User's Manual

YEWSERIES 80

Model SKYD (Style S) Alarm Unit

YOKOGAWA
Yokogawa Electric Corporation

IM 01B04K01-02E
12th Edition

Contents

Introduction

This manual describes the functions and operations of the SKYD Alarm Unit.

● 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 SKYD Alarm Unit. Read them as necessary.
The codes enclosed in parentheses are the document numbers.

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 SKYD alarm unit 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.

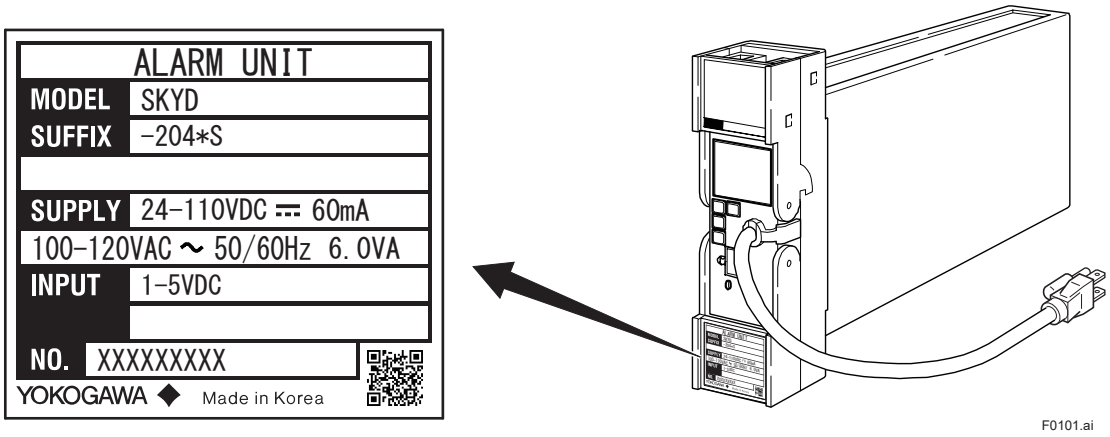


Figure 1-1 Name plate for Thermocouple Input (Description example)

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.

- SKYD Alarm Unit 1
- Alarm Label (Parts No.: L4040JA).....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	
	Indicates that operating the hardware or software in a particular manner may damage it or result in a system failure.
	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.

1.4 Compatibility with Previous Models

■ Compatibility with style A

- Operation and settings differ from previous model (styles A). Please read this document carefully before operating the product.
- Before installing this product in a system or plant, you must check the jumper settings and parameters described in chapter 5, “Settings.” After checking settings and parameters, install the product in the system or plant, and then turn ON the power.

■ Compatibility with style R

- Operation and settings are the same as for the previous model (style R). Please read this document carefully before operating the product.
- Before installing this product in a system or plant, you must check the jumper settings and parameters described in chapter 5, “Settings.” After checking settings and parameters, install the product in the system or plant, and then turn ON the power.

Blank

General

The Model SKYD Alarm Unit provides two types of alarms : absolute alarm that is output after comparison of one input signal with one or two alarm set points, and deviation alarm that is output after comparison of the deviation between two inputs with two alarm set points. Direct or reverse alarm action can be selected for each of the alarm output set points. The front panel is provided with an alarm LED indicator lamp for confirming alarm relay action (when relay is energized).
A PC (VJ77) or the JHT200 Handy Terminal (*1) is used for setting the SKYD parameters. On the SKYD model with display setter (SKYD-x04), input indication (engineering unit) can be displayed and alarm set points can be displayed / set on the front panel.
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).

*1: The modular jack conversion adapter (E9786WH) is required for connecting a PC (VJ77) or the JHT200 Handy Terminal to the Alarm Unit.
The 5 pin-connector type communication cable (F9182EE) and modular jack conversion adapter (E9786WH) is required for connecting the BT200 BRAIN Terminal of YOKOGAWA ELECTRIC Corporation

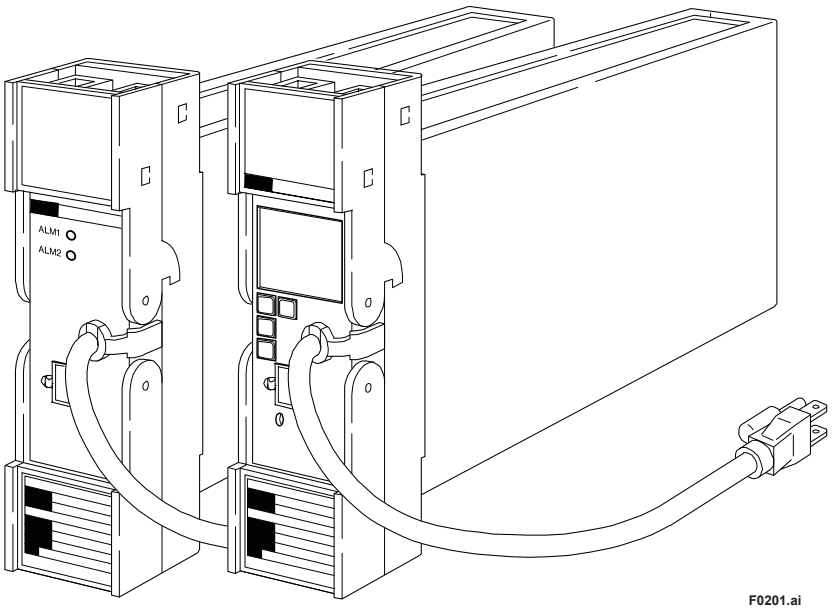


Figure 2-1 External View

2.1 Standard Specifications

Please see the General Specifications (GS 01B04K01-02E) at the end of this manual.

2.2 Model and Suffix Codes

Model	Suffix Codes	Optional Suffix Codes	Description
SKYD			Alarm Unit
Alarm	-1 -2 -3		1 input, 1 setpoint absolute alarm 1 input, 2 setpoints absolute alarms 2 inputs, 2 setpoints deviation alarms
Suffix Code	0		Always 0
Setting Scale (*1)	0 1 2 4		0 to 100 linear 0 to 10 square root (*2) -100 to +100 linear (deviation alarm) (*3) Actual scale (with display setter)
Style Code	*S		Style S
Option Codes (*4) (*5)		/NHR /FBP /LOCK /WSW /REK /TB /A2TB /A2ER	Without rack case Power supply fuse bypass Power supply plug with lock With spring washer Mount to same line with EK series rack With power supply terminal 220V version with power supply terminal 220V version with power supply plug

*1: In the case of two set points, the setting ranges of one set point/two set points are the same.
*2: The value obtained by squaring the setting value functions as the alarm setting value.
*3: 2-input deviation alarm only
*4: /LOCK, /REK, /TB, /A2TB, and /A2ER cannot be specified together.
*5: /FBP, /A2TB, and /A2ER cannot be specified together.

2.3 Accessories

Alarm Label: 1 sheet

Installation

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

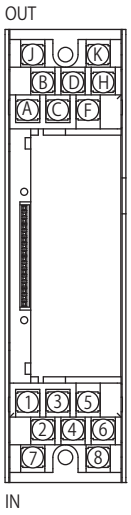
3.1 External Wiring

(a)All cable ends must be furnished with crimp-on type solderless lugs (for 4mm screws)..
(b)Draw out the internal unit from the rack case.
(c)Connect the cables to the correct terminals referring to Figure 3-1.
(d)Return the internal unit into the rack case after completing the wiring.
(e)Always return the terminal block cover to its original position after completing the wiring.

CAUTION

The terminal block cover cannot be returned to its original position if the internal unit is not installed its original position in the rack case. Securely return the terminal block cover because it also functions as lock for the internal unit.

Terminal arrangement



Terminal Designation	Description
A	NC — Alarm output 1
B	COM — Alarm output 1
C	
D	
F	NC — Alarm output 2 (*1)
H	COM — Alarm output 2 (*1)
J	NO — Alarm output 2 (*1)
K	NO — Alarm output 2 (*1)

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

*1: Except SKYD-1 type.

Terminal Designation	Description
1	+ Input 1
2	- Input 1
3	
4	
5	+ Input 2 (*2)
6	- Input 2 (*2)
7	
8	

*2: For SKYD-3 type only.

Figure 3-1 Terminal Layout and Terminal Wiring

3.2 Example of Alarm Wiring

The SKYD alarm unit provides various types or alarms depending on the setting of the alarm action or the method of connecting the alarm output terminals. Thus, the necessary wiring should be made with reference to the following two examples:

3.2.1 High-limit and High-high-limit Alarms

Set the direct action (DIRECT) for the alarm actions of both alarms 1 and 2. Then wire the terminals as illustrated in Figure 3-2.

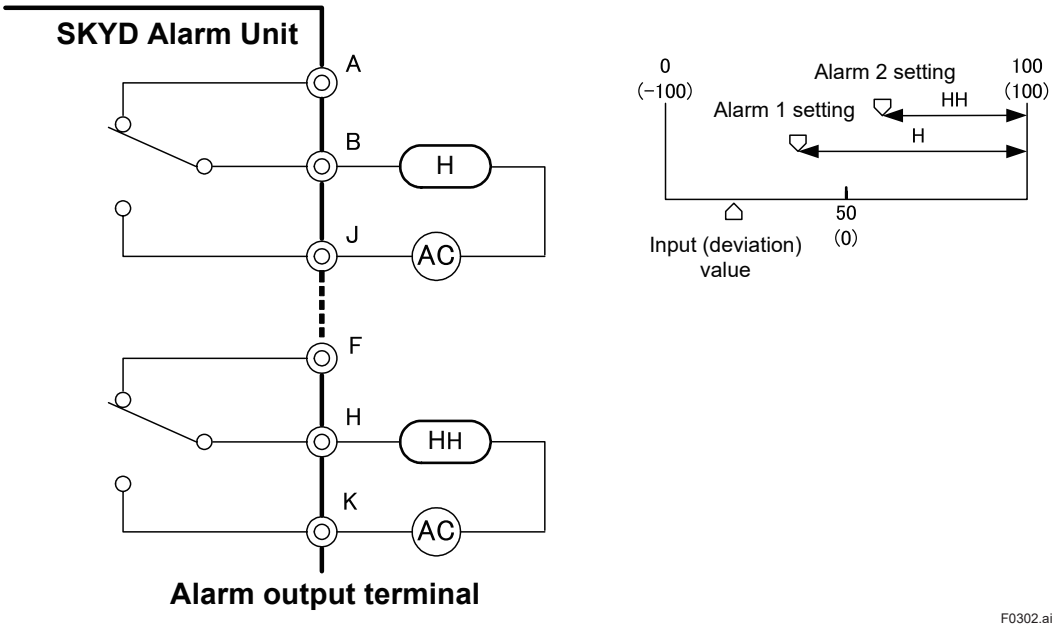


Figure 3-2 External Wiring - Example 1

3.2.2 Three-position Alarm

Set the reverse action (REVERSE) for the alarm action of alarm 1, and the direct action (DIRECT) for the alarm action of alarm 2. Then wire the terminals as illustrated in Figure 3-3.

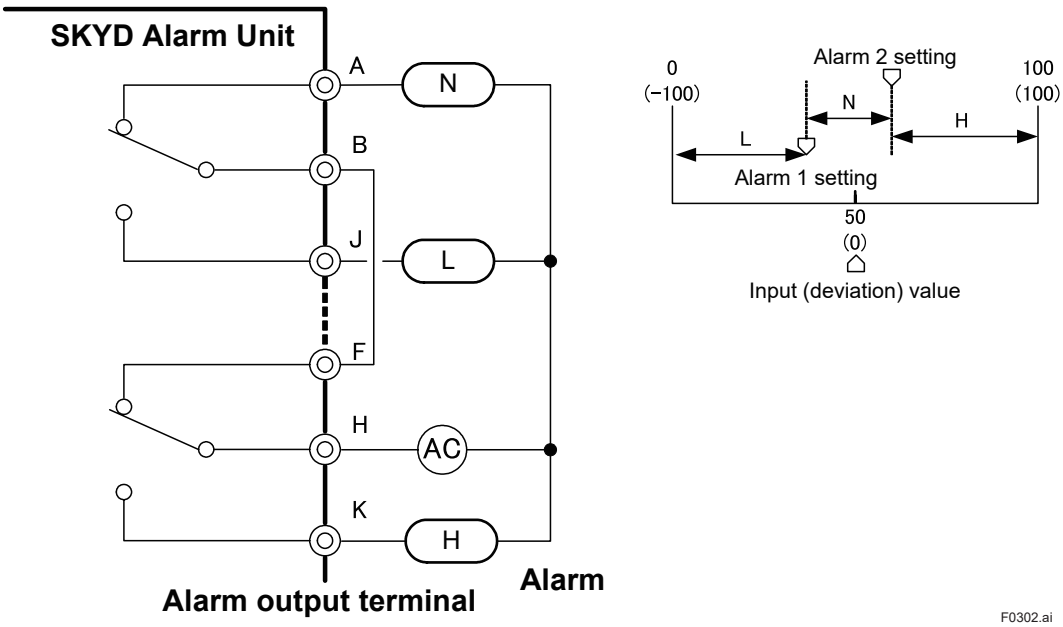


Figure 3-3 External Wiring - Example 2

■ 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)Alarm circuit wiring
- Cross-sectional area of the cable conductor: 0.5 to 1.25 mm^2
- Examples of applicable cables: 600 V PVC insulated cable (IV) stranded wires (JIS C 3307); PVC insulated cable for electric appliances (KIV) stranded wires (JIS C 3316); heat-resistant vinyl-insulated cable (UL style 1007)

(3)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 (IV) stranded wires (JIS C 3307)

4.1 Principle of Operation

Input signals are converted to digital data by the A/D conversion circuit. The resulting digital data is processed (square root calculation, etc.) by the microcomputer, and the alarm relay is then energized/de-energized by alarm calculation processing (comparison, etc.).

