



Helmholz PN/ModbusTCP Coupler User Guide

[Home](#) » [Helmholz](#) » Helmholz PN/ModbusTCP Coupler User Guide 

Contents

1	Helmholz PN/ModbusTCP Coupler User Guide
2	1 Safety instructions
2.1	Target audience
2.2	Intended use
2.3	Operation
2.4	Security
3	2 Introduction
4	3 Function of the PN/ModbusTCP Coupler
5	4 Connection
5.1	4.1 Power supply
6	4.2 Network
7	5 Install GSDML file
8	6 Data exchange concept
8.1	Discrete Inputs (PLC writes only):
8.2	Coils (read/write):
8.3	Input Register (PLC writes only):
8.4	Holding Registers (read/write):
9	6.1 Example of a configuration
10	6.2 Supported ModbusTCP function codes
11	6.2 Supported ModbusTCP function codes
12	7 Configuration in the TIA-Portal
13	7.1 Parameters of the PN/ModbusTCP Coupler
14	7.3 Assign a PROFINET device name to the PN/ModbusTCP Coupler
15	8 Status and control via PLC program
16	9 Web interface of PN/ModbusTCP Coupler
17	10 MQTT Publisher
18	10.1 MQTT Publisher Settings
19	10.2 MQTT data format
20	11 Firmware update
21	12 Resetting to factory settings
22	13 Technical data
23	14 LED status information
24	Read More About This Manual & Download PDF:
25	Documents / Resources
25.1	References
26	Related Posts

Helmholz PN/ModbusTCP Coupler User Guide



1 Safety instructions

Target audience



CAUTION

This description is only intended for trained personnel qualified in control and automation engineering who are familiar with the applicable national standards. For installation, commissioning, and operation of the components, compliance with the instructions and explanations in this operating manual is essential. The specialist personnel is to ensure that the application or the use of the products described fulfills all safety requirements, including all applicable laws, regulations, provisions, and standards.

Intended use



WARNING

The device has a protection rating of IP 20 (open type) and must be installed in an electrical operating room or a control box/cabinet in order to protect it against environmental influences. To prevent unauthorized operation, the doors of control boxes/cabinets must be closed and possibly locked during operation. The consequences of improper use may include personal injury to the user or third parties, as well as property damage to the control system, the product, or the environment. Use the device only as intended!.

Operation



ATTENTION

Successful and safe operation of the device requires proper transport, storage, setup, assembly, installation, commissioning, operation, and maintenance. Operate the device only in flawless condition. The permissible operating conditions and performance limits (technical data) must be adhered to. Retrofits, changes, or modifications to the device are strictly forbidden.

Security



ATTENTION The device is a network infrastructure component and therefore an important element in the security consideration of a plant. When using the device, therefore, observe the relevant recommendations to prevent unauthorized access to installations and systems.]

2 Introduction



ATTENTION This document explains the initial commissioning of the PN/ModbusTCP Coupler. The latest version of the document and a detailed manual can be found at www.helmholz.de or scan the QR code directly.



3 Function of the PN/ModbusTCP Coupler

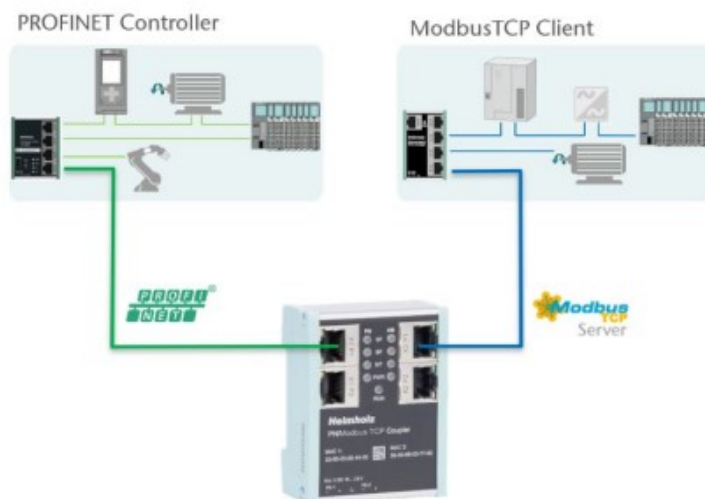
With the PN/ModbusTCP Coupler a simple and uncomplicated connection of a PROFINET network with a ModbusTCP network is possible. The PN/ModbusTCP Coupler allows the data transfer between a PROFINET controller and ModbusTCP stations.

Received input data on one of the network sides is made available as output data to the other network side. The IO data transfer takes place live and as quickly as possible without additional handling blocks.

The maximum size of the transmitted data is 1024 bytes of input/output data. Up to 300 slots for IO modules are available.

The integration into the PLC engineering tool is made possible by a GSDML file; special configuration software isn't necessary.

