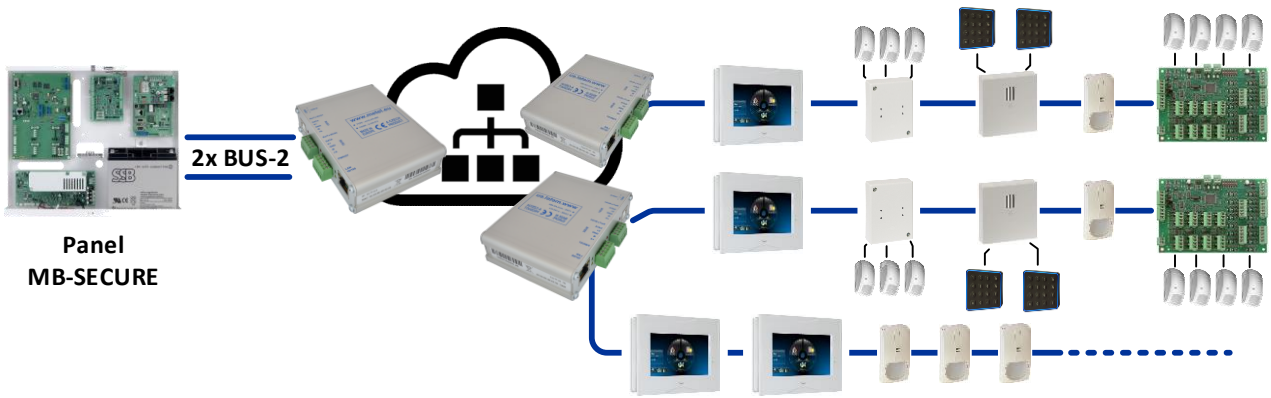
flexibility

The converters have 2 independent RS485/BUS-2 ports. The very low delay of data transfer to / from the LAN guarantees their compatibility not only with Modbus-RTU and TCP industry standards, but also with selected types of security systems with high demands on low transmission delay.

When using the miniLAN-4B2 to connect elements of the I&HAS system, the transmission path must be designed to minimize the risk of delay, modification, replacement or loss of data (see EN50131-1). Therefore, the I&HAS data must be assigned a unique VLAN and high priority (QoS) throughout the transmission path. The miniLAN-4B2 converters and managed switches meet these requirements.

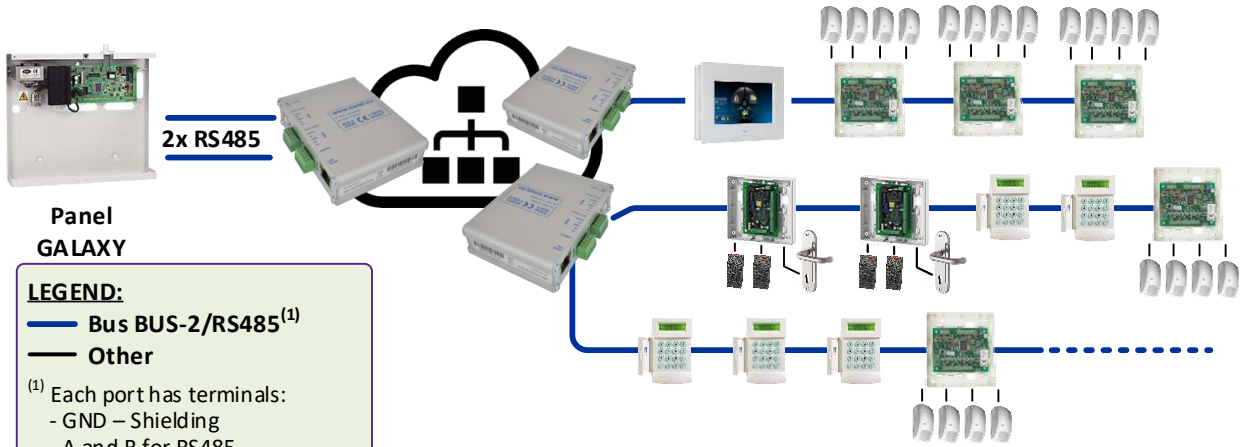
Extension of the BUS-2 Buses of the MB SECURE System via LAN

compatibility



Extension of RS485 Buses of the GALAXY DIMENSION System via LAN

compatibility

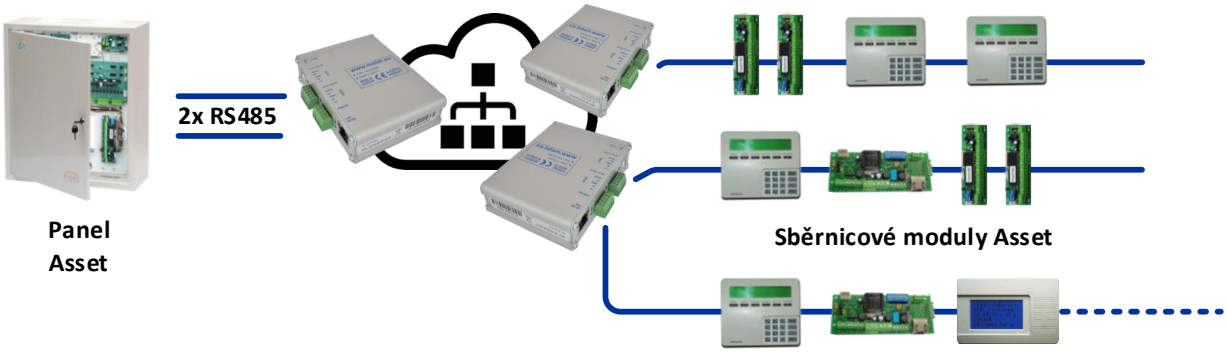


LEGEND:
- Bus BUS-2/RS485(1)
- Other

(1) Each port has terminals:
- GND – Shielding
- A and B for RS485
- DATA for BUS-2 (MB-SECURE)

