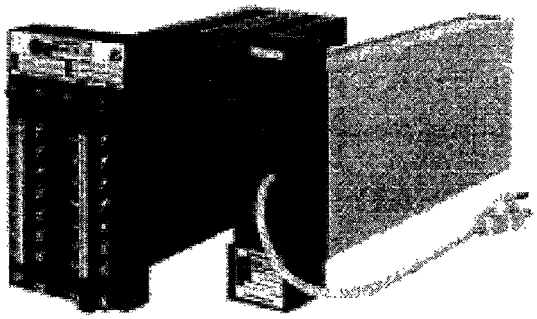
General Specifications

Model SDBU Distributor

The SDBU Distributor supplies power to a two-wire transmitter and converts the 10 to 50 mA DC or 4 to 20 mA DC transmitter (signal) current to two 1 to 5 V DC output signals. The current level can be selected by the internal switch.

Isolation between input/output and distributor power supply is provided ("loop isolation"); isolation between input and output is also provided ("field isolation"). Current limiting (to protect against transmitter wiring short circuit) is provided, and a square root function is optional.



STANDARD SPECIFICATIONS

Input/Output Signals

Input: Used with 10 to 50 mA DC or 4 to 20 mA DC 2-wire transmitter.
SDBU-21□: one transmitter can be connected.
SDBU-24□: four transmitters can be connected.
Current level can be selected on each point.
Leadwire Resistance (between transmitter and distributor):
Max. (Ω) = (43 V − Et)/0.05 A for 10 to 50 mA.
Max. (Ω) = (20 V − Et)/0.02 A for 4 to 20 mA.
Et: Transmitter maximum on-load voltage drop.
Output: 1 to 5 V DC (two outputs per loop).
Load Resistance: At least 2 kΩ (1 to 5 V DC output).
Isolation: Input is isolated from output. Input and output are isolated from distributor power source, i.e. inter-loop isolation.
Accuracy: ±0.2% of span (±0.5% of span for version with square root function.)
Transmitter Supply Voltage: (from distributor)
53 V ± 3 V DC for 10 to 50 mA.
26.5 V ± 1.5 V DC for 4 to 20 mA.

Normal Operating Conditions

Ambient Temperature: 0 to 50°C.
Ambient Humidity: 5 to 90% relative humidity (non-condensing).
Power Supply: 80 to 138 V AC (47 to 63 Hz) or 20 to 130 V DC (polarity reversible), without changing to the instrument.
Max. Power Consumption: (at 50 mA signal).

Model and suffix codes	24V DC (mA)	100V AC (VA)
SDBU-21□	240	12.6
SDBU-24□	960	48.0
Square root function (option)	20/Loop	1.0/Loop

Insulation Resistance:
Between I/O Terminals and Ground: 100 MΩ/500 V DC.
Between Power and Ground: 100 MΩ/500 V DC.
Between Input Terminal and Output Terminal: 100 MΩ/500 V DC.
Between Each Loop (SDBU-24□): 100 MΩ/500 V DC.
Dielectric Strength:
Between I/O Terminals and Ground: 500 V AC for 1 min.
Between Input Terminal and Output Terminal: 500 V AC for 1 min.
Between Each Loop (SDBU-24□): 500 V AC for 1 min.
Between Power and Ground: 1000 V AC for 1 min.
Wiring:
Signal Wiring to/from the Field: ISO M4 size (4 mm) screws on terminal block.
Power and Ground Wiring:
SDBU-21□: IEC A5-15, UL 498 two-pin plug with ground contact. Cable length is 300 mm.
SDBU-24□: ISO M4 size (4 mm) screw on terminal block.
Mounting: Rack mounting.
External Dimensions: in mm
SDBU-21□: 180 (H) × 48 (W) × 300 (D) (Depth behind panel.)
SDBU-24□: 180 (H) × 98 (W) × 300 (D) (Depth behind panel.)
Weight:
SDBU-21□: 1.7 kg (incl'd case).
SDBU-24□: 3.5 kg.

OPTIONS

Square Root Function:
Computation: $E_0 = 2\sqrt{E_I - 1} + 1$,
where E_0 = output signal (V),
E_I = input signal (V).
For inputs up to 1%, $E_0 = E_I$
/NHR: Plug-in instrument module only without housing.
See GS 1B4F2-E to order housing separately.

ACCESSORIES

1A fuse, (Q'ty: 1 pc.) for SDBU-21□
1A fuse, (Q'ty: 4 pcs.) for SDBU-24□

MODEL AND SUFFIX CODES

Model	Suffix code		Description
SDBU	.....		10 to 50mA/4 to 20mA DC selectable distributor
Isolation	-2.....		Field (plus loop) isolation
Number of transmitters	-1.....		One (1)
	-4.....		Four (4)
Square root function		0.....	Not provided
		1.....	Provided for No.1 loop
		2.....	Provided for Nos. 1 & 2 loops
		3.....	Provided for Nos. 1, 2 & 3 loops
		4.....	Provided for Nos. 1, 2, 3 & 4 loops
Style code		•A.....	Style A
Option (For SDBU-21□ only)		/NHR ..	Without housing

