HDL-MCIP-RF02.10

Wireless Mesh Gateway

buspro WIRELESS

Datasheet

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Figure 1. Wireless Mesh Gateway

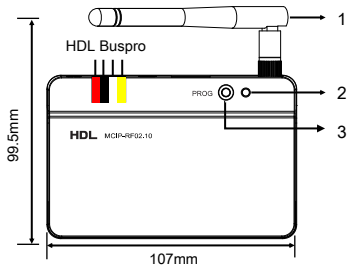


Figure 2. Product information (1)

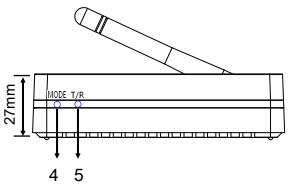


Figure 3. Product information (2)

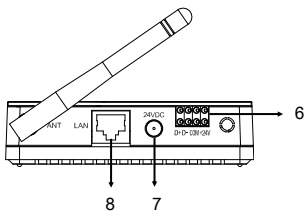


Figure 4. Product information (3)

Overview

HDL-MCIP-RF02.10 (See Figure 1), which includes three communication interfaces: RJ45, HDL Buspro, RF, is a gateway based on MESH technology. It enables the intercommunication between HDL intelligent devices of different media platforms (RS485, Ethernet or RF).

Functions

- Mesh mode supported
- Bridge (transparent transmission) mode supported
- Encrypted wireless data transmission
- Internal 433M wireless module, which supports HDL remote control

Important Notes

- Ensure all connections are correct after installation.
- In Mesh mode, all RF channels of each gateway must be different from each other to avoid loop connection; in Bridge mode, all RF channels of each gateway must be the same as each other.
- In Mesh mode, subnet ID of Gateway in RF port should be unique in the LAN, and must be the same as that of RF devices controlled by the gateway, while RS485 port can be configured to filter different subnet ID.
- HDL-MCIP-RF02.10 can be configured as transparent transmission (bridge) mode. RS485 and Ethernet data in multiple gateways can be transmitted through RF, which effectively extends the communication distance. When the environment is not convenient for layout, wired subnets can interconnect via wireless (RF).
- Ethernet (RJ45) of two or more devices can not be connected with RS485 port, otherwise loop connection will block communication.
- The selected communication frequency must meet the laws and regulations of the country/region where the device is used
- It is recommended to set new password for wireless communication to avoid false control of devices in the same frequency.
- Stable indoor transmission distance of RF devices is 50m, which will be decreased by obstacles. For example, a wall will decrease the distance to 20m. So it is recommended to install Mesh wireless devices on the wall without obstacles around. Avoid installing the device beside large metal objects to ensure better communication. It is not suggested to install this device in electric box, unless an external antenna is available.

Product Information

See Figure 2 - 4

1. Antenna

2. Working indicator: flashes in green every 3s in normal working mode

3. PROG button (Programming button):

- Press the button three times to enter configuration mode when the red Mode indicator flashes. At this time, if another wireless device is in this configuration mode, it will be added to the network of HDL-MCIP-RF02.10.
- Keep pressing for 3s to read/change the address when the working indicator keeps on in red.
- Keep pressing for 10s and release to restore default IP (192.168.10.250) when the working indicator keeps on in red.

4. Red/green indicator (Mode):

- Flashes quickly in red: channel status configuration in process
- Keeps on in green: busy wireless network

5. Blue indicator (T/R):

- Flash: receiving/sending wireless signal
- Indicator 2, 4 and 5 turns on at the same time: restoring module

6. HDL Buspro connector

7. 24V DC power input:

No need to connect to power supply if HDL Buspro is connected.

8. RJ45 Ethernet connector

Installation - See Figure 5 - 6

1. Fix 2 screws with proper distance on the wall.
2. Put the device on the screws.

Safety Precautions

- The installation and commissioning of the device must be carried out by our company or the organization designated by our company. For planning and construction of electric installations, the relevant guidelines, regulations and standards of the respective country are to be considered.
- HDL does not take responsibility for all the consequences caused by installation and wire connection that are not in accordance with this document.
- Please do not privately disassemble the device or replace parts, otherwise it may cause mechanical failure, electric shock, fire or body injury.
- Please resort to our customer service department or designated agencies for maintenance service. The warranty is not applicable for the product fault caused by private disassembly.

Package Contents

HDL-MCIP-RF02.10*1 / Adapter*1 / Buspro connector*1 / Datasheet*1

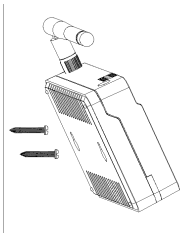


Figure 5. Installation (1)

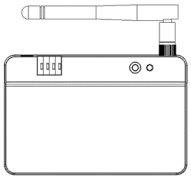


Figure 6. Installation (2)

Technical Data

Basic Parameters

Working voltage	12~30V DC
Communication interfaces	RJ45, HDL Buspro, RF
Indoor communication distance	≤50m (barrier free)
Frequency	SubG
Wireless transmission power	+10dbm
RSSI (Received Signal Strength Indication)	>-80dbm
Factory frequency	Band, PSK (Suggestion: your setting should not be the same as the factory setting.)
Working mode	Mesh mode, bridge mode