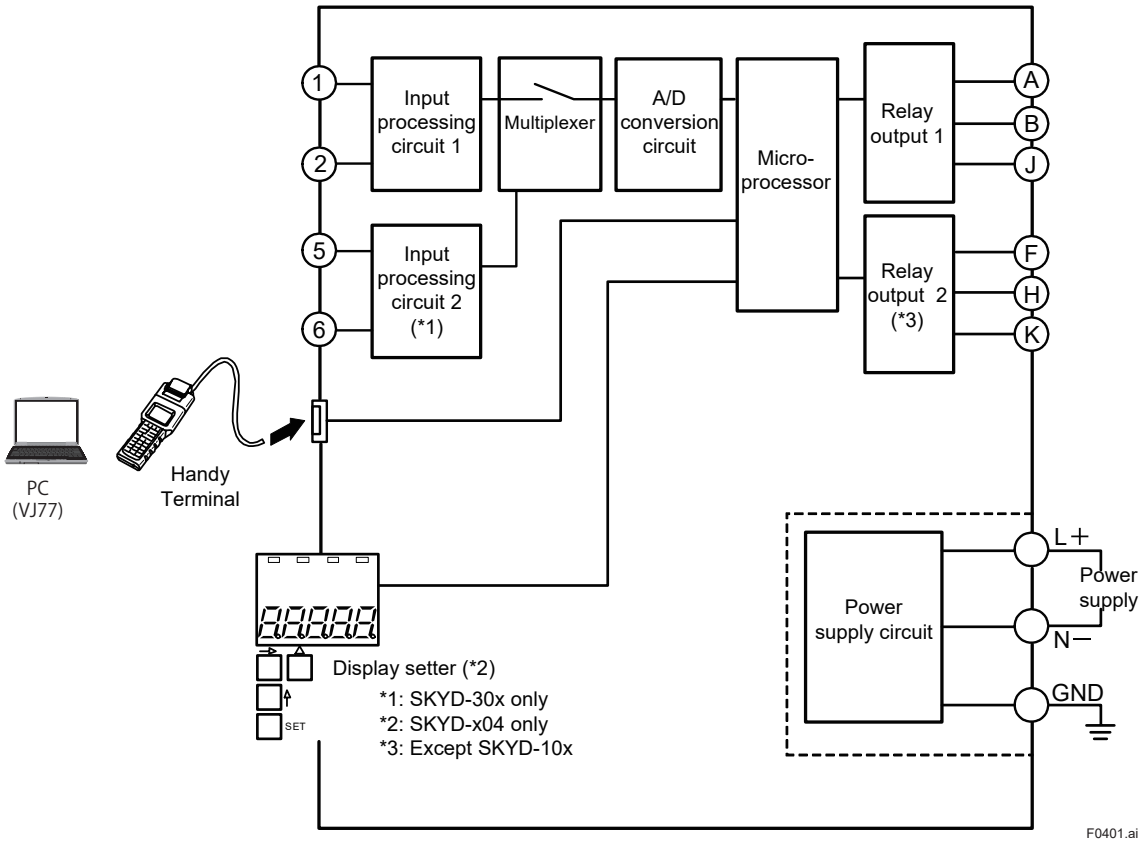


Figure 4-1 Hardware Function Block Diagram

4.2 Description of Functions

The following describes the functions of the SKYD-10x/20x and SKYD-30x.

4.2.1 SKYD-10x/20x Functions

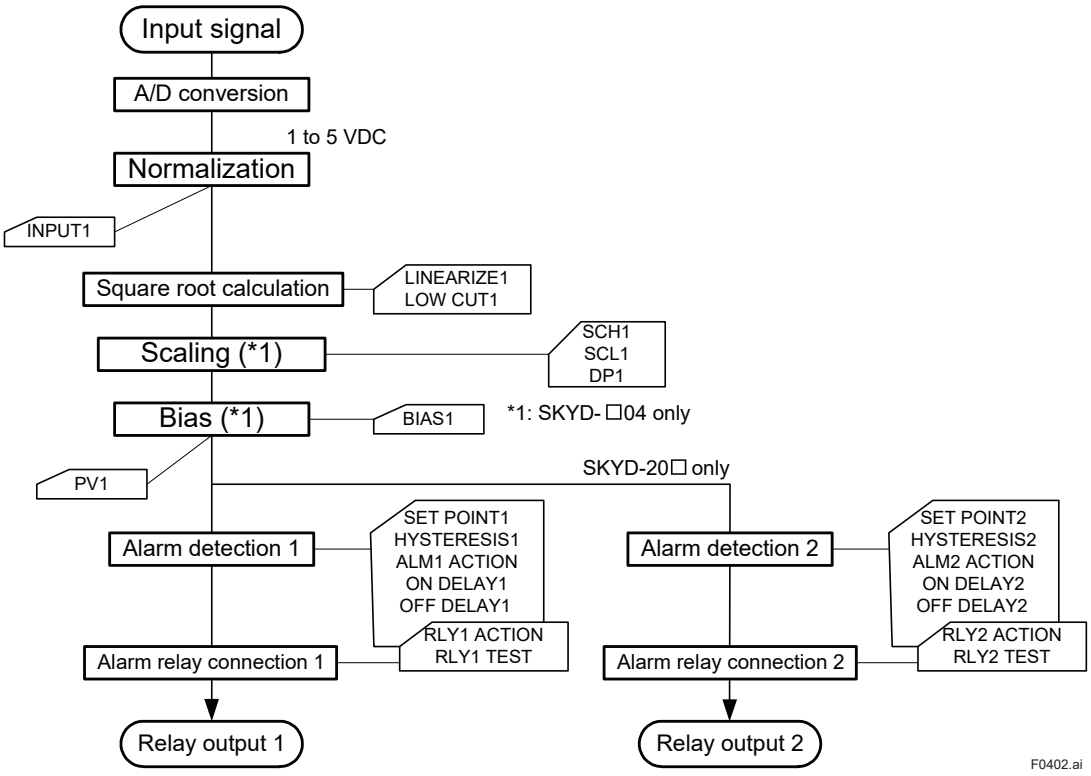
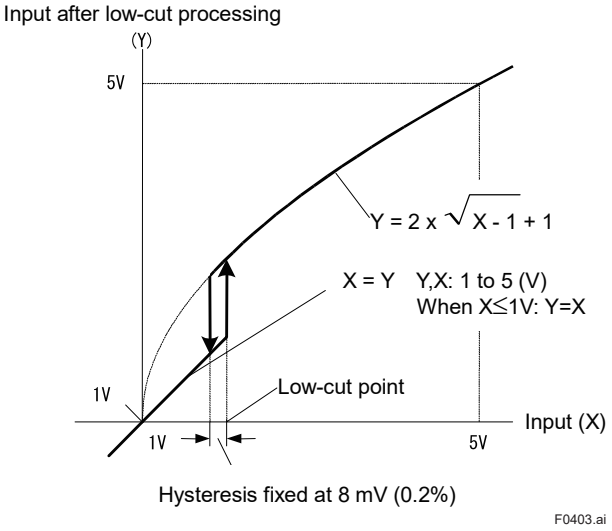


Figure 4-2 Software Function Block Diagram

The alphabet codes in the figure are the names of BRAIN communication parameters.

● Explanation of Input processing block

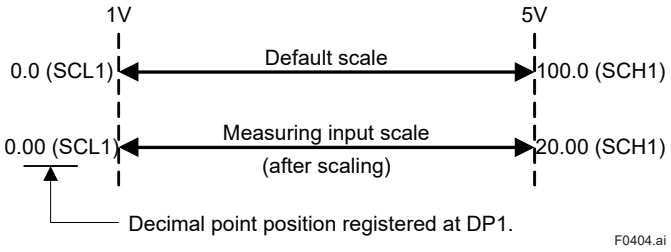
- A/D conversion:
  Performs A/D conversion on input signals.
- Normalization:
  A/D-converted signals are converted to a scale of 1 to 5 V DC. (INPUT1)
- Square root calculation (LINEARIZE1):
  When square root calculation is set to ON, the input processing block performs square root calculation on the input signal.
  The low-cut point (LOW CUT1) can be set to the square root calculation. The figure below shows operation when the input signal is near the low-cut point. This low-cut point is provided with a hysteresis of 0.2%.



- Scaling (SKYD-x04 only):
  The display in engineering unit is available according to the SCH1, SCL1 and DP1 parameter settings.
  The value after scaling (or, when the bias function is used, the value obtained by adding bias to this value) becomes PV1.
  SCH1, SCL1, DP1 setting (default: 0.0 to 100.0)

<Setting Method>
(1)Set the decimal point position matched to the unit system actually in use at DP1.
   (Example: two digits past the decimal point)
(2)Register the measuring input scale range at SCH1 and SCL1.
   (Example: SCH1=20.00, SCL1=0.00)

(Example)



CAUTION

Reverse scaling (SCH1 < SCL1) is also possible.
A setting error occurs when SCH1 is set to equal SCL1.

• Bias:
A bias value (BIAS1) can be added to scaling values.
This allows error to be compensated when there is an error between the input value and the indicated value.
Bias can be set within the range ±10% [(SCH1 - SCL1) x 0.1] of the scaling width.
The input value displayed on the display setter on the front panel (PV1 in the BRAIN communications parameter) is the value after addition of bias.

● Explanation of Alarm detection block

In the following description, n is "1" for SKYD-10x, and "1" or "2" for SKYD-20x.

- Alarm detection n:
  Performs alarm detection.
- ALMn ACTION: Alarm action
  Direct ..... The alarm state is entered when the input value is at the preset alarm set point or higher.
  Reverse.....The alarm state is entered when the input value is at the preset alarm set point or lower.
- SET POINTn: Alarm set point
- HYSTERESISn: Alarm hysteresis (See Figure 4-4.)
- ON DELAYn: Alarm ON delay
  Sets the dead time until the alarm turns ON.
  An alarm state is entered when the input value is in the alarm range for the duration set at ON DELAYn.
  If input returns to the normal range before the time set at ON DELAYn is reached, the alarm does not turn ON.
- OFF DELAYn: Alarm OFF delay
  Sets the dead time until the alarm turns OFF.
  A normal state is entered when the input value is in the normal range for the duration set at OFF DELAYn.
  If input returns to the alarm range before the time set at OFF DELAYn is reached, the alarm does not turn OFF.

CAUTION

- **For ON DELAY/OFF DELAY, if you change the time during a delay, cancel the delay operation, and restart operation with the set delay time.**
- **The alarm function does not work for 3 seconds after power ON.**

● Relay output block

- RLYn ACTION: Alarm relay action
  Energized at normal operation ..... The relay is energized when the alarm detection result is a normal state.
  De-energized at normal operation..... The relay is energized when the alarm detection result is an alarm state.
- RLYn TEST: Relay action test
  This function is for testing relay action.
  Relays can be turned ON/OFF without influencing the currently alarm detection result.

Direction of alarm relay action: De-energized at normal operation (Factory-shipped settings)

ALMn	Direction of alarm action	Input value < Set point	Set point < Input value
DIR	Direct (high-limit alarm)	Output relay de-energized	Output relay energized
RVS	Reverse (low-limit alarm)	Output relay energized	Output relay de-energized

Direction of alarm relay action: Energized at normal operation

ALMn	Direction of alarm action	Input value < Set point	Set point < Input value
DIR	Direct (high-limit alarm)	Output relay energized	Output relay de-energized
RVS	Reverse (low-limit alarm)	Output relay de-energized	Output relay energized

4.2.2 SKYD-30x Functions

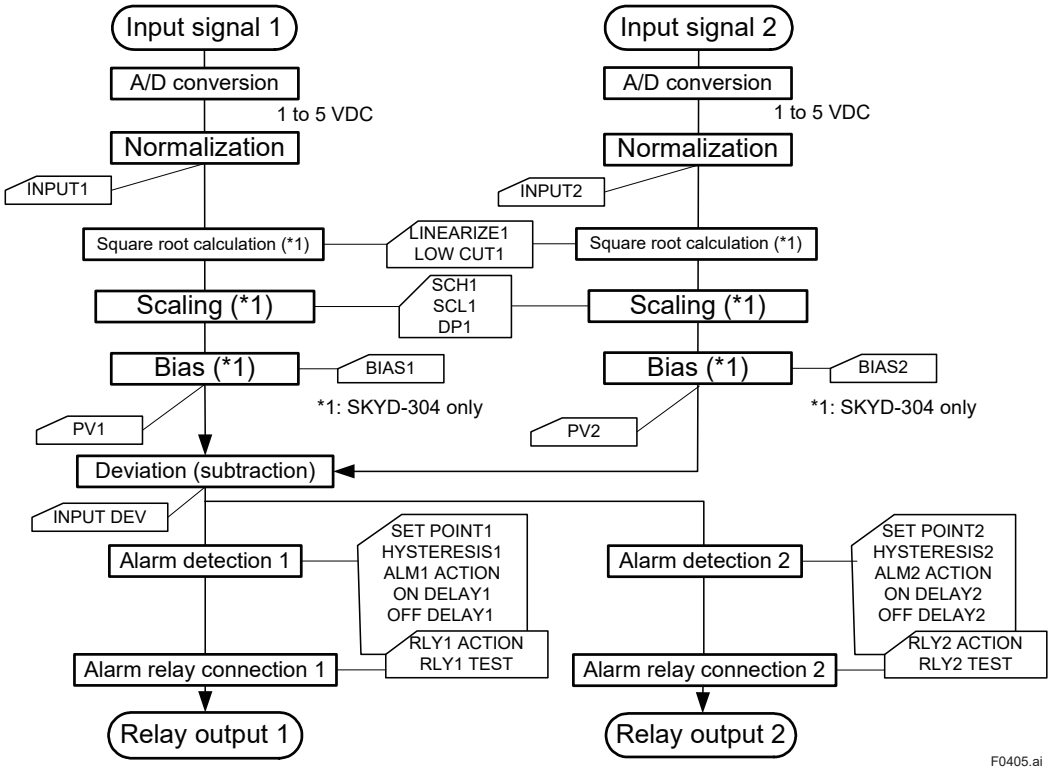


Figure 4-3 Software Function Block Diagram

The alphabet symbols in the figure are the names of BRAIN communication parameters.

In the following descriptions, n is "1" or "2".

- Input processing block
  Functions are the same as SKYD-10x/20x except that there are two inputs.
  - Input deviation processing block
    Input deviation INPUT DEV is the value of "PV1 - PV2".

- Alarm detection block
  Functions are the same as SKYD-20x except that the detection target is input deviation INPUT DEV.

- Relay output block
  Functions are the same as SKYD-20x.

4.3 Example of Alarm Function Setting

This section describes the alarm function setting showing the example using the alarm function parameters.

4.3.1 Condition of Alarm Function

Set the following conditions.

(1)Condition for Alarm 1

The alarm is output when the status where the input value is 80% or more continues for 1 second or more.

The alarm is released when the status where the input value is 70% or less continues for 2 seconds or more.

(2)Condition for Alarm 2

The alarm is output when the input value is 15% or less.

The alarm is released when the input value is 20% or more.

4.3.2 Parameters of Alarm Function

The table below shows the parameters the condition of alarm function described in 4.3.1 is placed to.

