User's Manual

YEWSERIES 80

Model SISD (Style S) Isolator

YOKOGAWA
Yokogawa Electric Corporation

IM 01B04N01-02E
10th Edition

Contents

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Introduction

This manual describes the functions and operations of the SISD Isolator.

● Intended Readers

This manual is intended for personnel in charge:

- Installation and wiring
- Instrumentation and setup of the function
- Operation and monitoring of the controller
- Maintenance of equipment

● Related Documents

The following documents all relate to the SISD Isolator. Read them as necessary.

Manual Title	Manual No.	Description
Rack-Mounted Instruments	IM 1B4F2-01E	Describes mounting and wiring for the YS80 rack-mounted instruments.
Model VJ77 PC-based Parameters Setting Tool	IM 77J01J77-01E	Describes operation for the VJ77 parameters setting tool..
Model JHT200 Handy Terminal	IM 77J50H01-01EN	Describes operation of JHT200.

1.1 Inspection

The SISD isolator is shipped only after stringent inspection at the factory. Visually inspect the product upon delivery to make sure it is not damaged in any way.
Store the box and inner packing material of the package in a safe place - they may be needed if there is a problem with the product and it needs to be sent back for repair.

Check of Model and Suffix Codes

The model and suffix codes are indicated on the Name plate attached to the front cover of the instrument. Crosscheck this information with the model and suffix codes of Section 2.2 to ensure that the product is as specified in the order.

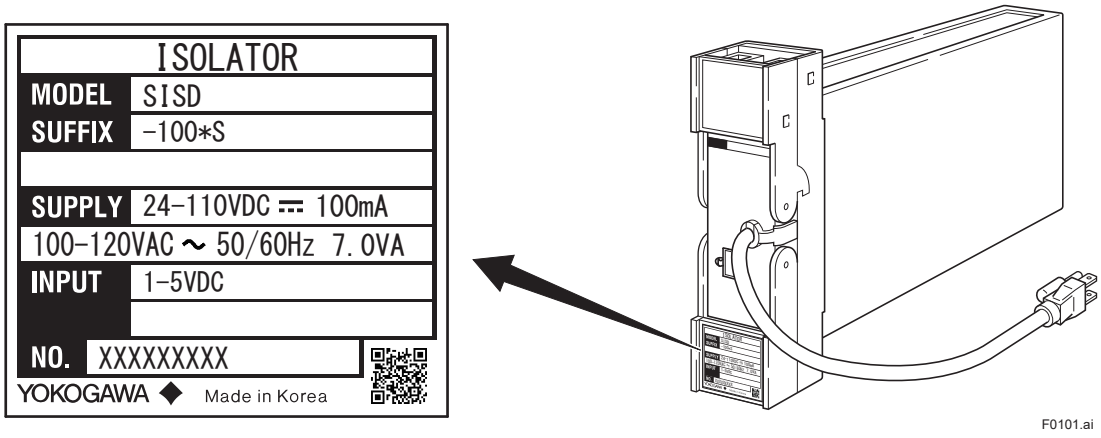

Figure 1-1 Name plate for Thermocouple Input (Description example)

Confirmation of the Package Contents

Check the package contents against the list below. If anything is missing or damaged, immediately contact the sales office from which you purchased the product or your nearest Yokogawa representative.

- SISD Isolator 1
- Precautions on the Use of the YS80 Series 1

Downloadable Electronic Manuals

You can download the latest manuals from the following website:
To view the User's Manuals, use Adobe Acrobat Reader of Adobe Systems Incorporated.

http://www.yokogawa.com/ns/ys/

1.2 Documentation Conventions

This manual uses the following notational conventions.

Symbols

The following symbols are used in this manual.

Markings	
 WARNING	Indicates that operating the hardware or software in a particular manner may damage it or result in a system failure.
 CAUTION	Draws attention to information that is essential for understanding the operation and/or features of the product.
Note	Gives additional information to complement the present topic and/or describe terms specific to this document.
▶	Gives reference locations for further information on the topic.

Description of Displays

Some of the representations of product displays shown in this manual may be exaggerated, simplified, or partially omitted for reasons of convenience when explaining them.

QR Code

The product has a QR Code pasted for efficient plant maintenance work and asset information management. It enables confirming the specifications of purchased products and user's manuals.
For more details, please refer to the following URL.

https://www.yokogawa.com/qr-code

QR Code is a registered trademark of DENSO WAVE INCORPORATED.

1.3 Notice

This Instruction Manual

- This manual should be passed on to the end user. Keep at least one extra copy of the manual in a safe place.
- Read this manual carefully to gain a thorough understanding of how to operate this product before you start using it.
- This manual is intended to describe the functions of this product. Yokogawa Electric Corporation (hereinafter simply referred to as Yokogawa) does not guarantee that these functions are suited to the particular purpose of the user.
- Under absolutely no circumstances may the contents of this manual, in part or in whole, be transcribed or copied without permission.
- The contents of this manual are subject to change without prior notice.
- Every effort has been made to ensure accuracy in the preparation of this manual. Should any errors or omissions come to your attention however, please contact your nearest Yokogawa representative or sales office.

Protection, Safety, and Prohibition against Unauthorized Modification

- The following safety symbols are used on the product and in this manual.

Markings	
	If this symbol is indicated on the product, the operator should refer to the explanation given in the instruction manual in order to avoid personal injury or death to either themselves or other personnel, and/or damage to the instrument. The manual describes that the operator should exercise special care to avoid shock or other dangers that may result in injury or loss of life.
	Protective ground terminal: This symbol indicates that the terminal must be connected to ground prior to operating the equipment.
	Function ground terminal: This symbol indicates that the terminal must be connected to ground prior to operating the equipment.
	AC voltage: This symbol indicates that AC voltage is present.
	DC voltage: This symbol indicates that DC voltage is present.

- In order to protect the product and the system controlled by it against damage and ensure its safe use, make certain that all of the instructions and precautions relating to safety contained in this document are strictly adhered to. Yokogawa does not guarantee safety if products are not handled according to these instructions.
- If protection/safety circuits are to be used for the product or the system controlled by it, they should be externally installed on the product.
- Do not turn off the power of the product during adjustment and parameter setting.
- Be sure to confirm the parameters referring to “5.4 Parameter List” before installing the product in a system or plant. After confirming them, install the product in a system or plant and turn on the power.
- When you replace the parts or consumables of the product, only use those specified by Yokogawa.
- If the product is to be used in systems with special requirements for human safety, such in as nuclear power and radiation related equipment, railway facilities, aircraft facilities, and medical devices, please consult with your sales representative.
- Do not modify the product.

Force Majeure

- Yokogawa does not make any warranties regarding the product except those mentioned in the WARRANTY that is provided separately.
- Yokogawa assumes no liability to any party for any loss or damage, direct or indirect, caused by the use or any unpredictable defect of the product.

General

The SISD isolator receives 1 to 5 V DC input signals and outputs 1 to 5 V DC and 4 to 20 mA DC signals which are isolated from the input signal and the power supply.
With the VJ77 Parameter Setting Tool you can do the following:

- Read/write all parameters at once
- Save read parameters to a file
- Copy parameters to other devices of the same model and suffix code (only with style code R or S).

