IWATSU Gateway

Smart-BRIDGE CL

Instruction Manual

1 Introduction

Smart-BRIDGE CL is a Z-Wave controller to enable interaction with homes, offices and buildings.

It can collect sensor data and control Z-Wave home devices through the Internet from applications and APIs.

2 General Information

Device type: Gateway

Role type: Central static controller

Support command classes:

COMMAND_CLASS_APPLICATION_STATUS	COMMAND_CLASS_SECURITY
COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2	COMMAND_CLASS_SECURITY_2
COMMAND_CLASS_ASSOCIATION_V2	COMMAND_CLASS_VERSION_V2
COMMAND_CLASS_CRC_16_ENCAP	COMMAND_CLASS_ZWAVEPLUS_INFO_V2
COMMAND_CLASS_DEVICE_RESET_LOCALLY	COMMAND_CLASS_INCLUSION_CONTROLLER
COMMAND_CLASS_MANUFACTURER_SPECIFIC_V2	COMMAND_CLASS_TRANSPORT_SERVICE_V2
COMMAND_CLASS_POWERLEVEL	COMMAND_CLASS_SUPERVISION

Control command classes:

COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2	COMMAND_CLASS_ALARM~ COMMAND_CLASS_NOTIFICATION_V5
COMMAND_CLASS_ASSOCIATION_V2	COMMAND_CLASS_SECURITY
COMMAND_CLASS_BASIC	COMMAND_CLASS_SECURITY_2
COMMAND_CLASS_BATTERY	COMMAND_CLASS_SENSOR_MULTILEVEL_V5
COMMAND_CLASS_CONFIGURATION	COMMAND_CLASS_SWITCH_BINARY_V2
COMMAND_CLASS_CRC_16_ENCAP	COMMAND_CLASS_WAKE_UP_V2
COMMAND_CLASS_MANUFACTURER_SPECIFIC_V2	COMMAND_CLASS_VERSION_V2
COMMAND_CLASS_MULTI_CHANNEL_V4	COMMAND_CLASS_ZWAVEPLUS_INFO_V2
COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V2	

- **Supported Association Groups**
  - Group ID: 1 – Lifeline
  - Maximum number of devices that can be added to the group: 10

  All devices are associated with the lifeline group (group id 1) at the inclusion and no action is performed for the user at that time.
- **Basic command handling**

  This equipment can control a device which supports Basic Command class by sending BASIC OFF[0x00] and ON[0xFF] from the GUI.

  This equipment can receive Basic Command from a device, but it does nothing and just returns ack.
- **Interoperability**

