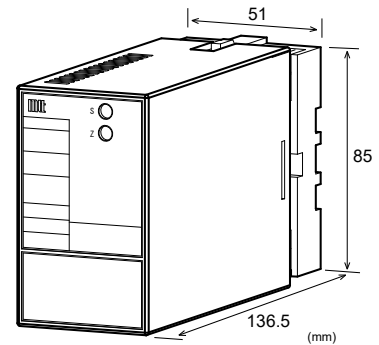
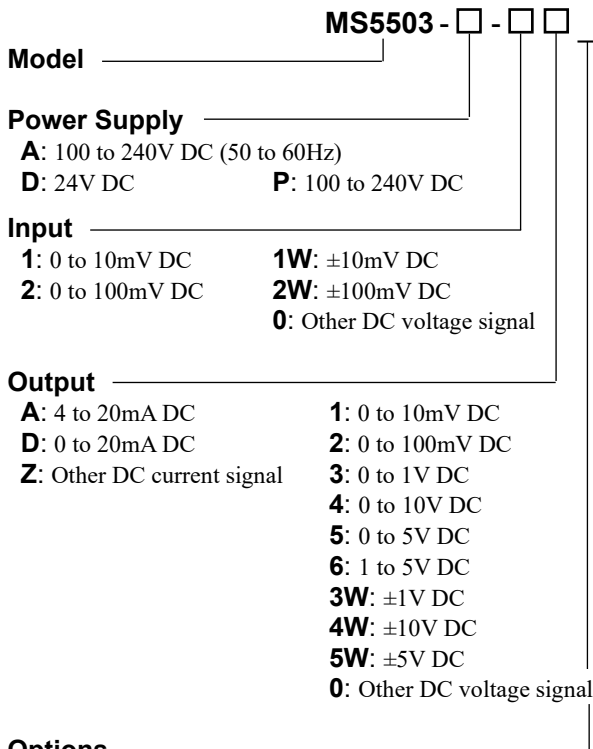


**DESCRIPTION**

The MS5503 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 single output.

**ORDERING CODE**



**SPECIFICATIONS**

**POWER SECTION**

<b>Power Requirements</b>	100 to 240V AC: 85 to 264V AC (47 to 63Hz) 24V DC: 24V DC±10% 100 to 240V DC: 85 to 264V DC		
<b>Power Sensitivity</b>	Better than ±0.1% of span for each power supply range.		
<b>Power Line Fuse</b>	160mA fuse is installed (standard).		
<b>Maximum Power Consumption</b>			
<b>Power</b>	100-240V AC	24V DC	110-240V DC
	Approx. 4.0VA	Approx. 1.2W	Approx. 4.8W

**INPUT SECTION**

<b>Input Resistance</b>	1MΩ min. with or without power.		
<b>Allowable Input Voltage</b>	30V DC max., continuous.		
<b>Ranges Available</b>			
<b>Input Range (DC)</b>	-200mV to 200mV		
<b>Input Span (DC)</b>	5mV* to 400mV		
<b>Input Bias</b>	-100 to 100%		
<b>Note:</b> For any input range including negative input signals, the input span ranges from *10mV to 400mV.			
<b>Input Spec Ex. 1:</b>	For 50 to 150mV input, the input span is 100mV and the bias +50%.		
<b>Input Spec Ex. 2:</b>	For -10 to 30mV input, the input span is 40mV and the bias -25%.		

**OUTPUT SECTION**

<b>Allowable Output Load</b>		
<b>Voltage Output (DC)</b>	1V span and up	2mA max.
	10mV	10kΩ min.
	100mV	100kΩ min.
<b>Current Output (DC)</b>	4 to 20mA	750Ω max.
<b>Zero Adjustment</b>	Approx. ±5% of span. (Adjustable by the front-accessible trimmer.)	
<b>Span Adjustment</b>	Approx. ±5% of span. (Adjustable by the front-accessible trimmer.)	

**ORDERING INFORMATION**

To place an order, please use the ordering code format as shown above.  
 (e.g.) MS5503-A-2W4W/K

Other Ordering Examples:  
 For an input code of "0": MS5503-A-06 (Input: 0 to 75mV)  
 For an output code of "Z": MS5503-A-2Z (Output: 8 to 20mA)  
 For an option code of "X": MS5503-A-26/X (Response frequency 50Hz)  
**Note:** If you wish to include multiple options in your order, specify the option codes in series (e.g. /KX).

**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 $\pm 0.1\%$ of span (at $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$ ).
Temperature Effect	Better than $\pm 0.2\%$ of span per $10^{\circ}\text{C}$ change in ambient.
Response Time	160ms max. (0 to 90%) with a step input at 100%.
CMRR	100dB min. (500V AC, 50/60Hz)
Isolation	3-way isolation between input, output, and power.
Insulation Resistance	100M $\Omega$ min. (@ 500V DC) between input, output, and power.
Dielectric Strength	Input / Output / Power: 2000V 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 $55^{\circ}\text{C}$ Humidity: 5 to 90% RH (non-condensing)
Storage Temperature	$-10$ to $60^{\circ}\text{C}$

**PHYSICAL**

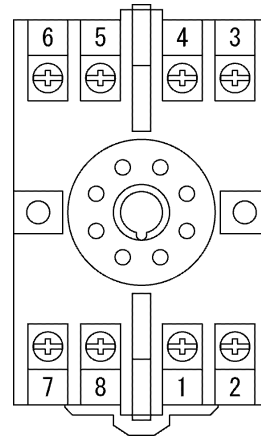
Installation	Wall/DIN rail mounting
Mounting Direction	Vertical
Screwing Torque	0.78 to 1.18 [Nm] * Recommended
Wiring	M3.5 screw terminal connection
External Dimensions	W51 x H85 x D136.5mm (including the socket)
Weight	Main unit: 200g max. Socket: 60g max.

**MATERIALS**

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)
Conformal Coating	HumiSeal <sup>®</sup> 1A27NS (Polyurethane)

\* HumiSeal<sup>®</sup> is a registered trademark of Chase Corporation.

**TERMINAL ASSIGNMENT**



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

**BLOCK DIAGRAM**

