INSTALLATION INSTRUCTIONS

LonWorks Interface
Model No. CZ-CLNC1U

Panasonic®

—— Contents ——

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, follow the attached installation instructions.
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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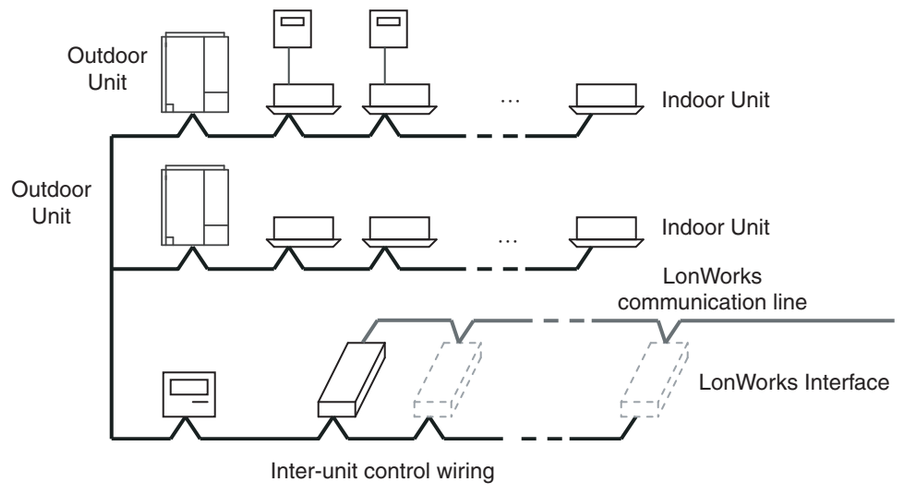
1. LonWorks Interface Overview

Product Overview

This interface is a communications interface for connecting LonWorks to an air conditioner unit control network.
From the host connected to LonWorks, basic settings and status monitoring is possible for up to 16 groups of A/C units.

System Diagram



- Up to 16 groups of indoor units (maximum 64 units) can be controlled with 1 LonWorks Interface unit. For 17 or more groups of indoor units, connect additional interface units.
- Install a remote controller (or system controller, etc.), which can control the A/C units, to an inter-unit control wiring other than the LonWorks Interface unit.
- Before making the connection to the LonWorks Interface unit, set the central control addresses in the indoor units.

Functions

A/C unit settings from the LonWorks	Settings for each group of indoor units	Start/stop
		Temp. setting(*1)
		Operation mode
		Option 1 settings(*2)
		Option 2 settings(*2)
	Settings for all units	Emergency stop
A/C unit status notifications made to the LonWorks		Start/stop
		Temp. setting
		Operation mode
		Option 1 settings(*2)
		Option 2 settings(*2)
		Alarm status(*3)
		Indoor units with active alarms(*4)
		Room temp(*5)
		A/C unit status(*6)
Configuration properties		Transmission interval settings(*7)
		Minimum time secured for transmission(*8)

(*1) When a temperature above the upper limit of the temperature which can be set by the indoor units has been specified, it will be set to the upper limit; conversely, when a temperature below the lower limit has been specified, it will be set to the lower limit.
(*2) Two options can be selected using the setting switch from among remote-controller prohibit, fan speed setting, air direction setting and filter sign.
(*3) When indoor units are under group control, an alarm is determined to have occurred when the alarm occurs at one or more of the units.
(*4) The number of the indoor unit at which the alarm has occurred is notified. This makes it possible to identify at which indoor unit of the indoor unit group the alarm has occurred.
(*5) When indoor units are under group control, the room temperature of the main unit in the group is notified.
(*6) When an alarm occurs at one or more indoor units, the alarm code is notified as the indoor unit status.
(*7) All the data which can be output is output at the set interval.
(*8) The same data is not output continuously at the set interval.

2. Installation Instructions of LonWorks Interface

Safety Precautions

* The following is intended for the installer responsible for installation and test operations of the LonWorks Interface, and should be carefully read before beginning.
* The precautions given in this manual consist of specific "Warnings" and "Cautions." They provide important safety-related information and are important for your safety, the safety of others, and trouble-free operation of the system. Be sure to strictly observe all safety procedures. The labels and their meanings are as described below.

⚠ Warning	This symbol refers to a hazard or unsafe procedure or practice which can result in severe personal injury or death.
⚠ Caution	This symbol refers to a hazard or unsafe procedure or practice which can result in personal injury or product or property damage.

※After installation is completed, perform a test run to check for operating trouble. As you do, use the central control device *Operating Instructions* and explain operating procedures to the customer. Then request that the customer store this manual together with the central control device *Operating Instructions*.

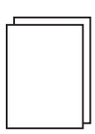
⚠ Warning

- Be sure to arrange installation from the dealer where the system was purchased or using a professional installer. Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.
- Please install and ensure construction according to *Installation Instructions of LonWorks Interface*.
- Only a qualified electrician should attempt to connect this system, in accordance with the instructions in this manual. If the electrical circuit capacity is insufficient a danger of electric shock and fire may be present.
- Use the specified cables (type and wiring diameter) for the electrical connections, and connect the cables securely. Run and fasten the cables securely so that external forces or pressure placed on the cables will not be transmitted to the connection terminals. Overheating or fire may result if connections or attachments are not secure.

⚠ Caution

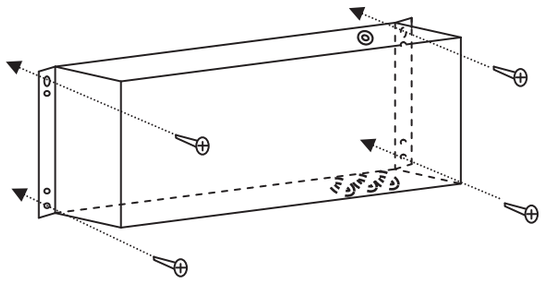
Depending on the installation conditions and location, an earth leakage breaker may be required. If an earth-leakage breaker is not installed, there is a danger of electric shock or fire.

Included Parts

No.	Part	Qty
(1)	 Installation Instructions	1

Installation Method

- The screws used to install the main unit must be provided by the installer.



- Install the LonWorks Interface away from any sources of electrical noise.

