

G4202TCP

InHome with phone firmware

G.hn Wave2 Bridge
for home network
via telephone cable

with PoE/PoE+ supply of end devices

Instruction manual

Version 1.3
November 2023

For more information and purchase requests
contact info@gigacopper.net

2. Scope of delivery

- G4202TCP Bridge
- Bracket for wall mounting
- RJ11/RJ11 telephone cable 1.5m
- *Only in DE:* TAE-F/RJ11 Adapter

3. Specifications

- Dimensions (WxDxH): 107 x 77 x 38 mm
- Weight: 0.38 kg
- Operating temperature: -10°C - 45°C
- Enclosure Rating: IP30
- PoE/PoE+: 802.3af/at, PSE power 2x 15.4/30W
- Power consumption: <4W (without PoE output)

4. G.hn specification

- G.hn Wave2, 2-200 MHz
- Connection type: 1 wire pair (SISO), 2-200 MHz
- Physical bandwidth (PHY): approx. 1800 Mbit/s
- Net width: approx. 1500 Mbit/s
- Automatic distribution of bandwidth between all connected G.hn modems
- Maximum allowable attenuation of the cable connection: 75dB

1. Introduction

With the G.hn Bridge G4202T CP, you can easily set up a **local network** via existing telephone cables and at the same time supply the **PoE/PoE+** compatible end devices (access points, IP cameras, IP telephones, etc.) with power according to the 802.3af/at standard (2x 30W).

The G4202TCP modem is powered by a USB-C PD3.0 power supply with up to 90W power.

The modems are "multipoint" capable. Up to 16 devices can be used on a 2-wire telephone line. Each modem communicates directly with all others in the G.hn network ("peer-to-peer").

The G4201TM, G4202T, G4202TCP (with PoE/PoE+) and G4204T-W (with WLAN) models are compatible with each other and can be combined in the network as desired.

Any type of cable can be used for data transmission – both twisted pair and non-twisted pair, the net bandwidth is up to approx. 1500 Mbit/s, depending on the cable length. This bandwidth is shared between all connected modems.

5. Connections



Panel and LED description

Lettering	Description
5-20V/1-5A USB-PD	USB-C Power Delivery 3.0 power connector, max. 90W
LINE	G.hn connection (telephone or coax, use according to firmware)
G1, G2 PoE/PoE+ OUT	2x 1 Gigabit Ethernet port with PoE/PoE+ supply
PWR LED	Indicates power availability
LINE LED	Status of the G.hn connection (green – OK, yellow – weak signal, off – no connection)
G1/G2 LED	Right: Status Ethernet connection Left: Status PoE supply
RST	Recessed reset button (15 sec.)

6. Compatible modems

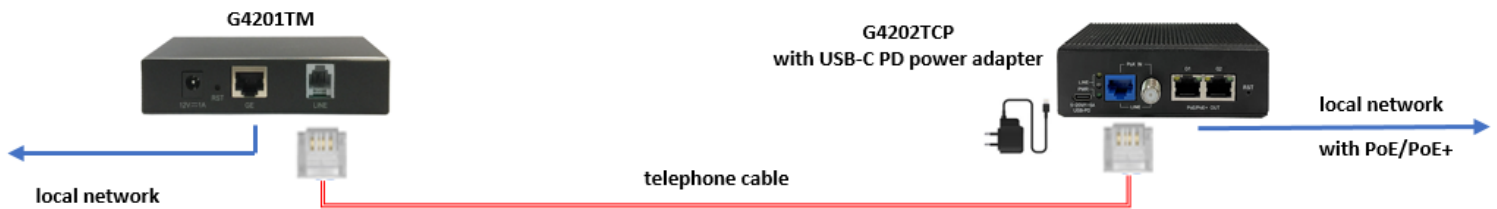
Models G4201TM (1x GE), G4202T (2x GE + analog phone), G4202TCP (2x GE with PoE/PoE+) and G4204T-W (4x GE and WLAN) are compatible with each other, they can be combined in the network as desired.



