

General Specifications

Model SDBS (Style S)
Distributor

YEW SERIES 80

GS 01B04T02-02E

■ GENERAL

The Model SDBS Distributor supplies power to a two-wire transmitter and converts the 4 to 20 mA DC transmitter signal current to two 1 to 5 V DC output signals.

Isolation between input/output and distributor power supply is provided.

Current limiting (to protect against transmitter wiring short circuits) is also provided.

■ STANDARD SPECIFICATIONS

Input Signals

Input: Used with 24 V DC, 4 to 20 mA, 2-wire transmitters (four points)

Leadwire Resistance (between transmitter and distributor):

$$\text{Maximum}(\Omega) = \frac{(20 - E_T) \cdot V_B}{0.02 \text{ A}}$$

Note*: Distributer minimum(no-load) output voltage – Maximum no-load voltage drop.

E_T : Transmitter maximum on-load voltage drop

Output Signals

Output: 1 to 5V DC (one output per input)

Load Resistance: At least 2k Ω

Isolation

Loop Isolation Type: Input signal is not isolated from output signal. Input signal and output signal are isolated from distributor power source - i.e. inter-loop isolation.

■ MOUNTING AND APPEARANCE

Mounting: Rack mounting.

Wiring

Signal Wiring: ISO M4 size (4mm) screws on terminal block.

Power and Ground Wiring

100 V version: JIS C 8303 two-pin plug with earthing contact (IEC A5-15, UL458)
Cable length: 300 mm
Power supply terminal type (option code /TB)

220 V version: CEE 7 VII (CENELEC standard) plug (option code /A2ER). Cable length: 300 mm
Power supply terminal type (option code /A2TB)

External Dimensions: 180 (H) × 48 (W) × 300 (D)
Depth behind panel (mm)

Weight: 1.7 kg (including rack-mounting case)



■ STANDARD PERFORMANCE

Accuracy: $\pm 0.2\%$ of span

Transmitter Supply Voltage(from distributor):

25.0 V DC to 25.5 V DC (provided with a current limiter to keep the current between 25 and 35 mA).

Maximum Power Consumption:

210 mA with 24 V DC supply,
11.6 VA with 100 V AC supply,
14.6 VA with 220 V AC supply.

■ POWER SUPPLY AND ISOLATION

Power Supply Rated Voltage:

100 V version:

24-110 VDC \approx , -10 %, +10 %, 260 mA

100-120 VAC \sim , -10 %, +10 %, 50/60 Hz, 15.0 VA

220 V version:

135-300 VDC \approx , -10 %, +10 %, 40 mA

200-240 VAC \sim , -10 %, +10 %, 50/60 Hz, 16.0 VA

Power Supply Input Voltage: AC/DC both usage

100 V version: DC drive 20 to 130 V, no polarity

AC drive 80 to 138 V, 47 to 63 Hz

220 V version: DC drive 120 to 340 V, no polarity

AC drive 138 to 264 V, 47 to 63 Hz

Insulation Resistance

Between I/O terminals and Ground:

100 M Ω / 500 V DC

Between Power and Ground:

100 M Ω /500 V DC

Between Loops: 100 M Ω /500 V DC

Dielectric Strength

Between I/O terminals and Ground:

500 V AC for 1 minute.

Between Power and ground:

1000 V AC for 1 minute (100 V version)

1500 V AC for 1 minute (220 V version)

Between Loops: 500 V AC for 1 minute

■ NORMAL OPERATING CONDITIONS

Ambient Temperature: 0 to 50 °C

Ambient Humidity: 5 to 90 % relative humidity
(non-condensing)

Operating environment: Area free of hydrogen sulfide gas and other corrosive gases and dust and where the device is not exposed to sea breeze or direct sunlight.

