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.

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
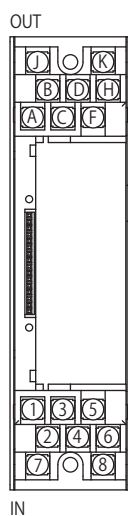/REK: Mount to same line with EK series rack
/TB: With power supply terminal
/A2TB: 220V version with power supply terminal
/A2ER: 220V version with power supply plug

■ TERMINAL CONNECTIONS

Terminal arrangement

OUT

IN

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

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	-	
3		
4		
5	+	Input 2 (*2)
6	-	
7		
8		

*2:   For SKYD-3 type only.

■ EXTERNAL DIMENSIONS

Power supply plug type

Cable length: 300 mm

SKYD-x00
SKYD-x01
SKYD-x02

SKYD-x04

Trigonometry
Unit: mm
General tolerance = ±(value of tolerance class IT18 based on JIS B 0401-2016) / 2
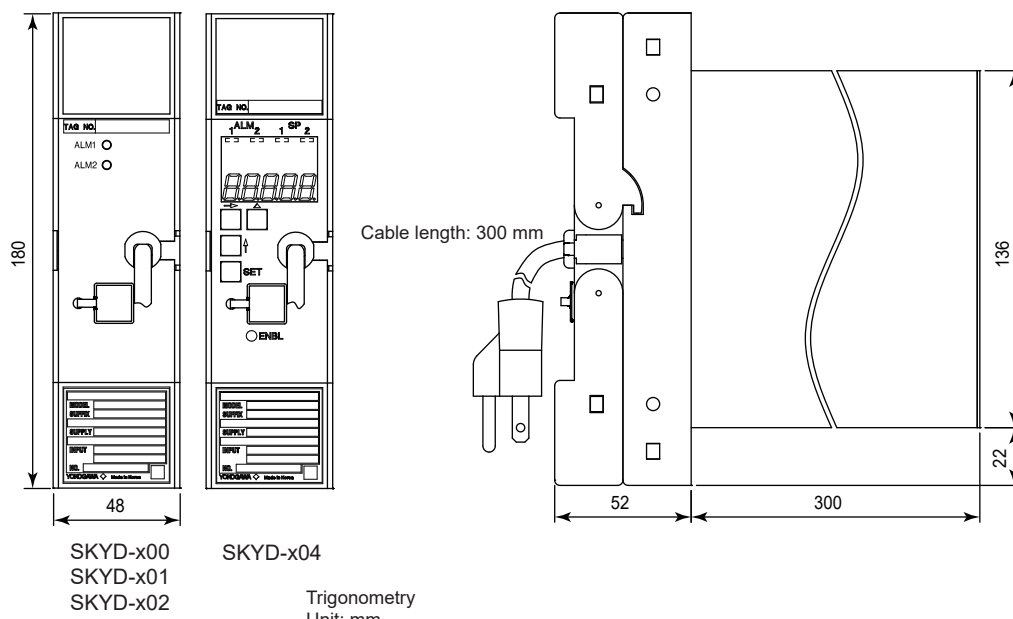
F01.ai

Power supply terminal type(option /TB or /A2TB)
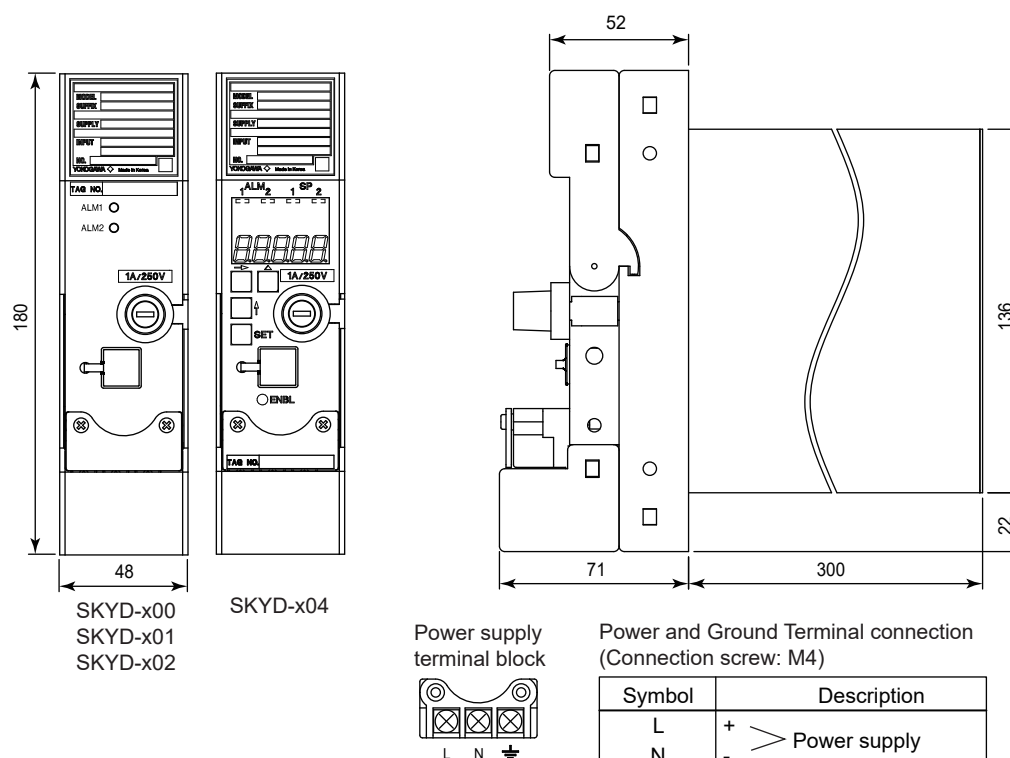
SKYD-x00
SKYD-x01
SKYD-x02

