

User Manual Technical Parameters

Interfaces for
KBR eBus, Modbus
and Modulbus



multisys D2-ESET/MSMT-4
multisys D2-BSET-4



You will find the relevant instructions for KBR devices in our Download Center.

<https://www.kbr.de/de/dienstleistungen/download-center>

System | English

Thank you for choosing this KBR quality product.

To become familiar with the operation and programming of the device and to use the full range of functions of this high-quality product at all times, you should read this user manual carefully.

The individual chapters explain the technical details of the device and show how damage can be avoided through proper installation and commissioning.

User manual

This user manual must be accessible to the user at all times (e.g. in the switchgear cabinet). Even if the device is resold to third parties, the manual remains an inherent part of the device.

Although the utmost care has been taken in writing this user manual, errors may still occur. We would be very grateful if you would notify us of any errors or unclear descriptions you may notice.

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Table of contents

1	multisys D2-ESET/MSMT-4 and multisys D2-BSET-4 General	4
1.1	Connection diagram	5
2	Hardware Configuration	6
2.1	RS485 Interface and LAN	6
2.2	LAN and KBR Module Bus Interfaces (multisys D2-BSET-4).....	7
3	Software configuration	8
3.1	Assigning an IP Address to a Device of which the Address is Not in the Address Range of the Network	10
3.2.	E-port Configuration for eBus TCP	12
3.3	Box-to-Box Operation (parameters of the server):	14
3.4	E-port configuration for Modbus TCP	15
4	LAN eBus configuration via Ethernet interface (Telnet).....	17
4.1	Procedure for IP address 192.168.0.1 or unknown IP.	17
4.1.1	Procedure for IP address 0.0.0.0.....	17
4.1.2	Menu item 0 Server , setting IP address.....	20
4.1.3	Menu item 1 Channel 1, setting of serial interface (KBR eBus)	20
4.1.4.	Web browser settings.....	21
4.1.5	Box-to-Box operation	23
4.1.6	Setting the multisys D2-ESET -4 in server operation.....	23
4.1.7	Setting the multisys D2-ESET -4 in client operation.....	25
4.1.8	Web browser settings.....	25
4.1.9	Resetting the multisys D2-ESET -4 from server to client operation	26
4.1.10	Einstellungen mit Webbrowser.....	28
5	Technical Data	30
5.1	Power supply	30
5.2	Electrical Connection.....	30
5.3	Mechanical data	30
5.4	Standards and miscellaneous.....	31

1 **multisys D2-ESET/MSMT-4 and multisys D2-BSET-4 General**

The **multisys D2-ESET/MSMT-4** connects the KBR eBus to your computer via an Ethernet connection. The transmission protocols are:

- KBR eBus
- Modbus

On the Energy Bus side it acts as server and on the Ethernet side it acts as client.

The two interfaces (RS-485 on the KBR eBus side, and Ethernet on the network side) are galvanically separated.

The **multisys D2-BSET-4** connects the KBR module bus to your computer through an Ethernet connection.

On the Modbus side, it acts as server, and on the Ethernet side, it acts as client.

The two interfaces (RS-485 on the module bus side, and Ethernet on the network side) are galvanically separated.

The RS-485 interface on the KBR eBus or the module bus can be terminated if necessary, using four DIP switches (terminating resistors are built into the multisys).

The device is equipped with a power LED for supply voltage monitoring.

The **multisys D2-ESET/MSMT-4** and the **multisys D2-BSET-4** each have a power supply (of <10VA; 100 - 240V \pm 10% DC/50/60 Hz) and are suitable for wall mounting on a 7.5 mm-deep DIN rail in accordance with DIN EN50022 (for distribution board mounting).

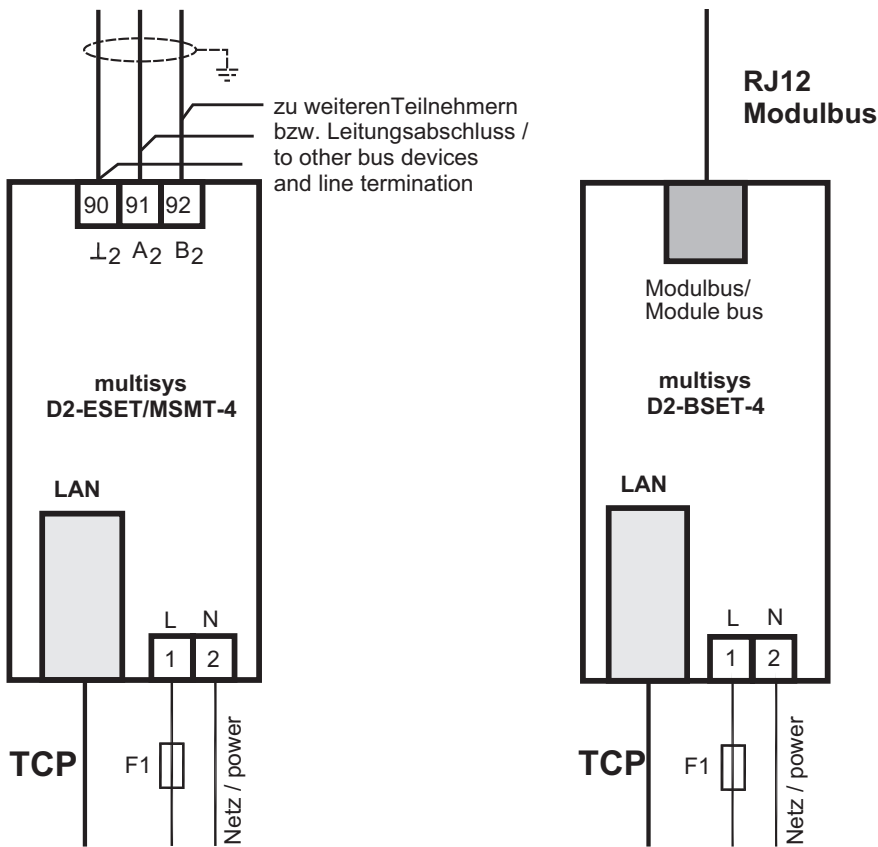


NOTE

The Ethernet interface settings of the **multisys D2-ESET/MSMT-4** and the **multisys D2-BSET-4** are identical.