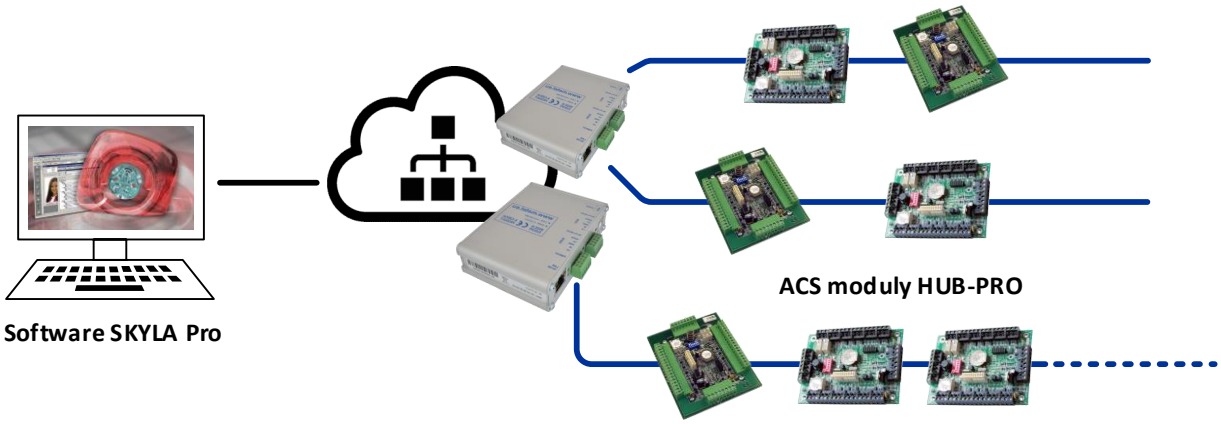
Extension of RS485 Buses of the ASSET System via LAN

compatibility



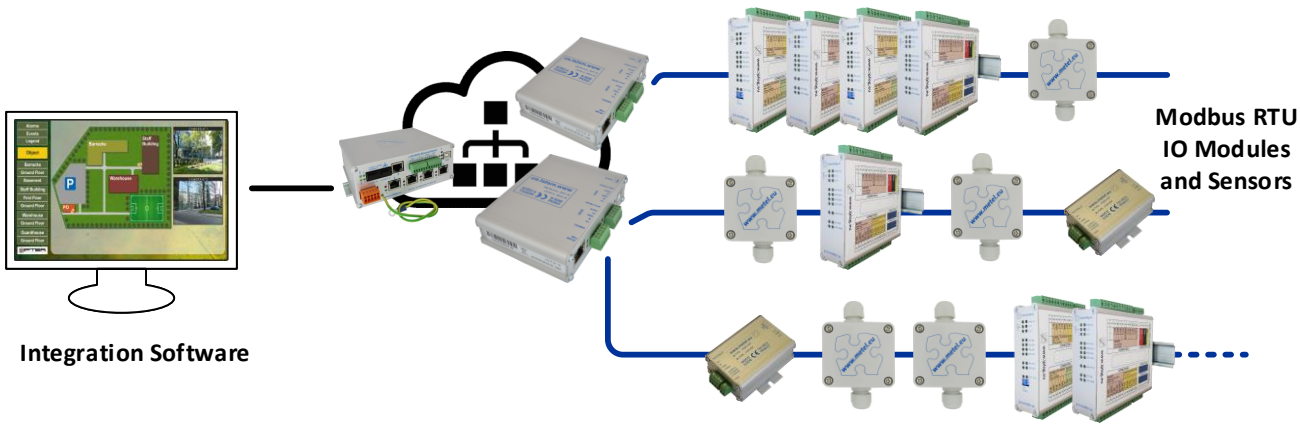
Extension of RS485 Buses of the HUB-PRO System via LAN

compatibility



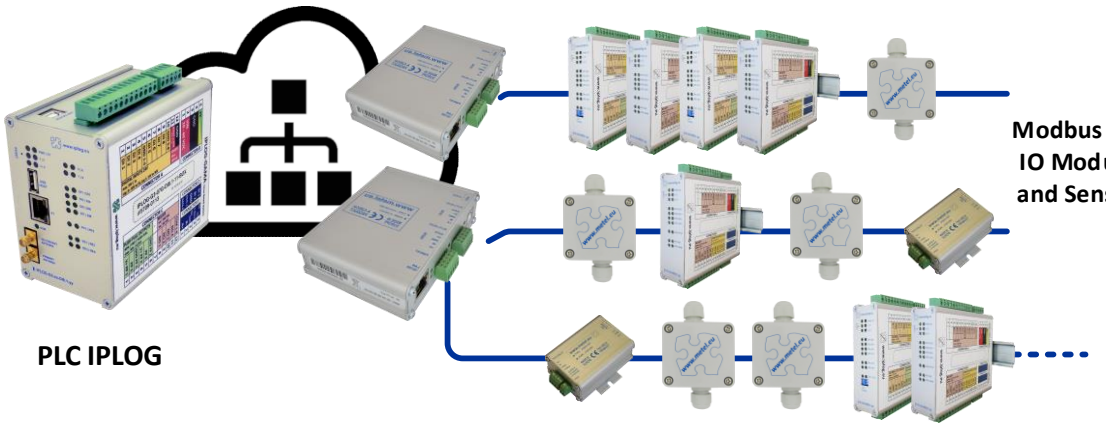
An Example of a System for Data Collection Using the MODBUS Protocol