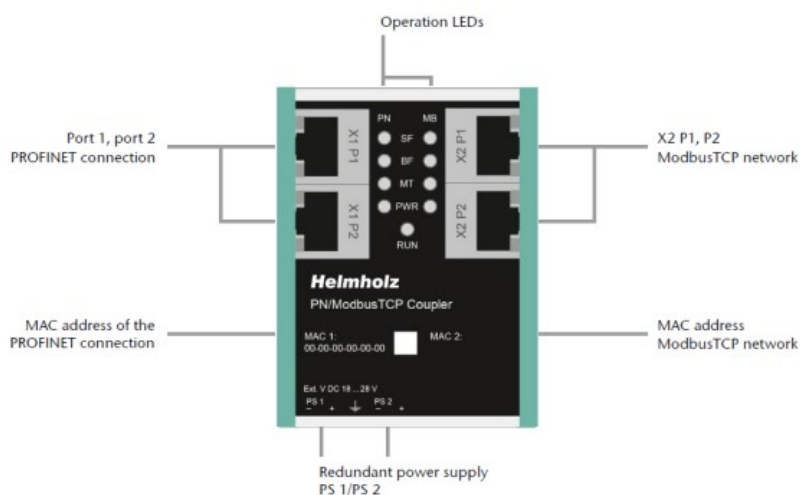
In addition to the PROFINET / ModbusTCP communication, the PN/ModbusTCP Coupler also makes an MQTT Publisher available on both network sides. In this way, the values exchanged via the gateway can also be distributed via MQTT to visualization or operating data recording systems.



4 Connection

4.1 Power supply

The PN/ModbusTCP coupler must be supplied with DC 24 V at the wide-range input DC 18 ... 28 V via the supplied connector plug. The power supply is redundant, at least one supply path PS 1 or PS 2 must be connected.



WARNING The housing of the PN/PN Coupler is not grounded. Please connect the functional earth terminal of the PN/PN Coupler properly to the reference potential.



WARNING The device is intended to be supplied by an isolated Limited Energy Source according to UL61010-1 (3rd ed cl. 9.4) or according to UL60950-1/UL62368-1 or Class 2 according to NEC. Please use Cu power supply wires, AWG 28-12. Maximum length of removed insulation is 10 mm. Temperature cable rating is 87 °C.

4.2 Network

The left RJ45 sockets "X1 P1" and "X1 P2" are used to connect the PROFINET network, the right RJ45 sockets

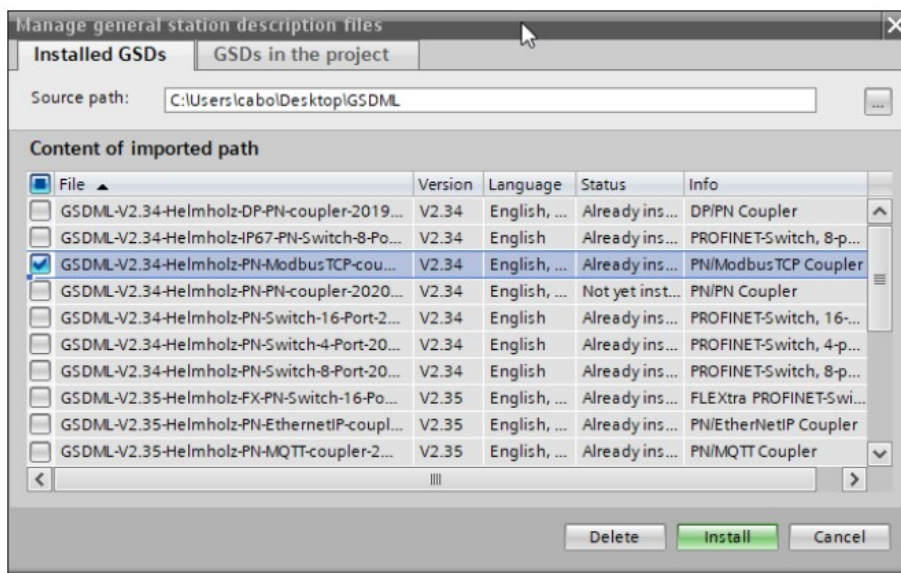
“X2 P1” and “X2 P2” are used to connect the ModbusTCP network. The ports X1 P1 and X1 P2, as well as X2 P1 and X2 P2 are each internally connected to a switch.

The ETHERNET connections are only intended for connection to computer networks (LANs) and must not be connected to telephone networks or telecommunication lines. The unit is to be connected only to internal Ethernet networks without exiting a facility and being subjected to TNVs.

The interfaces X1 and X2 are logically separate networks and not physically connected. Thus, there is a clear separation between the PROFINET network and the ModbusTCP network. A network penetration with other functions by the PN/MQTT coupler is not possible. The configured values are exchanged in the PN/ModbusTCP Coupler only as IO data between both network sides.

5 Install GSDML file

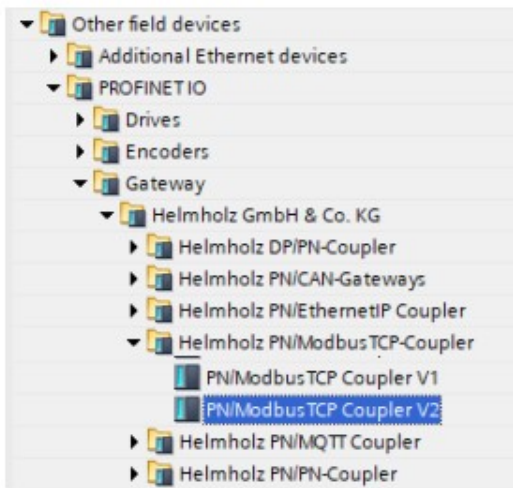
Please download the GSDML file (“GSDML-V2.34-Helmholz-PN-ModbusTCP-coupler- xml”) at www.helmholz.de or scan the QR code. Install the GSDML file in the “Tools” “Manage device description file (GSD)” menu in the TIA Portal.