SKYD-x04

Power supply
terminal block

L N ⏚

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

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Power supply terminal type(option /REK)
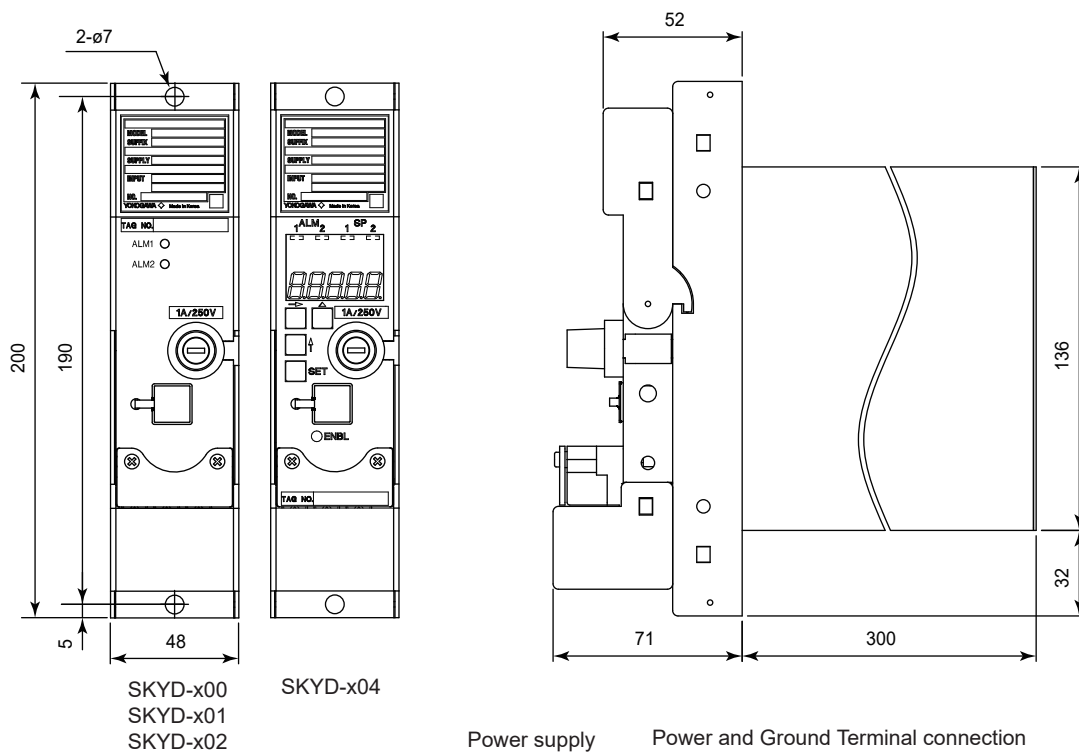
SKYD-x00
SKYD-x01
SKYD-x02

SKYD-x04

Power supply
terminal block

L N ⏚

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

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■ 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

■ BASIC CONDITIONS AND INDIVIDUAL CONTRACTS AT THE TIME OF PURCHASE

The warranty for this product is defined in the basic conditions and individual contracts at the time of purchase. The individual conditions are as follows.

- **Warranty period of firmware**
  The warranty conditions for the firmware installed in this products are same as that of the hardware.