Both variations are described below.

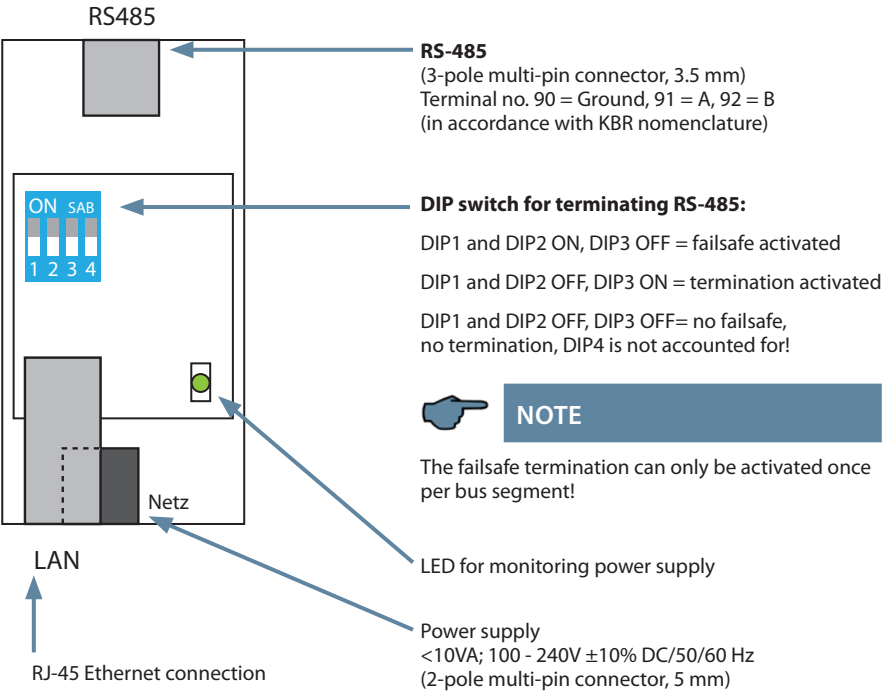
1.1 Connection diagram



2 Hardware Configuration

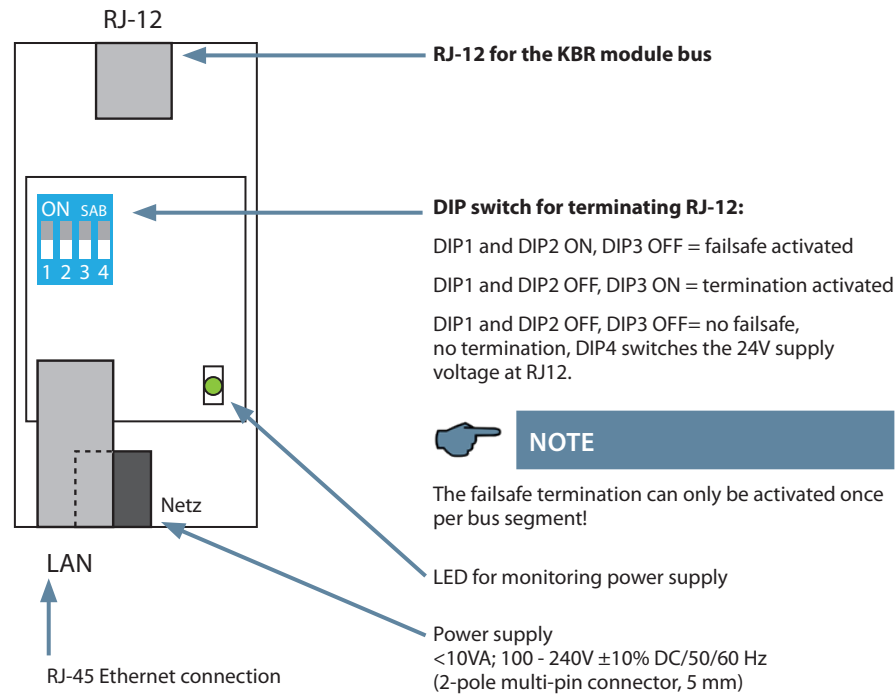
2.1 RS485 Interface and LAN

The RS-485 interface is set to the KBR eBus parameters 38,400 baud, 8 data bits, parity even, 1 stop bit. If necessary, it can be terminated using four DIP switches.