The PN/MQTT Coupler can be found in the hardware catalog at “Other field devices / PROFINET IO / Gateway / Helmholz GmbH & Co. KG”.

For the PN/ModbusTCP coupler with order number 700-159- 3MB02 select the “PN/ModbusTCP Coupler V2”.

For the PN/ModbusTCP coupler with order number 700-159- 3MB01 select the “PN/ModbusTCP Coupler V1”.



6 Data exchange concept

The PN/ModbusTCP Coupler is a ModbusTCP server. It receives data via ModbusTCP, which is transferred to the IO image of the PROFINET PLC (inputs in the PLC) and provides data, which it receives from the PROFINET PLC (outputs in the PLC).

ModbusTCP distinguishes 4 different data types:

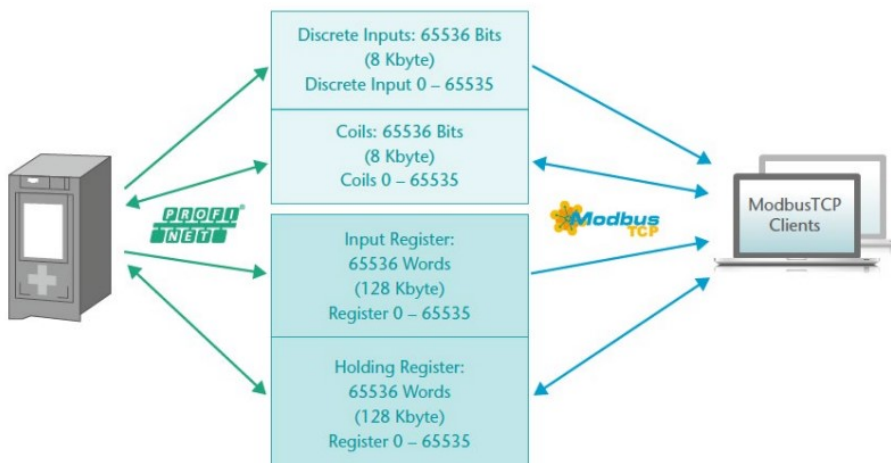
Discrete Inputs: Input bits; written by the PROFINET PLC

Coils: Output bits or internal data bits, are read by the PROFINET PLC, but can also be written

Input Register: Input word; written by the PROFINET PLC

Holding Register: Output word or internal data word; are read by the PROFINET PLC but can also be written

All data types are numbered from 0-65535. All data types have their own memory area in the PN/ModbusTCP coupler:



From the point of view of ModbusTCP communication, all coils, inputs and registers are always available in the PN/ModbusTCP coupler. So it is always possible to access all data types from address 0-65535. Via the PROFINET configuration the ModbusTCP data can be assigned to the PLC I/O image in the slots, which are required in the PLC program. Up to 300 slots are available in the PN/ModbusTCP coupler for such assignments. The following modules are available to access the ModbusTCP memory:

Discrete Inputs (PLC writes only):

- Write Discrete Inputs 1 – 32 Bytes (8 – 256 Bits)

Coils (read/write):

- Write Coils 1 – 16 Bytes (8 – 128 Bits)
- Read Coils 1 – 16 Bytes (8 – 128 Bits)

Input Register (PLC writes only):

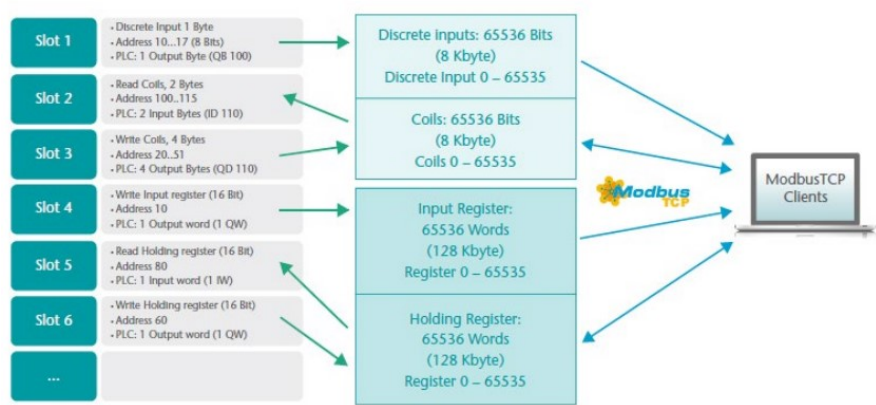
- Write Input Register (16 Bit)

Holding Registers (read/write):

- Write Holding Register (16 Bit)
- Read Holding Register (16 Bit)

All modules have as **parameter** the register number (Input Register, Holding Register) or the first bit address (Discrete Inputs, Coils).