Frequency Allocation

(China) WPAN	780 to 786MHz
(Europe) SRD	864 to 870MHz
(North America) ISM	904 to 928MHz
Default PSK	HDL-SecurityKey0

External Environment

Working temperature	-5℃~45℃
Working relative humidity	≤90%
Storage temperature	-20℃~60℃
Storage relative humidity	≤93%

Specifications

Dimensions	107×99.5×27 (mm)
Net weight	212g
Housing material	ABS
Installation	Free standing or wall mounted
Protection rating (Compliant with EN60529)	IP20

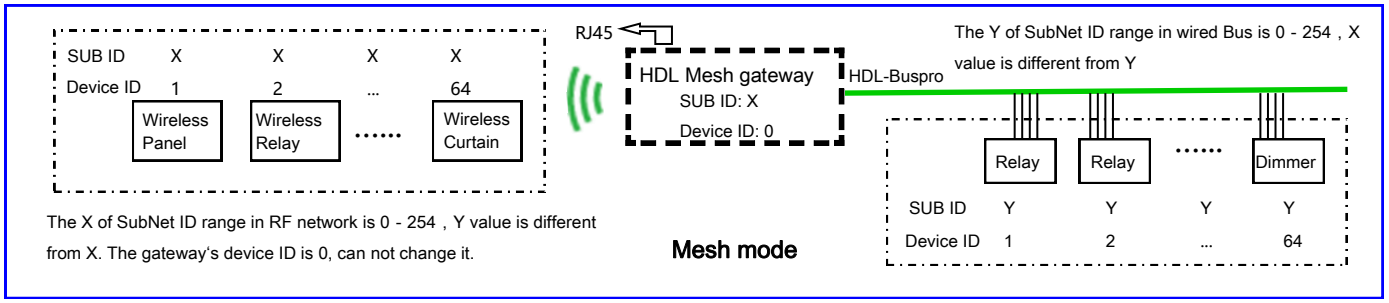
Name and Content of Hazardous Substances in Products

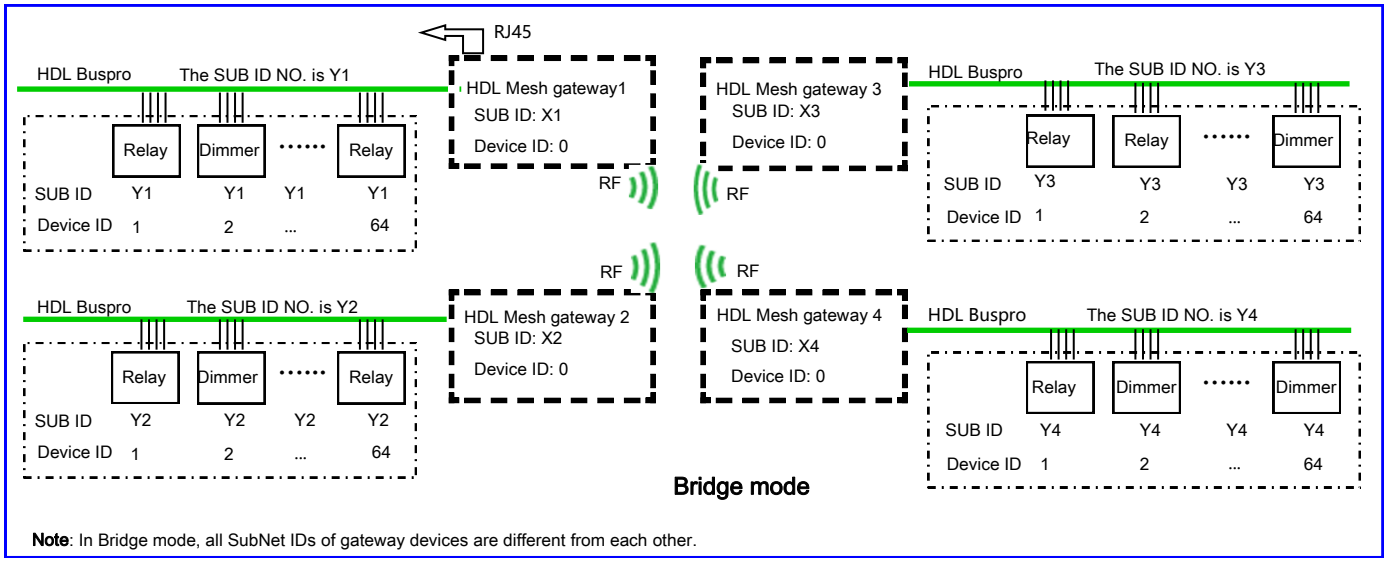
Components	Hazardous substances					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Chromium VI (Cr (VI))	Poly-brominated biphenyls (PBB)	Poly-brominated diphenyl ethers (PBDE)
Plastic	o	o	o	o	o	o
Hardware	o	o	o	o	-	-
Screw	o	o	o	×	-	-
Solder	×	o	o	o	-	-
PCB	×	o	o	o	o	o
IC	o	o	o	o	×	×

HDL Buspro Cable Guide

CAT5/CAT5E	HDL Buspro	HDL Buspro Cable
Brown/ Orange	24V DC	Red
Brown white/ Orange white	COM	Black
Blue white/Green white	DATA-	White
Blue/ Green	DATA+	Yellow

Connection Diagram





Note: In Bridge mode, all SubNet IDs of gateway devices are different from each other.

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