compatibility



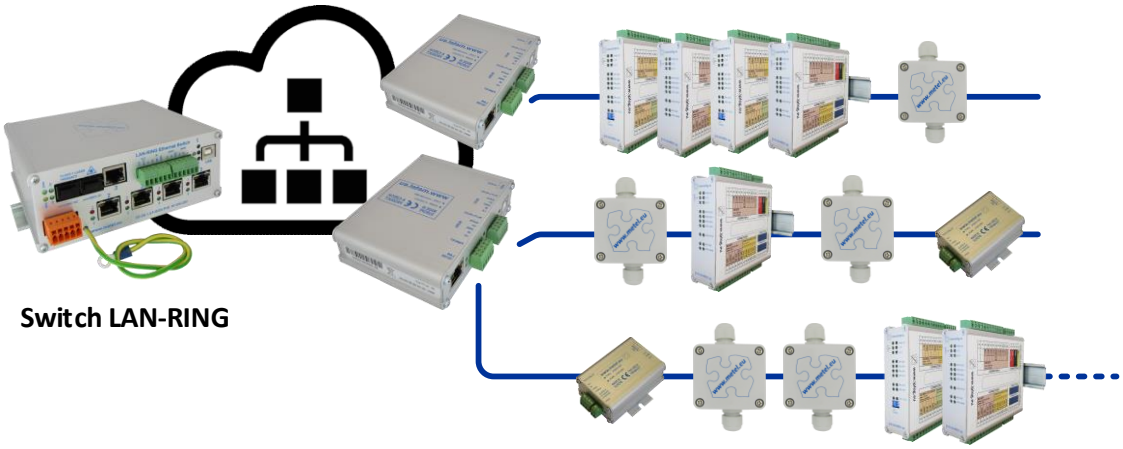
Connection of Remote IO Modules to PLC IPLOG