6.1 Example of a configuration



6.2 Supported ModbusTCP function codes

The PN/ModbusTCP Coupler supports the following function codes:

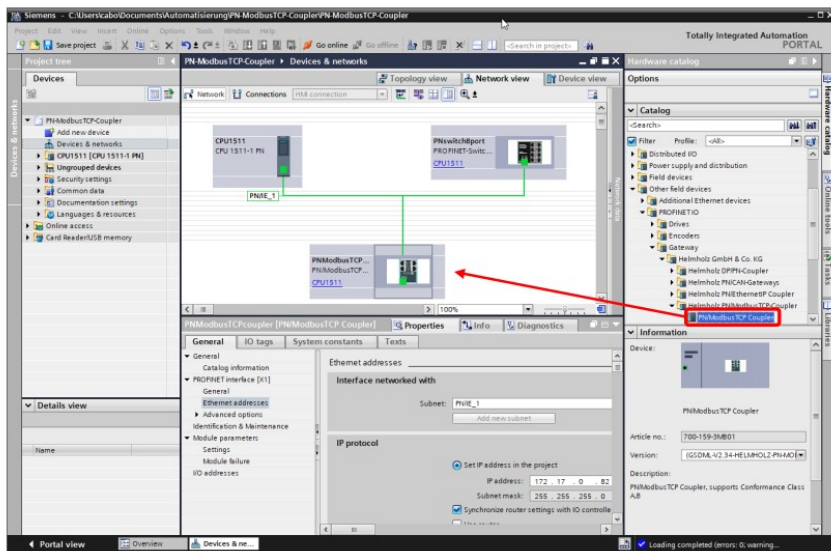
Data size	Data range	Function	Function code decimal	Function code hex
Bit access	Input bits	Read discrete inputs	2	0x02
		Read coils	1	0x01
	Output bits or internal bits	Write single coil	5	0x05
		Write multiple coils	15	0x0F
16 bit access	Input data	Read input register	4	0x04
		Read holding register	3	0x03
	Output data or internal information	Write single holding register	6	0x06
		Write multiple Register	16	0x10
		Read/write multiple holding registers	23	0x17
		Mask write holding register	22	0x16

6.2 Supported ModbusTCP function codes

The PN/ModbusTCP Coupler supports the following function codes:

7 Configuration in the TIA-Portal

Add the PN/ModbusTCP coupler to the project and connect the coupler to the PROFINET network.



Assign a device name and check the IP address on the PROFINET network (X1) for the device.

7.1 Parameters of the PN/ModbusTCP Coupler

The parameterization of the PN/ModbusTCP Coupler can be done completely via the PROFINET hardware configurator. However, some parameters for the ModbusTCP network (X2) can optionally also be set via the web page, e.g. the IP address of the ModbusTCP server or the DHCP host name.

ModbusTCP IP-address mode: Setting the IP address for the ModbusTCP network. Selectable are “DHCP”, “Static IP”, “use IP from the web page setting”.

Static IP address: If the address mode is set to “Static IP”, the static IP address can be specified here.

Static IP subnet mask: If the address mode is set to “Static IP”, the subnet mask can be specified here.

DHCP hostname mode: The host name of the device can be set in the PROFINET configuration or on the web page.

DHCP hostname: DHCP name of the device. DHCP names must begin with a letter, end with a letter or digit, and contain only letters, digits, and hyphens.

ModbusTCP port: Port on which the ModbusTCP driver listens. Port 502 is always active, even if another port is

set here.

Connection watchdog time (ms): Time in which a ModbusTCP connection is closed when there is no more communication over that connection. Range: 1 – 65535 ms

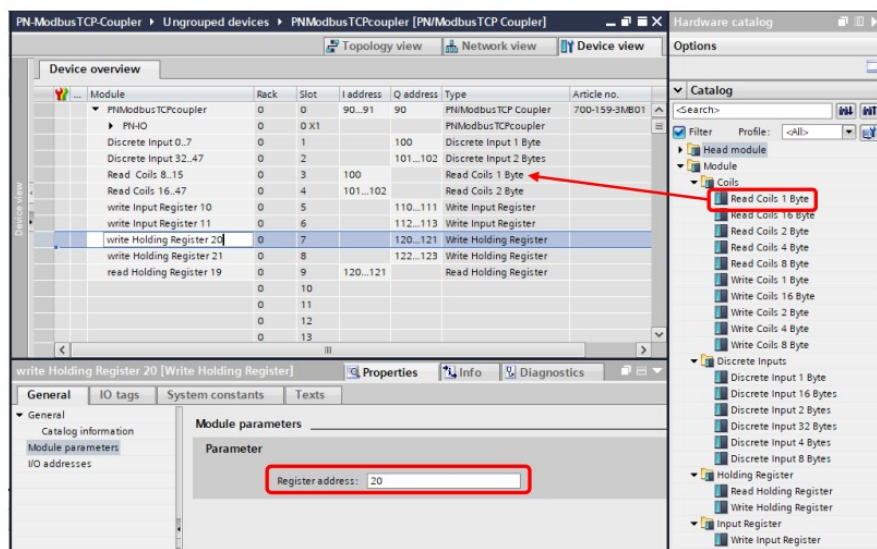
Maximum ModbusTCP connections: Maximum number of nodes that can establish simultaneous connections with the PN/ModbusTCP coupler.

