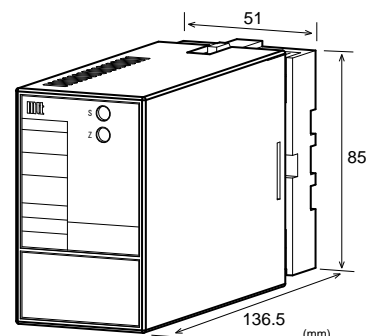
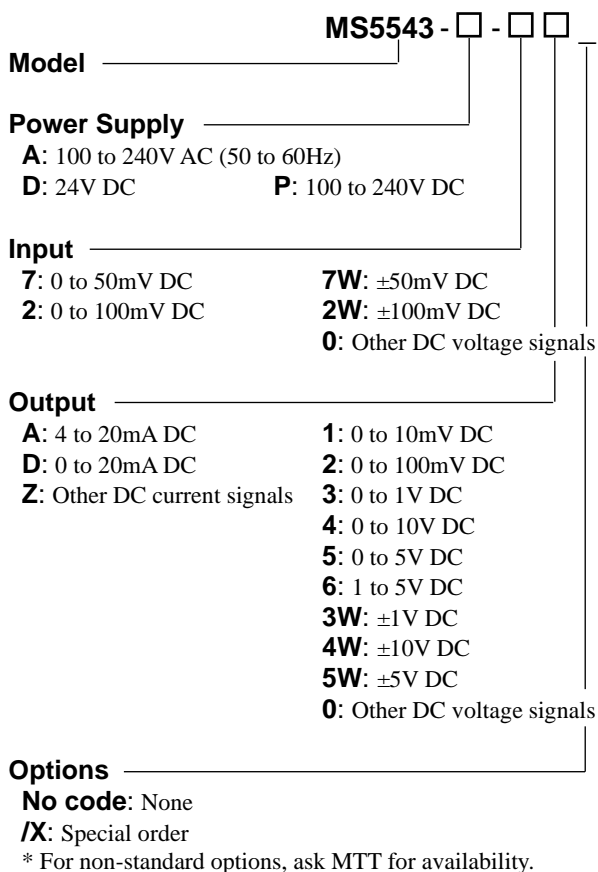


**DESCRIPTION**

The MS5543 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. This model features fast response.

**ORDERING CODE**



**SPECIFICATIONS**

**POWER SECTION**

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

**INPUT SECTION**

Input Resistance	1MΩ min. with or without power.		
Allowable Input Voltage	30V DC max., continuous.		
Range Available			
Input Range (DC)	-200mV to 200mV		
Input Span (DC)	20mV* to 400mV		
Input Bias	-100 to 100%		
Note:	For any input range including negative input signals, the input span ranges from *40mV to 400mV.		
Input Spec. Ex. 1:	For 50 to 150mV input, the input span is 100mV and the bias +50%.		
Input Spec. Ex. 2:	For -20 to 80mV input, the input span is 100mV and the bias -20%.		

**OUTPUT SECTION**

Allowable Output Load		
Voltage Output (DC)	1V span and up	2mA max.
	10mV	10kΩ min.
	100mV	100kΩ min.
Current Output (DC)	4 to 20mA	750Ω 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.)	

**ORDERING INFORMATION**

To place an order, please use the ordering code format as shown above.  
(e.g.) MS5543-A-24

Other Ordering Examples:  
For an input code of "0": MS5543-A-04 (Input: 0 to 75mV)  
For an output code of "0": MS5543-A-20 (Output: 2 to 10V)  
For an option code of "X": MS5543-A-24/X (Response frequency: 5kHz)

**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	
Voltage Output	80 $\mu\text{s}$ max. (0 to 90%) with a step input at 100%. (Frequency characteristics: 10kHz-3dB)
Current Output	150 $\mu\text{s}$ max. (0 to 90%) with a step input at 100%. (Frequency characteristics: 3kHz-3dB)
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**

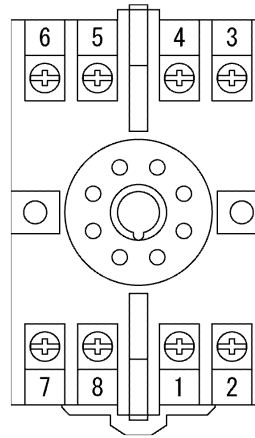
Installation	Wall/DIN rail mounting
Mounting Direction	Vertical
Screwing Torque	0.78 to 1.18 [Nm] * Recommended
Wiring	M3.5 screw terminal connection
External Dimensions	W51 x H85 x D136.5 mm (including the socket)
Weight	Main unit: 200g max. Socket: 60g max.

**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)
Conformal Coating	HumiSeal <sup>®</sup> 1A27NSLU (Polyurethane)

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

**TERMINAL ASSIGNMENTS**



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

BLOCK DIAGRAM