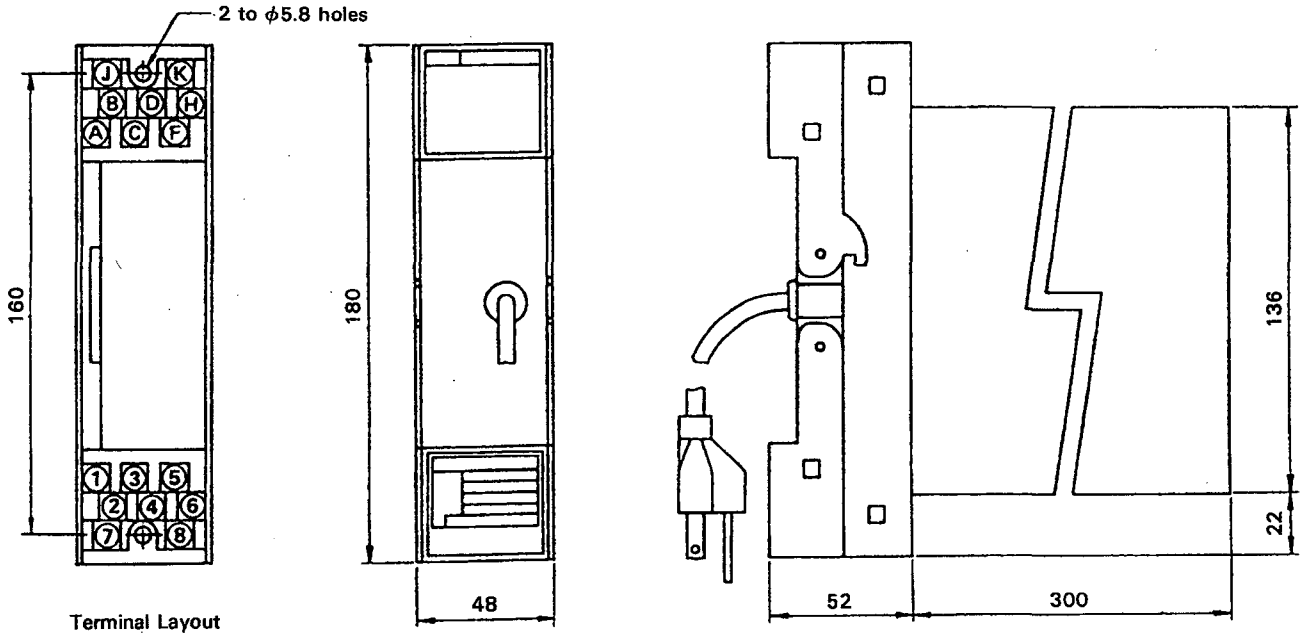
TERMINAL CONNECTIONS

SDBU-21□ (For 1 transmitter connected)		SDBU-24□ (For 4 transmitters connected)	
Terminal Designation	Description	Terminal Designation	Description
1	+ > Transmitter connection*2	1	+ > 1st output (1 to 5V DC)
2	− > (10 to 50mA/4 to 20mA DC)	2	− >
3		3	+ > 2nd output (1 to 5V DC)
4		4	− >
5		5	+ > Transmitter connection*2
6		6	− > (10 to 50mA/4 to 20mA DC)
7		7	
8		L1	> Power supply (DC or AC)
A	+ > 1st output (1 to 5V DC)	L2	>
B	− >	⏚	Ground
C			
D			
F	+ > 2nd output (1 to 5V DC)		
H	− >		
J			
K			

*1: Terminal markings are the same for all loops (SDBU-24□).
*2: 10 to 50mA/4 to 20mA DC — Selectable by internal switch.

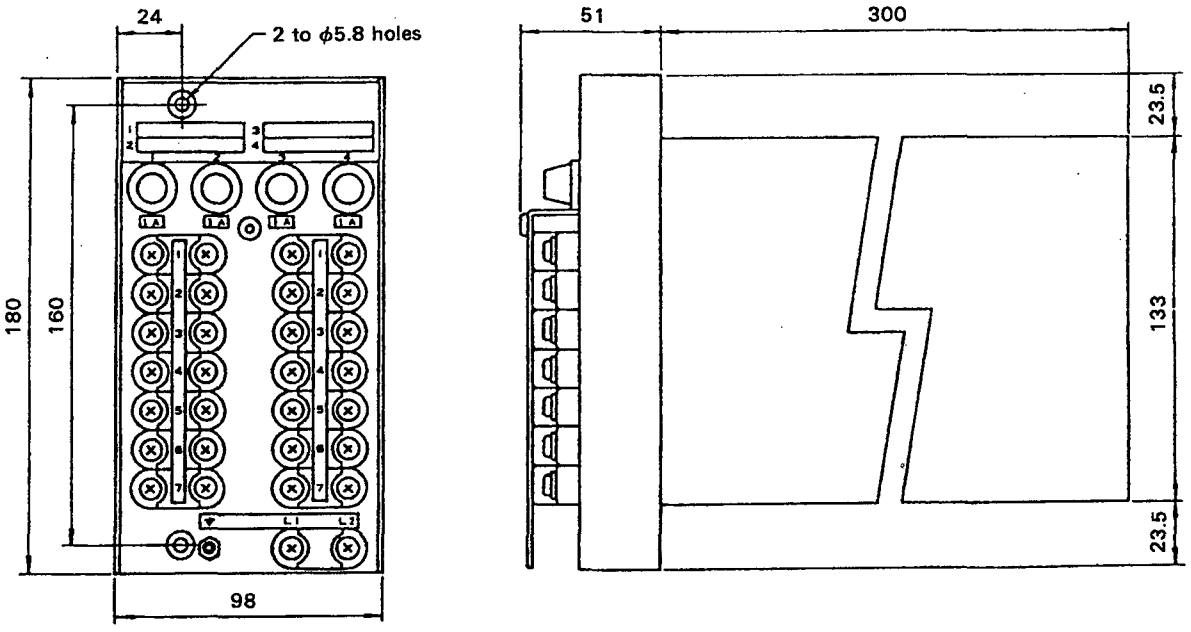
EXTERNAL DIMENSIONS

SDBU-21□



Terminal Layout

SDBU-24□



Terminal Layout