



DESCRIPTION

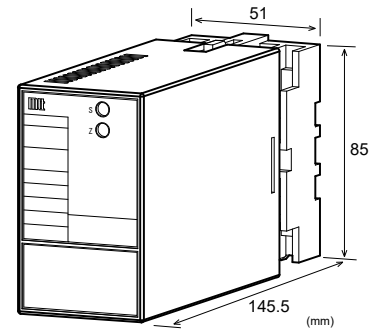
The MS5303 is a plug-in millivolt (mV) isolator that converts mV input signals from sensors or other devices into commonly used DC signals and provides an isolated dual output.

ORDERING CODE

Model MS5303 - [] - [] [] []
Power Supply A: 100 to 240V AC (50 to 60Hz) D: 24V DC P: 100 to 240V DC
Input 1: 0 to 10mV DC 1W: ±10mV DC 2: 0 to 100mV DC 2W: ±100mV DC 0: Other DC voltage signals
Output 1 A: 4 to 20mA DC 1: 0 to 10mV DC D: 0 to 20mA DC 2: 0 to 100mV DC Z: Other DC current signals 3: 0 to 1V DC 4: 0 to 10V DC 5: 0 to 5V DC 6: 1 to 5V DC 3W: ±1V DC 4W: ±10V DC 5W: ±5V DC 0: Other DC voltage signals
Output 2 The codes are the same as for Output 1.

Note 1: When a voltage output is selected for Output 1, a current output cannot be selected for Output 2. Note 2: When the code A (4 to 20mA) is selected for both of the two outputs, the output load will be 550Ω maximum for Output 1 and 350Ω maximum for Output 2.

Options No code: None /K: Fast response (0 to 90% response time: 10ms max.) /H: Polyurethane conformal coating /X: Others (Special order) * For non-standard options, ask MTT for availability.



ORDERING INFORMATION

To place an order, please use the ordering code format as shown on the left. (e.g.) MS5303-A-266

Other Ordering Examples: For an input code of "0": MS5303-A-066 (Input: 0 to 75mV) For an output code of "Z": MS5303-A-2Z6 (Output: 8 to 20mA) For an option code of "X": MS5303-A-266/X (Response frequency: 50Hz) Note: If you wish to include multiple options in your order, specify the option codes in series (e.g. /KX).

SPECIFICATIONS

POWER SECTION

Table with 4 columns: Power Requirements, Power Sensitivity, Power Line Fuse, Maximum Power Consumption. Rows include AC/DC requirements, sensitivity details, fuse value, and power consumption for different input ranges.

INPUT SECTION

Table with 2 columns: Input Resistance, Allowable Input Voltage. Rows include resistance value, voltage range, and input span/bias details for different input ranges.

● **OUTPUT SECTION**

Allowable Output Load		
Voltage Output (DC)	1V span and up 10mV 100mV	2mA max. 10kΩ min. 100kΩ min.
Current Output (DC)	4-20mA single output 4-20mA dual output	750Ω max. Output 1: 550Ω max. Output 2: 350Ω max.
Zero Adjustment	Approx. ±5% of span. (Adjustable by the front-accessible trimmer.)	
Span Adjustment	Approx. ±5% of span. (Adjustable by the front-accessible trimmer.)	
Ranges Available		
	Current Signal	Voltage Signal
Output Range (DC)	0 to 20mA	-10 to 10V
Output Span (DC)	4 to 20mA	10mV to 20V
Output Bias	0 to 100%	-100 to 100%
* For current output signals, the accuracy of any current output smaller than 0.1mA is not guaranteed.		
Output Spec Ex. 1: For 4 to 20mA output, the output span is 16mA and the bias +25%.		
Output Spec Ex. 2: For -1 to 4V output, the output span is 5V and the bias -20%.		
● PERFORMANCE		
Accuracy Rating	Better than ±0.1% of span (at 25°C±5°C).	
Temperature Effect	Better than ±0.2% of span per 10°C change in ambient.	
Response Time	160ms max. (0 to 90%) with a step input at 100%.	
CMRR	100dB min. (500V AC, 50/60Hz)	
Isolation	4-way isolation between input, output 1, output 2, and power.	
Insulation Resistance	100MΩ min. (@ 500V DC) between input, output 1, output 2, power, and ground.	
Dielectric Strength	Input / [Output 1, Output 2] / [Power, Ground]: 2000V AC for 1 minute (Cutoff current: 0.5mA) Power / Ground: 2000V AC for 1 minute (Cutoff current: 5mA) Output 1 / Output 2: 500V AC for 1 minute (Cutoff current: 0.5mA)	
Surge Withstand Capability	Tested as per ANSI/IEEE C37.90.1-1989.	
Operating Environment	Ambient temperature: -5 to 55°C Humidity: 5 to 90% RH (non-condensing)	
Storage Temperature	-10 to 60°C	

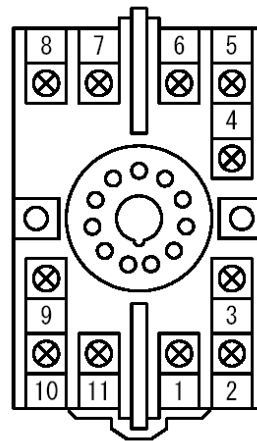
● **PHYSICAL**

Installation	Wall/DIN rail mounting
Mounting Direction	Vertical
Screwing Torque	0.78 to 1.18 [Nm] * Recommended
Wiring	M3.5 screw terminal connection
External Dimensions	W51 × H85 × D145.5 mm (including the socket)
Weight	Main unit: 200g max. Socket: 80g max.

● **MATERIAL**

Housing	ABS resin (UL 94V-0)
Socket	ABS resin (UL 94V-0)
Screw Terminal	Galvanized steel with trivalent chromate finish
Printed Circuit Board	Glass fabric, epoxy resin (FR-4: UL 94V-0)

TERMINAL ASSIGNMENTS



①	+ OUTPUT 1
②	- OUTPUT 1
③	N.C.
④	N.C.
⑤	+ INPUT
⑥	- INPUT
⑦	P (+)
⑧	N (-)
⑨	GND
⑩	+ OUTPUT 2
⑪	- OUTPUT 2

BLOCK DIAGRAM