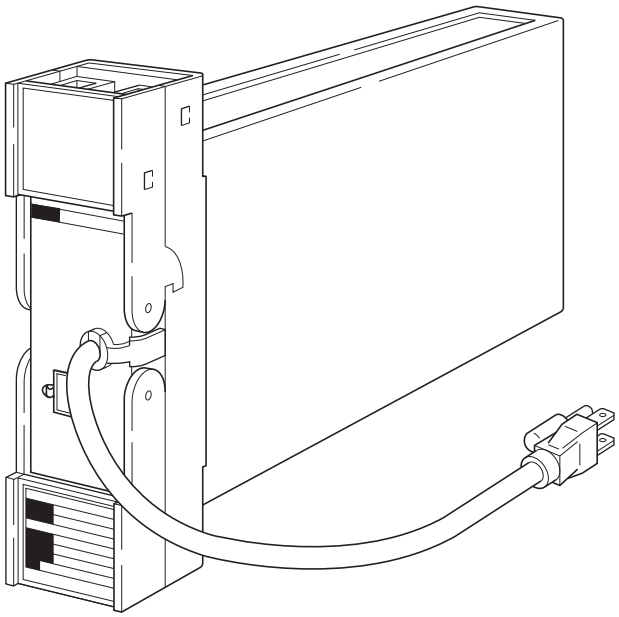

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Figure 2-1 External View

2.1 Standard Specifications

Please see the General Specifications (GS 01B04N01-02E) at the end of this manual.

2.2 Model and Suffix Codes

Model	Suffix Codes	Option Codes	Description
SISD			Isolator
Number of Input	-1		1 input
Square Root Function	00		Not provided
	01		Provided
Style Code	*S		Style S
Option Codes (*1) (*2)		/NHR	Without rack case
		/FBP	Power supply fuse bypass
		/LOCK	Power supply plug with lock
		/WSW	With spring washer
		/REK	Mount to same line with EK series rack
		/TB	With power supply terminal
		/A2TB	220V version with power supply terminal
		/A2ER	220V version with power supply plug

*1: /LOCK, /REK, /TB, /A2TB, and /A2ER cannot be specified together.
*2: /FBP, /A2TB, and /A2ER cannot be specified together.

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Installation

For details of the installation procedure and wiring precautions, refer to the instruction manual “Installation of Rack-Mounted Instruments” (IM 1B4F2-01E).

3.1 External Wiring

(a) To prepare cables for connection to each terminal, install crimp-on solderless lugs for 4 mm screw on the end of each cable.
(b) Draw the internal unit out from the rack case.
(c) Connect the cables to the correct terminals referring to Table 3-1.
(d) Replace the internal unit into the rack case after completing the wiring.
(e) Always replace the terminal cover after completing the wiring.

CAUTION

The terminal cover cannot be replaced if the internal unit is not installed in the rack case. The terminal cover should be securely replaced because it has the function of locking the internal unit.

Terminal arrangement

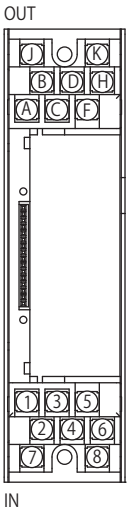

Figure 3-1 Terminal Layout

Table 3-1 Terminal Wiring

Terminal Designation	Description
A B C D F H J K	+ - > Output1 (1 to 5 V DC) + - > Output2 (4 to 20 mA DC)

Do not connect to the output terminal when the terminal is not in use.

Terminal Designation	Description
1 2 3 4 5 6 7 8	+ - > Input (1 to 5 V DC)

Applicable Cables

(1) Signal circuit wiring
- Cross-sectional area of the cable conductor: 0.5 to 0.75 mm^2
- Examples of applicable cables: Single core PVC insulated flexible cable (VSF) stranded wires (JIS C 3306); heat-resistant vinyl-insulated cable (UL style 1007)

(2) Power supply wiring
- Cross-sectional area of the cable conductor: 1.25 to 2.00 mm^2
- Examples of applicable cables: 600 V PVC insulated cable (1 V) stranded wires (JIS C 3307);PVC insulated cable for electrical apparatus (KIV) stranded wires (JIS C 3316)

4.1 Principle of Operation

Input signal Ein passes through high-input resistor Rin (1 MΩ, 0 V input at input burnout), and is converted into digital data in A/D conversion circuit. The digital data has signal processing (square root characteristic etc.) in micro-processor to be Pulse Width Modulation (PWM), then is converted into 1 to 5 V DC or 4 to 20 mA DC signals in output circuit through optical-isolation circuit.

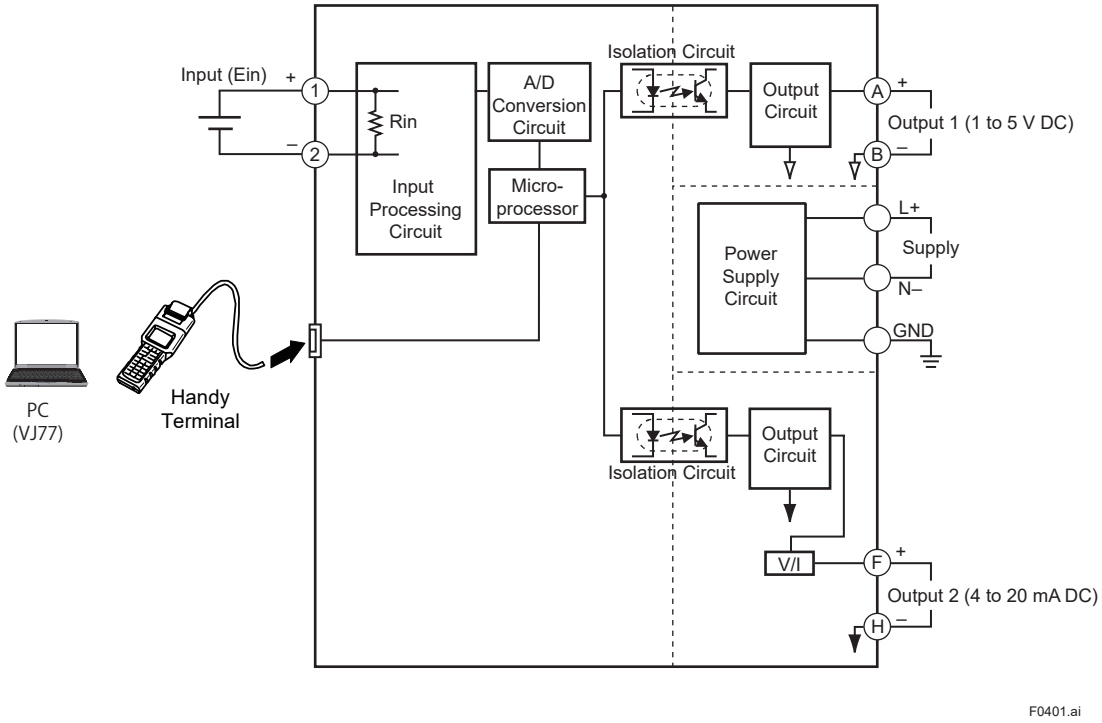

Figure 4-1 Functional Block Diagram

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Setting

■ Items to Confirm before Start of Operation

Before you start operation, inspect and confirm the following items:

(1)Draw out the internal unit from the rack case, and make sure that the specified fuses are properly mounted in the fuse holders at the rear of the internal unit.

(2)When inserting the internal unit into the rack case, firmly connect the multi-pin connectors for connecting the internal unit and the case.

(3)Make sure that power plugs are properly connected to the power outlet.

(4)Make sure that external wiring to the terminal block is properly connected.

The SISD isolator is made for operation by simply turning on the power once the installation and wiring are completed. The isolator does not require parameter settings and the like if there is no change in the specifications at order.