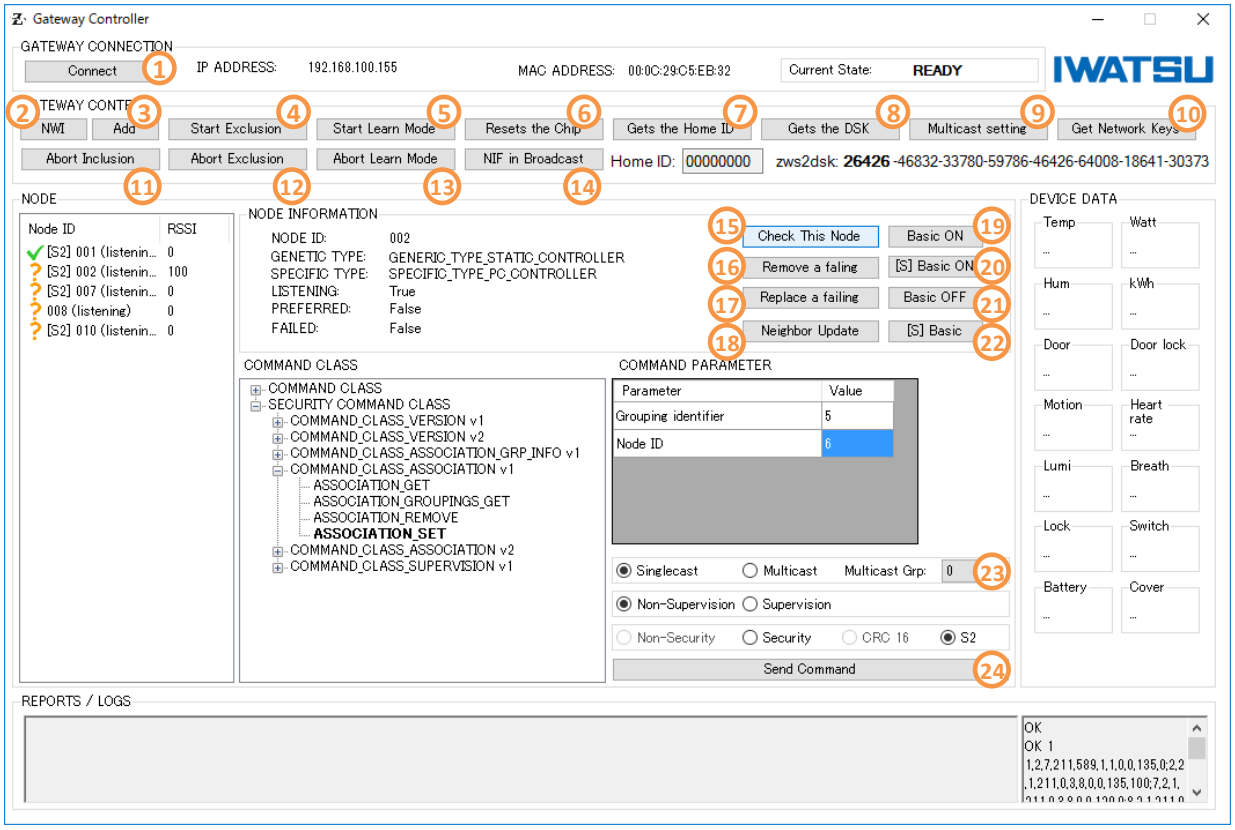
  This equipment can be a part of the same Z-Wave network with any products from different manufacturers and product categories, and that the different non-battery powered nodes can act as repeaters regardless of manufacturers.
- This equipment is a security enabled Z-Wave Plus product that is able to use encrypted Z-Wave Plus messages to communicate to other security enabled Z-Wave Plus products.
- S2 Security Supported Command classes

  All commands are “Access Control” level.

COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2	COMMAND_CLASS_MANUFACTURER_SPECIFIC_V2
COMMAND_CLASS_ASSOCIATION_V2	COMMAND_CLASS_POWERLEVEL
COMMAND_CLASS_DEVICE_RESET_LOCALLY	COMMAND_CLASS_VERSION_V2

3 GUI

This equipment can be controlled via the GUI provided. Here is the description of it.