Table 4-1 Table of Parameter Setting Example for Alarm 1 and Alarm 2 (SKYD-20x)

Item	Alarm 1		Alarm 2	
	Parameter	Set point	Parameter	Set point
Alarm set point	E01: SET POINT1	80%	E02: SET POINT2	15%
Direction of alarm action	E07: ALM1 ACTION	DIRECT	E08: ALM2 ACTION	REVERSE
Alarm hysteresis	E09: HYSTERESIS1	10%	E10: HYSTERESIS2	5%
Alarm ON delay	E15: ON DELAY1	1 s	E16: ON DELAY2	0 s
Alarm OFF delay	E17: OFF DELAY1	2 s	E18: OFF DELAY2	0 s

4.3.3 Operating Condition of Alarm Function

Refer to the following figure for operating condition of alarm 1 and alarm 2.

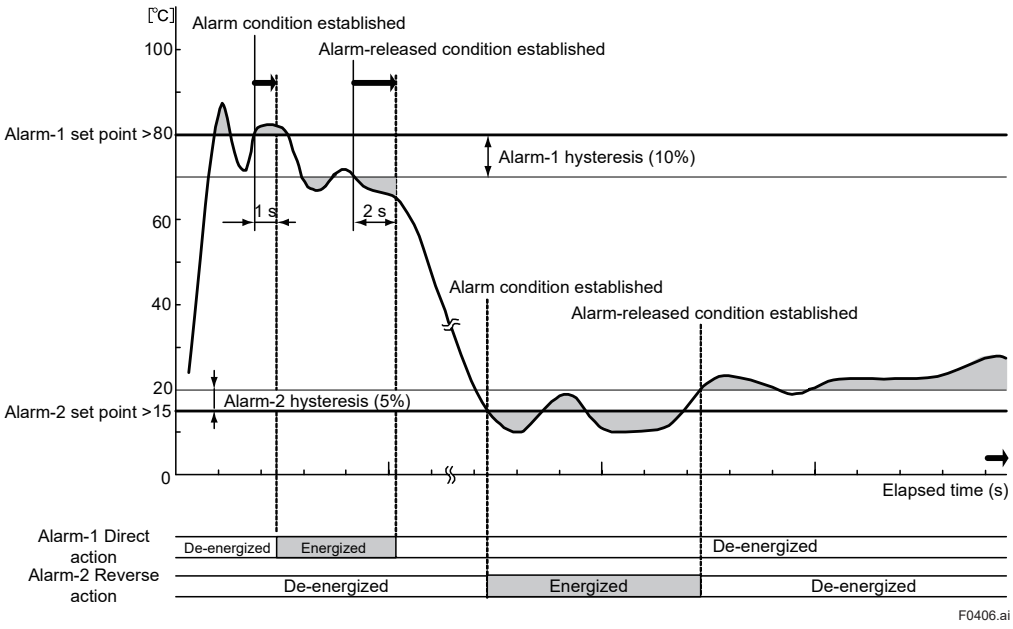


Figure 4-4 Alarm Action

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.

Refer to Section 7.1, “Action in Fault Condition” for how to detect device error by alarm output.

5.1 Names of Components

The following shows the names of SKYD components.

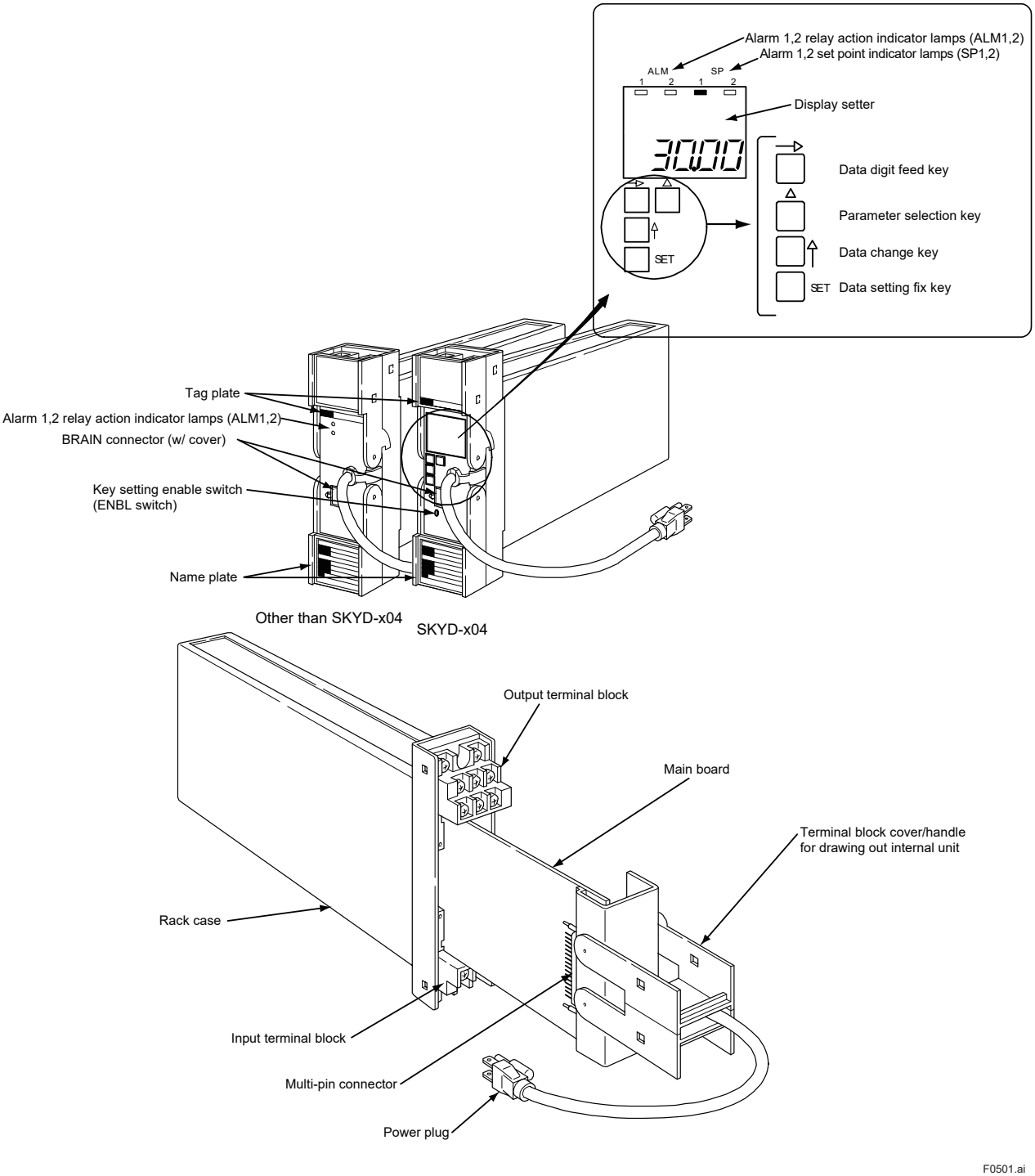


Figure 5-1 Names of Components

5.2 Setting Jumper

The SKYD is provided with the following jumpers.
Other SKYDs excluding the SKYD-x04 are not provided with the ALM1, 2 jumpers.
(Can be set by using a PC (VJ77) or the JHT200 Handy Terminal.)

Jumper Code	Jumper Name	Except SKYD-x04	SKYD-x04
W.P.	Parameter Write Protect	Available	Available
ALM1	Alarm 1 action setting jumper	Not available	Available
ALM2	Alarm 2 action setting jumper (except SKYD-10x)	Not available	Available

- Parameter Write Protect jumper
  When this jumper is set to ON, changing of parameters by the key switches and A PC (V77) or Handy Terminal is disabled. “LOC” will be displayed on the display setter if the “→” switch is pressed with the SP1 or SP2 parameter displayed on the display setter. To cancel the “LOC” display and return to the previous display, press any key.

- Alarm action setting jumper
  This jumper is for setting the direction of alarm action.
  The table below shows the relationship between direction of alarm action and direction of relay action.

Direction of alarm relay action: De-energized at normal operation

ALMn	Direction of alarm action	Input value < Set point	Set point < Input value
DIR	Direct (high-limit alarm)	Output relay de-energized	Output relay energized
RVS	Reverse (low-limit alarm)	Output relay energized	Output relay de-energized

Direction of alarm relay action: Energized at normal operation

ALMn	Direction of alarm action	Input value < Set point	Set point < Input value
DIR	Direct (high-limit alarm)	Output relay energized	Output relay de-energized
RVS	Reverse (low-limit alarm)	Output relay de-energized	Output relay energized

5.2.1 Check of Setting Jumper and its Location

The setting jumpers are located on the main board of the internal unit.
Draw out the internal unit, and check the current jumper settings.
Current jumper settings can also be checked on a PC (VJ77) or the JHT200 Handy Terminal.

Jumper Name	Parameter Name
Parameter Write Protect	A55: WRT PROTECT
Direction of alarm 1 action	E07: ALM1 ACTION
Direction of alarm 2 action (except SKYD-10x)	E08: ALM2 ACTION

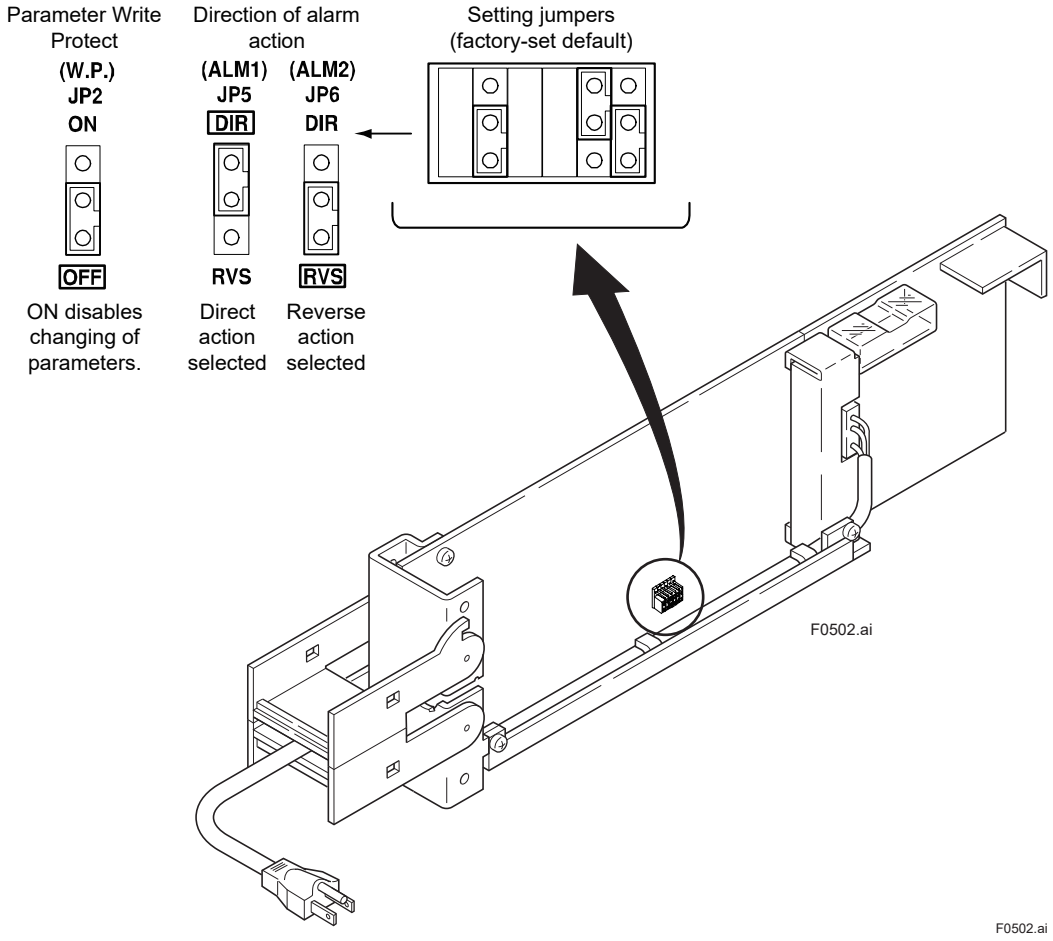


Figure 5-2 Setting Jumper

CAUTION

Operation is not guaranteed if the jumper is not set.

■ Change of Setting Jumper

Follow the procedure below to change the setting jumpers:
(a)Pull the terminal block cover toward you to draw out the internal unit from the rack case.
(b)Check the jumpers on the main board of the internal unit, and change their settings as desired. Use tweezers or another fine-tipped object to change the setting jumpers.
(c)Return the internal unit to the rack case.
(d)Return the terminal block cover to its original position.

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 (*1) to the instrument to display or set parameters (modular jack conversion adapter (E9786WH) is required)
On the SKYD model with display setter (SKYD-x04), input indication (engineering unit) can be displayed and alarm set points can be display/set on the front panel.
For details on parameters, refer to the Parameter Lists.

*1: BT200 BRAIN Terminal of YOKOGAWA ELECTRIC Corporation can also be used. When connecting 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.

5.3.1 Parameter Change Disable Function

The SKYD is provided with a parameter change disable function for preventing parameter settings from being changed by operator error.

Table 5-1 Parameter Change Disable Function

	Disable Setting Method	Disable Cancel Method	Description of Disable Operation
Parameter Write Protect jumper	Set W.P. jumper on the main board to “ON”.	Set W.P. jumper on the main board to “OFF”.	● Changing of parameter setting by key switches. ● Changing of parameter setting by a PV (VJ77) or the Handy Terminal.
Enable switch (SKYD-x04 only)	Changes cannot be made if no settings are made for 30 minutes after operating any key switch on the front panel in a setting change enable state.	Press the Enable switch.	● Changing of parameter setting by key switches.

5.3.2 Setting of Parameters Using Display Setter (SKYD-x04)

On the SKYD-x04, you can change alarm set point using the display setter on the front panel.
Other parameters are changed using a PV (VJ77) or the JHT200 Handy Terminal.
The table below describes the relationship between key switch operations and migration of display states.