5.1 Names of Components

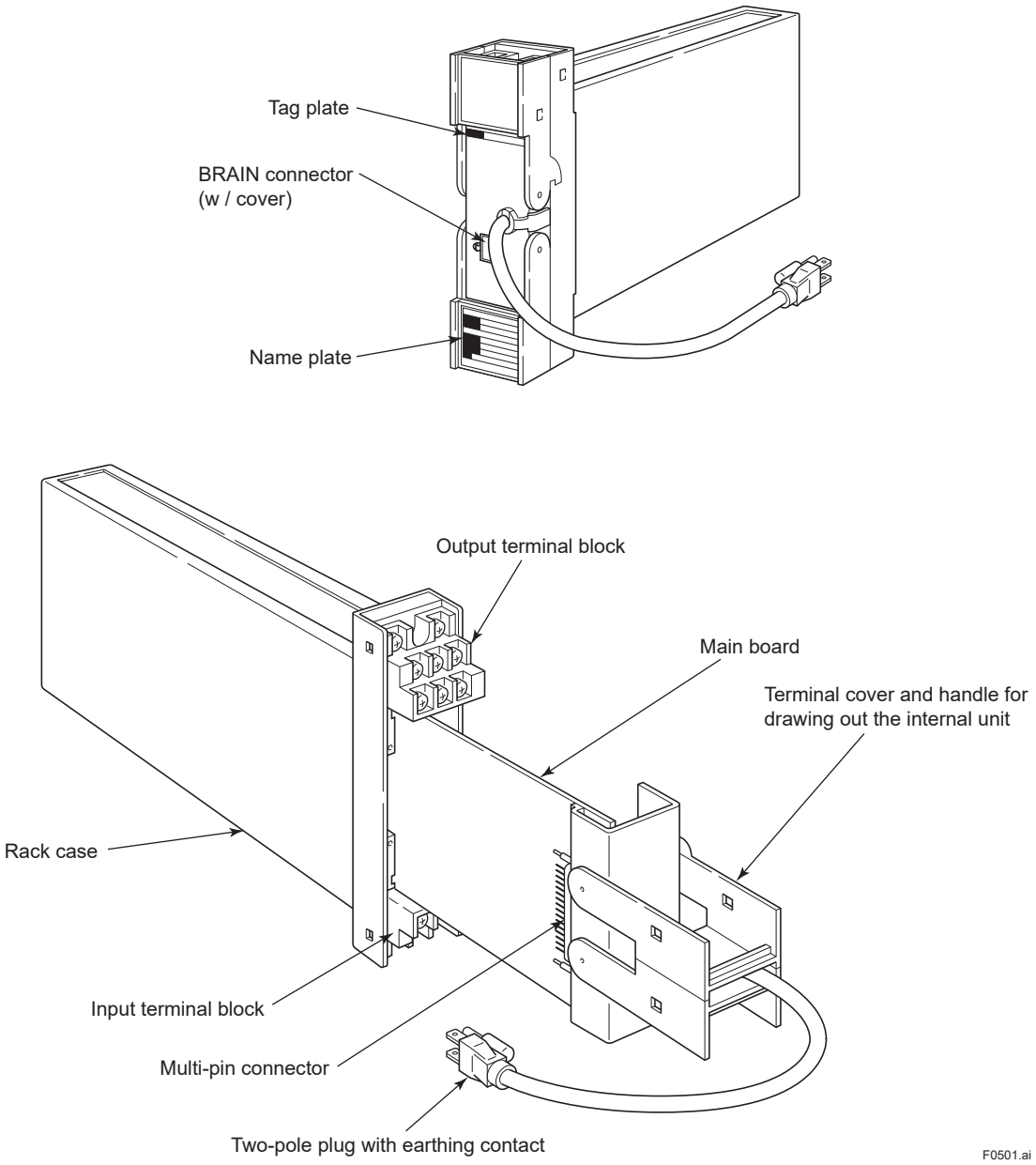


Figure 5-1 Names of Component

5.2 Setting Jumper

This instrument has the following setting jumpe:
- Parameter Write Protect (JP2): ON/OFF

5.2.1 Check of Setting Jumper and Its Position

Setting jumper is on the main board of the internal unit.
Check the setting jumper in the following procedure.
(a) Pull forward the terminal cover, and draw the internal unit out from the rack case.
(b) Check that the jumper on the main board of the internal unit is set to obtain the desired action.
(c) Use the tweezers to change the position of jumper.
(d) Put the internal unit back into the rack case.
(e) Replace the terminal cover.

Position and function of setting jumper

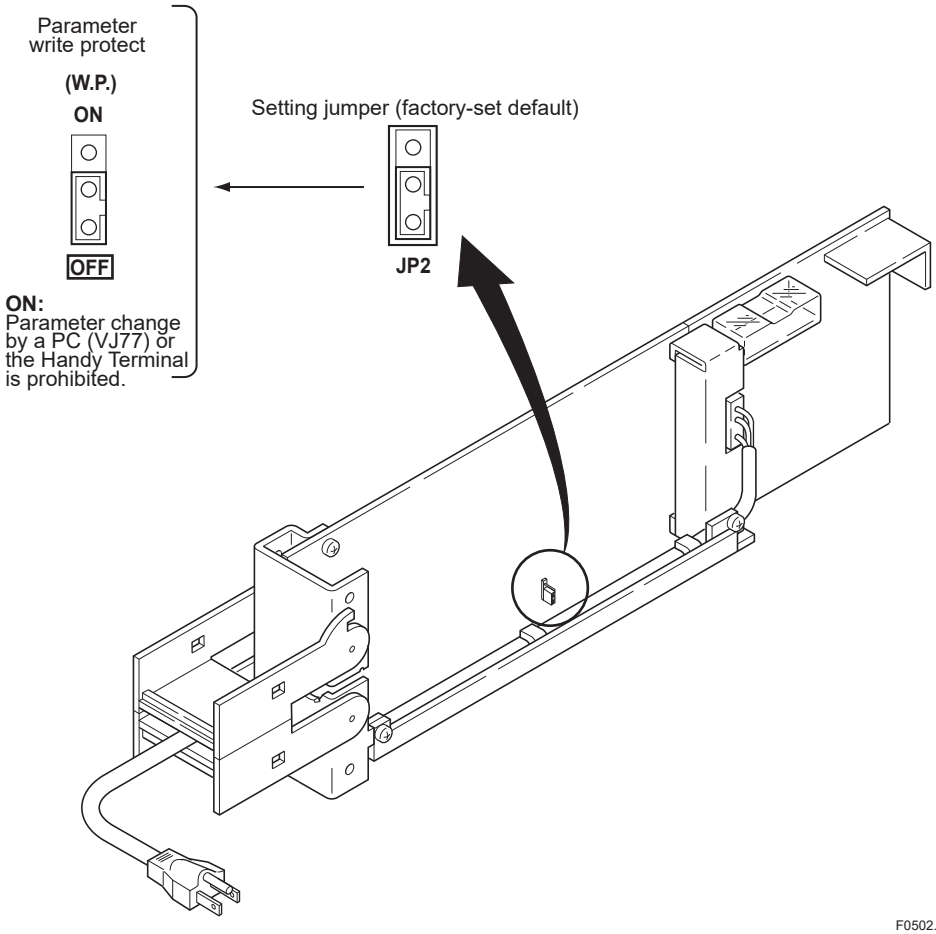


Figure5-2. Function and Set Point of Jumper

CAUTION

Operation is not guaranteed if the jumper is not set.

5.3 Setting of Parameters

This instrument has BRAIN communication parameters for specifying functions and adjusting input. Connect a PC (VJ77) or the JHT200 Handy Terminal (Note1) to the instrument to dis-play or set parameters.

Note 1: BT200 BRAIN Terminal of Yokogawa Electric Corporation can also be used. When connecting a PC (VJ77) or the JHT200 Handy Terminal, the adapter for modular-jack (model E9786WH) is required. When using the BT200 BRAIN Terminal of YOKOGAWA Electric Corporation, the communication cable of 5-pin connector type (model F9182EE) and the adapter for modularjack (model E9786WH) are required.