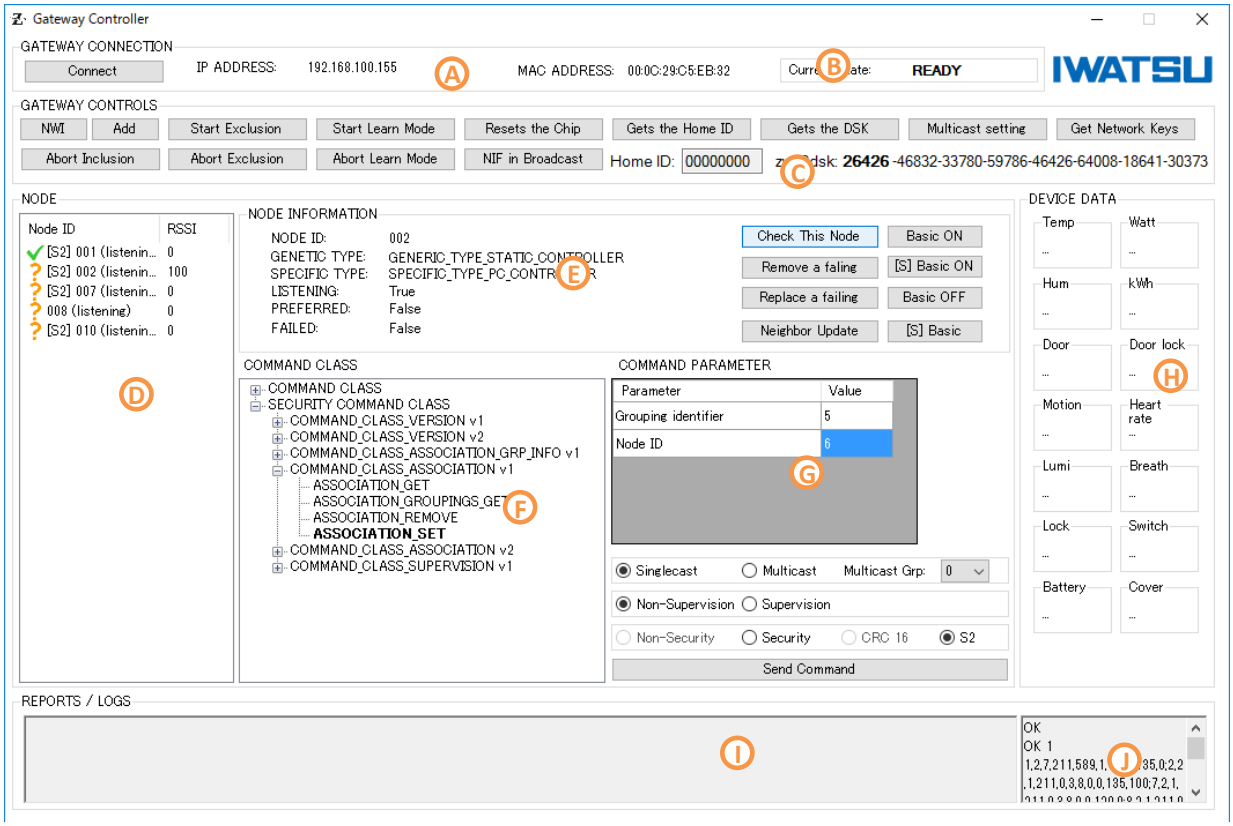


1 Connect Gateway Dialog	9 Multicast setting Dialog	17 Replace selected node
2 Start Inclusion(NWI)	10 Gets Network keys	18 Request Neighbor Update
3 Start Inclusion(Classic)	11 Abort Inclusion	19 Send set Basic ON
4 Start Exclusion	12 Abort Exclusion	20 Send set S2 Basic ON
5 Start Learn Mode	13 Abort Learn Mode	21 Send set Basic OFF
6 Resets the Z-Wave Chip	14 Send NIF in broadcast	22 Send set S2 Basic OFF
7 Gets the Home ID	15 Node is in failure or not	23 Security Layer Selection
8 Gets DSK	16 Remove selected Node	24 Send the selected Command

The “DEVICE DATA” section displayed on the right side is used to display main information of the system.

An exclamation mark icon may be displayed on NODES section to show the nodes which are failing.

Note that, in case of necessity to send multiple bytes as a command parameter’s value, please enter the decimal number separated by a blank space in between.



A Gateway IP and MAC Address Display

B Gateway State

C Home ID and DSK

D List of the connected Node

E Information of the selected Node

F List of available Command Class of the selected Node

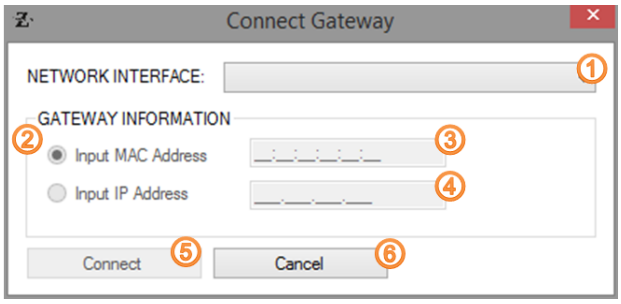
G Command Parameters for the selected Command

H Last Device Data of the selected Node

I Logs from the Gateway

J List of responding from the Gateway when sending Commands

- To connect to a Gateway, select your network interface and then enter either MAC or IP address.**Please connect before S2 inclusion.**



1 Selection of the network interface.

2 User input area, select either MAC or IP Address

3 MAC Address of the Gateway (displayed on the back side of the Hardware)

4 IP Address of the Gateway (if known)

5 Connect to the Gateway

6 Cancel the connection

4 Hardware Installation

The installation of the hardware is a 2 steps process:

1- Connect the Hardware to a router via the Ethernet port.