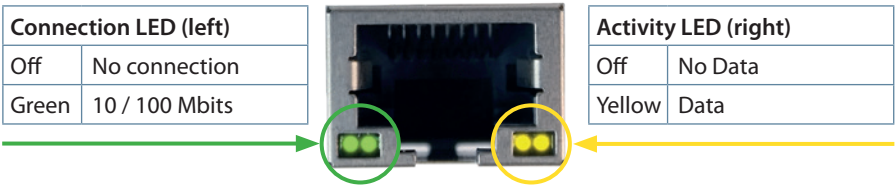


2.2 LAN and KBR Module Bus Interfaces (multisys D2-BSET-4)

The Modbus interface is set to the Modbus parameters 38,400 baud, 8 data bits, parity even, 1 stop bit. If necessary, it can be terminated using four DIP switches.



The operating status of the LAN interface (E-Port) is indicated by two LEDs:



3 Software configuration

The present device is available in a version with Lantronix LAN port (until approx. Dec 2020) or IOT LAN port (from approx. Jan 2021).

There are three options for parameterizing the LAN port for these versions:

- 1. **Using a web browser and the web interface in the LAN port**
(Lantronix and IOT Lanport). See under 4.1.4.
- 2. **Using the Telnet program**
(described for the execution with the Lantronix LAN port) see point 4.

The connected device then reports under the factory-set IP address 192.168.0.1:

- 3. Using the IOT program www.hi-flying.com/download-center-1/applications-1/download-item-iot-service (source of supply IOTService).

First the IOT service tool should be installed. After starting the IOT service tool, the connected network is scanned and the Eports found are displayed.

Procedure: The parameterization with the IOTService Tool:

After installing and starting the IOTService Tool and the connected network is scanned and the E-Ports found are displayed and can be edited further.

Status

System runing status overview

System State	
Product Name E20	MAC F0FE6BBA1D69
DHCP Disable	IP 192.168.0.1
Subnet Mask 255.255.255.0	Gateway 0.0.0.0
DNS 0.0.0.0	Firmware Version 1.34.12
System Time NTP Disabled	Total Running Time 0-Day 23:12:15
Remaining RAM 31694	Max Block Size 28576
Configuration Protected Disable	

25833_EDEBA0290-0622-1_EN

**NOTE**

For security reasons, the IP address of the device should be changed immediately, to prevent unauthorized persons from accessing the device from outside. In addition, the device should be password protected (for devices of the multimess series).

System Settings

Change the device system settings

Authentication

User Name

Password



Basic Settings

Host Name

Authentication

DHCP ☐ **OFF**

WAN P

Subnet Mask

Gateway

DNS

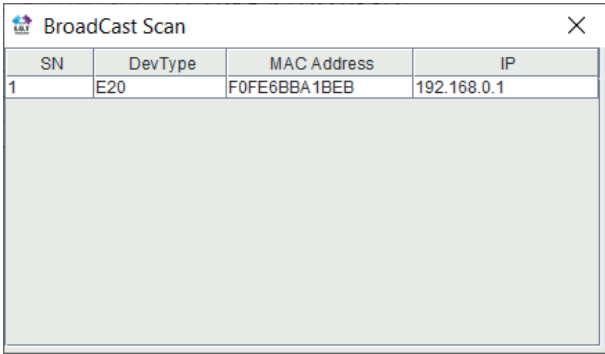
**NOTE**

After selecting the port, you can access the parameterization with „Config“.

The factory setting is configured to eBus. If Modbus is to be used, proceed as described under 3.4.

3.1 Assigning an IP Address to a Device of which the Address is Not in the Address Range of the Network

In the main window of the IOT Service Tool, open the 'BroadCast Scan' window via Setting (C) -> BroadCast.



SN	DevType	MAC Address	IP
1	E20	F0FE6BBA1BEB	192.168.0.1

E-port devices that are in the network but do not have a valid network address are listed here.

Double-click on the row with the device in it to open the 'Fast Setting' window:



NOTE

A valid IP address and the subnet mask can be entered here.
Click **'Confirm'** to apply the settings.
The device should then appear in the list in the main 'IOT Service' window.

I.O.T Service

Management (M)Setting (C)Help (H)

Serial Config

Config

Status

VirPath

IO Ctrl

Disconnected

SN	DevType	MAC Address	HostName	IP	Position	VirPath	Status	SW Ver
1	E20	F0FE6BBA1BEC	Eport-E20	192.168.121.145	Local		Online	1.20
2	E20	F0FE6BBA1BF0	Eport-E20	192.168.121.142	Local		Online	1.20
3	E20	F0FE6BBA1BED	PK_mmessF96	192.168.121.43	Local		Online	1.34.12
4	E20	F0FE6BBA1BEB	msys_BA1BEB	192.168.121.187	Local		Online	1.34.12

After selecting the e-port, click on „**Config**“ to access the configuration settings.

3.2. E-port Configuration for eBus TCP

For eBus TCP, the parameters must be set as shown in the figure below. The network parameters (IP address, mask, gateway, DNS) must be adapted to local circumstances.

The screenshot shows the 'Device Setting' dialog box with the following configuration:

- System:**
 - User: admin
 - Password: admin
 - HostName: msys_BA1BEB
 - DHCP: Disable
 - IP Address: 192.168.121.187
 - Mask: 255.255.255.0
 - Gate Way: 10.10.100.254
 - DNS: 10.10.100.254
- UART:**
 - UART No: UART 1
 - Baudrate: 38400
 - Data Bits: 8
 - Stop Bits: 1
 - Parity: EVEN
 - Flow Control: Half-Duplex
 - Buffer Size: 512
- SOCKET:**
 - SOCKET Name: netp
 - Protocol: TCP-SERVER
 - Server Addr: 0.0.0.0
 - Server Port: 0
 - Local Port: 8000
 - Keep Alive: 60
 - Time Out: 0
 - Rout: uart
 - Buffer Size: 512

Buttons at the bottom include: New SOCKET, SOCKET Del, Confirm, Cancel, Export, VirPath, Import, Detail, F-Set Update, and F-Set Clear.



