Haiwell

User's Manual of H01ZB communication module
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1.Product Model List

Model	Power Consumption (24VDC)	Dimension
H01ZB	0.4VA	30*95*82mm

2. Indicator Description

①POW: Power indicator, green. ON - Power good; OFF - Power error.

②LINK: Green continuous ON - Module and PLC connected properly, Green Flickering - Module and PLC are exchanging data, Red Flickering - Firmware incomplete.

③COM: Network indicator, red. Continuous On - It has joined the network; Slow flashing － It is searching and networking (250ms ON and 250ms OFF); Rapid flashing － it is receiving data (30ms ON and 30ms OFF).

3. Specifications

Item	Specification
Power supply	The host extension power supply
Environment temperature	Operating temperature:0~+55℃ Storage temperature:-25~+70℃ Humidity: 5~95%RH, No condensation
Operating Frequency	2.4~2.5GHz
Transmit Power	+14dBm
Receiver sensitivity	-95dBm
Allowed relay (routing) Number	Up to 6 by default
Protocol conversion	Zigbee<=>modbus
Maximum communication rate	38400bps
The number of channels	6
PANID range	1~31
The largest network capacity	65535
Reliable transmission distance	150m（No hinder , linear distance）
ZigBee protocol version	ZigBee Pro
Network type	Mesh
Node types	The coordinator, routers
Antenna type	SMA antenna

4. Module Function Specification

H01ZB is an expansion modules used for supporting wireless communication among the PLC hosts. With this module, the PLC can use MODR/MODW instructions to communicate with each other in a wireless way. A host can be extended up to three communication interfaces (expansion modules could be H01ZB or S01RS communication expansion module).

5. Networking Steps

1, Attached the H01ZB module to the PLC host's expansion slot (or other module's expansion slot which attached to the PLC). For specific please see the section VI behind - Module Connection Methods.

2, Configure the host PLC address (through the DIP switch), ensure that the address are unique within the network.

3, Choose one of the H01ZB Zigbee modules within the network (anyone will be fine but just only one)

serves as the coordinator. The method is: Dialed the sixth position of DIP switch to "ON", the other modules on the same network serve as routers, the same position can only be dialed to "OFF". See the illustration and presentation of Section VII.

4, For all modules within the network, the 1 to 5 position of the DIP switches should be set to the same value (as the network's PANID, ranging from 1 to 31).

5, After power up, the module will automatically search network. If not join the network, COM indicator will periodically flashes; after joining the network, COM indicator stays on.

6, Use the Modbus communication instruction (MODR/MODW) to read or write other hosts in the network.

6. Module Connection Methods

The connection between expansion modules and the host or between expansions module are realized through Bus. Each expansion module has a cable to connect to its front module. Open the front module's small flip, insert the cable into the expansion connector, Ensure firmly seated, closed the small flip.

7. Set The Address

As was shown in the right picture, the H01ZB module's eight positions DIP switches, The top five positions of DIP switches(1-5) is used for setting the network ID, **the DIP switches sixth position as a coordinator / router switch, when dialed to "ON", we decided this module as coordinator, and the others in the same network serve as routers can only be dialed to "OFF".** DIP switch's 7 and 8 positions is invalid.

When users want to set the network ID, as follows: The black part in the picture represents the position of the DIP switch, dialed one of them to "ON" indicates this bit is 1, while t dialed to "OFF" indicates the bit is 0.In the above picture the first one is "ON", 2 ~ 5 is "OFF", reflected to the ID number, in binary: DIP switch first position represents LSB(b0), the 5th represents MSB (b4).Thus , The top five represent a binary number from 00000 ~ 11111, converted the binary number to decimal to obtain the network ID number. The DIP switch positions in the picture above indicates 00001, that is decimal number 1, indicating that the network ID number is 1; legitimate network ID ranging from 1 to 31.

8.The firmware upgrade instructions

After upgrading the firmware modules will enter a state of firmware integrity check, at this time it will take a minute or two time, test results for the complete module will automatically run normally. If break power supply at this time, the next time will continue when turning on the power supply module firmware integrity check.

9. Precautions For Use

1, In strict accordance with the instructions of the fifth form a network.

2, One network can only have one coordinator, when there is a module servers as the coordinator (the DIP switche's sixth position dialed to "ON"), the other modules must be dialed to "OFF" state (serves as routers).

3, Allow multiple hosts access across each other in the same network, but when there are two or more than two hosts access the same host, will result in communication error.

10.Mounting And Installation

Rail Mounting: Use standard 35 mm rail.

Screw Mounting: Each communication isolation module has two positioning screw holes, the diameter of the hole is 4.5mm. Please refer to the dimension figure for the location of the positioning holes and their spacing.

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