compatibility



Connection of Remote IO Modules to the LAN-RING System

compatibility



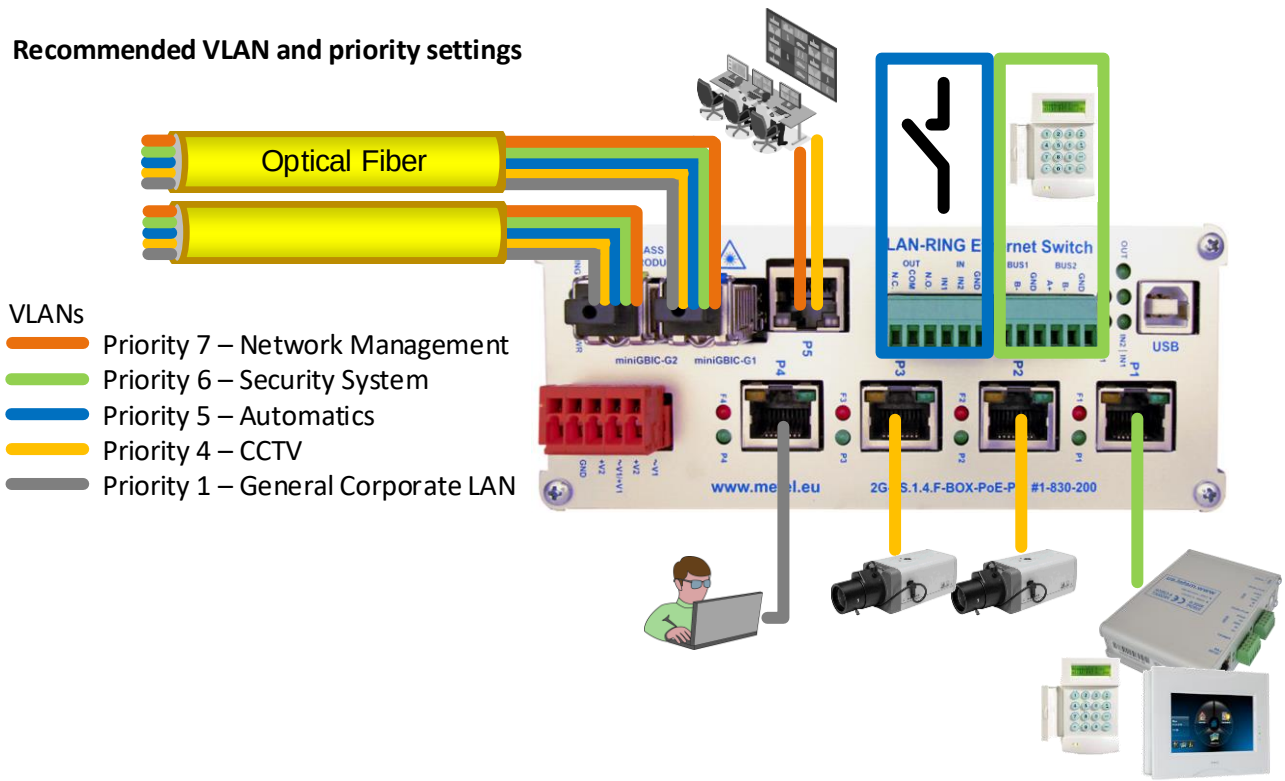
Supported Modes on BUS1 and BUS2 Ports

Both ports can operate independently of each other in the following modes:
Asset - mode compatible with communication of Asset system bus modules
BUS-2 - mode compatible with the BUS-2 bus of the MB-Secure system
Dominus - mode compatible with communication of Dominus Millennium system bus modules
Galaxy - mode compatible with Galaxy Dimension bus module communication
Peridect - mode compatible with Peridect PVJ units (must be supplemented with a RS485/232 converter)
RS485 - other RS485 systems

When transmitting I&HAS (PZTS) data systems designed according to EN 50131-1 the following must be followed:

- **all frames marked with VLAN headers according to IEEE 802.1Q and frames of I&HAS systems must have a high priority (priority processing) using so-called QoS bits.**

Recommended VLAN and priority settings



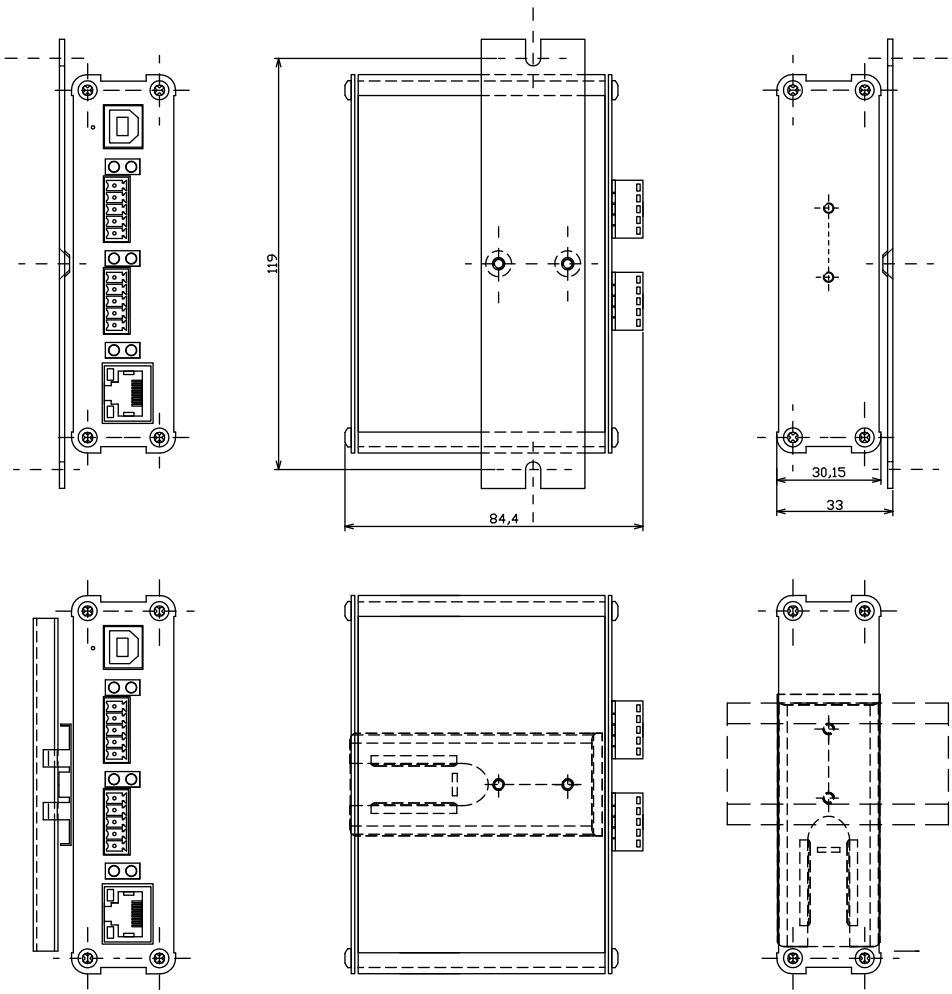
Technical Parameters

compatibility

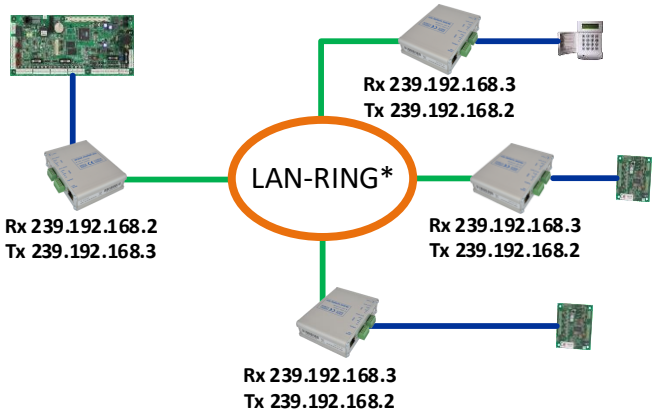
	Parameter	Value	Unit	Note
Management	Application	SIMULand		Windows Application
Data Ports	Number Terminals	2x RS485 or BUS-2 A - positive wire RS485 B - negative wire RS485 GND - ground DATA - data wire BUS-2		
	Data Speed RS485	1,2 to 115,2	Kbps	Half / Full Duplex (UTP cat.5)
	Compatibility BUS-2	MB SECURE		
	Overvoltage Protection	600	W	In the Wave 10/1000µs
Power Supply	Voltage	12	VDC	max. 15 VDC
	Power Consumption	Max. 1	W	
	Overvoltage Protection	600	W	In the Wave 10/1000µs
Environment	Operating Range	–40...+70	°C	Temperature of Environment
	Operating Range of Used Parts	–40...+85	°C	Temperature of Environment
	Storage Temperature	–40...+70	°C	Temperature of Environment
	Humidity	Max. 95	%	Non-condensing
Mechanics	Dimensions - w / h / d	110 x 97 x 30 (37)	mm	(with DIN Holder)
	Weight	0,2	kg	
Certification		CE		