NOTE

- Flow Control: Half Duplex" controls the changeover of RS-485 components.
- The local port must be set to 8000
- Click „Confirm“ to apply the parameters.

When „Detail“ is selected, this window appears:

The screenshot shows the 'Setup Detail' window with the following configuration options:

- System**
 - Telnet:
 - Telnet Port:
 - Telnet Echo:
 - Embedded Web:
 - Web Port:
 - NTP:
 - NTP Server:
 - NTP Port:
 - NTP GMT:
- WiFi Roaming**
 - WiFi Roaming:
 - Scan RSSI Threshold:
 - Connect RSSI Threshold:
- UART**
 - UART No:
 - UART Protocol:
 - Modbus Timeout(ms): ☒ Auto
 - Frame Length:
 - Frame Time:
 - Tag Enable:
 - Tag Start:
 - Tag End:
 - SW Flow Control:
 - Xon:
 - Xoff:
 - Cli GetIn:
 - Serial-String:
 - Cli Wait Time:
 - Gap Time:
 - Offline Buffer:
- SOCKET**
 - SOCKET Name:
 - Security:
 - Security Key:
 - Connect Mode:
 - Stop Serial:
 - HeartBeat:
 - HeartBeat Time:
 - HeartBeat Serial:
 - Regist Mode:
 - Regist Code:
 - Max Client NumMax Cl...:

Buttons at the bottom:



NOTE

- UART protocol should be set to 'NONE' for eBus-TCP.
- Gap Time should be set to 10 (ms) (waiting time after serial reception, until Telex is sent over the network).
- Cli Waiting Time should be set to 15 (seconds) max.

3.3 Box-to-Box Operation (parameters of the server):

For this, the following settings are important:

The screenshot shows the 'Device Setting' dialog box with the following sections:

- System**
 - User: admin
 - Password: admin
 - HostName: msys_BA1BEB
 - DHCP: Disable
 - IP Address: 192.168.121.187
 - Mask: 255.255.255.0
 - Gate Way: 10.10.100.254
 - DNS: 10.10.100.254
- UART**
 - UART No: UART 1
 - Baudrate: 38400
 - Data Bits: 8
 - Stop Bits: 1
 - Parity: EVEN
 - Flow Control: Half-Duplex
 - Buffer Size: 512
- SOCKET** (circled in red)
 - SOCKET Name: netp
 - Protocol: TCP-CLIENT
 - Server Addr: 192.168.121.188
 - Server Port: 8000
 - Local Port: 8000
 - Keep Alive: 60
 - Time Out: 0
 - Rout: uart
 - Buffer Size: 512

Buttons at the bottom right: New SOCKET, SOCKET Del, Confirm, Cancel, Export, VirPath, Import, Detail, F-Set Update, F-Set Clear.

3.4 E-port configuration for Modbus TCP

For Modbus TCP, the parameters must be set as shown in the figure below. The network parameters (IP address, mask, gateway, DNS) must be adapted to local circumstances.

Setup Detail

System

Telnet: Enable

Telnet Port: 23

Telnet Echo: Disable

Embedded Web: Enable

Web Port: 80

NTP: Disable

NTP Server:

NTP Port: 123

NTP GMT: 0

WiFi Roaming

WiFi Roaming: Disable

Scan RSSI Threshold: 50

Connect RSSI Threshold: 70

UART

UART No: UART 1

UART Protocol: Modbus

Frame Length: 18

Frame Time: 100

Tag Enable: Disable

Tag Start: 0

Tag End: 0

SWFlow Control: Disable

Xon: 11

Xoff: 13

CLI GetIn: Serial-String

Serial-String: +++

CLI Wait Time: 15

Gap Time: 10

SOCKET

SOCKET Name: netp

Security: Disable

Security Key:

Connect Mode: Always

Stop Serial:

HeartBeat: Disable

HeartBeat Time:

HeartBeat Serial: ...

Register Mode: Disable

Register Code: ...

Max Client NumMax C... 5

Edit Script


Confirm

Cancel

 **NOTE**

The UART parameters must be adapted to the local bus parameters. Local port: 502

Several connections to a serial interface, via the TCP, are possible. Replies are only sent to the enquirer


Device Setting
×

System

User:

Password:

HostName:

DHCP:

IP Address:

Mask:

Gate Way:

DNS:

UART

UART No:

Baudrate:

Data Bits:

Stop Bits:

Parity:

FlowControl:

Buffer Size:

SOCKET

SOCKET Name:

Protocol:

Server Addr:

Server Port:

Local Port:

Keep Alive:

Time Out:

Rout:

Buffer Size:



NOTE

Modbus ASCII cannot be configured.

Several connections to a serial interface, via the TCP, are possible. Replies are only sent to the enquirer.

4 LAN eBus configuration via Ethernet interface (Telnet)

The Ethernet interface of the multisys LAN eBus can be set up using the Ethernet interface via Telnet or the Lantronix tool DeviceInstaller.



HINWEIS

On delivery, the devices are set to the IP address 192.168.0.1. For this reason, it is recommended to check whether the device can be reached using this IP address.