Register for PROFINET-Status: Number of the register from which the status of the PN/ModbusTCP coupler can be read out via ModbusTCP. Range 0-65535

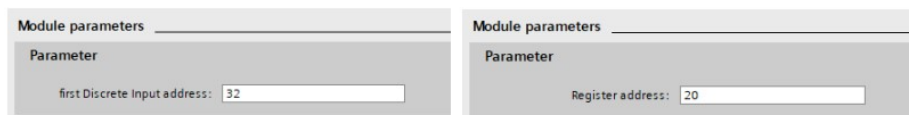
Status Webpage: On which network interfaces should the web page be displayed.

MQTT Publisher Option: On which network interfaces should the MQTT Publisher be activated (see Chap. 10).

Diagnostic at PS1/PS2 failure: In case of power supply failure at PS1/PS2 a diagnosis is sent to the PLC.



All modules have as **parameter** the **register number** (Input Register, Holding Register) or the first **bit address** (Discrete Inputs, Coils). For the Input Bits and Coils from 8 bits (1 byte) up to 256 bits (32 bytes) can be addressed together in one slot.



Addressing of single bits is not possible via the PROFINET PLC, the smallest amount is a byte (8 Bits). However, the bit address can start at any position in the address space of the coils or discrete inputs, so it does not have to be divisible by 8.

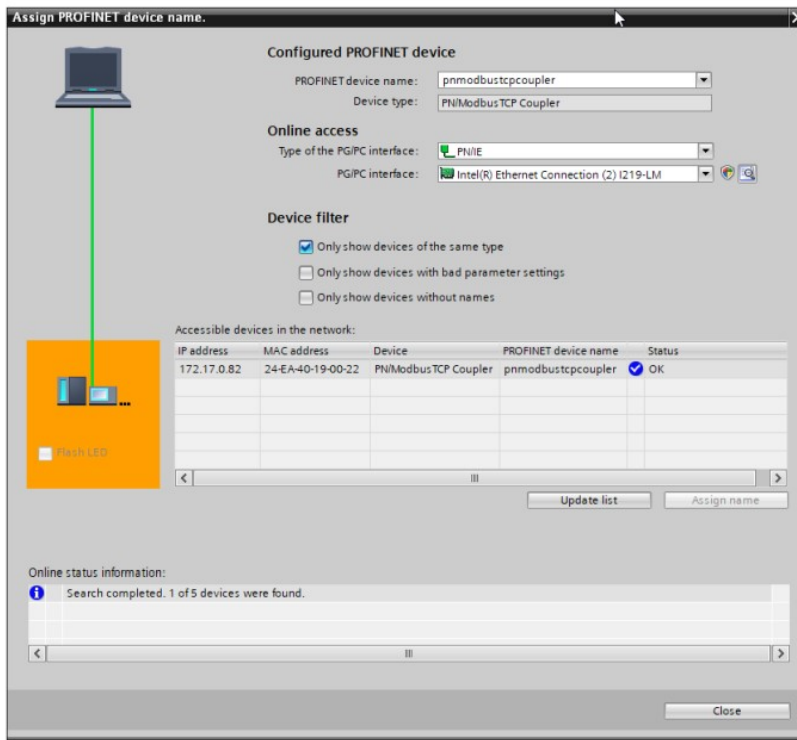


NOTE Access to the same memory area by two modules is not permitted. There must be no gap in the configuration of the slots.

7.3 Assign a PROFINET device name to the PN/ModbusTCP Coupler

When the configuration of the PN/ModbusTCP Coupler in the hardware configurator of the engineering tool is completed, it can be imported into the PLC.

In order that the PN/ModbusTCP Coupler can be found by the PROFINET controller, the PROFINET device name must be assigned to the PN/ModbusTCP Coupler. For this use the function “Assign device name” which you can reach with the right mouse button or in the menu Online if the PN/ModbusTCP Coupler is selected. With the “Update list...” button, the network can be browsed for PROFINET participants. The PROFINET device name can be assigned to the device with “Assign name”.



The unique identification of the PN/ModbusTCP Coupler in the PROFINET network is guaranteed by the MAC address of the device. The PROFINET MAC address can be read on the front panel of the PN/ModbusTCP coupler on the left side at X1 ("MAC 1").

If the PN/ModbusTCP Coupler has received the correct PROFINET name, then it is recognized and configured by the PLC. If the configuration is correct, the PROFINET "BF" LED should be off.

To set the PROFINET name, you can also use the Helmholz IPSet tool, which can be downloaded free of charge from the Helmholz website. Scan the following QR code to download the IPSet tool:



8 Status and control via PLC program

The PN/ModbusTCP Coupler provides a status and a control byte via the PROFINET input image.

Status Byte 1: Status-Bits

7	6	5	4	3	2	1	0
PROFINET configuration completed. D evice is ready to operate.	–	Power suppl y detected o n PS 1 (left)	Power suppl y detected o n PS 2 (left)	MQTT connection on network X1active	MQTT connection on network X1active	ModbusTCP network has an a ctive IP address (static or obtained via DHCP)	Network c able detect ed

Status byte 2: Number of active connections

Control byte 1: Control Bits

7	6	5	4	3	2	1	0
–	–	–	–	–	–	ModbusTCP memo ry reset (coils, inpu ts, and registers)	Disconnect all Mod busTCP connections and pr event connection establishment

The PN/ModbusTCP coupler starts after successful PROFINET configuration and is immediately in operation after PLC RUN. A further release via PLC program is not necessary. If the automatic start is not desired, the PN/ModbusTCP coupler can be prevented from starting independently by setting bit 0 to 1 in the control byte during PLC startup. If the bit is later set to 0 in the PLC, the PN/ModbusTCP coupler is immediately ready for operation.