2- Power the device with the AC Adapter provided.

5 Normal Operation

- Z-Wave LED Blinks once at every packet received.
- Z-Wave LED turns On when Z-Wave is ready.
- LAN LED turns On when Ethernet cable is plugged
- POWER LED always stays On if power cable is plugged.
- Alert LED turns On until gateway startup.
- Alert LED blinks according to pattern C3 after gateway startup.

  Note: See [15 LED blink pattern]

6 Adding Devices (Inclusion)

To add a device to the Z-Wave network, click the “NWI” or “Add” button in the GUI or press the hardware Z-Wave SW of this equipment once in quick (no more than 1 second between). This will put this equipment into Inclusion mode and Z-Wave LED blinks according to pattern C6. The hardware will stay in Inclusion mode for 1 minute.

If you want to abort Inclusion, click the “Abort Inclusion” button in the GUI or press the hardware Z-Wave SW once while being in Inclusion mode. This will abort the ongoing action and Z-Wave LED goes back to normal state.

This equipment supports Secure Inclusion and can add a device as a secure node.

7 Removing Devices (Exclusion)

To remove a device from the Z-Wave network, click the “Start Exclusion” button in the GUI or hold down the hardware Z-Wave SW of this equipment (over 3 seconds). This will put the equipment into Exclusion mode and Z-Wave LED blinks according to pattern C7.

If you want to abort Exclusion, click the “Abort Exclusion” button in the GUI or press the hardware Z-Wave SW once while being in Exclusion mode. This will abort the ongoing action and Z-Wave LED goes back to normal state.

8 Sending the Device Information to Server

To send the device information (NIF), click “NIF in Broadcast” button on GUI. The “NIF” of this equipment will be sent via broadcast to all devices.

9 Adding the Gateway into Another Z-Wave Network (Learn Mode)

To add this equipment into another Z-Wave network as a secondary controller or inclusion controller, click “Start Learn Mode” in the GUI.

If you want to abort Learn Mode, click the “Abort Learn Mode” button in the GUI.

10 Copy (Replication)

To start the Replication when the hardware is the controller, put the hardware in Inclusion mode, and put the other hardware in Learn mode. The Replication will be started and network information will be sent to the other hardware.

In case that the hardware is not the controller, put it in Learn mode and the other hardware in Inclusion mode. This will start the Replication and network information will be received from the other Hardware.

11 Node Management

The GUI has a feature of Node management. If you enter the gateway IP address and click “Connect” button, the connected Node list will appear on the left side of the GUI. Even if the inclusion was done with the hardware button, the GUI will refresh the node

list automatically.

To see the information of a specific device, select the node ID from the Node list. You can check if the gateway fails to communicate with the device by clicking the “Check This Node” button.

- **Remove Failed Node**

To remove a failed device from the Z-Wave network, use “Remove a failing node” button. The node ID of the device will disappear from the Node list. If the device is not a failed node, “This node is not failed” message will appear and the device cannot be removed.

- **Replace Failed Node**

To replace a failed device to another equivalent device, use “Replace a failing” button. The gateway will be in Inclusion mode and replace a failed device with a new device. If the device is not a failed node, “This node is not failed” message will appear and the device cannot be replaced.

- **Send Controlled Commands**

Commands can be selected from the “COMMAND CLASS” section on the GUI and the selected command can be sent via the “Send Command” button. Check “S2” radio button to send S2 encrypted frame.You can select Singlecast/Multicast by Radio button.