Depending on the IP address, the following procedures are possible:

4.1 Procedure for IP address 192.168.0.1 or unknown IP.

The device can be configured using the Lantronix tool „DeviceInstaller“. Go to:

Browser <https://ltrxdev.atlassian.net/wiki/spaces/LTRXTS/pages/106070471/Latest+version+of+DeviceInstaller> (as of 03/31/2022) to download and install the two programs **Microsoft .NET Framework version 2.0** and **Lantronix Device-Installer** (first install Microsoft's .NET Framework version 2.0).

After starting **DeviceInstaller**, the network connected is scanned, and the detected Lantronix ports are displayed and can then be edited.

4.1.1 Procedure for IP address 0.0.0.0

For the Ethernet address 0.0.0.0, access to the module has to be enabled first. (prerequisite: MAC ID known). The MAC ID can be gathered from a label attached to the side of the device, e.g. 00-20-4a-86-c9-91.

However, this procedure only works if the device does not have an IP address yet (0.0.0.0).

1. Connect the network cable to an existing network, or directly connect it to a computer using a crosslink cable.
2. Have the network administrator give you a network address.
3. Open DOS input window (with Start->All Programs->Accessories>Command Prompt).
4. **Connect network address using MAC ID (command arp -s):**

Example:

Input: arp -s 10.66.22.98
00-20-4a-86-c9-91

Input: telnet 10.66.22.98 1

Response:

Establishing connection with
10.66.22.98... Connection to host
could not be established; port 1:
connection could not be estab-
lished

Input: telnet 10.66.22.98 9999
Input: Enter (within 2 seconds)

Response:

MAC address 00204AA6C991
Software version V6.5.0.7
(070919) XPTEXE
Press Enter for Setup Mode
basic parameters
Hardware: Ethernet TPI
IP addr 10.66.22.98,
no gateway set,
netmask 255.255.255.0

Security

SNMP is enabled
SNMP Community Name:
public Telnet
Setup is enabled
TFTP Download is enabled
Port 77FEh is enabled
Web Server is enabled
Web Setup is enabled
ECHO is disabled
Enhanced password is disabled
Port 77F0h is enabled

Channel 1

Baudrate 38400, I/F Mode 7F, Flow
00 Port 08000
Connect Mode: C0
Send ,+++` in Modem Mode enabled
Show IP addr after ,RING` enabled
Auto increment source port dis-
abled
Remote IP ADR: --- none ---,

Port 00000
Disconn Mode: 00
Flush Mode: 80
Pack Cntrl: 20

Expert

TCP Keepalive: 45s
CPU performance: Regular
Monitor Mode @ bootup: enabled
RS-485 tx enable: active low
HTTP Port Number: 80
SMTP Port Number: 25
MTU Size: 1400
Alternate MAC: disabled
Ethernet connection type:
auto-negotiate

*** E-mail

Mail server: 0.0.0.0
Unit:
Domain:
Recipient 1:
Recipient 2:

Trigger 1

Serial trigger input: disabled
Channel: 1
Match: 00,00
Trigger input1: X
Trigger input2: X
Trigger input3: X
Message :
Priority: L
Min. notification interval: 1 s
Re-notification interval : 0 s

Trigger 2

Serial trigger input: disabled
Channel: 1
Match: 00,00
Trigger input1: X
Trigger input2: X
Trigger input3: X
Message:
Priority: L
Min. notification interval: 1 s
Re-notification interval: 0 s

Trigger 3

```

Serial trigger input: disabled
Channel: 1
Match: 00,00
Trigger input1: X
Trigger input2: X
Trigger input3: X
Message:
Priority: L
Min. notification interval: 1 s
Re-notification interval : 0 s
Change Setup:
0 Server
1. Channel 1
2. E-mail
3. Expert
4. Security
5. Defaults
6. Exit without save
7. Save and exit      Your choice
? 0

IP Address : (000) 10.(000)
66.(000) 22.(000) 98
Set Gateway IP Address (N) N
Netmask: Number of Bits for Host
Part (0=default) (0)8
Change telnet config password (N)
N

Change Setup:
0 Server
1 Channel 1
3 E-mail
5 Expert
6 Security
7 Factory defaults
8 Exit without save
Save and exit Your choice ? 1

Baudrate (9600) ? 38400

I/F Mode (4C) ?7F
corresponds to 8 data bits,
parity even, 1 stop bit
Flow (00) ?
Port No (10001) ? 8000
ConnectMode (C0) ?
Remote IP Address: (000).(000).(000).(000)

Remote Port (0) ?
DisConnMode (00) ?
FlushMode (00) ?
DisConnTime (00:00) ?:
SendChar 1 (00) ?
SendChar 2 (00) ?

Change Setup:
0 Server
1 Channel 1
3 E-mail
5 Expert
6 Security
7 Factory defaults
8 Exit without save
9 Save and exit      Your choice
? 9

Parameters stored ...

Connection to host lost.

You can now make changes and save them
with 9. Now it is ready for operation using
the new network parameters.

The settings for the IP address, the default
gateway and the netmask are made under
the menu item 0 Server. The settings for
the serial interface (KBR - energy bus) are
made under the menu item 1 Channel 1
(eBus-Parameter 38400 Baud,
8 Datenbits, Parity even, 1 Stopbit).