Continuous vibration: (at 5 to 9 Hz) Half amplitude of 1.5 mm or less
(at 9 to 150 Hz) 4.9m/s² or less,
1 oct/min for 90 minutes each
in the three axis directions

Impact: 49 m/s² 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

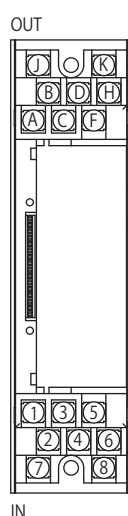
/TB: With power supply terminal

/A2TB: 220V version with power supply terminal

/A2ER: 220V version with power supply plug

■ TERMINAL CONNECTIONS

Terminal arrangement



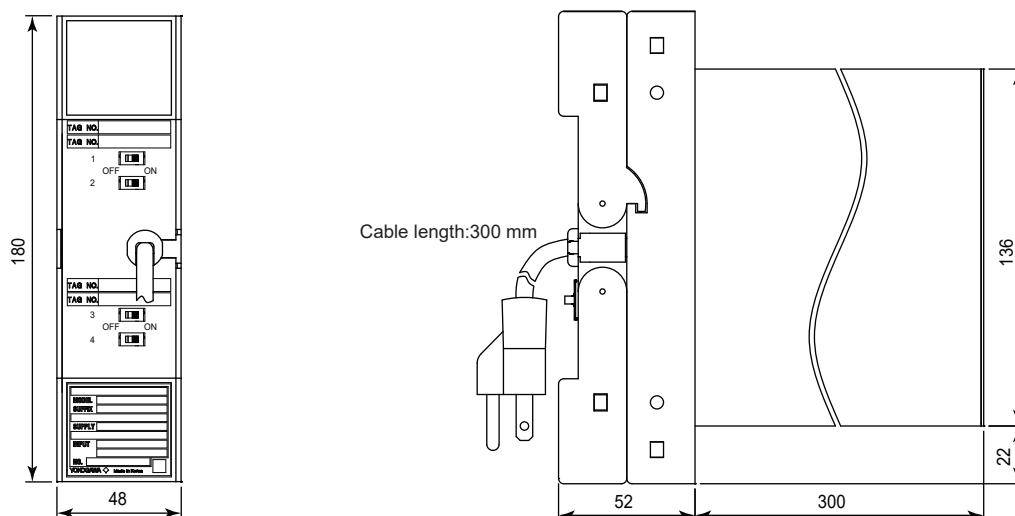
Terminal Designation	Description
A	+ > Output 1 (Transmitter 1)
B	- > Output 1 (Transmitter 1)
C	+ > Output 3 (Transmitter 3)
D	- > Output 3 (Transmitter 3)
F	+ > Output 2 (Transmitter 2)
H	- > Output 2 (Transmitter 2)
J	+ > Output 4 (Transmitter 4)
K	- > Output 4 (Transmitter 4)