Wiring Specifications

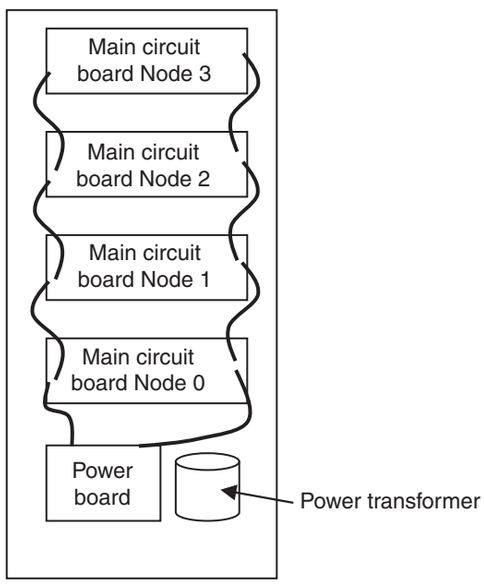
- For the inter-unit control wiring use twin-core AWG#20 – AWG#14 cables.
- For the LonWorks communication line cables, use twisted-pair cables with a wire diameter of 0.51 mm(AWG#24) or larger as recommended by Echelon Corp.

Examples of cables recommended by Echelon Corp.			
Cable type	Wire diameter /AWG	Total cable length	
		Bus type	Free
24 AMG twisted-pair (TIA568A category 5)	0.51 mm /24	900 m (2953 ft.)	450 m (1476 ft.)

- Do not use the same cable for the inter-unit control wiring, the LonWorks communication lines, and the power cable. Do not run them through the same conduit or place the cables near one another.
- Connect the cables so that there is no miswiring. (Miswiring can cause malfunction.)

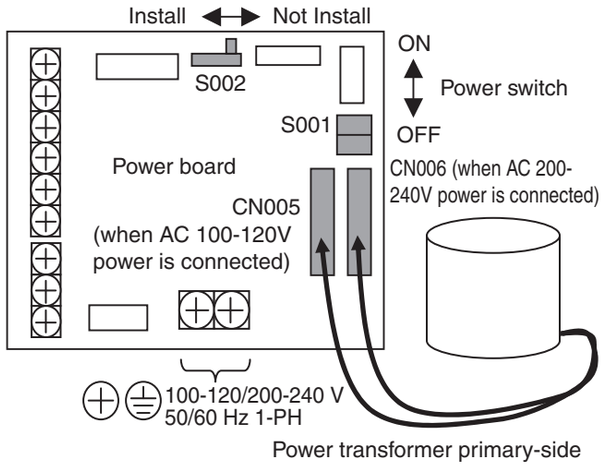
LonWorks Interface Structure

- This interface contains 4 LonWorks communication boards (nodes).
- Up to 4 indoor unit groups (maximum 32 units) can be assigned to 1 node.



Power Board Initial Settings

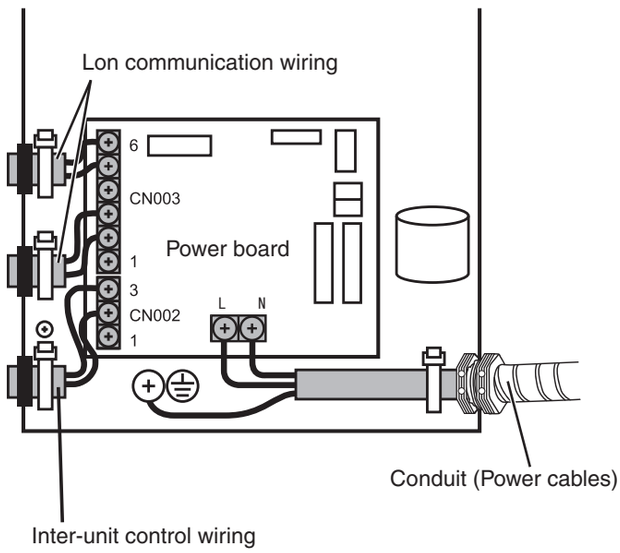
Not Install: Ordinarily, keep this set to "**Not Install**" (initial setting).
Install: Free topology terminal resistor (51Ω) for the LonWorks communication lines.



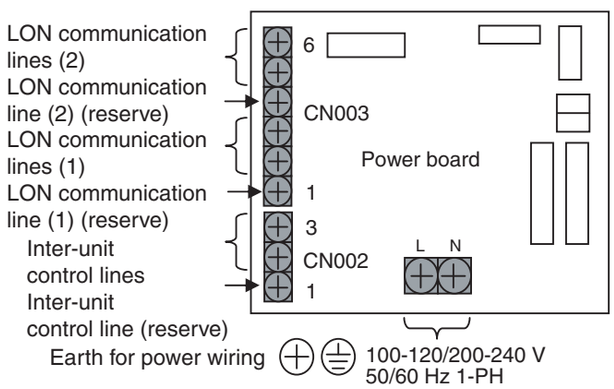
When AC 200-240V power is connected, connect the power transformer primary-side to CN006. When AC 100-120V power is connected, connect the power transformer primary-side to CN005. (It is connected to CN006 when the unit is shipped from the plant.)

Wiring Procedure

- Connect the power supply lines to the L and N power supply terminals.
  (the power suplly neutral to the N terminal.)
- Connect an earth ground line to the screw.

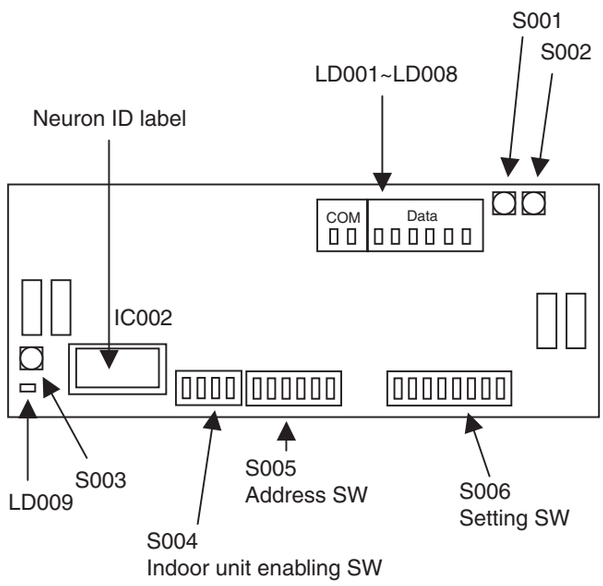


Power Board Wiring

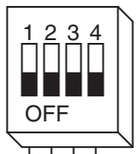


- The LonWorks communication lines can be connected to either (1) or (2) in the above figure. The results are the same.
- Do not run the inter-unit control lines, the LonWorks communication lines, and the power cables through the same conduit, or place the cables near one another. Doing so can cause the system to malfunction.
- Before turning the power on, follow the instruction in *Power Board Initial Settings*.
- When using the spare inter-unit cotrol line, connect [1] and [3] at CN002.
- When using the spare LON communication line, connect [1] and [3] or [4] and [6] at CN003.