Table 5-2 Relationship between Key Switch Operations and Migration of Display States

Key Switch	Display Function			
	Display Mode	Setting Change Mode	Setting Fix Mode	Indicator Out Mode
Δ	Displays the next parameter.	Cancels the newly changed values, returns to the display mode, and displays the next parameter.	Cancels the newly changed values, returns to the display mode, and displays the next parameter.	This mode is entered if no key switches are operated for 30 minutes when the display mode parameter is set to “OFF”. The display mode is returned to if any key switch is pressed in the indicator out mode.
→	Advances to the setting change mode when a settable or changeable parameter is displayed in the setting change enabled state. (*1)	Moves setting digit.	Returns to the setting change mode, and moves to the next digit.	
↑	Displays the previous parameter.	Changes the set point.	No operation	
SET	No operation	Advances to the setting fix mode.	Fixes the set point, and advances to the display mode.	
ENBL	Enters setting change enable state. Enable switch is disabled if the Parameter Write Protect jumper is set to “ON”.			

*1: When the Parameter Write Protect jumper on the main board is set to “ON”, the SKYD will not advance to the setting change mode. In this state, “LOC” is displayed on the display setter.

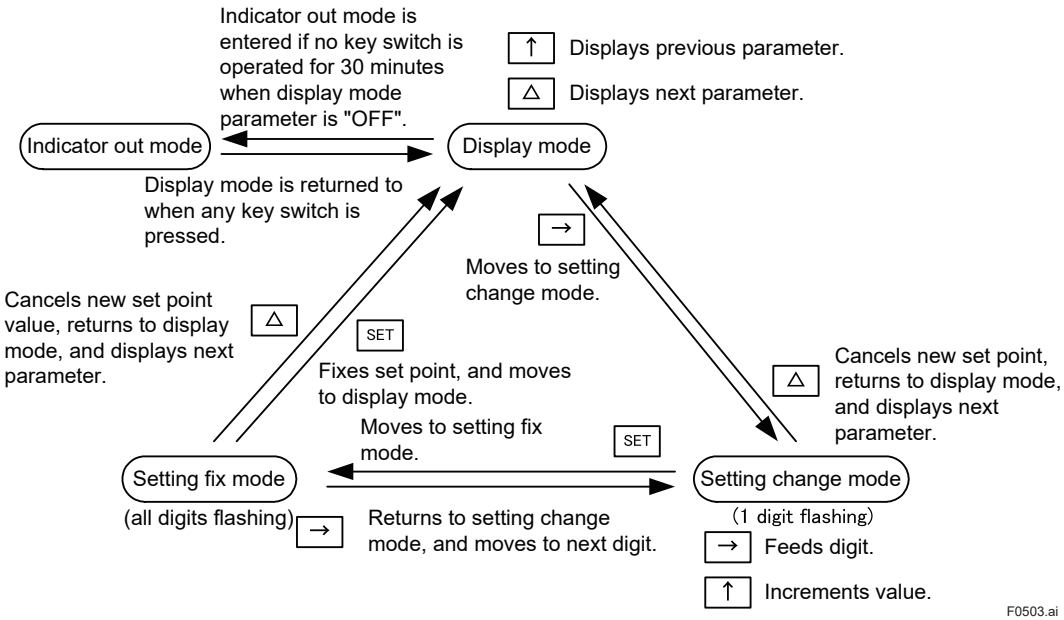


Figure 5-3 Key Switch Operations and Migration of Display States

■ Switching the Display

Each press of the △ key switches the display data.

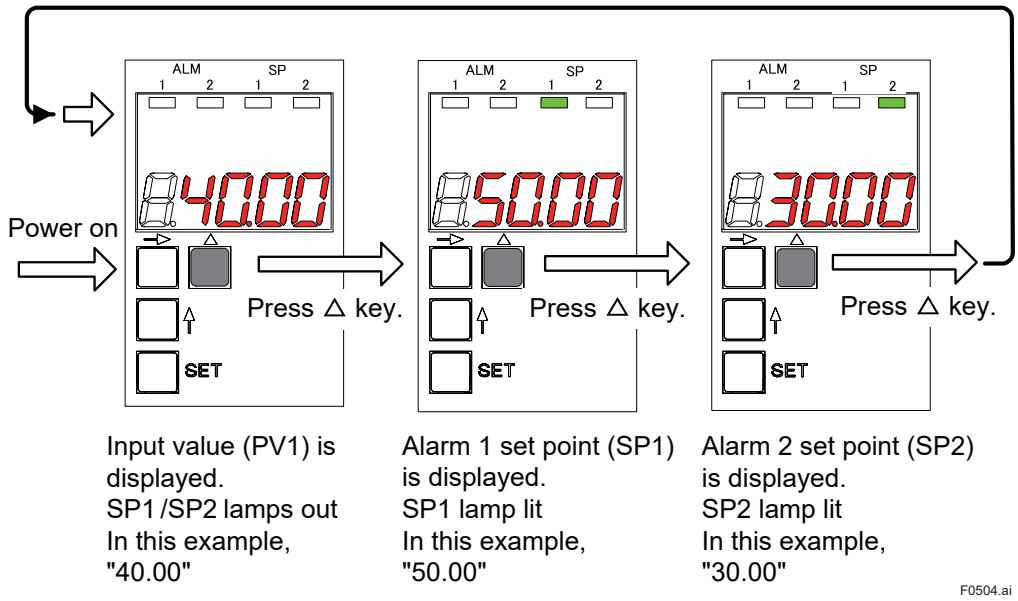


Figure 5-4 Progression of Display Screen

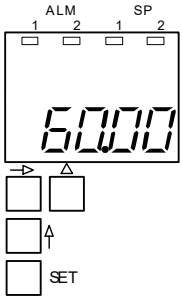
■ LED Indicator Lamps

The table below lists the type of LED indicator lamps on the front panel and their lighting conditions.

LED Lamp	Color	Lighting Conditions	Remarks
ALM1	Yellow	Lit when alarm 1 output relay is energized	
ALM2	Yellow	Lit when alarm 2 output relay is energized	SKYD-20x, -30x only
SP1	Green	Lit when alarm 1 set point (SP1) is displayed on the display setter	SKYD-x04 only
SP2	Green	Lit when alarm 2 set point (SP2) is displayed on the display setter	SKYD-204, -304 only

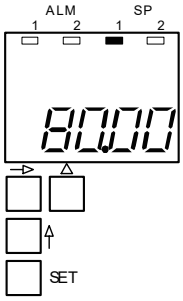
■ Setting Parameters

Display the desired parameter (e.g. alarm set point), and follow the procedure below to change its set point.



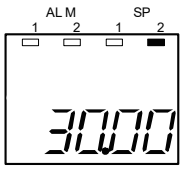
(1) Input value (60.00) is displayed at power ON.

Press the - △ key. →The SP1 lamp lights, and the alarm 1 set point is displayed.



(2) The alarm 1 set point (80.00) is displayed.

Press the - △ key. → In the case of the SKYD-104, the SP1 lamp goes out, and the input value is displayed.
→ In the case of the SKYD-204/304, the SP2 lamp lights, and the alarm 2 set point is displayed.

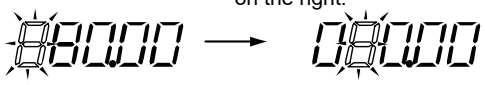


Alarm 2 set point (30.00) is displayed. (SKYD-204/304 only)

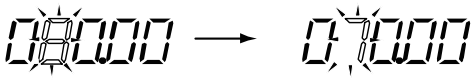
(3) Press the ENBL switch to enter setting change enable state.

(4) Set the alarm set point. (Change the alarm 1 set point to "70.00" from "80.00".)
Alarm set points whose SP lamp is lit can be changed.

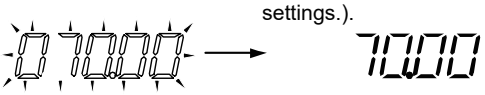
Press the - ▷ key. → The uppermost digit on the display flashes.
Hold down the ▷ key to move the flashing section to the digit on the right.



Press the - ↑ key. → This increments the value at the flashing digit. Hold down the ↑ key to feed the value to "7".



Press the - SET key. → All parameter digits flash. Pressing the SET key again causes "70.00" to light. (This fixes the new parameter settings.).



F0505.ai

Figure 5-5 Setting Parameters

CAUTION

- **When the Parameter Write Protect jumper on the main board is set to "ON", the SKYD will not advance to the setting change mode. In this state, "LOC" is displayed on the display setter.**
- **Do not turn off the power of the instrument during parameter setting.**

■ Display at Power ON

The model with display setter displays REV NO. (revision number of software for the SKYD) for about 2 seconds after power ON.

Example of display (REV NO.10)

■ LOC Display

When “LOC” is displayed, this indicates that parameter settings cannot be changed.
(The Parameter Write Protect jumper on the main board is set to “ON”.)
To cancel the “LOC” display and return to the previous display, press any key.

■ Indicator Out Mode Display

In this mode, only the decimal point is displayed on the display setter.
When the display mode parameter (DSP MODE) is set to “OFF”, and no key operation is performed for 30 minutes, the SKYD moves to the indicator out mode.
To cancel this mode and return to the display mode, press any key switch.
I/O signal processing and calculations are performed as usual even in the indicator out mode.
If the self check discovers an error (A/D conversion error, EEPROM error, EEPROMSUM error) in the indicator out mode, this mode is canceled, and the error is displayed. Also, the SKYD does not move to the indicator out mode when an error (A/D conversion error, EEPROM error, EEPROMSUM error) occurs.

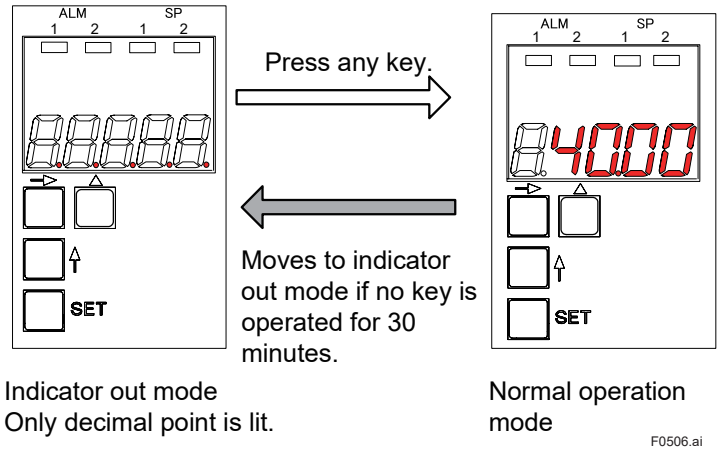


Figure 5-6 Indicator Out Mode

5.3.3 Setting of Parameters Using Handy Terminal

CAUTION

For details of operation and adjusting procedures of JHT200 Handy Terminal, refer to the instruction manual "JHT200 Handy Terminal" (IM 77J50H01-01EN).

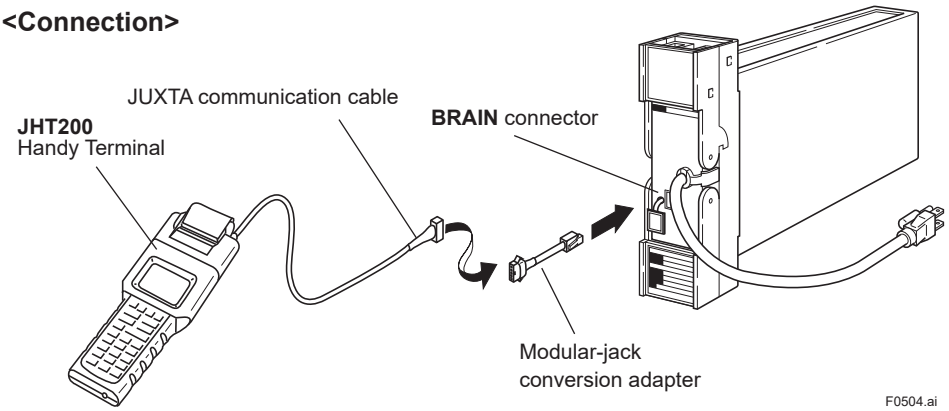


Figure 5-7 Connecting the Handy Terminal

5.3.4 Setting of Parameters Using VJ77 Parameters Setting Tool

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).

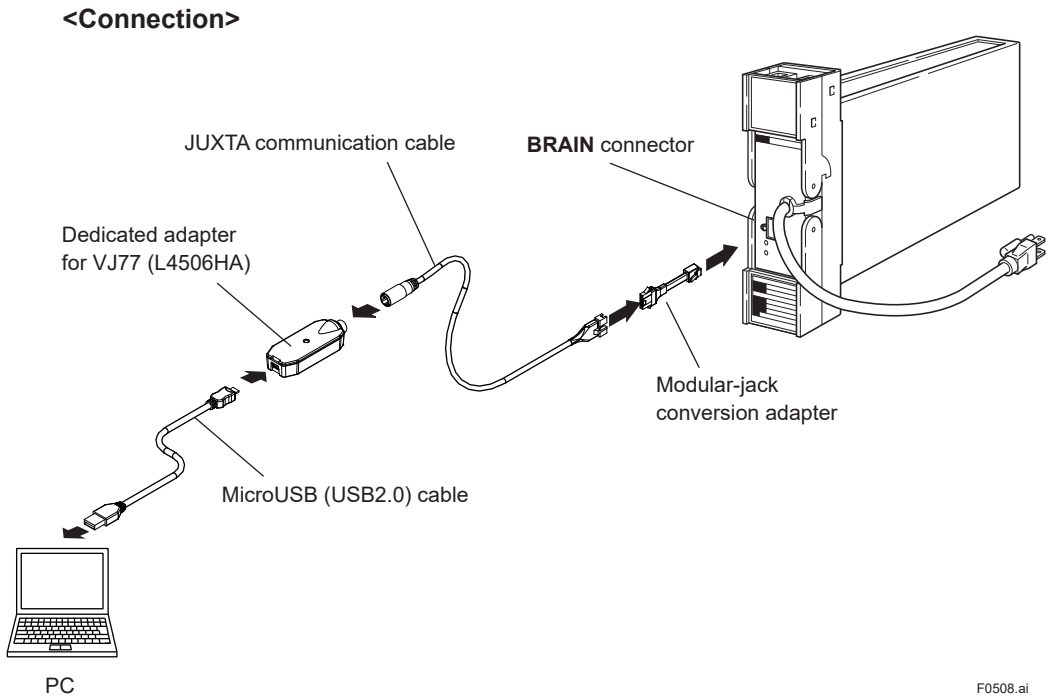


Figure 5-8 Connecting a PC (VJ77)

5.4 Parameter List

BRAIN communication parameters for SKYD are as follows.
On the SKYD-x04, only the input value can be displayed, and the alarm set point can be displayed and set on the display setter on the front panel. Other, parameters are displayed and set using a PC (VJ77) or the Handy Terminal.