The producer retains the right to change any technical parameters without previous written or published notification.

Dimensions

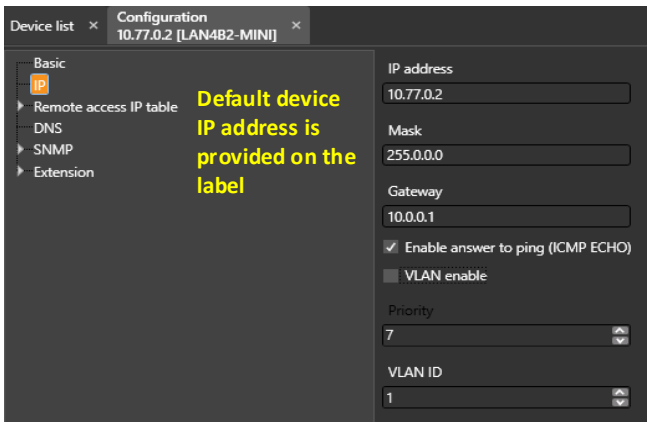


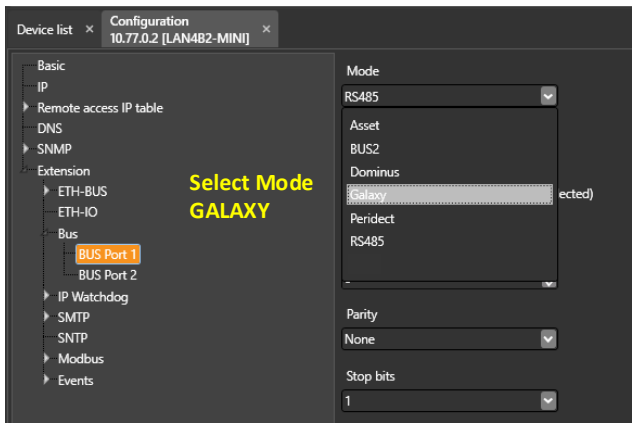
An Example of Communication Over UDP for GALAXY System in a SIMULand.v4 Application



LEGEND:
- 1x MM / SM Fiber
- Fast Ethernet
- Fast Ethernet with PoE
- Serial Buses

* When interconnecting the RS485 buses of alarm systems we recommend using only our miniLAN and LAN-RING devices optimized for low delays of RS485 transmission. Find more at www.metel.eu for an up-to-date list of compatible systems that have been tested with our devices.





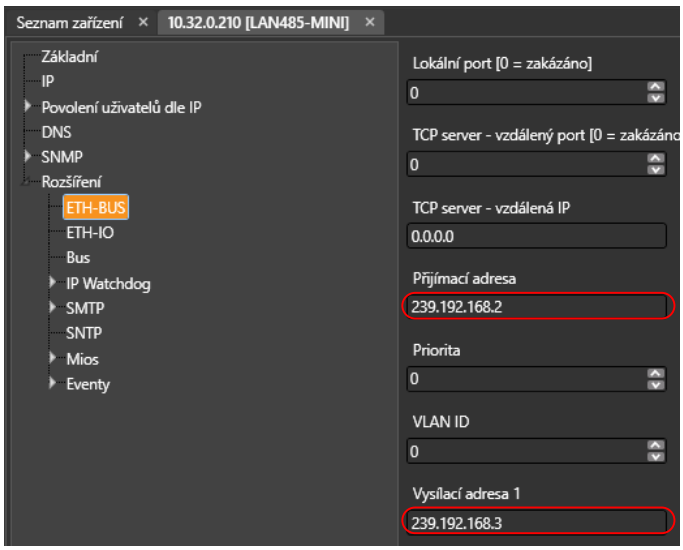
NOTE: If you can not connect to the device check the IP address of the network adapter in your computer; it must be set in the range of the device IP address. Pause or add an exception for the firewall and antivirus program.

