General Specifications

Model SDBT(Style R) Distributor

YEWSERIES 80

GS 01B04T01-02E

■ GENERAL

The Model SDBT 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 and one 4 to 20 mA DC (for SDBT-21 type only) output signals.

Isolation between input/output and distributor power supply is provided ("loop isolation"); isolation between input and output ("field isolation"); is specification.

Current limiting (to protect against transmitter wiring short circuits) is provided, and a square root characteristic is optional.

■ STANDARD SPECIFICATIONS

Input Signal

Input: Used with 24 V DC, 4 to 20 mA, 2-wire transmitter (one point)

Lead-wire Resistance (between transmitter and distributor):

$$\text{Maximum}(\Omega) = \frac{(20^* - E_T - E_B)\ \text{V}}{0.02\ \text{A}}$$

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

E_T: Transmitter maximum on-load voltage drop

E_B: Maximum on-load voltage drop of safety barrier.

Square Root Characteristic

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

E_0: Output Signal from computation function, E_1 : Input Signal

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

Output Signals

Output: 1 to 5V DC (two points), 4 to 20 mA DC (one point, SDBT-21 type only)

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

Isolation

Loop Isolation Type: Input signal is not isolated from output signals. Input signal and output signals are isolated from distributor power source.

Field Isolation Type: Input signal is isolated from output signals. Input signal and output signals are isolated from distributor power source.

BRAIN Communication Function

Monitoring of input/output value, adjustment of input/output and configuration by JHT200 Handy Terminal or BT200 BRAIN Terminal.

■ 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)

220 V version: CEE 7 VII (CENELEC standard) plug.

Cable Length: 300 mm.

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

Weight: 1.7 kg (including case)

■ STANDARD PERFORMANCE

Accuracy: ± 0.2 % of span (± 0.5 % of span for version with square root characteristic)

Transmitter Supply Voltage(from distributor): 25.0 V DC to 25.5 V DC.

Maximum Power Consumption:

Model and Suffix Code	24 V DC	100 V AC	220 V AC
SDBT-11 type	60 mA	5.4 VA	8.4 VA
SDBT-21 type	115 mA	9.5 VA	12.4 VA

Insulation Resistance

Between I/O terminals and Ground: 100 MΩ/ 500 V DC

Between Power and Ground: 100 MΩ/500 V DC

Dielectric Strength

Between I/O terminals and Ground: 500 V AC for 1 minute

Between Input terminal and Output terminal: 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)

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■ NORMAL OPERATING CONDITIONS

Ambient Temperature: 0 to 50 °C
Ambient Humidity: 5 to 90 % relative humidity (non-condensing)
Power Supply: Two versions, for “100 V” (standard) or “220 V” (option / A2ER). Both versions may use AC or DC, without change to the instrument:

Version	100 V	220 V
DC(polarity reversible)	20 to 130 V	120 to 340 V
AC(47 to 63 Hz)	80 to 138 V	138 to 264 V

■ OPTIONS

/A2ER: For “220 V version” with power supply.
/NHR: No case, plug-in instrument module only. See GS 01B04F02-E to order case separately.
/TB: For “100 V version” with power supply terminal.

■ MODEL AND SUFFIX CODES

Model	Suffix Codes	Description
SDBT		Distributor
Isolation	-11	Loop isolation only
	-21	Field(plus loop)isolation
Square Root Function	0	Not provided
	1	Provided (for SDBT-21)
Style Code	*R	Style R
Option	/A2ER	220 V power supply
	/NHR	Without case
	/TB	Power supply terminal

■ TERMINAL CONNECTIONS

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

Note1: Common for connection of intrinsic safety barrier.

Terminal Designation	Description
A	+
B	- > Output1(1 to 5 V DC)
C	+
D	- > Output3(4 to 20 mA DC)(*2)
F	+
H	- > Output2(1 to 5 V DC)
J	
K	

When not using output, the terminals are opened.
Note2: For SDBT-21 type only.

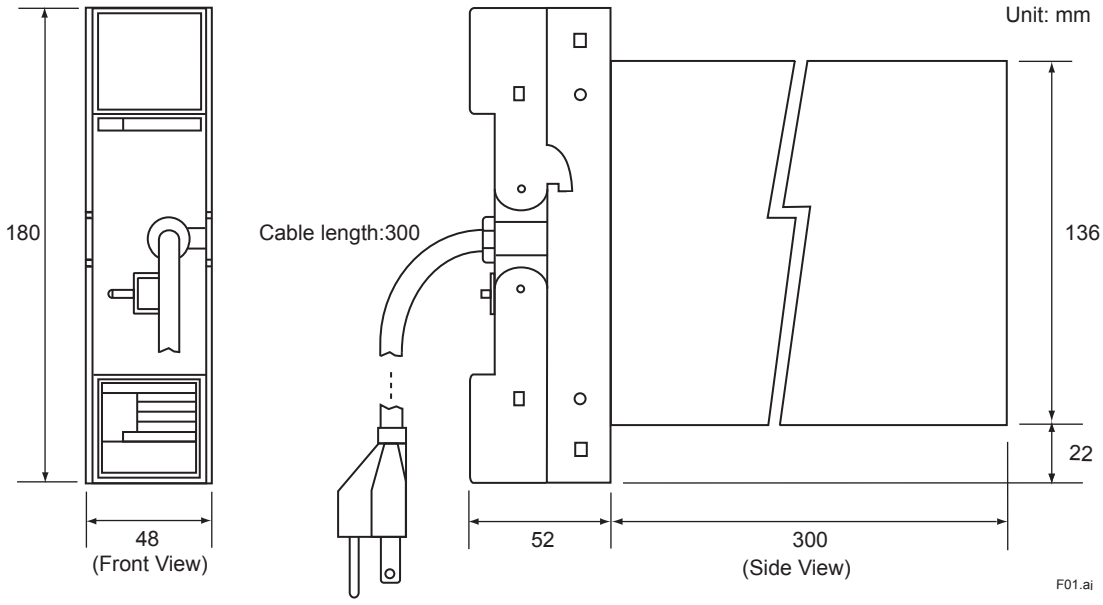
ORDERING INSTRUCTIONS

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

RELATED INSTRUMENT

Model SDBS Distributor..... See GS 01B04T02-E.

■ EXTERNAL DIMENSIONS



Note
Model SDBT complies with KC marking.
However, SDBT does not meet KC requirements when the option /NHR is specified.
KC marking: Electromagnetic wave interference prevention standard, electromagnetic wave protection standard compliance