5.4.1 SKYD-10x Parameter List

No.	Parameter Name	Symbol	Description	Display Conditions
Initial display				
01	Model Name	MODEL	Displays the model name.	Displayed on all
02	Tag Number	TAG NO	Displays the tag number that is set.	
03	Self Check	SELF CHK	Displays the result (GOOD/ERROR) of the self check.	
A	Display 1	DISPLAY1		
A01	Analog Input 1	INPUT1	Input value before input processing (square root or scaling) (unit: V)	Displayed on all
A03	PV1	PV1	Input value (engineering unit) after input processing (square root or scaling)	Displayed on SKYD-104
A15	Alarm 1 Relay Display	RLY1 STATUS	Displays the state of the alarm 1 relay. DE-ENERGIZED: De-energized ENERGIZED: Energized	Displayed on all
A54	Status Display	STATUS	Displays the value added to the value (Hex) indicating the self check result. 0000: Normal 0001: EEPROM error 0002: EEPROMSUM error 0004: Low input cut state 0008: Input range exceeded 0010: Setting error 0040: Power interruption during operation 1000: A/D conversion error	
A55	Parameter Write Protect	WRT PROTECT	Displays the state of the Parameter Write Protect jumper. OFF: Setting of parameters enabled ON: Setting of parameters disabled	
A56	REV NO.	REV NO.	Displays the device revision No.	
A58	MENU REV	MENU REV	Displays the revision No. of the parameter group.	
A60	Self Check	SELF CHK	Displays the result (GOOD/ERROR) of the self check.	
B	Display 2	DISPLAY2		
B01	Analog Input 1	Same as item A		
B03	PV1			
B15	Alarm 1 Relay Display			
B60	Self Check			

No.	Parameter Name	Symbol	Description	Setting Range	Factory-set Value	Display Conditions
D	Setting Parameters	SET(I/O)				
D01	Tag Number 1	TAG NO.1	8 alphanumerics can be entered.			Displayed on all
D02	Tag Number 2	TAG NO.2	8 alphanumerics can be entered.			
D03	Comment 1	COMMENT1	8 alphanumerics can be entered.			
D04	Comment 2	COMMENT2	8 alphanumerics can be entered.			
D17	Linearization 1	LINEARIZE1	Specifies square root calculation ON/OFF.	OFF SQR	OFF	Displayed on SKYD-100, -104
D19	Low Cut 1	LOW CUT1	Specifies low-cut point during square root calculation.	0.3 to 100.0 %	1.0 %	Displayed on SKYD-100, -104 Displayed when LINEARIZE1 = SQR
D40	Input Decimal Point Position	DP1	Sets the position of the decimal point for the input scale (SCH1, SCL1).	##### ####.# ###.## ##.###	####.#	Displayed on SKYD-104
D41	Input Scale L	SCL1	Sets the display value at 0% input	-9999 to 9999 (engineering unit)	0.0	
D42	Input Scale H	SCH1	Sets the display value at 100% input	-9999 to 9999 (engineering unit)	100.0	
D46	PV1	PV1	Displays the input value after input processing (scaling).			
D47	Input 1 Bias	BIAS1	Adds the bias value to the value after input processing, and displays as the PV1.	±10% of scaled span (EUS) *1	±0% of span (EUS) *1	
D51	Display Mode	DSP MODE	Selects the display setter state after 30 minutes elapses after a key switch operation. OFF: Power save mode Only the decimal point is displayed. ON: Constant ON mode Data is displayed at all times regardless of elapsed time.	OFF ON	ON	
D60	Self Check	SELF CHK	Result of self check (GOOD/ERROR) of the self check.			Displayed on all

*1: Initialized when changing SCH1, SCL1

No.	Parameter Name	Symbol	Description	Setting Range	Factory-set Value	Display Conditions
E	Setting Alarm Parameters	SET(ALM)				
E01	Alarm 1 Set Point	SET POINT1	Alarm 1 set point Setting range SKYD-100: -999.9 to 999.9% (*1) SKYD-104: -19999 to 32000 (decimal point position set at DP1) Default SKYD-100: 100.0% SKYD-104: When ALM1 ACTION=DIRECT, SCH1 When ALM1 ACTION=REVERSE, SCL1 On the SKYD-104, this range is initialized when SCH1 and/or SCL1 are changed.			Displayed on SKYD-100, -104
E03	Alarm 1 Set Point	SET POINT1	Alarm 1 set point Setting range (*1) SKYD-101: 0.0 to 100.0 (default: 10.0)			Displayed on SKYD-101
E07	Alarm 1 Action	ALM1 ACTION	Displays the direction (direct/reverse) of action of alarm 1. The setting can be changed on models except SKYD-104. On the SKYD-104, displays the state of the jumpers on the main board.	DIRECT REVERSE	DIRECT	Displayed on all
E09	Alarm 1 Hysteresis	HYSTERESIS1	Sets the hysteresis until the alarm 1 alarm state is canceled. Setting range Except SKYD-104: 0.0 to 100.0% SKYD-104: 0 to 100% of span (EUS) after scaling Default Except SKYD-104: 2.0% SKYD-104: 2.0% of span (EUS) after scaling This range is initialized when SCH1 and/or SCL1 are changed.			
E15	Alarm 1 ON Delay	ON DELAY1	Sets the dead time until the alarm is output after alarm 1 enters the alarm state.	0 to 999 s	0 s	
E17	Alarm 1 OFF Delay	OFF DELAY1	Sets the dead time until alarm output is stopped after alarm 1 is released from the alarm state.	0 to 999 s	0 s	
E19	Alarm 1 Relay Action	RLY1 ACTION	Specifies the direction of alarm 1 relay action. NRM DE-ENERGIZED: De-energized during normal operation NRM ENERGIZED: Energized during normal operation	NRM DE-ENERGIZED NRM ENERGIZED	NRM DE-ENERGIZED	
E60	Self Check	SELF CHK	Displays the result (GOOD/ERROR) of the self check.			

*1: For details on the Alarm Setting and Accuracy Warranty Range, see "2.1 Standard Specifications."

No.	Parameter Name	Symbol	Description	Setting Range	Factory-set Value	Display Conditions
P	Adjustment Parameters	ADJUST				
P03	Input 1 Zero Adjustment	ZERO ADJ1	Performs zero adjustment (0% side) on input 1. n.nnn V RST n.nnn V INC n.nnn V HINC n.nnn V HDEC n.nnn V DEC n.nnn indicates the current input value. Increase or decrease “n.nnn” until the target value is reached. INC/DEC : Increase/decrease “n.nnn.” HINC/HDEC : Increase/decrease “n.nnn” more rapidly than INC/DEC. RST : When a reset is made, the adjustment values return to their factory settings.			Display on all.
P04	Input 1 Span Adjustment	SPAN ADJ1	Performs span adjustment (100% side) on input 1. The adjustment method is the same as ZERO ADJ1.			
P60	Self Check	SELF CHK	Displays the result (GOOD/ERROR) of the self check.			
Q	Test Parameters	TEST				
Q04	Alarm 1 Forced Output	RLY1 TEST	Forcibly executes relay output regardless of the input state. (*1)	DE-ENERGIZED ENERGIZED		Display on all.
Q60	Self Check	SELF CHK	Displays the result (GOOD/ERROR) of the self check.			

*1: After the test ends, press the OK key to cancel the forced output state and set to the normal operation state.

5.4.2 SKYD-20x Parameter List

No.	Parameter Name	Symbol	Description	Display Conditions
Initial display				
01	Model Name	MODEL	Displays the model name.	Displayed on all
02	Tag Number	TAG NO	Displays the tag number that is set.	
03	Self Check	SELF CHK	Displays the result (GOOD/ERROR) of the self check.	
A	Display 1	DISPLAY1		
A01	Analog Input 1	INPUT1	Input value before input processing (square root or scaling) (unit: V)	Displayed on all
A03	PV1	PV1	Input value (engineering unit) after input processing (square root or scaling)	Displayed on SKYD-204
A15	Alarm 1 Relay Display	RLY1 STATUS	Displays the state of the alarm 1 relay. DE-ENERGIZED: De-energized ENERGIZED: Energized	Displayed on all
A16	Alarm 2 Relay Display	RLY2 STATUS	Displays the state of the alarm 2 relay. DE-ENERGIZED: De-energized ENERGIZED: Energized	
A54	Status Display	STATUS	Displays the value added to the value (Hex) indicating the self check result. 0000: Normal 0001: EEPROM error 0002: EEPROMSUM error 0004: Low input cut state 0008: Input range exceeded 0010: Setting error 0040: Power interruption during operation 1000: A/D conversion error	
A55	Parameter Write Protect	WRT PROTECT	Displays the state of the Parameter Write Protect jumper. OFF: Setting of parameters enabled ON: Setting of parameters disabled	
A56	REV NO.	REV NO.	Displays the device revision No.	
A58	MENU REV	MENU REV	Displays the revision No. of the parameter group.	
A60	Self Check	SELF CHK	Displays the result (GOOD/ERROR) of the self check.	
B	Display 2	DISPLAY2		
B01	Analog Input 1	Same as item A		
B03	PV1			
B15	Alarm 1 Relay Display			
B16	Alarm 2 Relay Display			
B60	Self Check			

No.	Parameter Name	Symbol	Description	Setting Range	Factory-set Value	Display Conditions
D	Setting Parameters	SET(I/O)				
D01	Tag Number 1	TAG NO.1	8 alphanumerics can be entered.			Displayed on all
D02	Tag Number 2	TAG NO.2	8 alphanumerics can be entered.			
D03	Comment 1	COMMENT1	8 alphanumerics can be entered.			
D04	Comment 2	COMMENT2	8 alphanumerics can be entered.			
D17	Linearization 1	LINEARIZE1	Specifies square root calculation ON/OFF.	OFF SQR	OFF	Displayed on SKYD-200, -204
D19	Low Cut 1	LOW CUT1	Specifies low-cut point during square root calculation.	0.3 to 100.0 %	1.0 %	Displayed on SKYD-200, -204 Displayed when LINEARIZE1=SQR
D40	Input Decimal Point Position	DP1	Sets the position of the decimal point for the input scale (SCH1, SCL1).	##### ####.# ###.## ##.###	####.#	Displayed on SKYD-204
D41	Input Scale L	SCL1	Sets the conversion standard value at 1V input to scale and display the input value in engineering units.	-9999 to 9999 (engineering unit)	0.0	
D42	Input Scale H	SCH1	Sets the conversion standard value at 5V input to scale and displays the input value in engineering units.	-9999 to 9999 (engineering unit)	100.0	
D46	PV1	PV1	Displays the input value after input processing (scaling).			
D47	Input 1 Bias	BIAS1	Adds the bias value to the value after input processing, and displays as the PV1.	±10% of scaled span (EUS) *1	±0% of span (EUS) *1	
D51	Display Mode	DSP MODE	Selects the display setter state after 30 minutes elapses after a key switch operation. OFF: Power save mode Only the decimal point is displayed. ON: Constant ON mode Data is displayed at all times regardless of elapsed time.	OFF ON	ON	
D60	Self Check	SELF CHK	Result of self check (GOOD/ERROR) of the self check.			Displayed on all

*1: Initialized when changing SCH1, SCL1

No.	Parameter Name	Symbol	Description	Setting Range	Factory-set Value	Display Conditions
E	Setting Parameters(alarm)	SET(ALM)				
E01	Alarm 1 Set Point	SET POINT1	Alarm 1 set point Setting range SKYD-200: -999.9 to 999.9% (*1) SKYD-204: -19999 to 32000 (decimal point position set at DP1) Default SKYD-200: 100.0% SKYD-204: When ALM1 ACTION=DIRECT, SCH1 When ALM1 ACTION=REVERSE, SCL1 On the SKYD-204, this range is initialized when SCH1 and/or SCL1 are changed.			Displayed on SKYD-200, -204
E02	Alarm 2 Set Point	SET POINT2	Alarm 2 set point Setting range SKYD-200: -999.9 to 999.9% SKYD-204: -19999 to 32000 (decimal point position set at DP1) Default SKYD-200: 100.0% SKYD-204: When ALM2 ACTION=DIRECT, SCH1 When ALM2 ACTION=REVERSE, SCL1 On the SKYD-204, this range is initialized when SCH1 and/or SCL1 are changed.			Displayed on SKYD-200, -204
E03	Alarm 1 Set Point	SET POINT1	Alarm 1 set point Setting range SKYD-201: 0.0 to 100.0 (default: 10.0)			Displayed on SKYD-201
E04	Alarm 2 Set Point	SET POINT2	Alarm 2 set point Setting range SKYD-201: 0.0 to 100.0 (default: 10.0)			Displayed on SKYD-201
E07	Alarm 1 Action	ALM1 ACTION	Displays the direction (direct/reverse) of action of alarm 1. The setting can be changed on models except SKYD-204. On the SKYD-204, displays the state of the jumpers on the main board.	DIRECT REVERSE	DIRECT	Displayed on all
E08	Alarm 2 Action	ALM2 ACTION	Displays the direction (direct/reverse) of action of alarm 2. The setting can be changed on models except SKYD-204. On the SKYD-204, displays the state of the jumpers on the main board.	DIRECT REVERSE	REVERSE	
E09	Alarm 1 Hysteresis	HYSTERESIS1	Sets the hysteresis until the alarm 1 alarm state is canceled. Setting range Except SKYD-204: 0.0 to 100.0% SKYD-204: 0 to 100% of span (EUS) after scaling Default Except SKYD-204: 2.0% SKYD-204: 2.0% of span (EUS) after scaling On the SKYD-204, this range is initialized when SCH1 and/or SCL1 are changed.			
E10	Alarm 2 Hysteresis	HYSTERESIS2	Sets the hysteresis until the alarm 2 alarm state is canceled. The setting range and default are the same as alarm 1 hysteresis. On the SKYD-204, this range is initialized when SCH1 and/or SCL2 are changed.			
E15	Alarm 1 ON Delay	ON DELAY1	Sets the dead time until the alarm is output after alarm 1 enters the alarm state.	0 to 999 s	0 s	
E16	Alarm 2 ON Delay	ON DELAY2	Sets the dead time until the alarm is output after alarm 2 enters the alarm state.	0 to 999 s	0 s	
E17	Alarm 1 OFF Delay	OFF DELAY1	Sets the dead time until alarm output is stopped after alarm 1 is released from the alarm state.	0 to 999 s	0 s	
E18	Alarm 2 OFF Delay	OFF DELAY2	Sets the dead time until alarm output is stopped after alarm 2 is released from the alarm state.	0 to 999 s	0 s	

No.	Parameter Name	Symbol	Description	Setting Range	Factory-set Value	Display Conditions
E19	Alarm 1 Relay Action	RLY1 ACTION	Specifies the direction of alarm 1 relay action. NRM DE-ENERGIZED: De-energized during normal operation NRM ENERGIZED: Energized during normal operation	NRM DE-ENERGIZED NRM ENERGIZED	NRM DE-ENERGIZED	Displayed on all
E20	Alarm 2 Relay Action	RLY2 ACTION	Specifies the direction of alarm 2 relay action. NRM DE-ENERGIZED: De-energized during normal operation NRM ENERGIZED: Energized during normal operation	NRM DE-ENERGIZED NRM ENERGIZED	NRM DE-ENERGIZED	
E60	Self Check	SELF CHK	Displays the result (GOOD/ERROR) of the self check.			