9 Web interface of PN/ModbusTCP Coupler

The web interface of the PN/ModbusTCP coupler provides an overview of the status and the configuration of the device, as well as the possibility to perform a firmware update.

Furthermore, the ModbusTCP configuration can be set in the web interface, if this is not specified by the PROFINET configuration. When accessing the web interface for the first time, a password must be set for the

default user “admin”. The password can be adjusted subsequently in the “Account” menu.

It's the first time you're accessing the webpage. Please set the password.

New password must be at least 8 characters long.

Login	<input type="text" value="admin"/>
New password	<input type="text" value="New password"/>
Repeat password	<input type="text" value="Repeat password"/>

The “Overview” web page shows the current settings and status. In the upper line there is the menu for further web pages.

PN/ModbusTCP
COUPLER

Helmholz
COMPATIBLE WITH YOU

OverviewModule configModbusTCPMQTTAccountTLS certificatesFirmware upgrade

Overview

PN Configuration X1

Device name	gmmdbustcpcoupler
Operating mode	Connected
LEDs	SF ● BF ● MT ● PWR ●
MAC address	24 ea 40 19 00 22
IP address	172.17.0.62
Port 1 status	Link up, 100 MB/FD
Port 2 status	Link down, -/-
MQTT publisher	Off

ModbusTCP Configuration X2

Mode	Modbus server
Operating mode	Connected
LEDs	SF ● BF ● MT ● PWR ●
MAC address	00:25:50:01:97:46
IP address	192.168.128.112
Port 1 status	Link up, 100 MB/FD
Port 2 status	Link down, -/-
MQTT publisher	On

Software

Firmware version	V1.00.110
Linux kernel version	4.9.4
License terms	pn-mb-coupler-licenses.txt

Hardware

Serial Number	50019746
Order Number	700-159-3MB01
Hardware Revision	HW1-1

Calling the website may influence the transmission performance of the PN/ModbusTCP Coupler

The “Module config” page shows the IO modules defined by the PROFINET configuration. On the ModbusTCP page the data type and the address are also indicated. The current value is displayed in brackets

PN/ModbusTCP
COUPLER

Overview

Module config

ModbusTCP

MQTT

Module Configuration

PN Configuration X1		ModbusTCP Configuration X2
Slot#: 0	IN 2 Bytes (3000)/OUT 1 Byte (00)	Control Register (00)/Status Register (3000)
Slot#: 1	OUT 1 Byte (00)	Discrete Input - Address 0 (00)
Slot#: 2	OUT 2 Bytes (0000)	Discrete Input - Address 32 (0000)
Slot#: 3	IN 1 Byte (00)	Coils - Address 8 (00)
Slot#: 4	IN 2 Bytes (0000)	Coils - Address 0 (0000)
Slot#: 5	OUT 2 Bytes (0000)	Input Register - Address 10 (0000)
Slot#: 6	OUT 2 Bytes (0000)	Input Register - Address 11 (0000)
Slot#: 7	OUT 2 Bytes (0000)	Holding Register - Address 20 (0000)
Slot#: 8	OUT 2 Bytes (0000)	Holding Register - Address 0 (0000)
Slot#: 9	IN 2 Bytes (0000)	Holding Register - Address 0 (0000)
Slot#: 10	Not configured	Not configured
Slot#: 11	Not configured	Not configured

On the web page “ModbusTCP server settings” the IP address and the DNS name of the ModbusTCP network interface can be set, as far as these were not fixed by the GSDML configuration.

Overview

Module config

ModbusTCP

MQTT

Account

TLS certificates

Firmware upgrade

ModbusTCP server settings

Note: Some settings may be disabled due to PROFINET configuration

Address

Mode

☐ DHCP
 ☒ Static

DHCP - Hostname

PNModbusTCPcoupler

New IP address

192.168.128.112

New netmask

255.255.0.0

New gateway

192.168.2.250

Update settings

Parameters

Listening port

502

Maximum number of connected clients

5

Client connection watchdog [ms]

10000

PROFINET-status register address (input register)

65535

10 MQTT Publisher

The PN/ModbusTCP Coupler provides besides the PROFINET / ModbusTCP communication also a MQTT Publisher. MQTT is a widely used and simple protocol for distributing information in large networks. For all IO modules defined in the PROFINET configuration, the current values can now be sent by the PN/ModbusTCP coupler via MQTT when the value changes.

The MQTT Publisher can be activated either on the PROFINET network side (X1) or on the ModbusTCP network side (X2), depending on which network side the data is required or where the MQTT Broker is installed. The MQTT Publisher cannot work on both network sides at the same time

Since MQTT works slower than the priority PROFINET/Modbus TCP communication, it may be that not all value changes are transmitted via MQTT, but always only the last value state

10.1 MQTT Publisher Settings

To be able to distribute data via MQTT in a network, an MQTT broker is always required. The broker can run anywhere in the network. The settings of the MQTT publishers can be specified separately for the two network sides on the website under “MQTT”.