```

4.1.2 Menu item 0 Server , setting IP address

IP Address (10) etc.
Example: 10.66.22.98
Set Gateway IP Address (N) ? N Gateway IP addr (0) (0) (0) (0)
Netmask: Number of Bits for Host Part (0=default) (8) Change
telnet config password (N) N
When entering the netmask, observe the following chart:

Network Class	Host Bits	Netmask
A	24	255.0.0.0
B	16	255.255.0.0
C	8	255.255.255.0

4.1.3 Menu item 1 Channel 1, setting of serial interface (KBR eBus)

Baud rate (38400) ? 38400
I/F Mode (7C) ? 7F // the parameters 8 data bits, parity even, 1 stop bit correspond to the 7F coding Flow (00) ?
Port No (10001) ? 8000

All other parameters of this menu item stay the same.!

Change Setup:
0 Server
1 Channel 1
3 E-mail
5 Expert
6 Security
7 Factory defaults
8 Exit without save
9 Save and exit
Your choice ? 9
Parameters stored ...

When entering 9, the changes are saved and accepted.
The multisys 3D2-ESET can now be accessed using the KBR Visual Energy computer software.


4.1.4. Web browser settings

The settings, which can be adjust by the Web Interface, are documented in the following pictures.

Enter the following IP address in your browser page: 192.168.0.1.



Firmware Version: **V6.5.0.7**
 MAC Address: **00-20-4A-AF-10-9B**



Network

Server

Serial Tunnel

Hostlist

Channel 1

Serial Settings

Connection

Email

Trigger 1

Trigger 2

Trigger 3

Configurable Pins

Apply Settings

Apply Defaults

Serial Settings

Channel 1

☐ Disable Serial Port

Port Settings

Protocol: RS485 - 2 wire
 Baud Rate: 38400 Data Bits: 8

Flow Control: None
 Parity: Even Stop Bits: 1

Pack Control

☒ Enable Packing

Idle Gap Time: 12 msec

Match 2 Byte Sequence: ☐ Yes ☒ No
 Match Bytes: 0x00 0x00
(Hex)

Send Frame Immediate: ☒ Yes ☐ No
 Send Trailing Bytes: ☒ None ☐ One ☐ Two

Flush Mode

Flush Input Buffer
 With Active Connect: ☐ Yes ☒ No
 With Passive Connect: ☐ Yes ☒ No
 At Time of Disconnect: ☐ Yes ☒ No

Flush Output Buffer
 With Active Connect: ☐ Yes ☒ No
 With Passive Connect: ☐ Yes ☒ No
 At Time of Disconnect: ☐ Yes ☒ No

OK

Channel 1 settings / Connection.

LANTRONIX[®]

Firmware Version: **V6.5.0.7**
 MAC Address: **00-20-4A-AF-10-9B**

⌂

Network

Server

Serial Tunnel

Hostlist

Channel 1

Serial Settings

Connection

Email

Trigger 1

Trigger 2

Trigger 3

Configurable Pins

Apply Settings

Apply Defaults

Connection Settings

Channel 1

Connect Protocol

Protocol: TCP

Connect Mode

Passive Connection:

Accept Incoming: Yes

Password Required: ☐ Yes ☒ No

Password:

Active Connection:

Active Connect: None

Start Character: 0x02 (in Hex)

Modem Mode: None

Modem Escape Sequence Pass Through: ☒ Yes ☐ No

Show IP Address After RING: ☒ Yes ☐ No

Endpoint Configuration:

Local Port: 8000

☐ Auto increment for active connect

Remote Port: 0

Remote Host: 0.0.0.0

Common Options:

Telnet Com Port Cntrl: Disable

Connect Response: None

Terminal Name:

Use Hostlist: ☐ Yes ☒ No

LED: Blink

Disconnect Mode

On Mdm_Ctrl_In Drop: ☐ Yes ☒ No

Hard Disconnect: ☒ Yes ☐ No

Check EOT(Ctrl-D): ☐ Yes ☒ No

Inactivity Timeout: 0 : 0 (mins : secs)

OK

4.1.5 Box-to-Box operation

In Box-to-Box operation, you can establish a logical permanent network connection between two **multisys D2-ESET -4** serial ports. In this operating mode, there is a permanent online connection between the two serial terminals connected. Possible additional data traffic or other network protocols do not influence the connection. In this operating mode, a permanent TCP connection between the server and client port is established. The server port is acting as a TCP client and thus responsible for opening (after configuration or reset) and closing (after deactivating the „Box-to-Box“ operating mode) tasks.

On the network side, there is only **multisys D2-ESET -4** data traffic using the Box-to-Box connection if serial reference data is available. There is no data traffic exceeding the TCP protocol.

4.1.6 Setting the multisys D2-ESET -4 in server operation

Example: Server IP address 10.66.22.90

Menu 1 Channel 1



NOTE

For the operating mode „Box-to-Box“, only the server port is configured; The client IP address (remote IP address) and client port number (remote port) are only set at the server port!



NOTE

The configuration of the serial interface in the 0 Server sub menu has to be made at both ports.