12 Reset the Z-Wave Chip

Click “Resets the Chip” button or hold down the hardware INIT SW (over 3 seconds). This will reset the Z-Wave chip and Z-Wave/Alert LED blinks according to pattern C5. Upon reset, the hardware will broadcast the “DEVICE RESET LOCALLY NOTIFICATION”. Reset cannot be aborted.

If this controller is the primary controller for your network, resetting it will result in the nodes in your network being orphaned and it will be necessary after the reset to exclude and re-include all of the nodes in the network.If this controller is being used as a secondary controller in the network, use this procedure to reset this controller only in the event that the network primary controller is missing or otherwise inoperable.

13 Preferred Devices

This equipment allows users to include and communicate with devices from any and multiple vendors in its network.

This equipment was tested with devices from the following vendors:

- Z-Works

- Vision
- Iwatsu
- Philio

Note: This list is simply to inform that this equipment was tested with devices from those vendors.

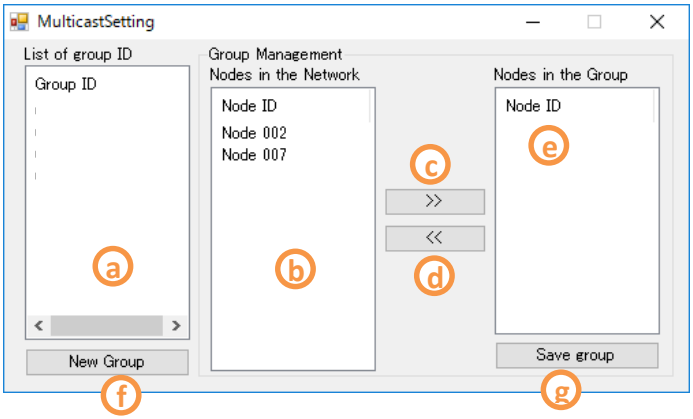
Those vendors will be marked with a check icon on the GUI and are part of this equipment's preferred ecosystem. Controlling and supporting of non-preferred devices may be limited. Others will be displayed with a question mark icon.

14 Adding Multicast Group

Before sending Multicast,click "Multicast setting" to add Multicast Group.

1. Click "New Group" button.
2. Select nodes to add to Group.
3. Click ">>" button to add node to Group.
4. Click "Save group"

If you send Multicast, select Group ID in "Multicast Grp" combo box,
check "Multicast " Radio button,and click "Send Command" button.



a Existing Group ID

b Included nodes

c Add Node to Group

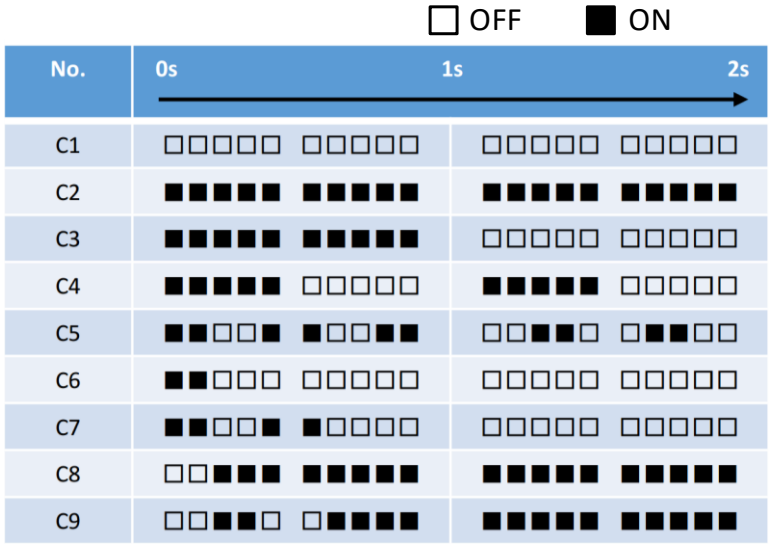
d Remove Node from Group

e Node list in the Group

f Add new Group

g Save Group information

15 LED blink pattern



16 Show Network Keys

Click “Get Network Keys” button to check All Network Keys for zniffer use.