CAUTION

- **For details of operation and adjusting procedures of VJ77 Parameters Setting Tool, refer to the instruction manual "Model VJ77 PC-based Parameters Setting Tool" (IM 77J01J77-01E).**
- **For details of operation and adjusting procedures of JHT200 Handy Terminal, refer to the instruction manual "JHT200 Handy Terminal" (IM 77J50H01-01EN).**

<Connection>

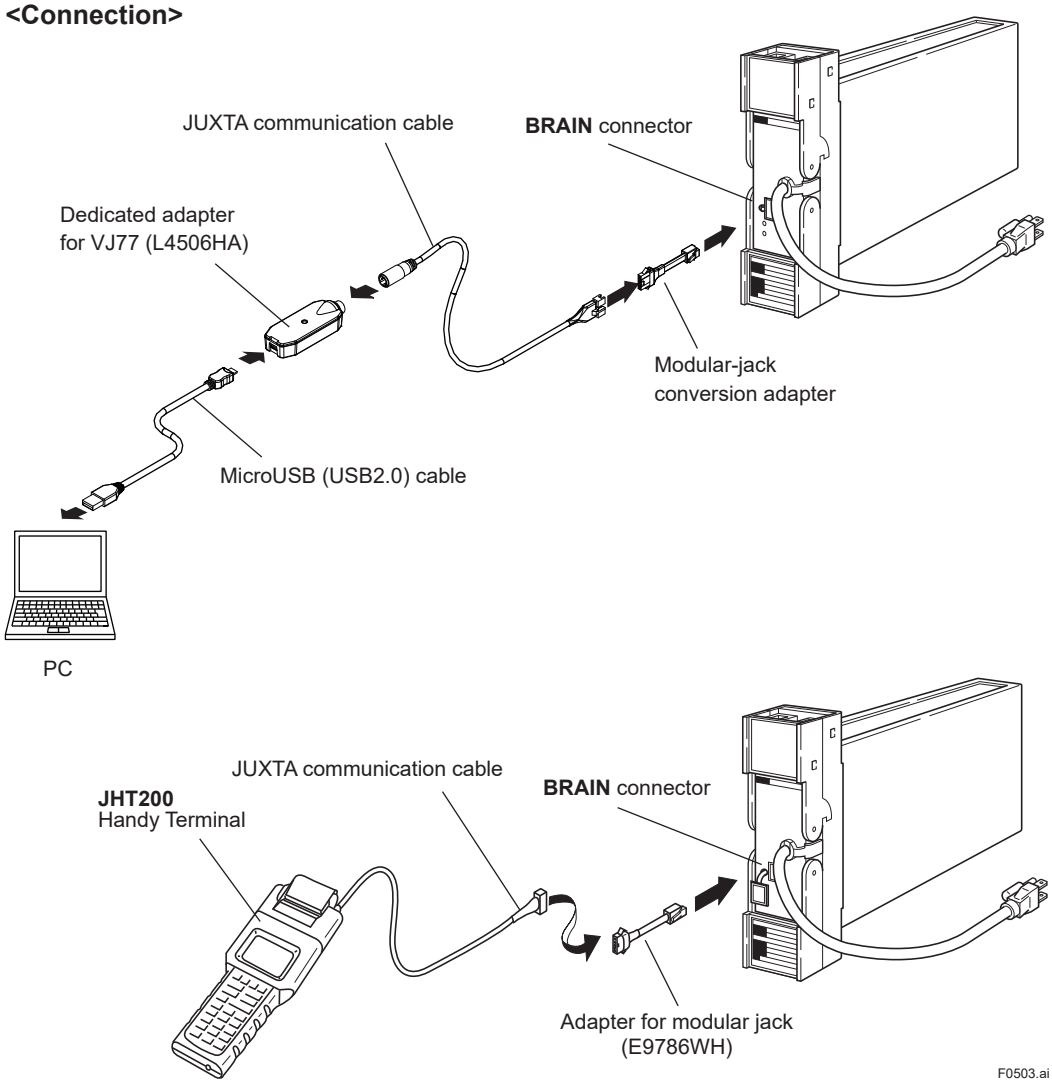


Figure 5-3 Connection

5.3.1 Configuration of Parameters

BRAIN communication parameters consist of the following parameters.

- Display (A & B parameters)
- Settings of Input and output (D parameters)
- Adjustment (P parameters)
- Test (Q parameters)

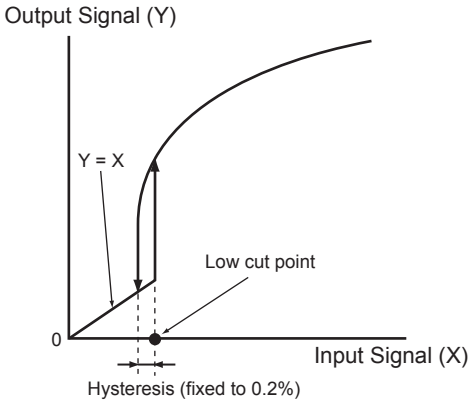
5.3.2 Description of Parameters

The description of main parameters is as follows.

● Input/output-related parameters

(1) D17: LINEARIZE1
Sets the available/unavailable of square-root characteristic.

(2) D19: LOW CUT1
Sets the low cut point.
The input signal and output signal are shown in the figure below.
If there are square roots, perform square root calculation. You can set a low cut point (LOW CUT1) for square root calculations. The operation in the vicinity of the low cut point is shown in the figure below.
A 0.2% hysteresis is used for the low cut point.



(3) D33: OUT1 DR and D34: OUT2 DR
Sets the action direction for output 1 and output 2.
If you set REVERSE, outputs 5 V (or 20 mA) for 0% and 1 V (or 4 mA) for 100%.

● Adjustment-related parameters

(1) P03: ZERO ADJ1
Performs Zero adjustment of input.

(2) P04: SPAN ADJ1
Performs Span adjustment of input.

(3) P13: OUT1 0% (Note1)
Adjusts 0% of output 1.

(4) P14: OUT1 100% (Note1)
Adjusts 100% of output 1.

(5) P15: OUT2 0% (Note1)
Adjusts 0% of output 2.

(6) P16: OUT2 100% (Note1)
Adjusts 100% of output 2.

● Test-related parameters

(1) Q02: OUT1 TEST (Note1)
Outputs the set value forcibly regardless of input condition.
Q03 has the same function.

Note1: After completing adjustment and test, press the [F4] (OK) key of the Handy Terminal to return to normal condition (release of forced output).

5.4 Parameter List

BRAIN communication parameters for SISD are as follows.