*1: For details on the Alarm Setting and Accuracy Warranty Range, see "2.1 Standard Specifications."

No.	Parameter Name	Symbol	Description	Setting Range	Factory-set Value	Display Conditions
P	Adjustment Parameters	ADJUST				
P03	Zero Adjustment (Input 1)	ZERO ADJ1	Performs zero adjustment (0% side) on input 1. n.nnn V RST n.nnn V INC n.nnn V HINC n.nnn V HDEC n.nnn V DEC n.nnn indicates the current input value. Increase or decrease “n.nnn” until the target value is reached. INC/DEC : Increase/decrease “n.nnn.” HINC/HDEC : Increase/decrease “n.nnn” more rapidly than INC/DEC. RST : When a reset is made, the adjustment values return to their factory settings.			Displayed on all
P04	Span Adjustment (Input 1)	SPAN ADJ1	Performs span adjustment (100% side) on input 1. The adjustment method is the same as ZERO ADJ1.			
P60	Self Check	SELF CHK	Displays the result (GOOD/ERROR) of the self check.			
Q	Test Parameters	TEST				
Q04	Alarm 1 Forced Output	RLY1 TEST	Forcibly executes relay output regardless of the input state.(*1)	DE-ENERGIZED ENERGIZED		Displayed on all
Q05	Alarm 2 Forced Output	RLY2 TEST				
Q60	Self Check	SELF CHK	Displays the result (GOOD/ERROR) of the self check.			

*1: After the test ends, press the OK key to cancel the forced output state and set to the normal operation state.

5.4.3 SKYD-30x Parameter List

No.	Parameter Name	Symbol	Description	Display Conditions
Initial display				
01	Model Name	MODEL	Displays the model name.	Displayed on all
02	Tag Number	TAG NO	Displays the tag number that is set.	
03	Self Check	SELF CHK	Displays the result (GOOD/ERROR) of the self check.	
A	Display 1	DISPLAY1		
A01	Analog Input 1	INPUT1	Input value before input processing (square root or scaling) (unit: V)	Displayed on SKYD-304
A02	Analog Input 2	INPUT2	Input value before input processing (square root or scaling) (unit: V)	
A08	Input Deviation	INPUT DEV	Deviation value (PV1-PV2) after input processing	Displayed on all
A15	Alarm 1 Relay Display	RLY1 STATUS	Displays the state of the alarm 1 relay. DE-ENERGIZED: De-energized ENERGIZED: Energized	
A16	Alarm 2 Relay Display	RLY2 STATUS	Displays the state of the alarm 2 relay. DE-ENERGIZED: De-energized ENERGIZED: Energized	
A54	Status Display	STATUS	Displays the value added to the value (Hex) indicating the self check result. 0000: Normal 0001: EEPROM error 0002: EEPROMSUM error 0004: Low input cut state 0008: Input range exceeded 0010: Setting error 0040: Power interruption during operation 1000: A/D conversion error	
A55	Parameter Write Protect	WRT PROTECT	Displays the state of the Parameter Write Protect jumper. OFF: Setting of parameters enabled ON: Setting of parameters disabled	
A56	REV NO.	REV NO.	Displays the device revision No.	
A58	MENU REV	MENU REV	Displays the revision No. of the parameter group.	
A60	Self Check	SELF CHK	Displays the result (GOOD/ERROR) of the self check.	
B	Display 2	DISPLAY2		
B01	Analog Input 1	Same as item A		
B02	Analog Input 2			
B08	Input Deviation			
B15	Alarm 1 Relay Display			
B16	Alarm 2 Relay Display			
B60	Self Check			

No.	Parameter Name	Symbol	Description	Setting Range	Factory-set Value	Display Conditions
D	Setting Parameters	SET(I/O)				
D01	Tag Number 1	TAG NO.1	8 alphanumerics can be entered.			Displayed on all
D02	Tag Number 2	TAG NO.2	8 alphanumerics can be entered.			
D03	Comment 1	COMMENT1	8 alphanumerics can be entered.			
D04	Comment 2	COMMENT2	8 alphanumerics can be entered.			
D17	Input 1 Square Root Calculation	LINEARIZE1	Specifies square root calculation ON/OFF.	OFF SQR	OFF	Displayed on SKYD-304
D19	Input 1 Low-cut	LOW CUT1	Specifies low-cut point during square root calculation.	0.3 to 100.0 %	1.0 %	Displayed on SKYD-304 and when LINEARIZE1=SQR
D40	Input Decimal Point Position	DP1	Sets the position of the decimal point for the input scale (SCH1, SCL1).	##### ####.# ###.## ##.###	####.#	Displayed on SKYD-304
D41	Input Scale L	SCL1	Sets the conversion standard value at 1V input to scale and display the input value in engineering units.	-9999 to 9999 (engineering unit)	0.0	
D42	Input Scale H	SCH1	Sets the conversion standard value at 5V input to scale and displays the input value in engineering units.	-9999 to 9999 (engineering unit)	100.0	
D46	PV1	PV1	Displays the input value after input processing (scaling).			
D47	Input 1 Bias	BIAS1	Adds the bias value to the value after input processing, and displays as the PV1.	±10% of scaled span (EUS) *1	±0% of span (EUS) *1	
D48	PV2	PV2	Displays the input value after input processing (scaling).			
D49	Input 2 Bias	BIAS2	Adds the bias value to the value after input processing, and displays as the PV2.	±10% of scaled span (EUS) *1	±0% of span (EUS) *1	
D51	Display Mode	DSP MODE	Selects the display setter state after 30 minutes elapses after a key switch operation. OFF: Power save mode Only the decimal point is displayed. ON: Constant ON mode Data is displayed at all times regardless of elapsed time.	OFF ON	ON	
D60	Self Check	SELF CHK	Result of self check (GOOD/ERROR) of the self check.			Displayed on all

*1: Initialized when changing SCH1, SCL1

No.	Parameter Name	Symbol	Description	Setting Range	Factory-set Value	Display Conditions
E	Setting Parameters (alarm)	SET(ALM)				
E05	Alarm 1 Set Point	SET POINT1	Alarm 1 set point Setting range SKYD-302: -999.9 to 999.9% (*1) SKYD-304: -19999 to 32000 (decimal point position set at DP1) Default SKYD-302: 100.0% SKYD-304: When ALM1 ACTION= DIRECT, SCH1-SCL1 When ALM1 ACTION= REVERSE, SCL1-SCH1 On the SKYD-304, this range is initialized when SCH1 and/or SCL1 are changed.			Display on all
E06	Alarm 2 Set Point	SET POINT2	Alarm 2 set point Setting range SKYD-302: -999.9 to 999.9% (*1) SKYD-304: -19999 to 32000 (decimal point position set at DP1) Default SKYD-302: -100.0% SKYD-304: When ALM2 ACTION=DIRECT, SCH1-SCL1 When ALM2 ACTION=REVERSE, SCL1-SCH1 On the SKYD-304, this range is initialized when SCH1 and/or SCL1 are changed.			
E07	Alarm 1 Action	ALM1 ACTION	Displays the direction (direct/reverse) of action of alarm 1. The setting can be changed on models except SKYD-304. On the SKYD-304, displays the state of the jumpers on the main board.	DIRECT REVERSE	DIRECT	Displayed on all
E08	Alarm 2 Action	ALM2 ACTION	Displays the direction (direct/reverse) of action of alarm 2. The setting can be changed on models except SKYD-304. On the SKYD-304, displays the state of the jumpers on the main board.	DIRECT REVERSE	REVERSE	
E09	Alarm 1 Hysteresis	HYSTERESIS1	Sets the hysteresis until the alarm 1 alarm state is canceled. Setting range SKYD-302: 0.0 to 100.0% SKYD-304: 0 to 100% of span (EUS) after scaling Default SKYD-302: 2.0% SKYD-304: 2.0% of span (EUS) after scaling On the SKYD-304, this range is initialized when SCH1 and/or SCL1 are changed.			
E10	Alarm 2 Hysteresis	HYSTERESIS2	Sets the hysteresis until the alarm 2 alarm state is canceled. The setting range and default are the same as alarm 1 hysteresis. On the SKYD-304, this range is initialized when SCH1 and/or SCL1 are changed.			
E15	Alarm 1 ON Delay	ON DELAY1	Sets the dead time until the alarm is output after alarm 1 enters the alarm state.	0 to 999 s	0 s	
E16	Alarm 2 ON Delay	ON DELAY2	Sets the dead time until the alarm is output after alarm 2 enters the alarm state.	0 to 999 s	0 s	
E17	Alarm 1 OFF Delay	OFF DELAY1	Sets the dead time until alarm output is stopped after alarm 1 is released from the alarm state.	0 to 999 s	0 s	
E18	Alarm 2 OFF Delay	OFF DELAY2	Sets the dead time until alarm output is stopped after alarm 2 is released from the alarm state.	0 to 999 s	0 s	
E19	Alarm 1 Relay Action	RLY1 ACTION	Specifies the direction of alarm 1 relay action. NRM DE-ENERGIZED: De-energized during normal operation NRM ENERGIZED: Energized during normal operation	NRM DE-ENERGIZED NRM ENERGIZED	NRM DE-ENERGIZED	Displayed on all
E20	Alarm 2 Relay Action	RLY2 ACTION	Specifies the direction of alarm 2 relay action. NRM DE-ENERGIZED: De-energized during normal operation NRM ENERGIZED: Energized during normal operation	NRM DE-ENERGIZED NRM ENERGIZED	NRM DE-ENERGIZED	
E60	Self Check	SELF CHK	Displays the result (GOOD/ERROR) of the self check.			

*1: For details on the Alarm Setting and Accuracy Warranty Range, see "2.1 Standard Specifications."

No.	Parameter Name	Symbol	Description	Setting Range	Factory-set Value	Display Conditions
P	Adjustment Parameters	ADJUST				
P03	Zero Adjustment (Input 1)	ZERO ADJ1	Performs zero adjustment (0% side) on input 1. n.nnn V RST n.nnn V INC n.nnn V HINC n.nnn V HDEC n.nnn V DEC n.nnn indicates the current input value. Increase or decrease “n.nnn” until the target value is reached. INC/DEC : Increase/decrease “n.nnn.” HINC/HDEC : Increase/decrease “n.nnn” more rapidly than INC/DEC. RST : When a reset is made, the adjustment values return to their factory settings.			Displayed on all
P04	Span Adjustment (Input 1)	SPAN ADJ1	Performs span adjustment (100% side) on input 1. The adjustment method is the same as ZERO ADJ1.			
P05	Zero Adjustment (Input 2)	SPAN ADJ2	Zero adjustment (0% side) of input 2 Adjustment method is the same as ZERO ADJ1. • On SKYD-304 only			
P06	Span Adjustment (Input 2)	SPAN ADJ2	Span adjustment (100% side) of input 2 Adjustment method is the same as ZERO ADJ1. • On SKYD-304 only			
P60	Self Check	SELF CHK	Displays the result (GOOD/ERROR) of the self check.			Displayed on all
Q	Test Parameters	TEST				
Q04	Alarm 1 Forced Output	RLY1 TEST	Forcibly executes relay output regardless of the input state. (*1)	DE-ENERGIZED ENERGIZED		Displayed on all
Q05	Alarm 2 Forced Output	RLY2 TEST				
Q60	Self Check	SELF CHK	Displays the result (GOOD/ERROR) of the self check.			

*1: After the test ends, press the OK key to cancel the forced output state and set to the normal operation state.

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 alarm unit, 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
  (2 units are required in the case of the deviation alarm)
- 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 Check and Adjustment of Input

A PC (VJ77) or the JHT200 Handy Terminal is required for adjusting input.
The adjustment procedure is shown below using the JHT200 Handy Terminal as an example.

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.**

6.2.1 Check for SKYD-10x and SKYD-20x

Only one input is supported on the SKYD-10x/20x.
The adjustment parameters are as follows:
P03: Zero Adjustment (Input 1)
P04: Span Adjustment (Input 1)
For details on adjusting these parameters, refer to the instruction manual "JHT200 Handy Terminal (IM 77J50H01-01EN)."

The procedure for adjustment is describes below.
(a) Connect the test equipment corresponding to each of input referring to Figure 6-1.
(b) Set the parameter write protect (W.P.) of setting jumper to OFF.
(c) Turn on the power while the equipment is connected to the instrument, and allow a warm-up period of about 5 minutes.
(d) Connect JHT200 Handy Terminal.
(e) Call P03: ZERO ADJ1 of the adjustment item (P: ADJUST).
(f) Apply an input equivalent to 0% of the input range. Check the input value and the input display value of P03: ZERO ADJ1.
(g) If the input value does not correspond to the display value of P03, adjust it using P03 parameter.
(h) Select INC (addition) or DEC (subtraction) for adjustment. (Selecting RST resets the adjusted value and retrieves the factory-set default.) When the error is large, select HINC or HDEC for adjustment using a value ten times as large as INC or DEC.
(i) Perform the same procedure for the 100% of input range. Use the parameter P04: SPAN ADJ1.
(j) After completing the adjustment, set the parameter write protect (W.P.) of setting jumper to ON as necessary.