Main Circuit Board



Indoor Unit Enabling Switches



OFF Indoor unit group 3 is disabled.
ON Indoor unit group 3 is enabled.

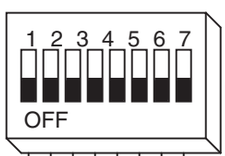
OFF Indoor unit group 2 is disabled.
ON Indoor unit group 2 is enabled.

OFF Indoor unit group 1 is disabled.
ON Indoor unit group 1 is enabled.

OFF Indoor unit group 0 is disabled.
ON Indoor unit group 0 is enabled.

- One main circuit board can control 4 groups (indoor unit groups 0 – 3).
- Set to “disable” if the indoor unit group does not exist. Set to “enable” if the indoor unit group exists.

Setting Switches



O: ON -: OFF R/C: Remote Controller

6	7	8	Option 1	Option 2
-	-	-	R/C prohibit	Fan speed
-	-	O	R/C prohibit	Air direction
-	O	-	R/C prohibit	Filter sign
-	O		Fan speed	Air direction
O	-	-	Fan speed	Filter sign
O	-	O	Air direction	Filter sign
O	O	-	---	---
O	O	O	---	---

Not used (Be sure to set to OFF.)

OFF Central/individual setting is according to the central control device (normal setting).
ON Central/individual setting is always set to “individual.”

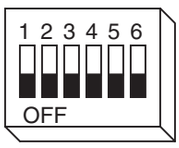
OFF Control temperature is used for the room temperature (normal setting).
ON Inlet temperature is used for the room temperature.

Not used (Be sure to set to OFF.)

OFF Communicate as a “sub” central control device.
ON Communicate as a “main” central control device.

- If there are no central control devices other than this interface, set to “main” (ON).
- To set this interface as the main, set only node 0 to “main” (ON).
- If using in combination with an communication adapter, AMY adapter, intelligent controller, or system controller, set to “sub” (OFF).
- If using in combination with an ON/OFF controller, set the ON/OFF controller as the main if the ON/OFF controller’s remote-controller prohibit function is to be used. If this interface’s remote-controller prohibit function is to be used, set this interface as the main.

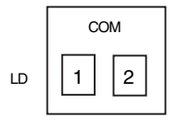
Address Switches



O : ON - : OFF

Address switch						Central control address
1	2	3	4	5	6	
-	-	-	-	-	-	**1**
O	-	-	-	-	-	**2**
-	O	-	-	-	-	**3**
O	O	-	-	-	-	**4**
-	-	O	-	-	-	**5**
O	-	O	-	-	-	**6**
-	O	O	-	-	-	**7**
O	O	O	-	-	-	**8**
-	-	-	O	-	-	**9**
O	-	-	O	-	-	**10**
-	O	-	O	-	-	**11**
O	O	-	O	-	-	**12**
-	-	O	O	-	-	**13**
O	-	O	O	-	-	**14**
-	O	O	O	-	-	**15**
O	O	O	O	-	-	**16**
-	-	-	-	O	-	**17**
O	-	-	-	O	-	**18**
-	O	-	-	O	-	**19**
O	O	-	-	O	-	**20**
-	-	O	-	O	-	**21**
O	-	O	-	O	-	**22**
-	O	O	-	O	-	**23**
O	O	O	-	O	-	**24**
-	-	-	O	O	-	**25**
O	-	-	O	O	-	**26**
-	O	-	O	O	-	**27**
O	O	-	O	O	-	**28**
-	-	O	O	O	-	**29**
O	-	O	O	O	-	**30**
-	O	O	O	O	-	**31**
O	O	O	O	O	-	**32**
-	-	-	-	-	O	**33**
O	-	-	-	-	O	**34**
-	O	-	-	-	O	**35**
O	O	-	-	-	O	**36**
-	-	O	-	-	O	**37**
O	-	O	-	-	O	**38**
-	O	O	-	-	O	**39**
O	O	O	-	-	O	**40**
-	-	-	O	-	O	**41**
O	-	-	O	-	O	**42**
-	O	-	O	-	O	**43**
O	O	-	O	-	O	**44**
-	-	O	O	-	O	**45**
O	-	O	O	-	O	**46**
-	O	O	O	-	O	**47**
O	O	O	O	-	O	**48**
-	-	-	-	O	O	**49**
O	-	-	-	O	O	**50**
-	O	-	-	O	O	**51**
O	O	-	-	O	O	**52**
-	-	O	-	O	O	**53**
O	-	O	-	O	O	**54**
-	O	O	-	O	O	**55**
O	O	O	-	O	O	**56**
-	-	-	O	O	O	**57**
O	-	-	O	O	O	**58**
-	O	-	O	O	O	**59**
O	O	-	O	O	O	**60**
-	-	O	O	O	O	**61**
O	-	O	O	O	O	**62**
-	O	O	O	O	O	**63**
O	O	O	O	O	O	**64**

Communications LED (Green)

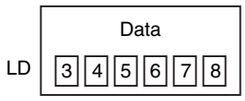


COM: Communications

LD001	LD002	Display meaning
X	X	①Power OFF
X	Low	② -----
X	High	③Flash writer writing in progress
X	O	④Waiting for A/C unit initial communication
Low	X	⑤A/C unit initial communication in progress
Low	Low	⑥ -----
Low	High	⑦LonWorks communication microcomputer error
Low	O	⑧EEPROM error
High	X	⑨ -----
High	Low	⑩ -----
High	High	⑪ -----
High	O	⑫ -----
O	X	⑬Test run mode
O	Low	⑭ -----
O	High	⑮Version display in progress
O	O	⑯Normal communications in progress