No.	Symbol	Parameter Name	Setting Range	Unit	Factory-set Value	Setting Type
01	MODEL	Model Name		——		Display
02	TAG NO	Tag Number		——		Display
03	SELF CHK	Self Check	GOOD/ERROR	——		Display
<Display Parameters>						
A	DISPLAY1	Menu Name				
A01	INPUT1	Input Display		V		Display
A09	OUTPUT1	Output1 Display		%		Display
A10	OUTPUT2	Output2 Display		%		Display
A54	STATUS	Status Display (Note1)	0000 to FFFF	——		Display
A55	WRT PROTECT	Parameter Write Protect	ON/OFF	——	OFF	Display
A56	REV NO.	Revision number		——		Display
A58	MENU REV	Menu Revision number		——		Display
A60	SELF CHK	Self Check	GOOD/ERROR	——		Display
B	DISPLAY2	Menu Name				
B01	INPUT1	Input Display		V		Display
B09	OUTPUT1	Output1 Display		%		Display
B10	OUTPUT2	Output2 Display		%		Display
B60	SELF CHK	Self Check	GOOD/ERROR	——		Display
<Setting Parameters>						
D	SET(I/O)	Menu Name				
D01	TAG NO.1	Tag Number1	Up to 8-single-byte	——		Alphanumeric
D02	TAG NO.2	Tag Number2	Up to 8-single-byte	——		Alphanumeric
D03	COMMENT1	Comment1	Up to 8-single-byte	——		Alphanumeric
D04	COMMENT2	Comment2	Up to 8-single-byte	——		Alphanumeric
D17	LINEARIZE1	Linearize	OFF/SQR	——	OFF SQR for SISD-101	Selection
D19	LOW CUT1	Low Cut	0.3 to 100.0	%	1.0	Real Number
D33	OUT1 DR	Output1 Direction	DIRECT/REVERSE	——	DIRECT	Selection
D34	OUT2 DR	Output2 Direction	DIRECT/REVERSE	——	DIRECT	Selection
D60	SELF CHK	Self Check	GOOD/ERROR	——		Display
<Adjustment Parameters>						
P	ADJUST	Menu Name				
P03	ZERO ADJ1	Zero Adjustment		Note2		Selection
P04	SPAN ADJ1	Span Adjustment		Note2		Selection
P13	OUT1 0%	Output1 0%	-20.00 to 20.00	%	0.00	Real Number
P14	OUT1 100%	Output1 100%	-20.00 to 20.00	%	0.00	Real Number
P15	OUT2 0%	Output2 0%	-20.00 to 20.00	%	0.00	Real Number
P16	OUT2 100%	Output2 100%	-20.00 to 20.00	%	0.00	Real Number
P60	SELF CHK	Self Check	GOOD/ERROR	——		Display
<Test Parameters>						
Q	TEST	Menu Name				
Q02	OUT1 TEST	Output1 Test	-25.0 to 125.0	%	0.0	Real Number
Q03	OUT2 TEST	Output2 Test	-25.0 to 125.0	%	0.0	Real Number
Q60	SELF CHK	Self Check	GOOD/ERROR	——		Display

Note 1: The condition of the instrument is displayed.
Note 2: V RST/V INC/V HINC/V HDEC/V DEC

Maintenance

This chapter describes the calibration procedures that can be done in the instrument room or service shop.

6.1 Test Equipment

For efficient maintenance of this isolator, it is recommended that the user have the following test equipment manufactured by Yokogawa or their equivalent.

- DC Voltage/Current Standard, Yokogawa GS200 or the equivalent…..…….. 1 set
- Digital Voltmeter, Yokogawa DM7560 or the equivalent..... 1 set
- PC, VJ77 Parameters Setting Tool..... 1 set
- Handy Terminal, JHT200 (BT200)..... 1 set
- Modular jack conversion adapter, Part No. E9786WH..... 1 set

6.2 Adjustment

CAUTION

- **For details of operation and adjusting procedures of VJ77 Parameters Setting Tool, refer to the instruction manual "Model VJ77 PC-based Parameters Setting Tool" (IM 77J01J77-01E).**
- **For details of operation and adjusting procedures of JHT200 Handy Terminal, refer to the instruction manual "JHT200 Handy Terminal" (IM 77J50H01-01EN).**
- **Do not turn off the power of the instrument during adjustment.**

Use a PC (VJ77) or the JHT200 Handy Terminal for adjustment.
The procedure is shown below using the JHT200 Handy Terminal as an example.

Adjust SISD using JHT200 Handy Terminal.
(a) Connect the equipment as illustrated in Figure 6-1.
(b) Set the Parameter Write Protect (W.P.) of setting jumper to OFF. (Refer to "5.2 Setting Jumper".)
(c) Turn on the power, and allow the equipment to warm up for about 5 minutes under this condition.
(d) Connect JHT200 Handy Terminal.

<Connection>

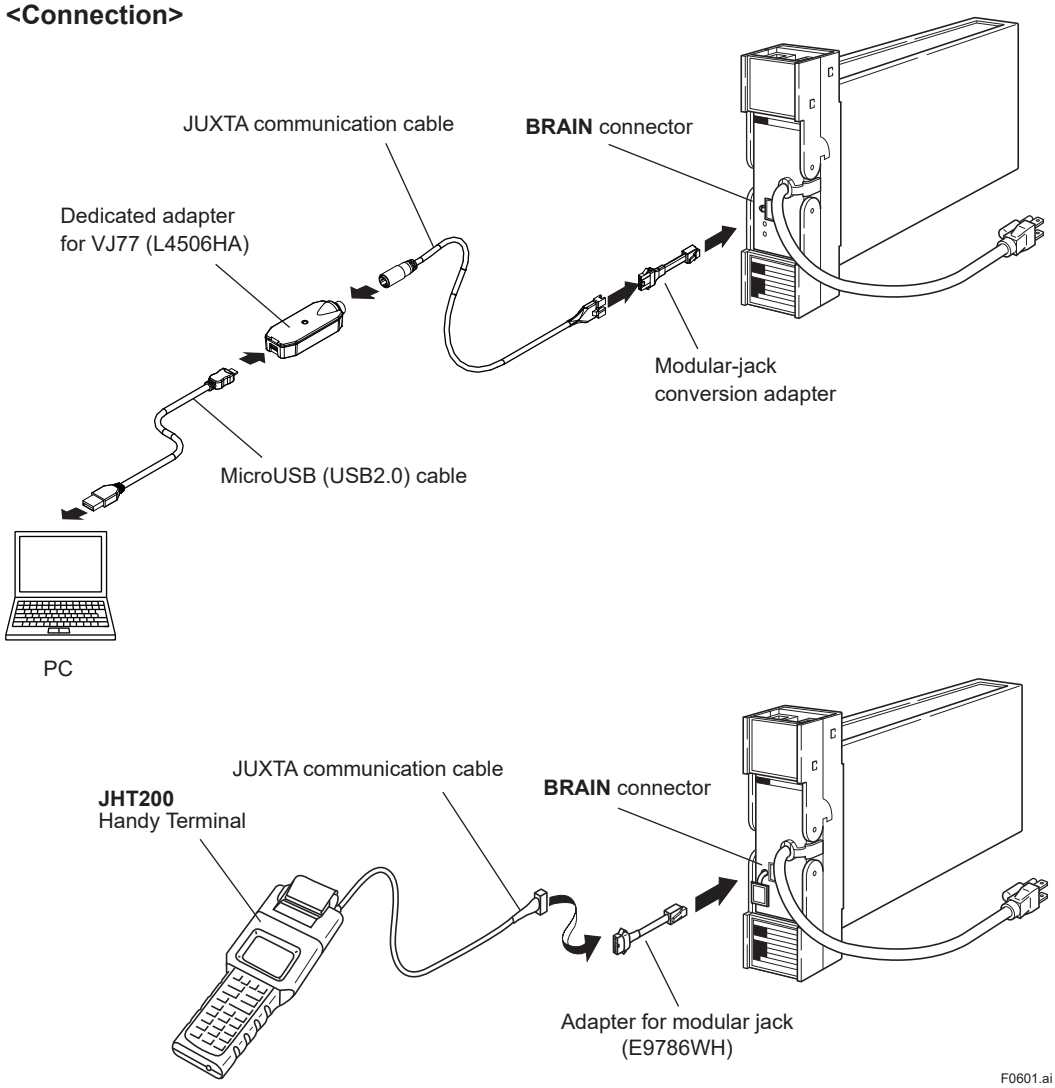


Figure 6-1 Connection

(e) Call the adjustment item (P: ADJUST).
(f) P03: ZERO ADJ1 is displayed.
(g) Apply an input equivalent to 0% of the input range. Check the input value and the input display of P03: ZERO ADJ1. If the input value does not correspond to the display value, select P03: ZERO ADJ1 to enter the adjustment mode. Mainly select INC (addition) or DEC (subtraction) for adjustment. (Selecting RST resets the adjusted value and retrieves the factory-set default.) Selecting HINC or HDEC performs adjustment using a value ten times as large as INC or DEC.
(h) Apply an input equivalent to 100% of the input range. Check the input value and the in- put display of P04: SPAN ADJ1. If the input value does not correspond to the display value, select P04: SPAN ADJ1 to enter the adjustment mode. Mainly select INC (addition) or DEC (subtraction) for adjustment. (Selecting RST resets the adjusted value and retrieves the factory-set default.) Selecting HINC or HDEC performs adjustment using a value ten times as large as INC or DEC.
(i) After completing the adjustment, set the parameter write protect (W.P.) of setting jumper to ON. (Refer to ‘‘5.2 Setting Jumper’’.)