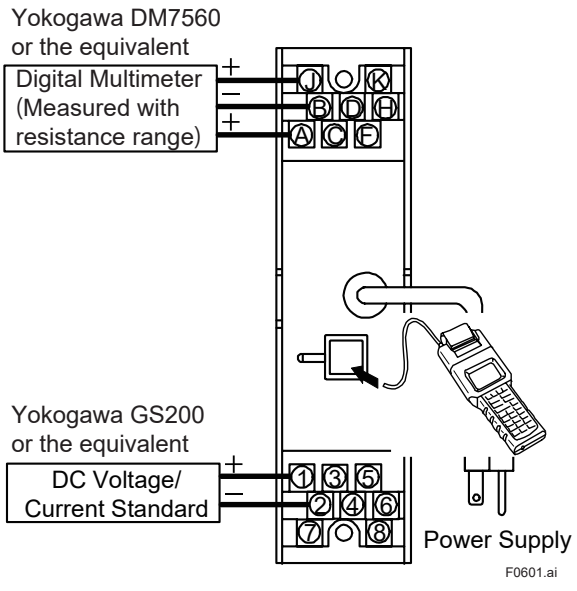


Figure 6-1 Wiring for Adjustment (SKYD-10x, -20x)

6.2.2 Check for SKYD-30x

Two inputs are supported on the SKYD-30x. Adjust Input 1 and Input 2 referring to “6.2.1 Check for SKYD-10x and SKYD-20x”.
The adjustment parameters are as follows:
P03, P04: Zero/Span Adjustment (Input 1)
P05, P06: Zero/Span Adjustment (Input 2)

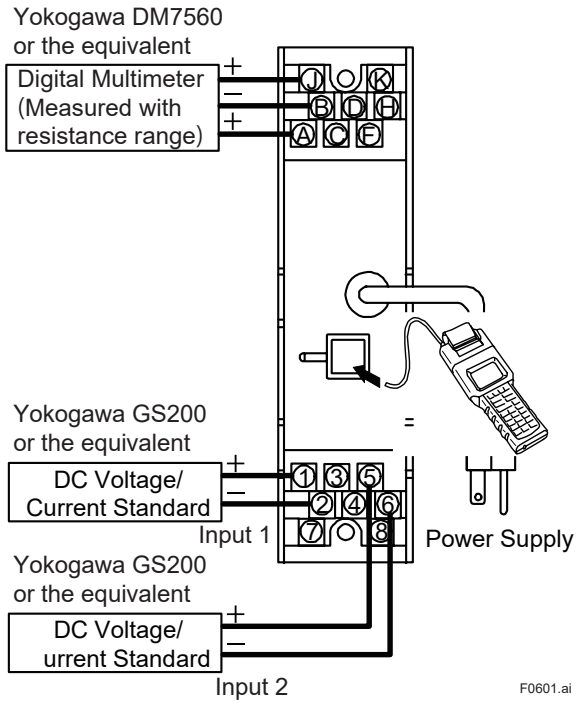


Figure 6-2 Wiring for Adjustment (SKYD-30x)

6.3 Check of Alarm Set Point

A PC (VJ77) or the JHT200 Handy Terminal is required for checking alarm set point.
The check procedure is shown below using the JHT200 Handy Terminal as an example.

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 77J50H01-01E).**
- **Do not turn off the power of the instrument during adjustment.**

6.3.1 Check for SKYD-10x and SKYD-20x

Use JHT200 Handy Terminal for check.
The procedure for check is describes below.
(a) Connect the test equipment corresponding to each of input referring to Figure 6-1 through Figure 6-2.
(b) Set the parameter write protect (W.P.) of setting jumper to OFF.
(c) Turn on the power while the equipment is connected to the instrument, and allow a warm-up period of about 5 minutes.
(d) Connect JHT200 Handy Terminal.
(e) Call the setting (alarm) items, E: SET(ALM).
(f) Set "DIRECT" for E07: ALM1 ACTION.
(g) Set "NRM DE-ENERGIZED" for E19: RLY1 ACTION.
(h) Set a value equivalent to 0% for E01: SET POINT1. (Example: Set "0.0".)
(i) Vary the input and confirm that the voltage when the alarm1 relay action indicator lamp on front panel turns on is within ±0.2% of measuring range.
(j) Then set a value equivalent to 50% for SET POINT1. Confirm that the voltage when the alarm1 relay action indicator lamp on front panel turns on is within ±0.2% of measuring range.
(k) Set a value equivalent to 100% for SET POINT1. Confirm that the voltage when the alarm1 relay action indicator lamp on front panel turns on is within ±0.2% of measuring range.
(l) For SKYD-2xx, set E08 and E20 of alarm 2 as described above. Set the value equivalent to 0%, 50% and 100% for E02 and confirm as above.
(m) After completing the check, set the parameter write protect (W.P.) of setting jumper to ON as necessary.

6.3.2 Check for SKYD-30x

Two inputs are supported on the SKYD-30x. The deviation alarm operates in conjunction with the input deviation. Input deviation is the difference between input 1 and input 2. The formula is "input deviation = input 1-input 2". For example, if input 1 is 5V and input 2 is 3V, the difference is 2V and the input deviation is + 50%.
Set the alarm set value to E05: SET POINT1 or E06: SET POINT2 in the same way as SKYD-10x and -20x, and check the deviation alarm action.

Table 6-1 Relationship between Relay Action Indicator Lamp and Alarm Output

Indicator Lamp	Condition of Alarm Output	
ON (illuminated)	Between terminals A and B	OPEN
	Between terminals J and B	CLOSE
	Between terminals F and H	OPEN
	Between terminals K and H	CLOSE
OFF (extinguished)	Between terminals A and B	CLOSE
	Between terminals J and B	OPEN
	Between terminals F and H	CLOSE
	Between terminals K and H	OPEN

6.4 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.

Troubleshooting

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

7.1 Action in Fault Condition.

The SKYD has a self check function for detecting device errors on the actual SKYD itself. Details of SKYD errors can be confirmed on the display setter on the front panel and in the STATUS parameter using a PC (VJ77) or the JHT200 Handy Terminal.
The blinking error display means failure.

Indication on Display Setter (*1)	BRAIN Communication Parameter Display			Device Operation	Cause of Error	Remedy
	STATUS (*2)	SELF CHK	Error Information			
Out				Same state as power OFF	Hardware error	Contact YOKOGAWA's sales office or sales representative.
Out				Lamp: All out Alarm output: NO: Open, NC: Closed Key switch: Disabled Communications: Stopped	Power supply error, broken fuse	
Out				Lamp: All out Alarm output: Normal Key switch: Disabled Communications: Normal action	Display malfunction	
(AD.ER) Blinking	**1000**	**ERROR**	**AD ERROR**	Lamp: All out Alarm output: NO: Open, NC: Closed Key switch: Disabled Communications: Normal action	A/D conversion error	
(EEP.ER) Blinking	**0001**	**ERROR**	**EEPROM ERROR**	Lamp: All out Alarm output: NO: Open, NC: Closed Key switch: Disabled Communications: Unstable	EEPROM error	
(SU.ER) Blinking	**0002**	**ERROR**	**EEPROM SUM ERROR**	Lamp: All out Alarm output: NO: Open, NC: Closed Key switch: Disabled Communications: Unstable	EEPROMSUM error (Parameter error)	
	0008	**ERROR**	**INPUT OVER RANGE**	Lamp: Normal action Alarm output: NO: Open, NC: Closed Key switch: Enabled Communications: Normal action	Out of input range -25 to +125%	Set the input within the range.(*3)
	0010	**ERROR**	**RANGE SET ERROR**		SCH1 and SCL1 are same values.	Set SCH1 or SCL1 again.
	0004	**GOOD**	**LOW_CUT**		Input at low-cut point or less	Apply the input greater than the low-cut point.
	0040	**GOOD**	**None**		Power interruption during operation	Write "0000" at the STATUS display of BRAIN communication parameter.
	0000	**GOOD**	**-**	-	-	-

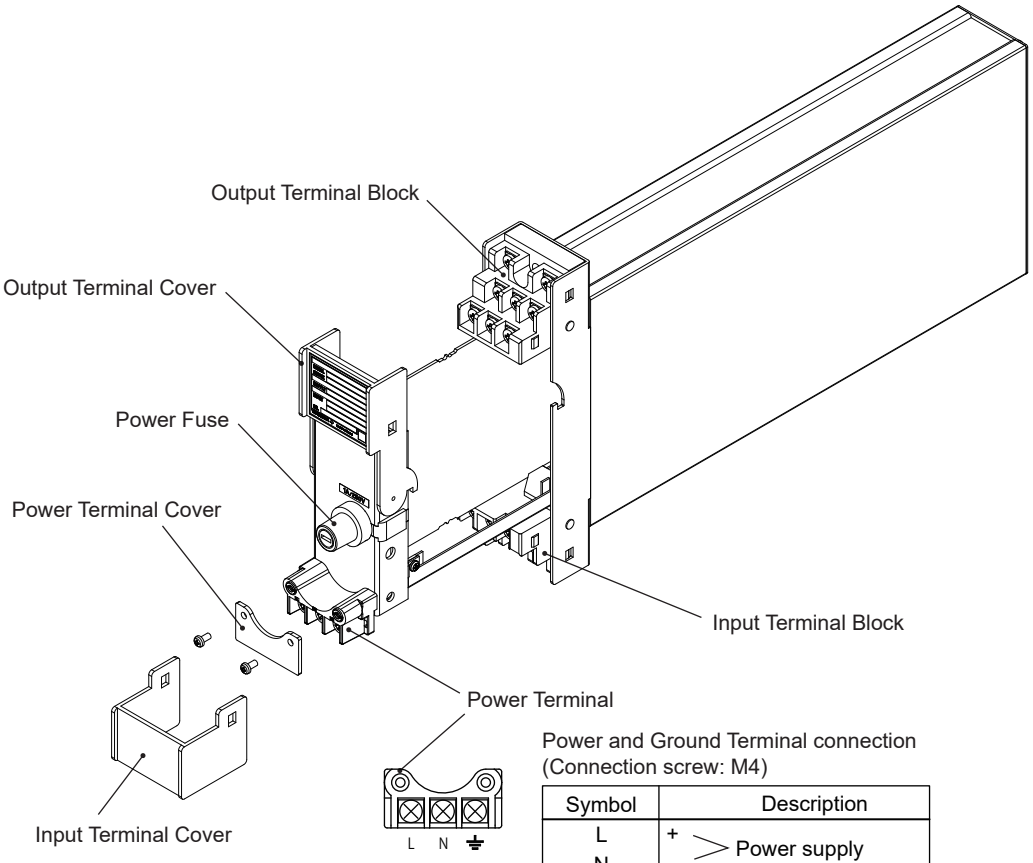
*1: On the SKYD-x04, the error details are indicated in alphabet characters.
Note, however, that blinking errors are also displayed when parameter set point are displayed.
When two or more errors occur, high priority errors are displayed.
The table shows the errors in order of priority.
*2: STATUS error code is to be the addition display (hexadecimal number) when two errors or more occur.
*3: If errors continue even when the input is within the range, the input circuit is broken. Contact YOKOGAWA's sales office or sales representative.

If any of the following errors occurs, alarm output is de-energized. Set "NRM ENERGIZED" (normally energized) to the BRAIN communication parameters E19 and E20 to detect the following errors by alarm output contacts.
Hardware error, Power supply error, Broken fuse, A/D conversion error, EEPROM malfunction and Parameter error.

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 screws).
(2) Examples of applicable cables:
Cross-sectional area of the cable conductor: 2.0 mm^2. *
For the power supply, use cable having a cross-sectional area of at least 1.25 mm^2.
Applicable cable: 600 V vinyle insulated cable (IV) stranded wires, conforming to JIS C3307.
PVC insulated 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.
(When signal terminal wirings are made after completion of power supply wiring, 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.

Blank

General Specifications

Model SKYD (Style S)
Alarm Unit

YEWSERIES 80

GS 01B04K01-02E

■ GENERAL

The Model SKYD Alarm Unit accepts input signals, and provides absolute or deviation alarm outputs. Absolute alarms are output after comparison of input signals from a single source with one or two setpoints, and deviation alarms are output after comparison of input signals from two sources with two setpoints. Direct or reverse alarm action can be selected for each of the alarm output settings. The front panel is provided with an alarm LED for confirming alarm relay operation (when relay is energized).

A PC (VJ77) or the JHT200 Handy Terminal is used for setting Alarm Unit parameters. On the SKYD model with display setter (SKYD-□04), input indication (engineering unit) and alarm settings can be set on the front panel.*

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).*

*: The BT200 BRAIN Terminal of YOKOGAWA Electric Corporation can also be connected. The adapter for modular jack (E9786WH) is required for connecting a PC (VJ77) or the JHT200 Handy Terminal to the Alarm Unit.

■ STANDARD SPECIFICATIONS

Input Signals

Input: 1 to 5 V DC
Number of inputs: 1 (SKYD-1/2 type) or 2 (SKYD-3 type)
Load Resistance: 1 MΩ

Square root extraction (absolute alarm only)

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

When E_1 is less than low cut, $E_0 = E_1$
E_0: Input Signal (after square root calculation),
E_1: Input Signal (before square root calculation)

Output Signals

Output: Relay contact
Contact Capacity: 100 V AC, 1 A (resistive load)
220 V AC, 0.5 A (resistive load)
30 V DC, 1 A (resistive load)
110 V DC, 0.1 A (resistive load)
Contact Life Expectancy: 600,000 times
Number of Outputs:
1 (SKYD-1 type) or 2 (SKYD-2/3 type)

Alarm Functions

Alarm operation: 1 input absolute alarm (SKYD-1/2 type)
2 input deviation alarm (SKYD-3 type)

Alarm Setting

Input absolute alarm: 0 to 100%
Input deviation alarm: -100 to +100%
Hysteresis: 0 to 100%
Alarm ON/OFF delay: 0 to 999 sec.

<Following setting ranges only on SKYD-□04>
Input absolute alarm/deviation alarm:
-9999 to +9999 (engineering unit)
Hysteresis: 0 to 9999 (engineering unit)
Direction of alarm action: Direct/reverse
Excluding SKYD-□04
Selection by parameter setting
SKYD-□04 Selection by jumper switch setting
Direction of alarm relay action (at normal operation):
De-energized/energized

Direction of alarm relay action: De-energized setting at normal operation

Action	Input value or deviation value < Setting value	Setting value < Input value or deviation value
Direct	Relay de-energized	Relay energized
Reverse	Relay energized	Relay de-energized

Direction of alarm relay action: Energized setting at normal operation

Action	Input value or deviation value < Setting value	Setting value < Input value or deviation value
Direct	Relay energized	Relay de-energized
Reverse	Relay de-energized	Relay energized

Alarm Output: 1 transfer contact for each setting
NO: (Normally Open) means open when relay is not energized.
NC: (Normally Closed) means closed when relay is not energized.