X: Not lit, Low: Low-speed flashing (once/second)
High: High-speed flashing, O: Constantly lit

Data LED (Red)

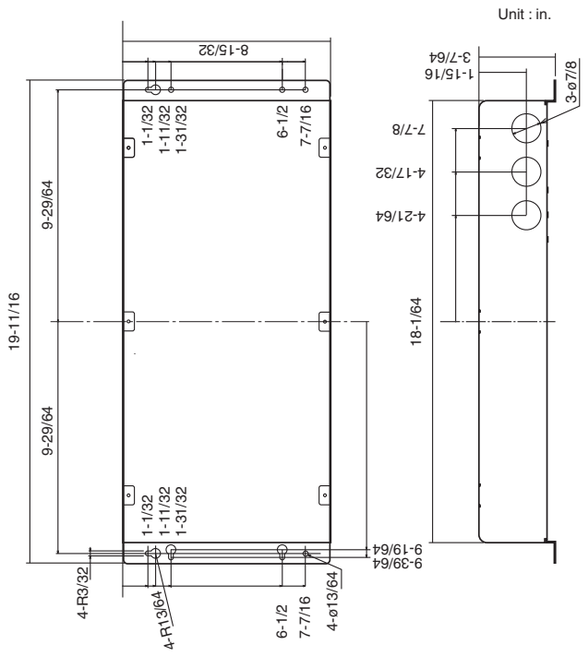


Communications LED	Data LED display meaning
①	No LED lit
②	All LEDs lit
③	------
④	Displays the wait time (seconds) for A/C unit initial communication.
⑤	Displays the A/C unit communications status
⑥	------
⑦	No LED lit
⑧	No LED lit
⑨	------
⑩	------
⑪	------
⑫	------
⑬	According to the test run mode specifications
⑭	------
⑮	According to the version display specifications
⑯	Displays the A/C unit communications status

• Display of A/C unit communications status

LD		Display meaning
	Indoor unit group	
003	0	**OFF:** Waiting for initial communication **Low-speed flashing:** Waiting for minimum transmission interval **High-speed flashing:** Initial communication in progress **ON:** Normal communications in progress
004	1	
005	2	
006	3	
007		Illuminates for 200 ms when data is output to the LonWorks communicator.
008		Illuminates for 200 ms when data is output to the indoor/outdoor communicator.

Diagram of External Dimensions



Product Specifications

Connects to	LonWorks network FTT-10 A transceiver device
Power	100-120/200-240 V 50/60 Hz 1-PH
Power consumption	11 W max.
Service environment conditions	Temp. 32 to 104°F, humidity 20 to 80% Indoor use only
External dimensions	3-7/64 in.(H) × 19-11/16 in.(W) × 8-15/32 in.(D)
Weight	Approx. 7.27 lb.

3. Assigning Central Control Addresses

- Before assigning central control addresses for the LonWorks Interface, use the remote controller to make central control address settings for A/C units.
- Follow only the steps for “Assigning Central Control Addresses” when a system controller or other central controller is already provided.

[Setting Central Control Addresses]

(1) Press and hold both the [🔧] and [⌂] buttons for 4 seconds or longer.
Check that the “SETTING” display on the remote controller is flashing.

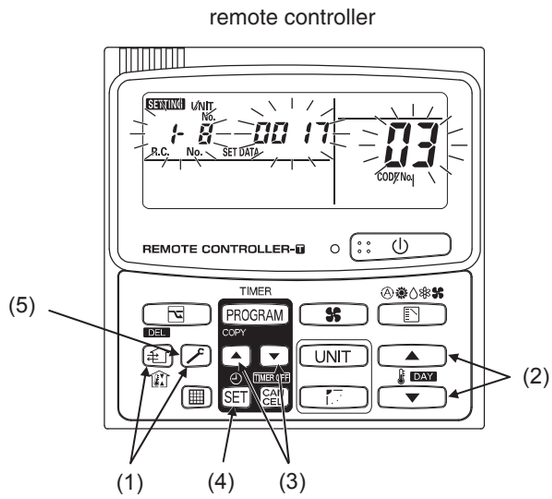
(2) Set the “03” item code by pressing the [▲] and [▼] temperature setting buttons.

(3) Set the desired central control address by pressing the [▲] and [▼] timer buttons.

(4) Press the [SET] button, and check that the “SETTING” display stops flashing and illuminates instead.
(The setting data cannot be changed unless the [SET] button is pressed.)

(5) Press the [🔧] button, and check that the display on the remote controller has been cleared.

remote controller



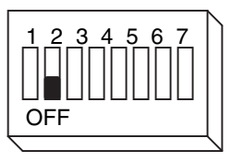
For example, in this case
Indoor unit address: 1-8
Central address: 17

[Assigning Central Control Addresses]

(1) Turn the power switch (S001) on the LonWorks Interface power board to OFF.

(2) Turn the setting switch (S006-2) to OFF (so that central control addresses are set with the DIP switches).

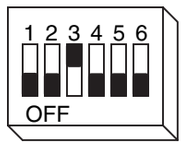
S006



(3) Set the first central control address with the address switch (S005). When assigning serial numbers, a consecutive series of numbers is assigned for the central control addresses.

<Example> If the first central control address is “5,” then this circuit board assigns central control addresses “5,” “6,” “7,” and “8.”

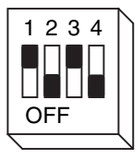
S005



(4) Make the enable/disable settings with the indoor unit enabling switches (S004).

<Example> If central control addresses “6” and “8” do not exist, enable only “5” and “7.”

S004



“5” is set as the central control address for indoor unit group 0, and “7” is set as the central control address for indoor unit group 2.

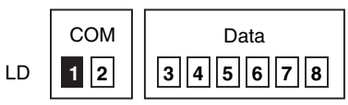
(5) Turn the power switch (S001) on the LonWorks Interface power board to ON.