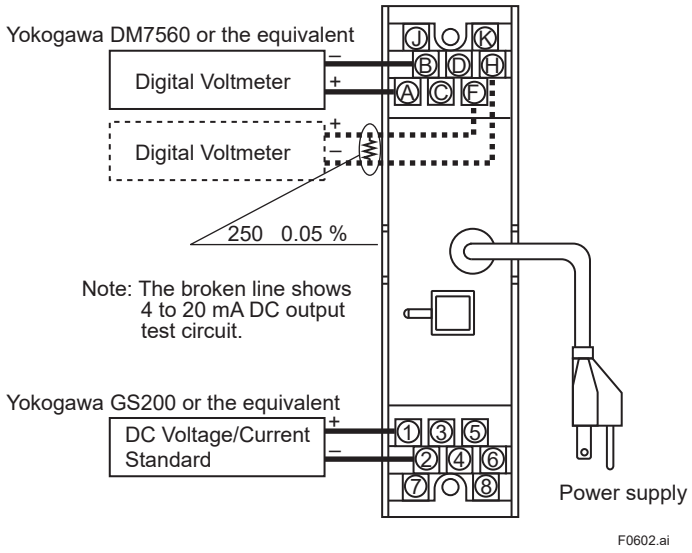


Figure 6-2 Adjustment

6.3 List of Replaceble Parts

Contact YOKOGAWA's sales office or sales representative when replacing the spare parts.

Part Name	Part Number	Recommended replacement period	Reference
Fuse	S9510VK	Approx. 3 years	If the fuse breaks or if the replacement period elapses, please have the item replaced.
Power supply unit	L3510YA: Standard L3510YF: Option codes /TB, /FBP, or /REK L3510YT: Option code /A2TB L3510YR: Option code /A2ER	5-10 years	As the aluminum electrolytic capacitors used in the power supply unit are subject to deterioration from temperature and other operating conditions, we recommend the replacement period on the left.

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Troubleshooting

If any fault occurs in the instrument, note the symptoms and follow Section 7.1.

7.1 Action in Fault Condition

The output condition and error codes (BRAIN communication parameters) in fault condition are shown in the table below.

CAUTION

- **STATUS is displayed in A54 of A: DISPLAY (display), and SELF CHK is displayed in 60 of each item.**
- **STATUS error code is to be the addition display (hexadecimal number) when two errors or more occur.**

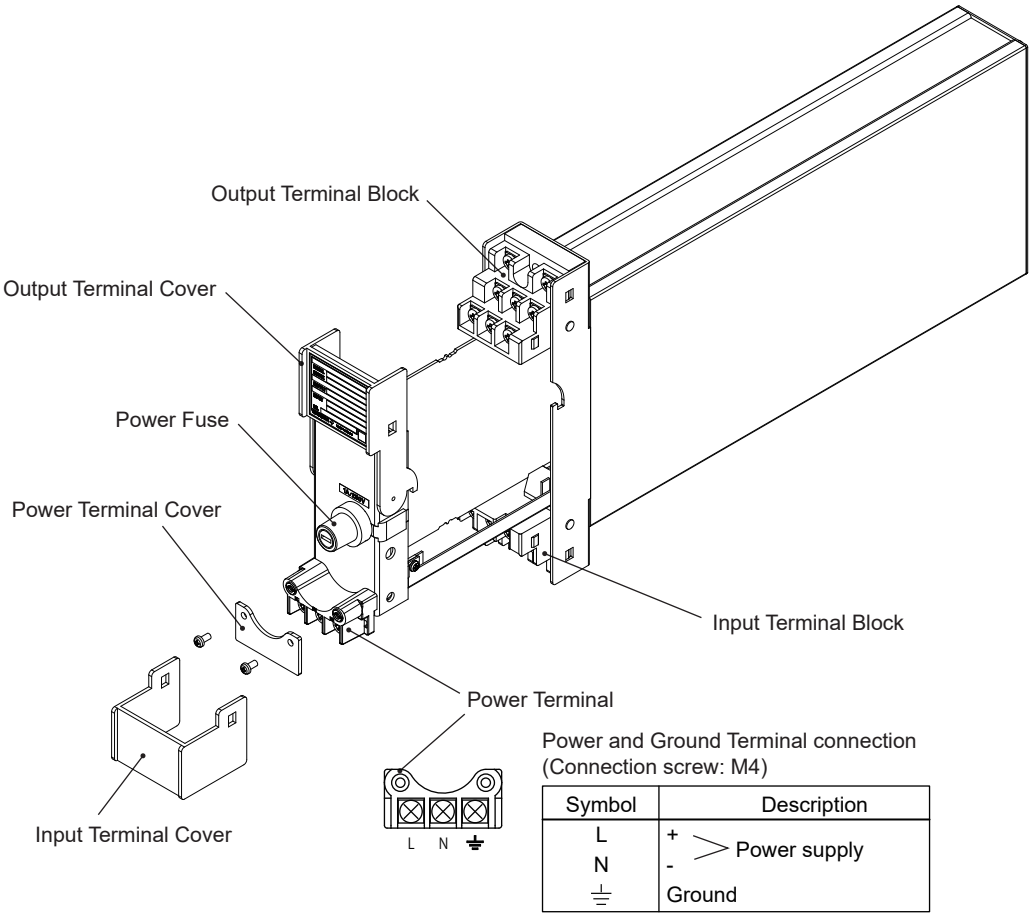
BRAIN Communication Parameter aDisplay			Output Condition	Description of Error	Remedy
STATUS	SELF CHK	Error Information (*1)			
			Same state as power off Output: 0% or less Communication: Stopped	Hardware failure Power failure, Fuse broken	Contact YOKOGAWA's sales office or sales representative.
0001	ERROR	EEPROM ERROR	Output: 0% or less Communication: Undefined	EEPROM error	
0002	ERROR	EEPROM SUM ERROR	Output: 0% or less Communication: Undefined	Parameter error	
1000	ERROR	AD ERROR	Output: 0% or less Communication: Normal action	A/D conversion error	
0008	ERROR	INPUT OVER RANGE	Output: Normal action Communication: Normal action	Excessive input, out of -25 to 125%	Set the input within the range. (*2)
0004	GOOD	LOW_CUT	Output: Normal action Communication: Normal action	Input below the square root characteristic with low-cut	Apply the input greater than the low-cut point.
0040	GOOD	None	Output: Normal action Communication: Normal action	Check power failure during operation	Write "0000" at the STATUS display of BRAIN communication parameter
0000	GOOD	None	Output: Normal action Communication: Normal action	-	-

*1: Displayed when calling ■60: **SELF CHK**.
*2: If errors continue even when the input is within the range, the input circuit is broken. Contact YOKOGAWA's sales office or sales representative.