Setting of RS485 Transmission in UDP Mode (Multicast)

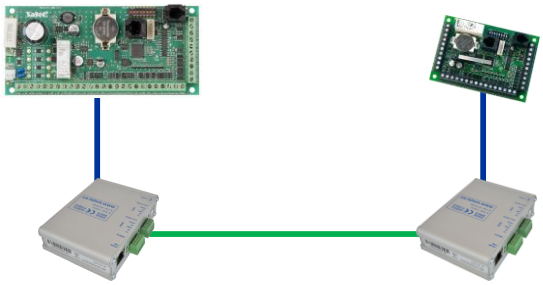
The setting is very simple and consists of the following steps:

1. In menu **„Bus/Mode“** set the system you are using. If not provided select “**RS485**”. If the system is provided in the menu no further setting in menu **„Bus“** is needed. The converter sets it automatically.
2. In menu **„Extension/ETH-Bus“** set receiving and transmitting addresses in range 239.0.0.0 - 239.255.255.255 (multicast).
   topology BUS – set the same receiving and transmitting address on all converters.
   topology POINT-to-POINT – set the addresses “crosswise”:

Example: Device 1 receiving address - 239.192.168.2, transmitting address 1 - 239.192.168.3
Device 2 receiving address - 239.192.168.3, transmitting address 1 - 239.192.168.2

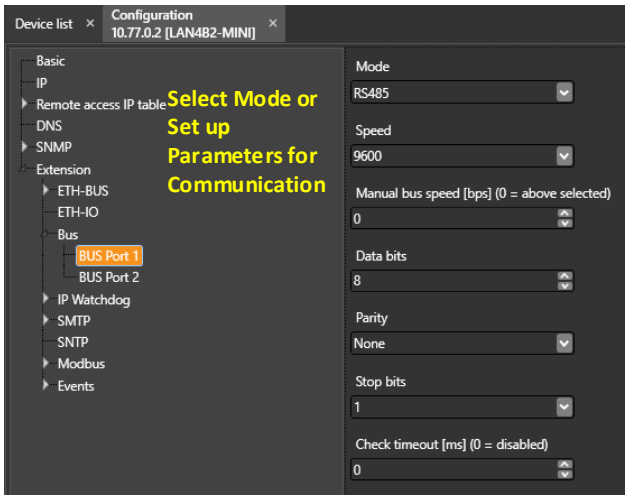


An Example of Communication Over TCP



TCP Client
IP:10.0.0.20

TCP Server
IP:10.0.0.10

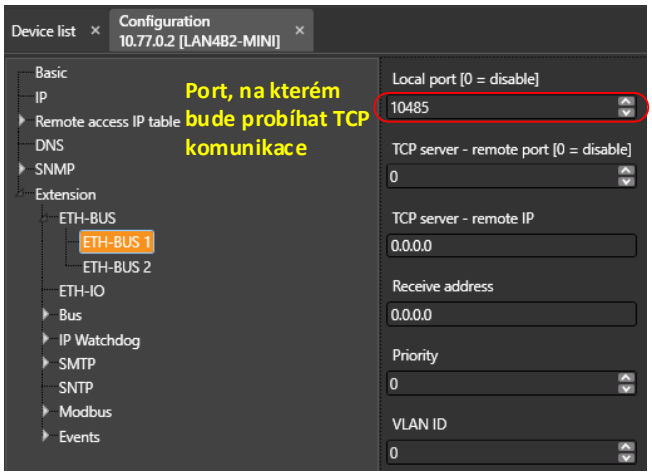


Setting of RS485 Transmission in TCP Mode

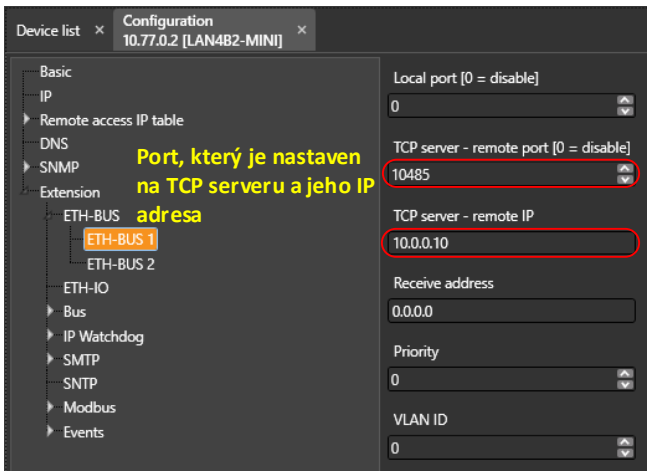
The setting consists of the following steps:

1. It is necessary to decide which device will be server and which will be client. The clients must always perform the first request to the server and thus start up a TCP connection.
2. In menu **„Bus/Mode“** set the system you are using. If not provided select “**RS485**”. If the system is provided in the menu no further setting in menu **„Bus“** is needed. The converter sets it automatically.
3. Converter in mode TCP server - in menu **„Extension/ETH-BUS“** set the number of port that will be used by the TCP client to establish a connection.
4. Converter in mode TCP client - in menu **„Extension/ETH-BUS“** set the number of **TCP Server port – Remote port** and **TCP Server Remote IP address**, IP address of the remote TCP server.