GS 01B04K01-02E

13th Edition Jan. 2021(YK)

BRAIN Communication Function:
Alarm action is set and this function is specified by a PC (VJ77) or the JHT200 Handy Terminal*.
Indicator setting function (SKYD-□04):
Digital indicator 5-digit 7-segment LED (1 line)
Indication range:
-19999 to +32000 (decimal point selectable)
At input value/input deviation value indication, SP indicator is not indicated.
LED indicators (ALM: yellow, SP: green)
Alarm action indication (ALM1/2)
Lit at relay energized state
Alarm setting value indication (SP1/2)
Lit when alarm setpoint is displayed. (ALM2 and SP2 are provided on SKYD-2/3 type only.)
Setter Setting (→, ↑, SET, △) switches 4
Setting enable switch 1
Alarm setting values can be set.
Indication Function (excluding SKYD-□04):
Digital indicator is not provided
LED indicators (ALM1/2: yellow)
Alarm action indicators (ALM1/2)
Lit at relay energized state
(ALM2 is provided on SKYD-2/3 type only.)

■ MOUNTING AND APPEARANCE

Mounting: Rack mounting
Wiring
Signal Wiring: ISO M4 size (4 mm) screws on terminal block
Power and Ground Wiring
100 V version: JIS C 8303 two-pin plug with earthing contact
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 (depth behind panel):
180 (H) x 48 (W) x 300 (D) (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

Model	Power Supply		
	24 V DC	100 V AC	220 V AC
SKYD-1 type	35 mA	3.2 VA	4.7 VA
SKYD-2, 3 type	45 mA	3.8 VA	5.3VA

■ POWER SUPPLY AND ISOLATION

Power Supply Rated Voltage:
100 V version:
24-110 VDC ⎓, -10 %, +10 %, 60 mA
100-120 VAC ∼, -10 %, +10 %, 50/60 Hz, 6.0 VA
220 V version:
135-300 VDC ⎓, -10 %, +10 %, 10 mA
200-240 VAC ∼, -10 %, +10 %, 50/60 Hz, 8.0 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 Input/alarm output terminal and Ground:
100 MΩ/500 V DC
Between Power and Ground: 100 MΩ/500 V DC
Dielectric Strength
Between Input terminals and Ground:
500 V AC for 1 minute
Between Alarm output terminal/Power and Ground:
1000 V AC for 1 minute (100 V version)
1500 V AC for 1 minute (220 V version)

■ NORMAL OPERATING CONDITIONS

Ambient Temperature: 0 to 50°C
Ambient Humidity: 5 to 90%RH (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

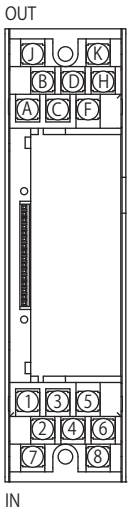
Temperature: -25 to 70°C
Temperature change rate: 20°C per hour or less
Humidity: 5 to 95%RH (no condensation)

■ 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	NC — Alarm output 1
B	COM — Alarm output 1
C	
D	
F	NC — Alarm output 2 (*1)
H	COM — Alarm output 2 (*1)
J	NO — Alarm output 2 (*1)
K	NO — Alarm output 2 (*1)

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

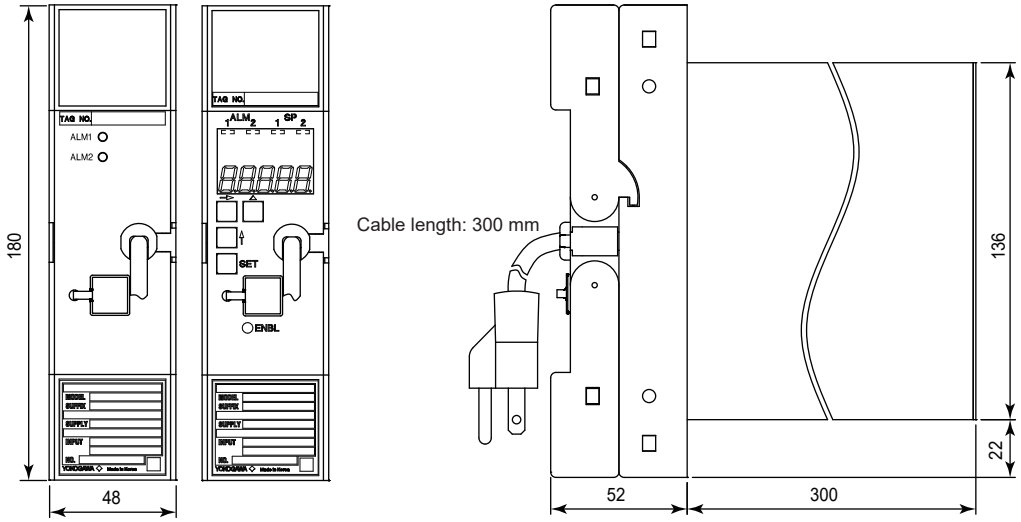
*1: Except SKYD-1 type.

Terminal Designation	Description
1	+ Input 1
2	- Input 1
3	
4	
5	+ Input 2 (*2)
6	- Input 2 (*2)
7	
8	

*2: For SKYD-3 type only.

■ EXTERNAL DIMENSIONS

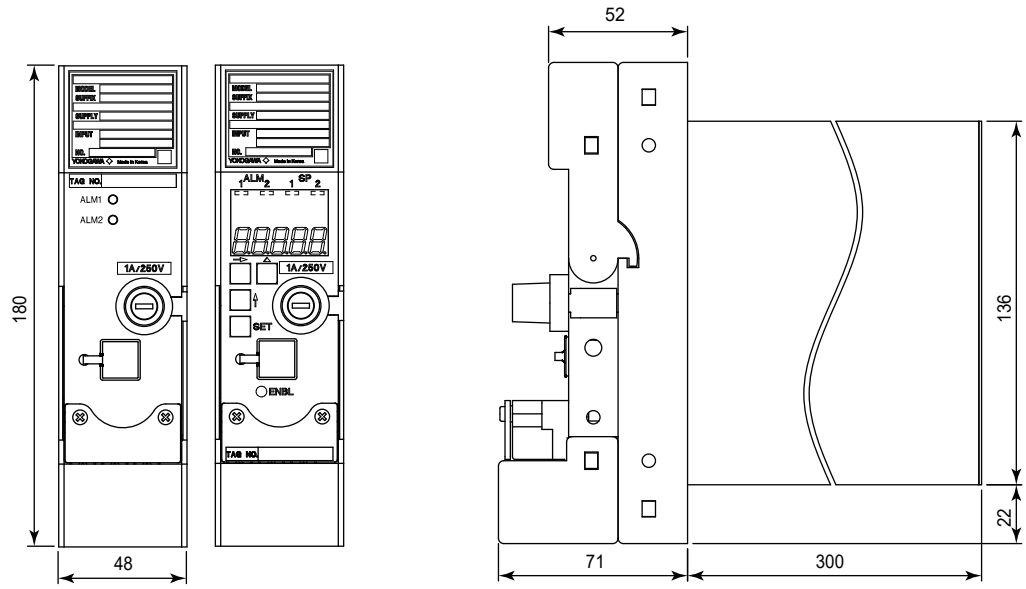
Power supply plug type



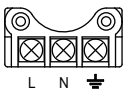
Trigonometry
Unit: mm
General tolerance = ±(value of tolerance class IT18 based on JIS B 0401-2016) / 2

F01.ai

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



Power supply terminal block



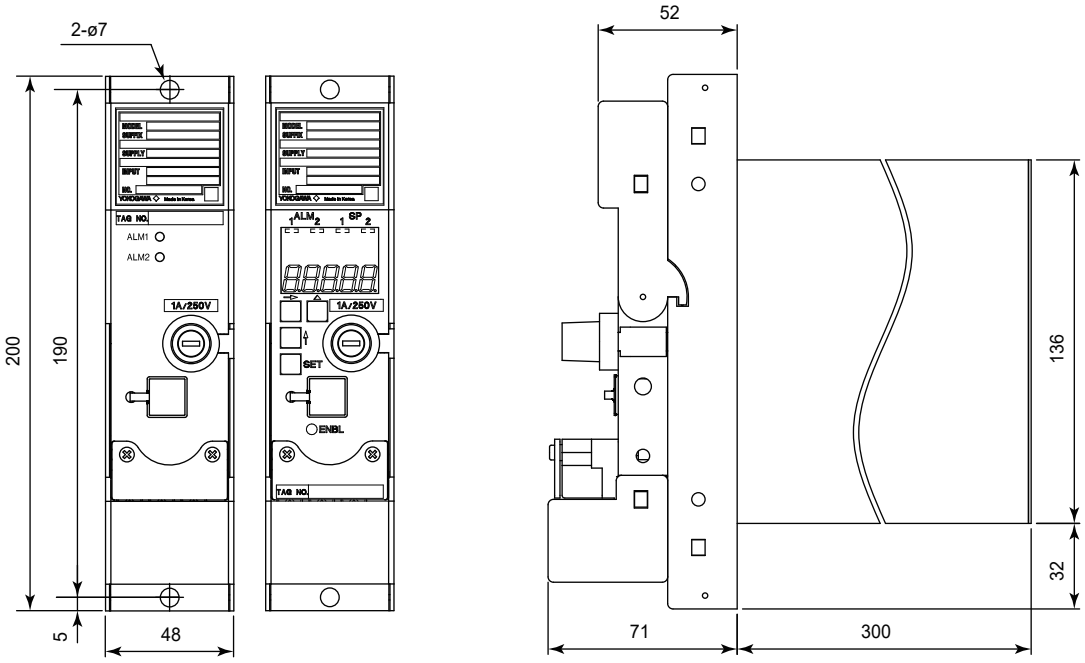
Power and Ground Terminal connection
(Connection screw: M4)

Symbol	Description
L	+
N	- Power supply
⏚	Ground

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

F02.ai

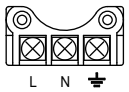
Power supply terminal type(option /REK)



SKYD-x00
SKYD-x01
SKYD-x02

SKYD-x04

Power supply terminal block



Power and Ground Terminal connection (Connection screw: M4)

Symbol	Description
L	+ > Power supply
N	-
⏚	Ground

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

F03.ai

■ MODEL & SUFFIX CODES

Model	Suffix Codes	Option Codes	Descriptions
SKYD			Alarm Unit
Alarm	-1 -2 -3		1 input, 1 setpoint absolute alarm 1 input, 2 setpoints absolute alarms 2 inputs, 2 setpoints deviation alarms
Suffix Code	0		Always 0
Setting Scale (*1)	0 1 2 4		0 to 100 linear 0 to 10 square root (*2) -100 to +100 linear (deviation alarm) (*3) Actual scale (with display setter)
Style Code	*S		Style S
Option Codes (*4) (*5)		/NHR /FBP /LOCK /WSW /REK /TB /A2TB /A2ER	Without rack case Power supply fuse bypass Power supply plug with lock With spring washer Mount to same line with EK series rack With power supply terminal 220V version with power supply terminal 220V version with power supply plug

*1: In the case of two set points, the setting ranges of one set point/two set points are the same.
*2: The value obtained by squaring the setting value functions as the alarm setting value.
*3: 2-input deviation alarm only
*4: /LOCK, /REK, /TB, and /A2TB cannot be specified together.
*5: /FBP and /A2TB cannot be specified together.

■ ACCESSORIES

Alarm label: 1 sheet

■ ORDERING INSTRUCTIONS

1. Model and suffix codes and option codes, if necessary

Revision Information

- Title : Model SKYD (Style S) Alarm Unit
- Manual No. : IM 01B04K01-02E

Jul. 2002/8th
Renewal

Feb. 2003/9th
Correct

May 2004/10th
Change of the company name.

Oct. 2019/11th
Change of the style number.

Jan. 2021/12th
VJ77 parameter setting tool (R3.01 or later) support

■ Written by Yokogawa Electric Corporation
■ Published by Yokogawa Electric Corporation
2-9-32 Nakacho, Musashino-shi, Tokyo 180-8750, JAPAN

YOKOGAWA

YOKOGAWA ELECTRIC CORPORATION

Headquarters
9-32, Nakacho, 2-chome, Musashino-shi, Tokyo, 180-8750 JAPAN
Phone : 81-422-52-5555

Branch Sales Offices
Osaka, Nagoya, Kurashiki, Hiroshima, Fukuoka, Kitakyusyu

YOKOGAWA CORPORATION OF AMERICA

Head Office
12530 West Airport Blvd, Sugar Land, Texas 77478, USA
Phone : 1-281-340-3800 Fax : 1-281-340-3838

Georgia Office
2 Dart Road, Newnan, Georgia 30265, USA
Phone : 1-800-888-6400 Fax : 1-770-254-0928

YOKOGAWA AMERICA DO SUL LTDA.

Praca Acapulco, 31 - Santo Amaro, Sáo Paulo/SP, BRAZIL, CEP-04675-190
Phone : 55-11-5681-2400 Fax : 55-11-5681-4434

YOKOGAWA EUROPE B. V.

Euroweg 2, 3825 HD Amersfoort, THE NETHERLANDS
Phone : 31-88-4641000 Fax : 31-88-4641111

YOKOGAWA ELECTRIC CIS LTD.

Grokholsky per 13 Building 2, 4th Floor 129090, Moscow, RUSSIA
Phone : 7-495-737-7868 Fax : 7-495-737-7869

YOKOGAWA CHINA CO., LTD.

3F Tower D Cartelo Crocodile Building, No.568 West Tianshan Road,
Shanghai 200335, CHINA
Phone : 86-21-62396262 Fax : 86-21-62387866

YOKOGAWA ELECTRIC KOREA CO., LTD.

(Yokogawa B/D, Yangpyeong-dong 4-Ga), 21, Seonyu-ro 45-gil, Yeongdeungpo-gu,
Seoul, 07209, KOREA
Phone : 82-2-2628-6000 Fax : 82-2-2628-6400

YOKOGAWA ENGINEERING ASIA PTE. LTD.

5 Bedok South Road, Singapore 469270, SINGAPORE
Phone : 65-6241-9933 Fax : 65-6241-2606

YOKOGAWA INDIA LTD.

Plot No.96, Electronic City Complex, Hosur Road, Bangalore - 560 100, INDIA
Phone : 91-80-4158-6000 Fax : 91-80-2852-0625

YOKOGAWA AUSTRALIA PTY. LTD.

Tower A, 112-118 Talavera Road, Macquarie Park NSW 2113, AUSTRALIA
Phone : 61-2-8870-1100 Fax : 61-2-8870-1111

YOKOGAWA MIDDLE EAST & AFRICA B.S.C.(C)

P.O. Box 10070, Manama, Building 577, Road 2516, Busaiteen 225, Muharraq,
BAHRAIN
Phone : 973-17-358100 Fax : 973-17-336100

Oct. '18