OverviewModule configModbusTCPMQTTAccountTLS certificatesFirmware upgrade

ModbusTCP server settings

Note: Some settings may be disabled due to PROFINET configuration

Address

Mode

DHCP

Static

DHCP - Hostname

PNModbusTCPCoupler

New IP address

192.168.128.112

New netmask

255.255.0.0

New gateway

192.168.2.250

Update settings

Parameters

Listening port

502

Maximum number of connected clients

5

Client connection watchdog [ms]

10000

PROFINET-status register address (input register)

65535

- ClientID: The name of the MQTT publisher
- Username / Password: Optional username and password to login to the MQTT broker
- Broker IP address: IP address of the MQTT broker
- Broker TCP port: MQTT port on the MQTT broker
- Keep alive (seconds): MQTT connection monitoring during inactivity

The MQTT Publisher of the PN/ModbusTCP Coupler does not provide encryption!

10.2 MQTT data format

Each configured slot sends its own MQTT message. An MQTT message consists of the topic name and the actual data value (payload). Both are usually transmitted in plain text format. The data is transmitted as hexadecimal bytes for coils and discrete inputs or as a 16-bit decimal number for holding registers and input registers.

The topic name is formed depending on which network – PROFINET (X1) or ModbusTCP (X2) – the MQTT Publisher is activated on

	PROFINET network:	ModbusTCP network:
Module	MQTT Topic Name	MQTT Topic Name
Write discrete inputs	PN-ClientID/Slot X/Output, Y bytes (1 to 32 bytes)	ModbusTCP-ClientID/Discrete Inputs/Address X, Y Bytes (1 to 32 bytes)
Read Coils	PN-ClientID/Slot X/Input, Y bytes (1 to 16 bytes)	ModbusTCP-ClientID/Coils /Address X, Y Bytes (1 to 16 bytes)
Write Coils	PN-ClientID/Slot X/Input, Y bytes (1 to 16 bytes)	ModbusTCP-ClientID/Coils /Address X, Y bytes (1 to 16 single bytes)
Read holding register	PN-ClientID/Slot X/Output (2 byte decimal value)	ModbusTCP-ClientID/Holding Register/Register X (2 byte decimal value)
Write holding register	PN-ClientID/Slot X/Output (2 byte decimal value)	ModbusTCP-ClientID/Holding Register/Register X (2 byte decimal value)
Write input register	PN-ClientID/Slot X/Output (2 byte decimal value)	ModbusTCP-ClientID/Input Register/Register X (2 byte decimal value)
Example	PN_MQTT/Slot 1/Input, 3 bytes 0x12 0x23	MODBUS_MQTT/Coils/Address 49, 2 bytes 0x12 0x34
	PN_MQTT/Slot 5/Output 12345	MODBUS_MQTT/Holding Register/Register 10 12345

On both network interfaces the following MQTT topics can be read additionally:

“ClientID/Modules List”: Contains the list of all topics provided by the PN/ModbusTCP coupler via the addressed

interface.

“ClientID/Status Register”: Contains the value of the two status bytes.

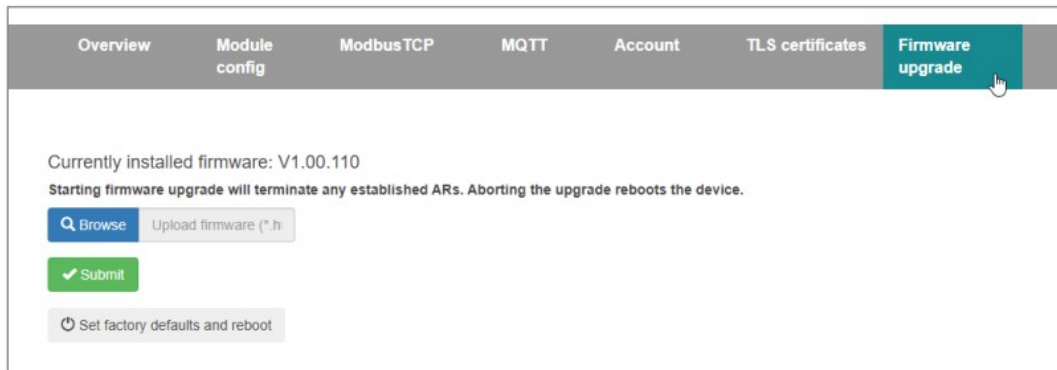
11 Firmware update

The firmware of the PN/ModbusTCP Coupler can be updated very easily via the website.

You can get the firmware from the Helmholz website with the following link: <http://www.helmholz.de/goto/700-159-3MB01#tab-software>

The firmware file can be recognized by the file extension “HUF” (Helmholz Update File) and is encrypted to protect it from modification.

A firmware update can be performed via the web interface on the “Firmware upgrade” page.



The screenshot shows a web interface with a navigation bar at the top containing links: Overview, Module config, ModbusTCP, MQTT, Account, TLS certificates, and Firmware upgrade (which is highlighted in teal). Below the navigation bar, the main content area displays the following information:

- Currently installed firmware: V1.00.110
- Starting firmware upgrade will terminate any established ARs. Aborting the upgrade reboots the device.
- A "Browse" button (blue with a magnifying glass icon) next to the text "Upload firmware (*.h)".
- A green "Submit" button with a checkmark icon.
- A "Set factory defaults and reboot" button with a power icon.