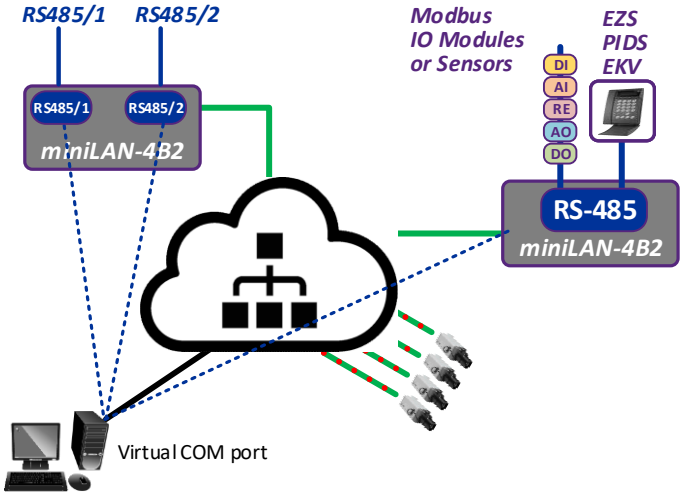
miniLAN-4B2 in TCP Server Mode



miniLAN-4B2 in TCP Client Mode (Initialization Connection)



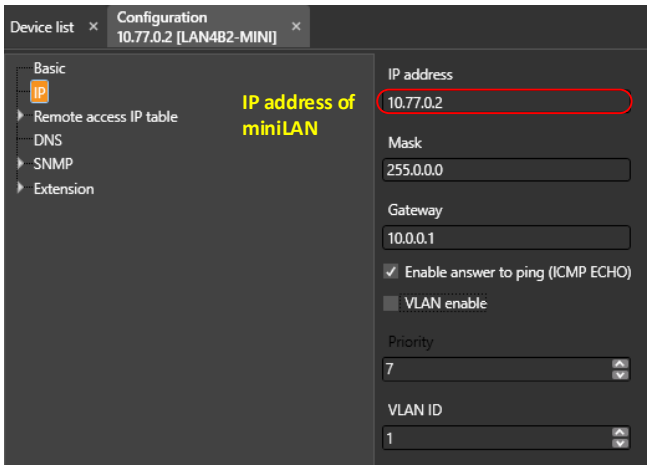
An Example of Creating a Virtual COM Port

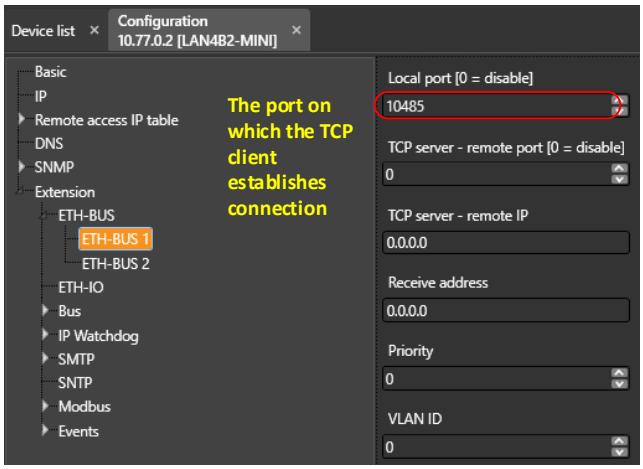


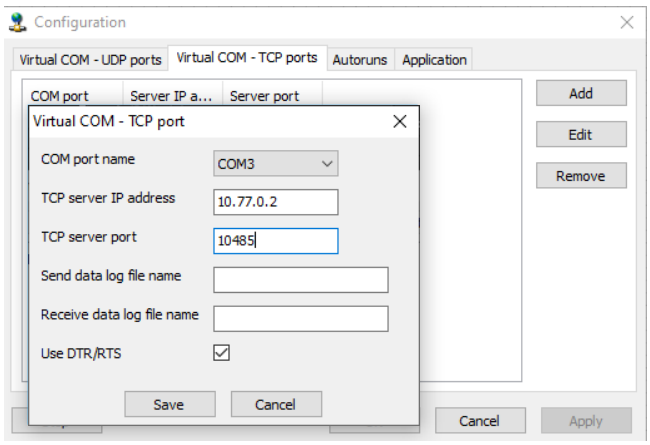
To set up miniLAN

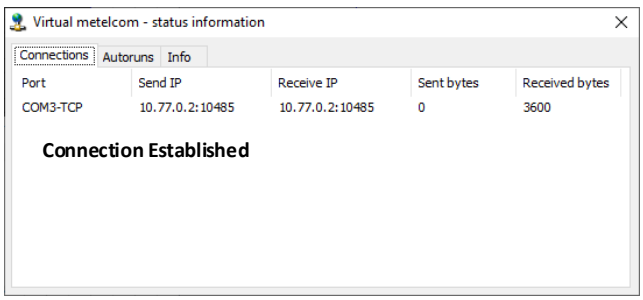
The setting consists of the following steps:

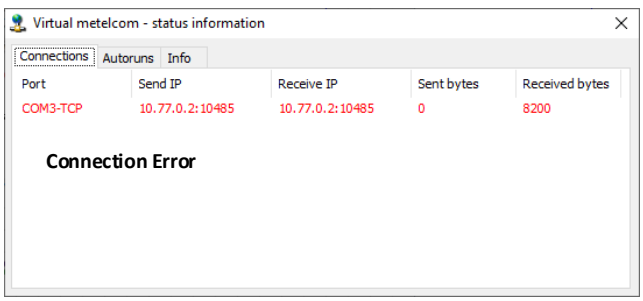
1. In the **"Extension / ETH-BUS"** menu, set the port number on which the TCP client establishes communication.
2. Install VComNet
3. In VComNet configuration mode, create a TCP or UDP connection