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

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

EXTERNAL DIMENSIONS

Power supply plug type



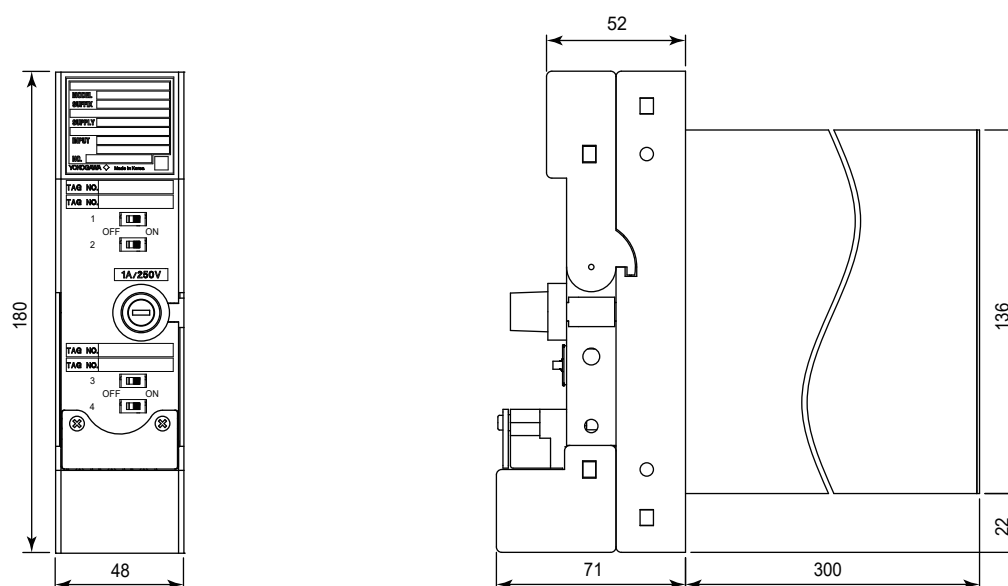
Trigonometry

Unit: mm

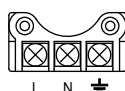
General tolerance = $\pm(\text{value of tolerance class IT18 based on JIS B 0401-2016}) / 2$

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



Power supply
terminal block



Power and Ground Terminal connection
(Connection screw: M4)

Symbol	Description
L	+ > Power supply
N	- > Power supply
⏏	Ground

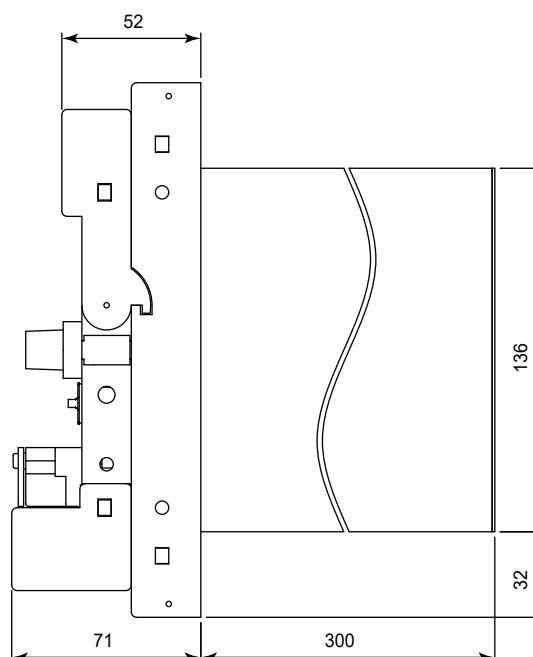
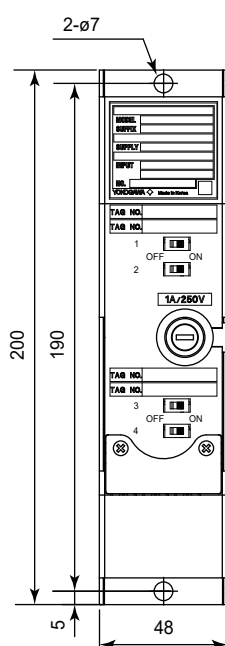
Trigonometry

Unit: mm

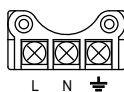
General tolerance = $\pm(\text{value of tolerance class IT18 based on JIS B 0401-2016}) / 2$

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Power supply terminal type(option /REK)



Power supply
terminal block



Power and Ground Terminal connection
(Connection screw: M4)

Symbol	Description
L	+ > Power supply
N	- > Power supply
⏏	Ground

Trigonometry

Unit: mm

General tolerance = $\pm(\text{value of tolerance class IT18 based on JIS B 0401-2016}) / 2$

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■ MODEL AND SUFFIX CODES

Model	Suffix Codes	Option Codes	Descriptions
SDBS			Distributor (4 inputs)
Isolation, Input	-14		Loop isolation, 4 inputs
Suffix Codes	0		Always 0
Style Code	*S		Style S
Option Codes ^(*) ⁽²⁾		/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: /LOCK, /REK, /TB, /A2TB, and /A2ER cannot be specified together.

*2: /FBP, /A2TB, and /A2ER cannot be specified together.

■ ORDERING INSTRUCTIONS

Specify the following when ordering:

Model and suffix codes and option codes, if necessary.