Power Supply Terminal Connections (Options /TB, /A2TB, and /REK)

If you specify the terminal block to which the power source is directly connected (option codes: /TB, /A2TB, and /REK), the external wiring to the terminal block is necessary; therefore, drawing out the internal unit requires previous turning off of the power source and disconnection of the wiring from the terminal block.

8.1 External View and Names of Components



Power and Ground Terminal connection
(Connection screw: M4)

Symbol	Description
L	+
N	-
⏚	Ground

Power supply

Figure 8-1 External View and Names of Components

8.2 Power Supply And Ground Wiring

(1) All cable ends must be furnished with crimp-on type solderless lugs (for 4 mm screw).
(2) Examples of applicable cables:
Cross-sectional area of the cable conductor: 2.0 mm^2. *
Applicable cable: 600 V vinyle insulated cable (IV) stranded wires, conforming to JIS C3307.
Vinyle sheathed cables for electric appliances (KIV) stranded wires, conforming to JIS C3316.
Note *: Power supply cables should be determined from the instrument power consumption-they must have conductors with cross-sectional area of at least 1.25 mm^2.
(3) Wirings to power supply and ground terminals should be made after completion of signal terminal wirings. (To facilitate connecting input signal, pull the internal unit approximately half way out of the housing. Do not remove the power terminal block.)
(4) After completing the power supply and ground wiring, mount the power terminal cover.

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General Specifications

Model SISD (Style S) Isolator

YEWSERIES 80

GS 01B04N01-02E

■ GENERAL

The Model SISD Isolator accepts a 1 to 5V DC input signal. The input signal is isolated from the power supply common and from the Isolator output signal. There are two outputs: 1 to 5V and 4 to 20mA DC.

With the VJ77 Parameter Setting Tool you can do the following:

- *Read/write all parameters at once*
- *Save read parameters to a file*
- *Copy parameters to other devices of the same model and suffix code (only with style code R or S).*

■ STANDARD SPECIFICATIONS

Input Signal

Input: 1 to 5V DC(one input)
Input Resistance: 1 MΩ

Square Root Characteristic

Computation: $E_0 = 2\sqrt{E_1 - 1} + 1$

E_0: Output Signal from computation function, E : Input Signal

Lowcut Function: At E_1 is less than 1% , the output is proportional to input.

Output Signals

Output: 1 to 5V DC(one output), 4 to 20 mA DC(one output)
Load Resistance: At least 2 kΩ(1 to 5 V DC output), up to 750 Ω (4 to 20 mA DC output)

BRAIN Communication Function

Setting of each parameter, monitoring of input/output values, and configuration by a PC (VJ77), JHT200 Handy Terminal* or BT200 BRAIN Terminal*.

*: When connecting a PC (VJ77) or the JHT200 Handy Terminal, the adapter for modular-jack (model E9786WH) is required. When using the BT200 BRAIN Terminal of YOKOGAWA Electric Corporation, the communication cable of 5-pin connector type (model F9182EE) and the adapter for modular-jack (model E9786WH) are required.

■ MOUNTING AND APPEARANCE

Mounting: Rack mounting.
Wiring
Signal Wiring: ISO M4 size (4mm) screws on terminal block.
Power and Ground Wiring
100 V version: JIS C 8303 two-pin plug with earthing contact(IEC A5-15, UL458)
Cable length: 300 mm
Power supply terminal type (option code /TB)
220 V version: CEE 7 VII(CENELEC standard) plug (option code /A2ER).
Cable length: 300 mm
Power supply terminal type (option code /A2TB)
External Dimensions: 180 (H)× 48(W)× 300 (D)
Depth behind panel(mm)
Weight: 1.7 kg (including rack-mounting case)

■ STANDARD PERFORMANCE

Accuracy: ±0.2% of span(±0.5% of span with square root characteristic)
Maximum Power Consumption:
70 mA with 24 V DC supply,
5.0 VA with 100 V AC supply,
6.0 VA with 220 V AC supply.

■ POWER SUPPLY AND ISOLATION

Power Supply Rated Voltage:
100 V version:
24-110 VDC ⎓, -10 %, +10 %, 100 mA
100-120 VAC ∼, -10 %, +10 %, 50/60 Hz, 7.0 VA
220 V version:
135-300 VDC ⎓, -10 %, +10 %, 15 mA
200-240 VAC ∼, -10 %, +10 %, 50/60 Hz, 10.0 VA
Power Supply Input Voltage: AC/DC both usage
100 V version: DC drive 20 to 130 V, no polarity
AC drive 80 to 138 V, 47 to 63 Hz
220 V version: DC drive 120 to 340 V, no polarity
AC drive 138 to 264 V, 47 to 63 Hz
Insulation Resistance
Between I/O terminals and Ground:
100 MΩ/500 V DC
Between Power and Ground:
100 MΩ/500 V DC.
Dielectric Strength
Between I/O terminals and Ground:
500 V AC for 1 minute.
Between Power and Ground:
1000 V AC for 1 minute(100 V version)
1500 V AC for 1 minute(220 V version)
Between Input terminal and Output terminal:
1000 V AC for 1 minute

GS 01B04N01-02E

13th Edition Jan. 2021 (YK)

■ NORMAL OPERATING CONDITIONS

Ambient Temperature: 0 to 50 °C
Ambient Humidity: 5 to 90% relative humidity (non-condensing)
Operating environment: Area free of hydrogen sulfide gas and other corrosive gases and dust and where the device is not exposed to sea breeze or direct sunlight.
Continuous vibration: (at 5 to 9 Hz) Half amplitude of 1.5 mm or less
(at 9 to 150 Hz) 4.9m/s^2 or less,
1 oct/min for 90 minutes each
in the three axis directions
Impact: 49 m/s^2 or less, 11 ms, 3 axes, 6 directions, 3 times each
Installation altitude: 2,000 m or less above sea level
Warm-up time: 15 minutes or more after the power is turned on

■ TRANSPORT AND STORAGE CONDITIONS

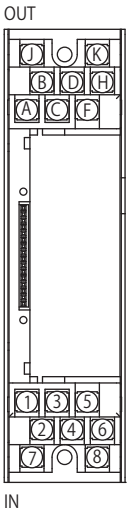
Temperature: -25 to 70°C
Temperature change rate: 20°C per hour or less
Humidity: 5 to 95%RH (no condensation)

■ OPTIONS

/NHR: Without rack case (internal unit only)
/FBP: Power supply fuse bypass
/LOCK: Power supply plug with lock
/WSW: With spring washer
/REK: Mount to same line with EK series rack
/TB: With power supply terminal
/A2TB: 220V version with power supply terminal
/A2ER: 220V version with power supply plug

■ TERMINAL CONNECTIONS

Terminal arrangement



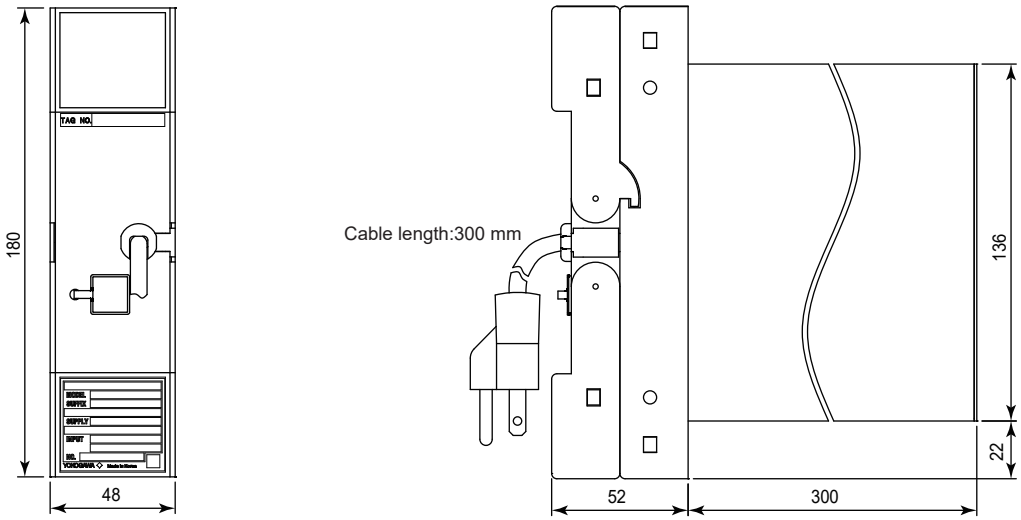
Terminal Designation	Description
A B C D F H J K	+ / - > Output1 (1 to 5 V DC) + / - > Output2 (4 to 20 mA DC)

Do not connect to the output terminal when the terminal is not in use.