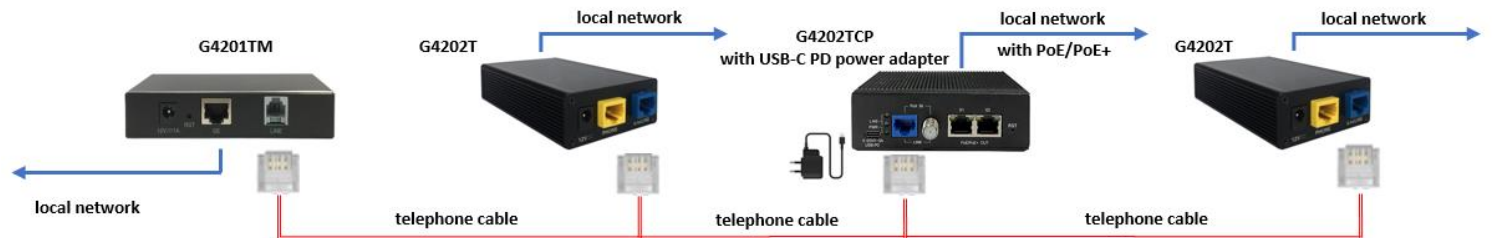
7. Use for home networking (local network after the router)

All types of wiring are possible: "point-to-point", "star-shaped" and "in series", even the combinations thereof.

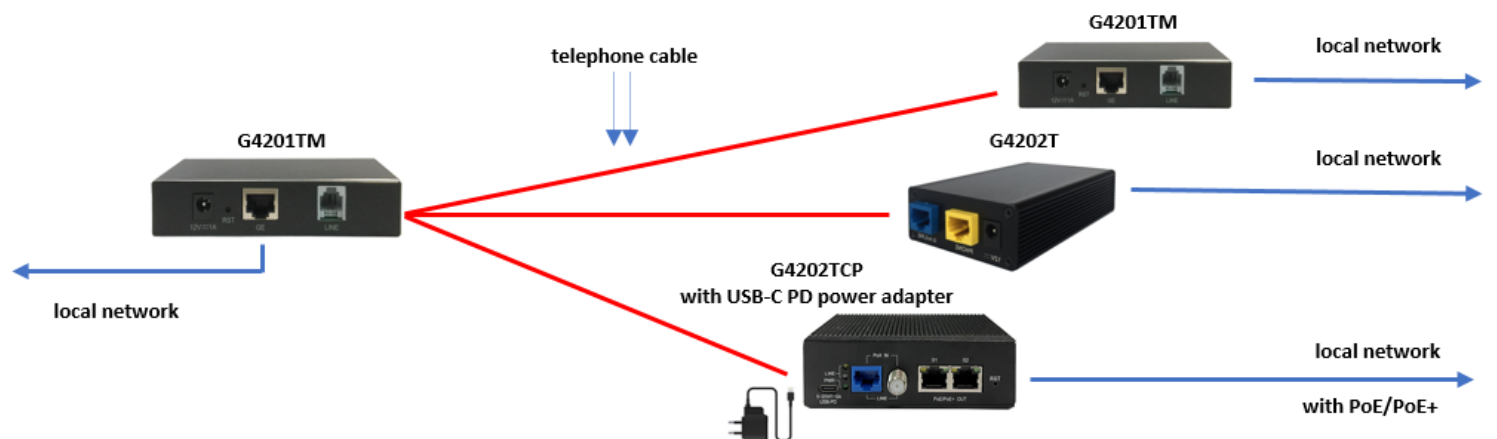
"Point-to-point":



"In line"



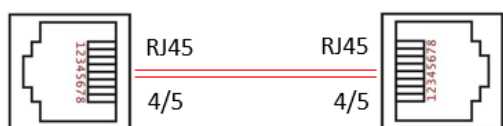
"Star-shaped"



8. Connection type and pin assignment on the device (RJ45 plug)

The G.hn connection is made via a pair of wires (connection type SISO = G.hn profile "PHONE 200MHz").

Pinout SISO



9. Installation Notes

- The cores can be placed straight or crossed.
- Maximum range of the G.hn connection depends on the type of cable used, the type of connection and the environment. Typical values for a 0.5 mm twisted-pair cable: Connection possible up to approx. 600m, max. bandwidth of 1500 Mbit/s – up to approx. 100m.
- In the web interface of each modem, the negotiated bandwidths can be queried to all other G.hn bridges in the network (see point 12).

Further information and recommendations can be found on our homepage www.gigacopper.net under the heading Support.

10. IP address

The modem does not require an IP address from the local network segment during operation, because it conveys the data traffic via the MAC addresses.