With the button “Browse” the firmware can be selected. With the button “Submit” the firmware is transferred to the PN/ModbusTCP coupler and burned. Afterwards the PN/ModbusTCP coupler executes a reboot, and the new firmware is active.

During the update process the operation of the PN/MQTT Coupler is interrupted. Do not switch off the device during the update process!

12 Resetting to factory settings

Resetting the PN/ModbusTCP Coupler to factory settings can be done via the web page or via the PROFINET function.

When resetting the PN/ModbusTCP coupler, the configuration is irretrievably deleted, and the settings are reset to the factory defaults. The firmware remains at the current status.

To reset via the website, use the button on the “Firmware upgrade” page:

To reset the PN/ModbusTCP Coupler, the Helmholz tool “IPSet” can also be used via the PROFINET network.

13 Technical data

Order no.	700-159-3MB02
Article designation	PN/ModbusTCP Coupler
PROFINET interface (X1)	

Connection	2x RJ45, integrated switch
Protocol	PROFINET IO Device as defined in IEC 61158-6-10
Transmission rate	100 Mbit/s full duplex
I/O image size	Up to 1024 Byte of input and output data
Number of configurable slots	300
Features	PROFINET Conformance Class B, media redundancy (MRP-Client), automatic addressing, Topology detection (LLDP, DCP), diagnosis alarms
MQTT interface (X2)	
Connection	2x RJ45, integrated switch
Protocol	ModbusTCP Server
Transmission rate	10/100 Mbit/s, full-/half duplex
Storage size	65536 Coil Bits, 65536 Discrete Input Bits, 65536 Input Register, 65536 Holding Register
Supported function codes	1, 2, 3, 4, 5, 6, 15, 16, 22, 23
Status indicator	9 LEDs function status, 8 LEDs Ethernet-status

Voltage supply	DC 24 V (18 – 28 V DC)
Current draw	max. 210mA
Power dissipation	max. 5 W
Dimensions (D x W x H)	32,5 x 58,5 x 76 mm
Weight	approx. 135 g
Certifications	PROFINET Conformance Class B
Protection rating	IP 20 (<i>not evaluated by UL</i>)
Relative humidity	95% non-condensing
Mounting position	any
Ambient temperature	0° C to 60° C
Transport and storage temperature	-20° C to 80° C
UL	UL 61010-1 / UL 61010-2-201
Power supply	DC 24 V (18 ... 28 VDC, SELV and limited energy circuit)
Pollution degree	2

Altitude	Up to 2000m
Temperature cable rating	87 °C

14 LED status information

	X1 PROFINET (left side)	X2 MQTT network (right side)
SF (red)		
Off	Configuration correct	Configuration correct
On	There is no configuration, the configuration does not agree with the configuration on the right side (X2), or a diagnosis exists.	PROFINET side not configured or failed
Flashing	PROFINET function "LED flashing" for finding the device is executed	—
BF (red)		
Off	The device is configured	The device is configured

On	The device has no configuration, the PROFINET device name is incorrect, or there is no connection with the PROFINET controller	No Ethernet cable plugged in or no Ethernet connection
Flashing	PROFINET function “LED flashing” for finding the device is executed	–
MT (yellow)		
Flashing	A firmware update is being carried out	A firmware update is being carried out
Flashing with SF and BF	PROFINET function “LED flashing” for finding the device is being carried out	–
PWR (green)		
On	PS1 Power supply present	PS2 Power supply present
RUN (green)		
Off	Firmware or device defective. Please contact Support	
On	The device is ready to operate	
RJ45 LEDs	X1 P1/P2 und X2 P1/P2	

Green (Link)	Connected
Orange (Act)	Data transfer at the port active

The contents of this Quick Start Guide have been checked by us so as to ensure that they match the hardware and software described. However, we assume no liability for any existing differences, as these cannot be fully ruled out. The information in this Quick Start Guide is, however, updated on a regular basis. When using your purchased products, please make sure to use the latest version of this Quick Start Guide, which can be viewed and downloaded on the Internet from www.helmholz.de.

Our products contain open source software, among others. This software is subject to the respectively relevant license conditions. We can send you the corresponding license conditions, including a copy of the complete license text together with the product. They are also provided in our download area of the respective products under www.helmholz.de. We also offer to send you or any third party the complete corresponding source text of the respective open source software for an at-cost fee of

10.00 Euro as a DVD upon request. This offer is valid for a period of three years, starting from the date of product delivery.


Our customers are important to us, we are happy to receive suggestions and ideas for improvement. If you have any questions regarding the use of the product, please contact Helmholz Support by phone or send an e-mail to support@helmholz.de.

All trademarks shown or mentioned in this document are the property of their respective owners or manufacturers.

The representation and naming serve exclusively to explain the use and setting options of the products documented here.

Read More About This Manual & Download PDF:

Documents / Resources

	Helmholz PN/ModbusTCP Coupler [pdf] User Guide PN ModbusTCP Coupler, ModbusTCP, Coupler
---	--

References

- [H Helmholz – Compatible with you | Automatisierungstechnik](#)

- [H PROFINET Koppler](#) | [PROFINET](#) | [Feldbusanwendungen](#) | [Produkte](#) | [Helmholz – Compatible with you](#)
| [Automatisierungstechnik](#)

Manuals+.