4. LonWorks Interface Test Run

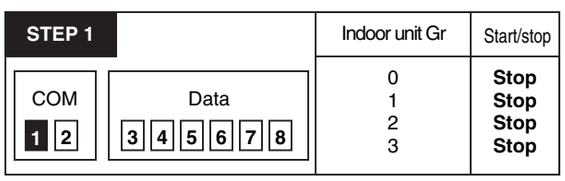
Before performing a test run of the LonWorks Interface, perform test runs of the A/C units and assign central control addresses for A/C units.

[LonWorks Interface Test Run Procedure]

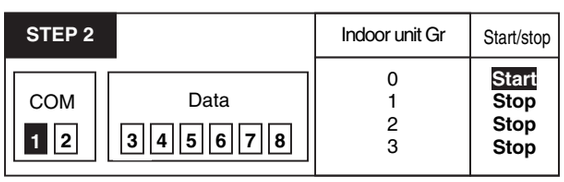
(1) Press and hold touch-switch S001 on the main circuit board for 5 seconds or longer.
Test run mode is enabled for the main circuit board that is currently being controlled. LD001 illuminates, and LD002 – LD008 turn off.



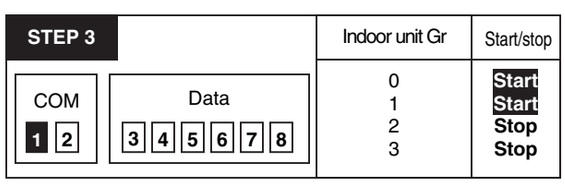
(2) Press touch-switch S002. The data LEDs appear as shown in the tables below.
In addition, the assigned indoor unit groups start and stop as shown in the tables below.



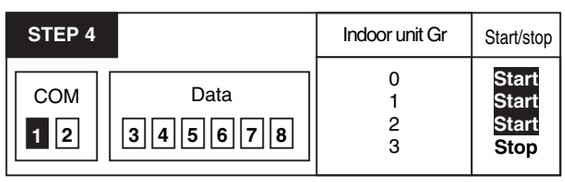
S002 PUSH



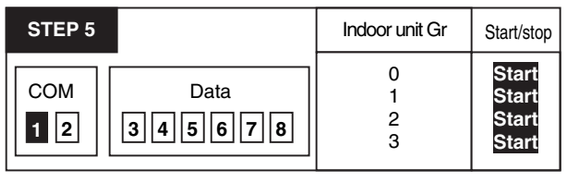
S002 PUSH



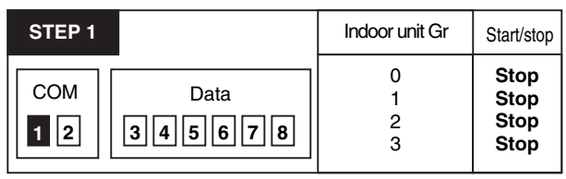
S002 PUSH



S002 PUSH



S002 PUSH

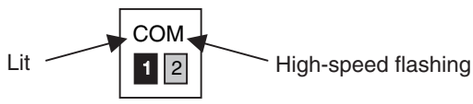


S002 PUSH

(3) Be sure to reset the power after the LonWorks Interface test run is completed.

5. Checking the LonWorks Interface Version

(1) Press touch-switch S002.
Version display mode is enabled on that circuit board for a period of 18 seconds. LD001 illuminates, and LD002 flashes at high speed.



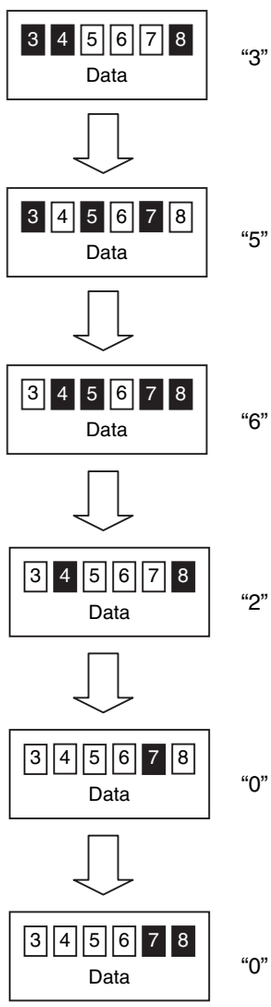
(2) While the version is displayed (18 seconds), the display contents are the following.

First 3 seconds	Displays the first digit of the main microcomputer version Off Lit 3 4 5 6 7 8 Data
Next 3 seconds	Displays the second digit of the main microcomputer version Lit Off 3 4 5 6 7 8 Data
Next 3 seconds	Displays the third digit of the main microcomputer version Lit Lit 3 4 5 6 7 8 Data
Next 3 seconds	Displays the first digit of the LonWorks I/F microcomputer version Off Lit 3 4 5 6 7 8 Data
Next 3 seconds	Displays the second digit of the LonWorks I/F microcomputer version Lit Off 3 4 5 6 7 8 Data
Last 3 seconds	Displays the third digit of the LonWorks I/F microcomputer version Lit Lit 3 4 5 6 7 8 Data

- Version display

0	3 4 5 6	5	3 4 5 6
1	3 4 5 6	6	3 4 5 6
2	3 4 5 6	7	3 4 5 6
3	3 4 5 6	8	3 4 5 6
4	3 4 5 6	9	3 4 5 6

<Example> Main microcomputer Version 3.56
LonWorks I/F microcomputer Version 2.00