Input: **telnet 10.66.22.90 9999**

Input: Enter (**within 2 seconds**)

Response:

MAC address 00204AA63735

Software version V6.5.0.7 (070919) XPTEXE Press Enter for Setup Mode

*** basic parameters Hardware: Ethernet TPI

IP addr 10.66.22.90, no gateway set, netmask 255.255.255.0

```
*** Security
SNMP is enabled
SNMP Community Name: public Tel-
net Setup is enabled TFTP Down-
load is enabled Port 77FEh
is enabled
Web Server is enabled
Web Setup is enabled
ECHO is disabled
Enhanced Password is disabled
Port 77F0h is enabled
*** Channel 1
Baudrate 38400, I/F Mode 7F, Flow
00 Port 08000
Connect Mode : C0
Send ,+++` in Modem Mode enabled
Show IP addr after ,RING` enabled
Auto increment source port disa-
bled
Remote IP ADR: --- none ---, Port
00000 DisconnMode : 00
FlushMode : 00
Port No (8000) ?
ConnectMode (C0) ? C3
Start Char: (02) ? 02
Send ,+++` in Modem Mode
(Y) ?
Show IP addr after ,RING` (Y) ?
Auto increment source port (N) ?
Remote IP Address : (000)
10.(000) 66.(000) 22.(000) 98
Client-IP-Adresse
Remote Port (0) ? 8000 Client-Port
DisConnMode (00) ?
FlushMode (00) ? 80
Pack Cntrl (00) ? 20
DisConnTime (00:00) ?00:20
SendChar 1 (00) ?
SendChar 2 (00) ?
Change Setup:
0 Server
1 Channel 1
3 E-mail
5 Expert
6 Security
7 Defaults
8 Exit without save
9 Save and exit
Your choice ? 9
etc.
Change Setup:
0 Server
1 Channel 1
3 E-mail
5 Expert
6 Security
7 Defaults
8 Exit without save
9 Save and exit
Your choice ? 1
Baudrate (38400) ? I/F Mode (7F)
?
Flow (00) ?
```

Enter 9 to save and apply the changes.

4.1.7 Setting the multisys D2-ESET -4 in client operation



NOTE

A description of how to set up the multisys D2-ESET -4 in client operation is given in section 3.2.


4.1.8 Web browser settings

The settings, which can be adjust by the Web Interface, are documented in the following pictures.

Channel 1 settings / Serial settings.


The screenshot displays the LANTRONIX web interface for configuring serial settings. The top header shows the firmware version as V6.6.0.2 and the MAC address as 00-20-4A-B0-46-63. The left sidebar contains a navigation menu with options: Network, Server, Serial Tunnel, Hostlist, Channel 1, Serial Settings (highlighted), Connection, Email, Trigger 1, Trigger 2, Trigger 3, Configurable Pins, Apply Settings, and Apply Defaults. The main content area is titled 'Serial Settings' and is for 'Channel 1'. It includes a 'Disable Serial Port' checkbox, which is currently unchecked. The 'Port Settings' section contains dropdown menus for Protocol (RS485 - 2 wire), Baud Rate (38400), Data Bits (8), Flow Control (None), Parity (Even), and Stop Bits (1). The 'Pack Control' section has a checked 'Enable Packing' checkbox, an 'Idle Gap Time' dropdown set to 12 msec, and radio buttons for 'Match 2 Byte Sequence' (Yes/No) and 'Send Frame Immediate' (Yes/No). The 'Match Bytes' field shows 0x00 (Hex). The 'Send Trailing Bytes' section has radio buttons for None, One, and Two. The 'Flush Mode' section is divided into 'Flush Input Buffer' and 'Flush Output Buffer', each with radio buttons for 'With Active Connect' (Yes/No), 'With Passive Connect' (Yes/No), and 'At Time of Disconnect' (Yes/No). An 'OK' button is located at the bottom right of the settings area.

Channel 1 settings / Connection.



Firmware Version: **V6.6.0.2**

MAC Address: **00-20-4A-B0-46-63**



Network

Server

Serial Tunnel

Hostlist

Channel 1

Serial Settings

Connection

Email

Trigger 1

Trigger 2

Trigger 3

Configurable Pins

Apply Settings

Apply Defaults

Connection Settings

Channel 1

Connect Protocol

Protocol: TCP

Connect Mode

Passive Connection:

Accept Incoming: Yes

Password Required: ☐ Yes ☒ No

Password:

Modem Escape Sequence Pass Through: ☒ Yes ☐ No

Active Connection:

Active Connect: With Start Character

Start Character: 0x02 (in Hex)

Modem Mode: None

Show IP Address After RING: ☒ Yes ☐ No

Endpoint Configuration:

Local Port: 8000

Remote Port: 8000

☐ Auto increment for active connect

Remote Host: 192.168.120.191

Common Options:

Telnet Com Port Cntrl: Disable

Terminal Name:

Connect Response: None

Use Hostlist: ☐ Yes ☒ No

LED: Blink

Disconnect Mode

On Mdm_Ctrl_In Drop: ☐ Yes ☒ No

Check EOT(Ctrl-D): ☐ Yes ☒ No

Hard Disconnect: ☒ Yes ☐ No

Inactivity Timeout: 0 : 20 (mins : secs)

OK

4.1.9 Resetting the multisys D2-ESET -4 from server to client operation

Example: Server IP address 10.66.22.90

To reset a multisys D2-ESET -4 configured as server to client for „normal“ network operation, you have to change the parameter in the 1 Channel 1 menu as follows:

Input: telnet 10.66.22.90 9999

Input: Enter (within 2 seconds)

```

Response:
MAC address 00204AA63735
Software version V6.5.0.7
(070919) XPTXEXE Press
Enter for Setup Mode

*** basic parameters Hardware:
Ethernet TPI
IP addr 10.66.22.90, no gateway
set,netmask 255.255.255.0

*** Security
SNMP is          enabled
SNMP Community Name: public Tel-
net Setup is     enabled TFTP Down-
load is          enabled Port 77FEh
is               enabled
Web Server is    enabled
Web Setup is     enabled
ECHO is          disabled
Enhanced Password is disabled
Port 77F0h is enabled

*** Channel 1
Baudrate 38400, I/F Mode 7F, Flow
00 Port 08000
Connect Mode : C3
Send ,+++` in Modem Mode enabled
Show IP addr after ,RING` enabled
Auto increment source port disa-
bled
Remote IP ADR: 10.66.22.98, Port
08000 Start Char: 02 Disconn Mode
: 00 Disconn Time: 00:20
Flush          Mode : 80 Pack
Cntl           : 20
usw.

Change Setup:
0 Server
1 Channel 1
3 E-mail

5 Expert
6 Security
7 Defaults

8 Exit without save
9 Save and exit
Your choice ? 1

Baudrate (38400) ? I/F Mode (7F)
?
Flow (00) ?
Port No (8000) ? ConnectMode (C3)
? C0
Send ,+++` in Modem Mode (Y) ?
Show IP addr after ,RING` (Y) ?
Auto increment source port (N) ?
Remote IP Address : (010) 0.(000)
0.(000) 0.(000) 0
Remote Port (8000) ? 00000
DisConnMode (00) ?
FlushMode          (80) ?
Pack Cntrl (20)
DisConnTime (00:20) ?00:00
SendChar 1 (00) ?
SendChar 2 (00) ?

Change Setup:
0 Server
1 Channel 1
3 E-mail
5 Expert
6 Security
7 Defaults

8 Exit without save
9 Save and exit
Your choice ? 9

```

4.1.10 Settings with web browser

The settings that can be made using a web browser are documented in the following images.

Settings Channel 1 / Serial Settings.

LANTRONIX®

Firmware Version: **V6.6.0.2**

MAC Address: **00-20-4A-B0-46-35**

⌂

Network

Server

Serial Tunnel

Hostlist

Channel 1

Serial Settings

Connection

Email

Trigger 1

Trigger 2

Trigger 3

Configurable Pins

Apply Settings

Apply Defaults

Serial Settings

Channel 1

☐ Disable Serial Port

Port Settings

Protocol: RS485 - 2 wire

Flow Control: None

Baud Rate: 38400

Data Bits: 8

Parity: Even

Stop Bits: 1

Pack Control

☒ Enable Packing

Idle Gap Time: 12 msec

Match 2 Byte Sequence: ☐ Yes ☒ No

Match Bytes: 0x00 0x00

(Hex)

Send Frame Immediate: ☒ Yes ☐ No

Send Trailing Bytes: ☒ None ☐ One ☐ Two

Flush Mode

Flush Input Buffer

With Active Connect: ☐ Yes ☒ No

With Passive Connect: ☐ Yes ☒ No

At Time of Disconnect: ☐ Yes ☒ No

Flush Output Buffer

With Active Connect: ☐ Yes ☒ No

With Passive Connect: ☐ Yes ☒ No

At Time of Disconnect: ☐ Yes ☒ No

OK

Settings Channel 1 / Connection.

I.O.T Service

Management (M)Setting (C)Help (H)

Serial Config

Config

Status

VirPath

IO Ctrl

Disconnected

SN	DevType	MAC Address	HostName	IP	Position	VirPath	Status	SW Ver
1	E20	F0FE6BBA1BEC	Eport-E20	192.168.121.145	Local		Online	1.20
2	E20	F0FE6BBA1BF0	Eport-E20	192.168.121.142	Local		Online	1.20
3	E20	F0FE6BBA1BED	PK_mmessF96	192.168.121.43	Local		Online	1.34.12
4	E20	F0FE6BBA1BEB	msys_BA1BEB	192.168.121.187	Local		Online	1.34.12

5 Technical Data

5.1 Power supply

Power supply	<10VA; 100 - 240V \pm 10% DC/50/60 Hz
--------------	---

5.2 Electrical Connection

Connection elements		Plug-in terminals
Input control voltage	Fuse	max. 6 A
LAN connection		8P8C modular connector
BUS connection	Connection material	For proper operation, use shielded twisted-pair cables only; e.g. I-Y(St)Y 2x2x0.8
BUS connection multisys D2-ESET/MSMT-4	Pins for BUS connection via RS-485	Device Terminal 90 (L) Terminal 91 (A) Terminal 92 (B)
BUS connection multisys D2-BSET-4		6 pole modular cable, RJ-12 connector: 6P6C max. DC output power: 4 W

5.3 Mechanical data

DIN rail measuring device	Housing dimensions	90 x 36 x 61 mm (H x W x D),
	Mounting type	Wall mounting on DIN rail 7.5 mm deep, in accordance with DIN EN 50022. Suitable for distribution board mounting
	Weight	Approx. 120g

5.4 Standards and miscellaneous

Ambient conditions	Standards	DIN EN 60721-3-3:1995-09 + DIN EN 60721-3-3/A2:1997-07; 3K5+3Z11; (IEC721-3-3;3K5+3Z11)	
	Operating temperature	K55 (-5°C ... +55°C)	
	Air humidity	5% 95%	
	Storage temperature	-25°C ... +70°C	
	Operating height	0 ... 2,000 m above sea level	
Electrical safety	Standards	DIN EN 61010-1:2011-07; DIN EN 61010-2-030:2011-07	
	Protection class	I	
	Overvoltage category	Power supply:	CAT III: 300V
	Rated surge voltage	4kV	
Protection type	Standards	DIN EN 60529:2014-09	
	Terminals	IP 20	

KBR Kompensationsanlagenbau GmbH

Am Kiefernschlag 7
D-91126 Schwabach
Germany

T +49 (0) 9122 6373-0
F +49 (0) 9122 6373-83
E info@kbr.de

www.kbr.de