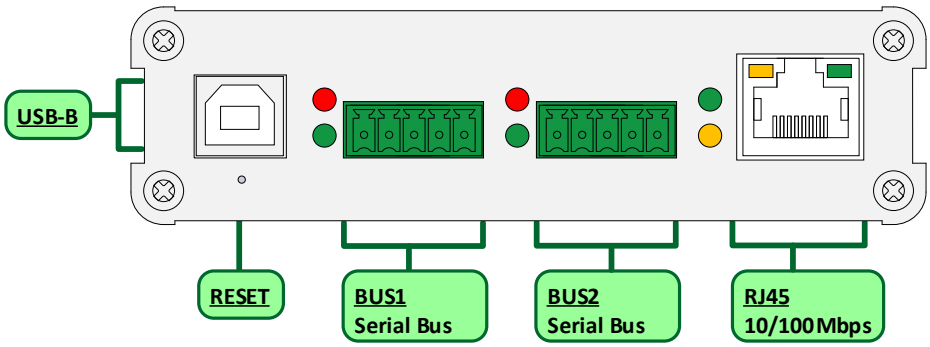






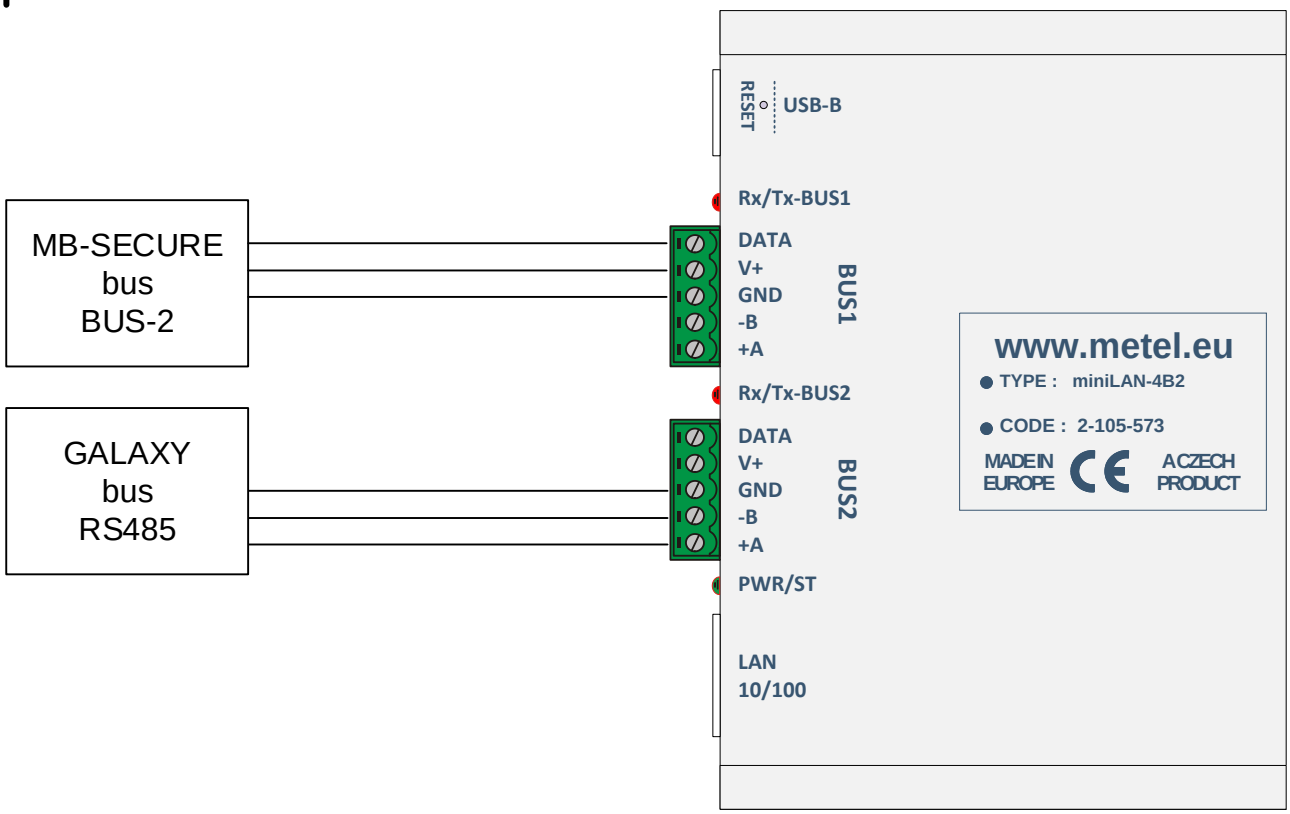
REVISION: 202011 - Default

Description miniLAN-4B2



Power Connection

If you connect only systems with **RS485** bus to the converter, it is necessary to connect a 12VDC power supply to the converter. On terminals BUS1 or BUS2, connect **+12VDC** to the terminal marked **V+** and **0V** to the terminal marked **GND**.
When using BUS-2 system buses (MB-SECURE), the bus includes the cable for powering the converter.



Description LED Function

Power:	**PWR**	lights = connected to power supply OFF = power off, power failure
BUS1 and BUS2:	**Tx/Rx**	**red LED** flashing = the RS485 port is sending data to the bus OFF = is not sending data **green LED** flashing = the RS485 port is receiving data on the bus OFF = is not receiving data

RESET – reset the device to factory settings. With the power on, activate and hold the microswitch for about 7-10 seconds. After activating the device reset, the red LED will flash, then you can release the microswitch and the device will be reset. You can also use a USB cable and Simuland.v4 to reset.