Factory:

- IPv4 DHCP client is enabled, the modem obtains an IP address from the local DHCP server
- Second IP address: 192.168.10.253

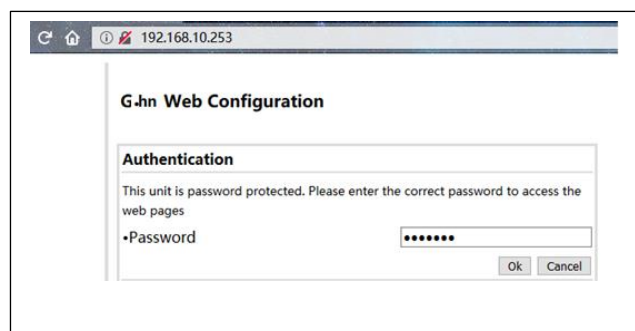
11. Administration

Login to the Web Interface

- On your computer, open a web browser and connect to the IP address of the modem.
- To do this, use the IP address assigned by the local DHCP server.
- Log in with the default password: paterna

The connection via the second IP address (192.168.10.253) is possible even if the modem has not yet received an IP address from the local DHCP server:

- Connect your computer to the G.hn modem using the G1 or G2 port.
- Assign your computer a fixed IP address, e.g. 192.168.10.100 (netmask 255.255.255.0).
- Open a web browser and connect to 192.168.10.253.



12. Query the negotiated bandwidth

The bandwidths negotiated from the G.hn modem to all other G.hn bridges in the network can be queried via the web interface. The reported values are gross data transfer rates at the physical layer (PHY). The transfer speed at the application level is about 15-20% lower.

- [G.hn](#)
- [IP](#)
- [Ethernet](#)
- [Device](#)
- [Multicast](#)
- [QoS](#)

- [G.hn spec](#)

- [Log file](#)

- [Advanced](#)

Basic settings

- MAC address 00:1e:6e:03:cc:36
- Device ID 3
- Domain Name
- Force node Type ▾
- Node type* END_POINT

* Node type change can take some time, please refresh page to update state

- G.hn profile ▾

Neighboring Domain Interference Mitigation (NDIM)

- NDIM mode ▾
- Domain ID (DOD)

Available Connections

Device ID	MAC Address	Phy Tx (Mbps)	Phy Rx (Mbps)
1	00:1e:6e:03:cc:6f	1643	1654
2	00:1e:6e:03:cc:73	1815	1842

13. VLAN usage in the network

The devices are compatible with VLANs according to the 802.1Q standard.

The VLAN tags are forwarded transparently. External Ethernet switches must be used for the formation of VLANs.

14. Use of Multicast IP-TV

For the transmission of multicast IP-TV (e.g. Telekom MagentaTV) in the network, "IGMP Snooping" must be activated in the multicast configuration.

Multicast Configuration*

- IGMP Snooping YES
- MLD snooping NO
- IGMP/MLD broadcast report NO
- IGMP/MLD broadcast report mode
- Filter unknown multicast traffic NO
- IGMP Multicast ranges:

Minimum IP address			Maximum IP address		
<input type="text" value="224"/>	<input type="text" value="0"/>	<input type="text" value="0.0"/>	<input type="text" value="239"/>	<input type="text" value="254"/>	<input type="text" value="255.255"/>
<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0.0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="255.255"/>
<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0.0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="255.255"/>
<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0.0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="255.255"/>

Broadcast supression

- Broadcast xput limit (Mbps)

15. Notching, compatibility with DSL/VDSL

The G.hn modems can also be used in parallel with DSL/VDSL connections with unshielded Telephone cablesace well as via double wires of a common cable.

In the case of DSL and VDSL50, the G.hn modems usually do not require any settings.

For compatibility with VDSL100 (profile 17a) and VDSL250 (profile 35b), the G.hn level in the range 2-17MHz and 2-30MHz must normally be lowered by 10dB. The setting must be configured in each modem.

[G.hn](#)
[IP](#)
[Ethernet](#)
[Device](#)
[Multicast](#)
[QoS](#)
[G.hn spectrum](#)
[Log file](#)
[Advanced](#)

Notches Configuration

Notch index	Start freq (KHz)	Stop freq (KHz)	Depth (dB)	Type
0	0	3516	100	Regulation

Add new user notch

- Index (0..9)
- Start frequency (KHz)
- Stop frequency (KHz)
- Depth (0..40dB, 100 removes notch)

Remove user notch

- Index (0..9)

16. Warranty

We offer a 12-month warranty on all products purchased from us. Full warranty terms can be found at <https://www.gigacopper.net/wp/en/warranty/>