Terminal Designation	Description
1 2 3 4 5 6 7 8	+ / - > Input (1 to 5 V DC)

■ EXTERNAL DIMENSIONS

Power supply plug type



Trigonometry
Unit: mm
General tolerance = ±(value of tolerance class IT18 based on JIS B 0401-2016) / 2

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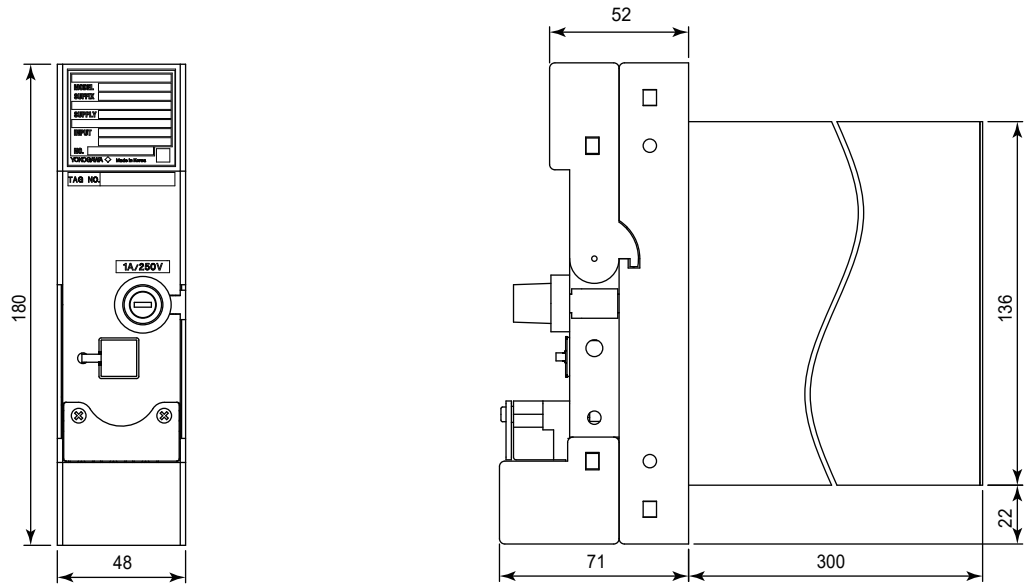
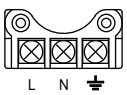
Power supply terminal type(option /TB or /A2TB)



Power supply terminal block



Power and Ground Terminal connection
(Connection screw: M4)

Symbol	Description
L	+
N	- > Power supply
⏚	Ground

Trigonometry
Unit: mm
General tolerance = ±(value of tolerance class IT18 based on JIS B 0401-2016) / 2

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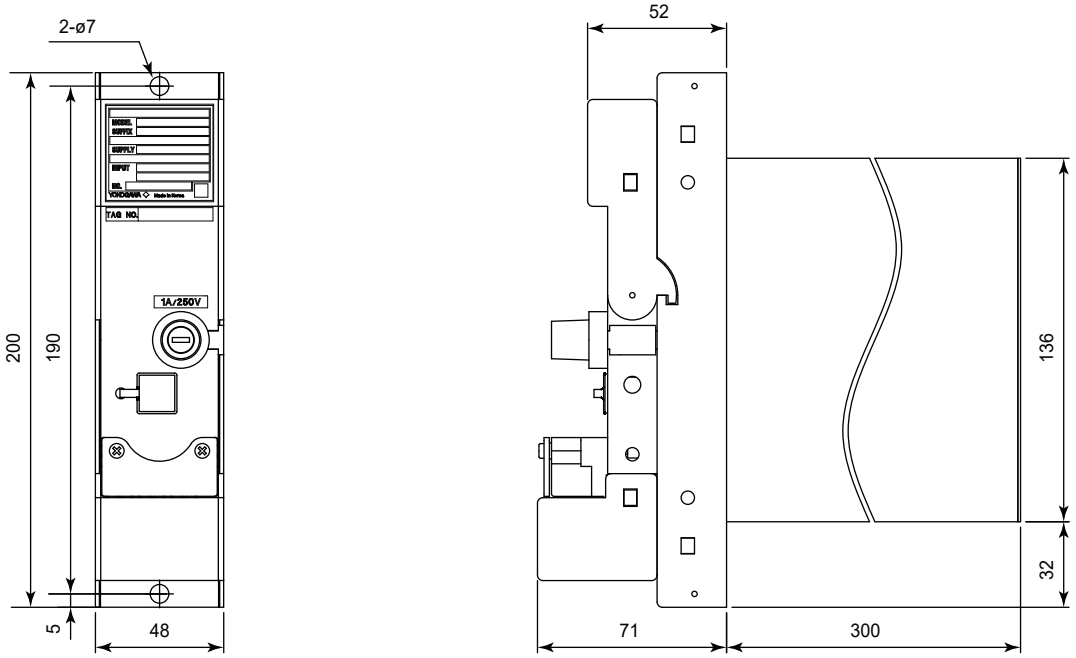
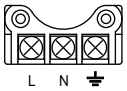
Power supply terminal type(option /REK)



Power supply terminal block



Power and Ground Terminal connection
(Connection screw: M4)

Symbol	Description
L	+
N	-
⏚	Power supply
	Ground

Trigonometry
Unit: mm
General tolerance = ±(value of tolerance class IT18 based on JIS B 0401-2016) / 2

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■ MODEL AND SUFFIX CODES

Model	Suffix Codes	Option Codes	Descriptions
SISD			Isolator
Number of Input	-1		1 input
Square Root Function	00		Not provided
	01		Provided
Style Code	*S		Style S
Option Codes (*1) (*2)		/NHR	Without rack case
		/FBP	Power supply fuse bypass
		/LOCK	Power supply plug with lock
		/WSW	With spring washer
		/REK	Mount to same line with EK series rack
		/TB	With power supply terminal
		/A2TB	220V version with power supply terminal
		/A2ER	220V version with power supply plug

*1: /LOCK, /REK, /TB, /A2TB, and /A2ER cannot be specified together.
*2: /FBP, /A2TB, and /A2ER cannot be specified together.

■ ORDERING INSTRUCTIONS

Specify the following when ordering:
Model and suffix codes and option codes, if necessary.

Revision Information

- Title : Model SISD (Style S) Isolator
- Manual No. : IM 01B04N01-02E

8th Edition/May 2004
Change of the company name.

9th Edition/Oct. 2019
Change of the style number.

10th Edition/Jan. 2021
VJ77 parameter setting tool (R3.01 or later) support

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