6. List of LonWorks Network Variables

A/C unit	Input/output	Item	Variable name	Variable type
Indoor group 0	Input	Start/stop	nviOnOff_00	SNVT_switch
		Temp. setting	nviSetPoint_00	SNVT_temp_p
		Operating mode	nviHeatCool_00	SNVT_hvac_mode
		Option 1 setting	nviOption1_00	SNVT_switch
		Option 2 setting	nviOption2_00	SNVT_switch
	Output	Start/stop status	nvoOnOff_00	SNVT_switch
		Temp. setting	nvoSetPoint_00	SNVT_temp_p
		Operating mode	nvoHeatCool_00	SNVT_hvac_mode
		Option 1 status	nvoOption1_00	SNVT_switch
		Option 2 status	nvoOption2_00	SNVT_switch
		Alarm status	nvoAlarm_00	SNVT_switch
		Indoor units with active alarms	nvoAlarmIn_00	SNVT_switch
		Room temp.	nvoSpaceTemp_00	SNVT_temp_p
		Indoor unit status	nvoInState_00	SNVT_count
Indoor group 1	Input	Start/stop	nviOnOff_01	SNVT_switch
		Temp. setting	nviHeatCool_01	SNVT_temp_p
		Operating mode	nviSetPoint_01	SNVT_hvac_mode
		Option 1 setting	nviOption1_01	SNVT_switch
		Option 2 setting	nviOption2_01	SNVT_switch
	Output	Start/stop status	nvoOnOff_01	SNVT_switch
		Temp. setting	nvoSetPoint_01	SNVT_temp_p
		Operating mode	nvoHeatCool_01	SNVT_hvac_mode
		Option 1 status	nvoOption1_01	SNVT_switch
		Option 2 status	nvoOption2_01	SNVT_switch
		Alarm status	nvoAlarm_01	SNVT_switch
		Indoor units with active alarms	nvoAlarmIn_01	SNVT_switch
		Room temp.	nvoSpaceTemp_01	SNVT_temp_p
		Indoor unit status	nvoInState_01	SNVT_count
Indoor group 2	Input	Start/stop	nviOnOff_02	SNVT_switch
		Temp. setting	nviHeatCool_02	SNVT_temp_p
		Operating mode	nviSetPoint_02	SNVT_hvac_mode
		Option 1 setting	nviOption1_02	SNVT_switch
		Option 2 setting	nviOption2_02	SNVT_switch
	Output	Start/stop status	nvoOnOff_02	SNVT_switch
		Temp. setting	nvoSetPoint_02	SNVT_temp_p
		Operating mode	nvoHeatCool_02	SNVT_hvac_mode
		Option 1 status	nvoOption1_02	SNVT_switch
		Option 2 status	nvoOption2_02	SNVT_switch
		Alarm status	nvoAlarm_02	SNVT_switch
		Indoor units with active alarms	nvoAlarmIn_02	SNVT_switch
		Room temp.	nvoSpaceTemp_02	SNVT_temp_p
		Indoor unit status	nvoInState_02	SNVT_count
Indoor group 3	Input	Start/stop	nviOnOff_03	SNVT_switch
		Temp. setting	nviHeatCool_03	SNVT_temp_p
		Operating mode	nviSetPoint_03	SNVT_hvac_mode
		Option 1 setting	nviOption1_03	SNVT_switch
		Option 2 setting	nviOption2_03	SNVT_switch
	Output	Start/stop status	nvoOnOff_03	SNVT_switch
		Temp. setting	nvoSetPoint_03	SNVT_temp_p
		Operating mode	nvoHeatCool_03	SNVT_hvac_mode
		Option 1 status	nvoOption1_03	SNVT_switch
		Option 2 status	nvoOption2_03	SNVT_switch
		Alarm status	nvoAlarm_03	SNVT_switch
		Indoor units with active alarms	nvoAlarmIn_03	SNVT_switch
		Room temp.	nvoSpaceTemp_03	SNVT_temp_p
		Indoor unit status	nvoInState_03	SNVT_count
Indoor groups 0 – 3	Input	Emergency stop	nviAllInOff	SNVT_switch

Transmission intervals settings	nciSndHrtBt	SNVT_time_sec
Minimum time secured for transmission	nciMinOutTm	SNVT_time_sec

7. Details of LonWorks Network Variables

[nv1] Unit start/stop command

network input SNVT_switch nviOnOff_00;
network input SNVT_switch nviOnOff_01;
network input SNVT_switch nviOnOff_02;
network input SNVT_switch nviOnOff_03;

These input network variables are used to change the start/stop status of the indoor unit.
If start/stop is only done from an A/C unit side (as with the remote controller), then it is not necessary to use these network variables.

Contents state 0: Stop 1: Start value (Not used)

[nv2] Unit start/stop status notification

network output SNVT_switch nvoOnOff_00;
network output SNVT_switch nvoOnOff_01;
network output SNVT_switch nvoOnOff_02;
network output SNVT_switch nvoOnOff_03;

These output network variables are used to provide notification of the unit's current start/stop status and the thermostat ON/OFF status.
They are also output when the status has been changed from an A/C unit side (as with the remote controller).
They are output when the LonWorks Interface or the A/C unit power is reset.
When the indoor units are subject to group control, "thermostat ON" is output when 1 or more indoor unit is thermostats ON, and "thermostat OFF" is output when all indoor unit are thermostats OFF.

Contents state 0: Stop 1: Start value 0: Thermostat OFF 200: Thermostat ON

[nv3] Temperature setting command

network input SNVT_temp_p nviSetpoint_00;
network input SNVT_temp_p nviSetpoint_01;
network input SNVT_temp_p nviSetpoint_02;
network input SNVT_temp_p nviSetpoint_03;

These input network variables are used to change the indoor unit temperature setting.
If the temperature setting is only changed from an A/C unit side (as with the remote controller), then it is not necessary to use these network variables.
When a temperature above the upper limit of the temperature which can be set by the indoor units has been specified, it will be set to the upper limit; conversely, when a temperature below the lower limit has been specified, it will be set to the lower limit.

Contents
Valid range

Auto heat/cool mode:	17 - 27°C (62 - 80°F)
Heat mode:	16 - 26°C (60 - 78°F)
Cool mode:	18 - 30°C (64 - 86°F)
Dry mode:	18 - 30°C (64 - 86°F)
Fan mode:	Temp. setting not used.

Temperature settings are made in units of 1.0°C (1.8°F).
(Values after the decimal point are discarded.)

* Be aware that the temperature setting ranges may vary according to the models of the outdoor and indoor units.

[nv4] Temperature setting status notification

network output SNVT_temp_p nvoSetpoint_01;
network output SNVT_temp_p nvoSetpoint_01;
network output SNVT_temp_p nvoSetpoint_02;
network output SNVT_temp_p nvoSetpoint_03;

These output network variables are output when the temperature setting status is changed.
They are also output when the status has been changed from an A/C unit side (with the remote controller).
They are output when the LonWorks Interface or the A/C unit power is reset.

Contents
Valid range

Output range:	16 - 30°C (60 - 86°F)
Temp. unit:	1.0°C (1.8°F)

* Be aware that the temperature setting ranges may vary according to the models of the outdoor and indoor units.

[nv5] Operating mode setting command

network input SNVT_hvac_mode nviHeatCool_00;
network input SNVT_hvac_mode nviHeatCool_01;
network input SNVT_hvac_mode nviHeatCool_02;
network input SNVT_hvac_mode nviHeatCool_03;

These input network variables are used to change the indoor unit operating mode.
If the operating mode setting is only changed from an A/C unit side (as with the remote controller), then it is not necessary to use these network variables.

Contents 0: Auto heat/cool 1: Heat 3: Cool 5: Dry 9: Fan

* The operating modes that can be set may vary according to the models of the outdoor and indoor units.
* Settings other than the above are ignored.

[nv6] Operating mode status notification

network output SNVT_hvac_mode nvoHeatCool_00;
network output SNVT_hvac_mode nvoHeatCool_01;
network output SNVT_hvac_mode nvoHeatCool_02;
network output SNVT_hvac_mode nvoHeatCool_03;

These output network variables are output when the operating mode has been changed.
They are also output when the status has been changed from an A/C unit side (with the remote controller).
They are output when the LonWorks Interface or the A/C unit power is reset.

Contents 0: Auto heat/cool 1: Heat 3: Cool 5: Dry 9: Fan

[nv7] Option 1 setting command
[nv9] Option 2 setting command

network input SNVT_switch nviOption1_00;
network input SNVT_switch nviOption1_01;
network input SNVT_switch nviOption1_02;
network input SNVT_switch nviOption1_03;
network input SNVT_switch nviOption2_00;
network input SNVT_switch nviOption2_01;
network input SNVT_switch nviOption2_02;
network input SNVT_switch nviOption2_03;

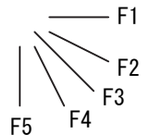
These input network variables are used to make the indoor unit option settings.
Two of the following 4 option settings can be selected: remote-controller prohibit, fan speed setting, air direction setting, and filter sign reset.
Make changes using the DIP switches on the main circuit board.
When option settings are not made from the LonWorks, it is not necessary to use these network variables.

	State	Value	Start/stop operation	Temp. setting	Operating mode
Remote-controller prohibit	0	(Not used)	O	O	O
	1	100	×		
		120	O	×	
		140	×		
		150	O	O	×
		160	×		
		180	O	×	
		200	×		
		Other			

O :Permitted
× :Prohibited

Fan speed setting	(Not used)	120	Auto
		200	High
		150	Medium
		100	Low
		Other	

Air direction setting	(Not used)	200	Swing
		170	F1
		140	F2
		110	F3
		80	F4
		50	F5
		Other	Swing



* Positions F4 and F5 can not be set for cool- and dry-mode operation.

Filter sign	Filter sign is reset when data is updated.

[nv8] Option 1 setting status notification
[nv10] Option 2 setting status notification

network output SNVT_switch nvoOption1_00;
network output SNVT_switch nvoOption1_01;
network output SNVT_switch nvoOption1_02;
network output SNVT_switch nvoOption1_03;
network output SNVT_switch nvoOption2_00;
network output SNVT_switch nvoOption2_01;
network output SNVT_switch nvoOption2_02;
network output SNVT_switch nvoOption2_03;

These output network variables provide notification of changes in the status of the indoor unit option settings.
Two of the following 4 option settings can be selected: remote-controller prohibit, fan speed setting, air direction setting, and filter sign reset.
Make changes using the DIP switches on the main circuit board.
They are output when the LonWorks Interface or A/C unit power is reset.

	State	Value	Start/stop operation	Temp. setting	Operating mode
Remote-controller prohibit	0	0	O	O	O
	1	100	×		
		120	O	×	
		140	×		
		150	O	O	×
		160	×		
		180	O	×	
		200	×		

O :Permitted
× :Prohibited

Fan speed setting	1	120	Auto
		200	High
		150	Medium
		100	Low
		50	Very
		0	Stop

Air direction setting	1	200	Swing
		170	F1
		140	F2
		110	F3
		80	F4
		50	F5
		0	Stop

Filter sign	0	0	OFF
	1		ON

[nv11] Alarm notification

network output SNVT_switch nvoAlarm_00;
network output SNVT_switch nvoAlarm_01;
network output SNVT_switch nvoAlarm_02;
network output SNVT_switch nvoAlarm_03;

These output network variables are output when an alarm occurs at an indoor unit, and when the alarm is reset at an indoor unit.
They are output when the LonWorks Interface or A/C unit power is reset.

Contents state 0: Normal value 0 at all times
1: Alarm

[nv12] Indoor unit number with active alarm notification

network output SNVT_switch nvoAlarmIn_00;
network output SNVT_switch nvoAlarmIn_01;
network output SNVT_switch nvoAlarmIn_02;
network output SNVT_switch nvoAlarmIn_03;

These output network variables are output when an alarm occurs at an indoor unit.
They are output when the LonWorks Interface or A/C unit power is reset.

Contents state 0 at all times value Indoor unit number with active alarm × 2

* Value = 0 when no alarms are active.

[nv13] Room temperature notification

network output SNVT_temp_p nvoSpaceTemp_00;
network output SNVT_temp_p nvoSpaceTemp_01;
network output SNVT_temp_p nvoSpaceTemp_02;
network output SNVT_temp_p nvoSpaceTemp_03;

These output network variables are output when the indoor unit room temperature changes.
They are output when the LonWorks Interface or A/C unit power is reset.
When indoor units are under group control, the room temperature of the main unit in the group is output.

Contents
Valid range

Output range:	–35.0 - 92.5°C (–31 - 198°F)
Temp. units:	0.5°C (0.9°F)

* Be aware that the output temperature range may vary according to the models of the outdoor and indoor units.
* When indoor units are under group control, the status is output from the main unit.

[nv14] A/C unit status notification

network output SNVT_count nvoInState_00;
network output SNVT_count nvoInState_01;
network output SNVT_count nvoInState_02;
network output SNVT_count nvoInState_03;

These output network variables are output when the A/C unit status changes.
They are output when the LonWorks Interface or A/C unit power is reset.

0	Normal communications in progress (no alarms)
1~255	According to alarm code table
300	Indoor unit not connected (initial communication in progress)

[nv15] Emergency stop

network output SNVT_switch nviAllInOff;

This input network variable is used to stop the indoor units in an emergency.
Remote-controller prohibit (start/stop prohibit) is enabled for the stopped indoor units.
The remote-controller prohibit (temperature setting, operating mode) status remains the same as before the units were stopped.
When emergency stop is canceled, remote-controller prohibit (start/stop prohibit) status returns to the status prior to emergency stop; however, the unit itself remains stopped.
If this function is not used, then it is not necessary to use this network variable.

Contents state 0: Cancel value (Not used)
1: Emergency stop

[nc49] Transmission interval setting

network input config SNVT_time_sec nciSndHrtBt;

This network configuration sets the interval for automatic data output. When the set time has elapsed, data is output automatically.
The network variables that are affected by this configuration are the following:

nvoOnOff_0?	*nvoSetpoint_0?*	*nvoHeatCool_0?*
nvoOption1_0?	*nvoOption2_0?*	*nvoAlarm_0?*
nvoAlarmIn_0?	*nvoSpaceTemp_0?*	*nvoInState_0?*

Contents
The valid range is 0.0 seconds to 6553.5 seconds. If 0.0 seconds is set, automatic data update is disabled.
The transmission interval setting is the same for all network variables.
When the set time has elapsed, above all network variables are output.

[nc52] Setting of minimum time secured for transmission

network input config SNVT_time_sec nciMinOutTm;

This network configuration determines the minimum interval that is secured for output network variables.
The network variables that are affected by this configuration are the following:

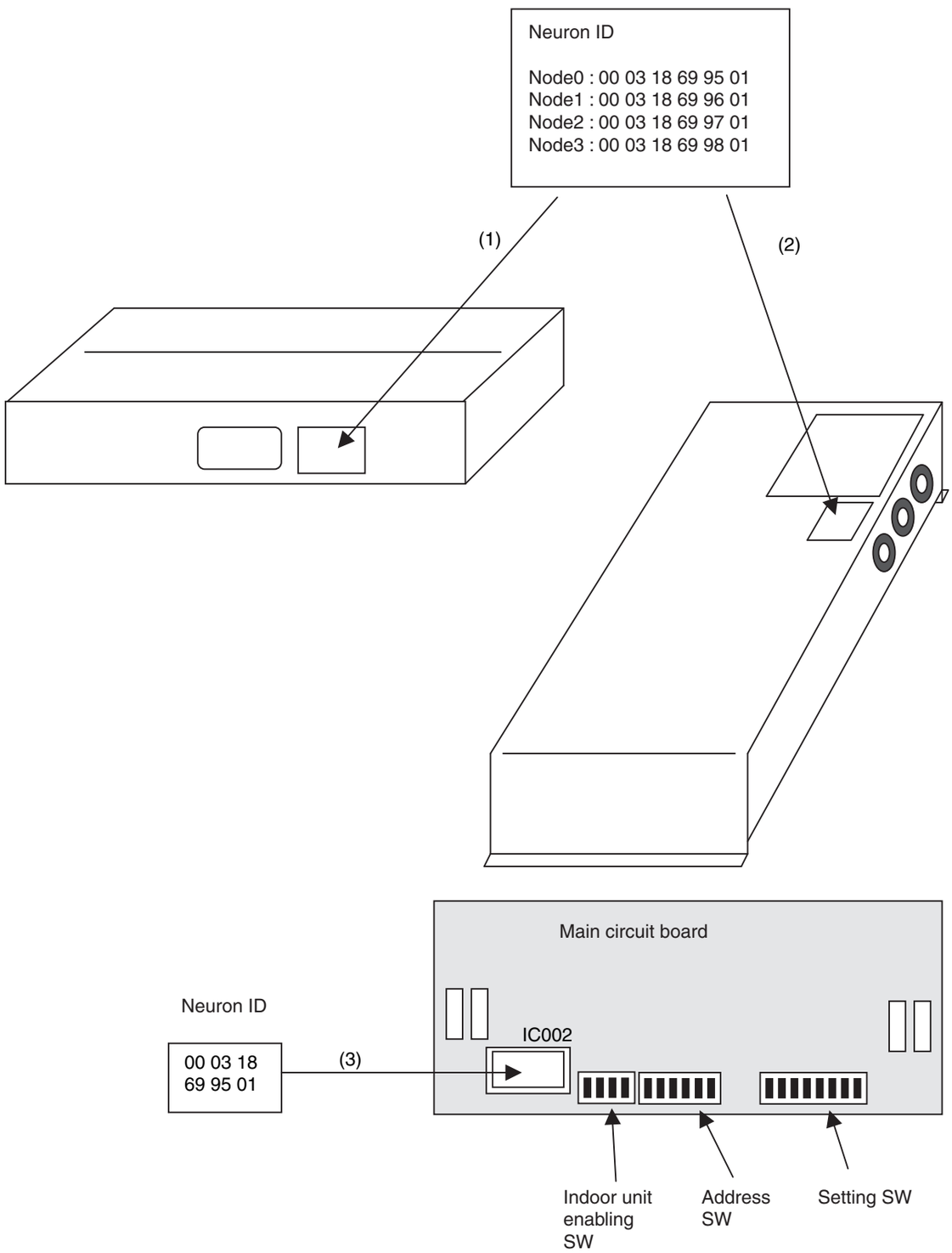
nvoOnOff_0?	*nvoSetpoint_0?*	*nvoHeatCool_0?*
nvoOption1_0?	*nvoOption2_0?*	*nvoAlarm_0?*
nvoAlarmIn_0?	*nvoSpaceTemp_0?*	*nvoInState_0?*

Contents
The valid range is 0.0 seconds to 6553.5 seconds.
The minimum time secured for transmission is independent for each network variable. It is not valid between different network variables.

8. Locations Where Neuron ID is Applied

The Neuron ID is applied in the following 3 locations.

(1) Packaging box
(2) Top panel lid
(3) On the main circuit board Neuron chip



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