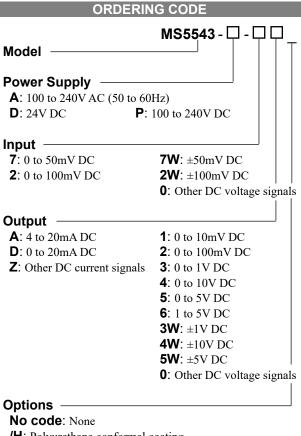


# **Product Specification Sheet** Model: MS5543 Plug-In Millivolt Isolator with Isolated Single Output

(Fast Response Model)

### 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.



/H: Polyurethane conformal coating

**/X**: Others (Special order)

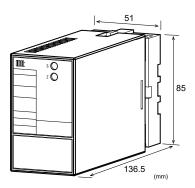
\* For non-standard options, ask MTT for availability.

#### ORDERING INFORMATION

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

frequency: 5kHz)

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



#### SPECIFICATIONS

<b>POWER SECTION</b>			
Power	100 to 240V AC: 85 to 264V AC (47		
Requirements	to 63Hz)		
	24V DC: 24	VDC±10%	6
	100 to 240	/ DC: 85 to	264V DC
Power Sensitivity	Better than $\pm 0.1\%$ of span for each		
	power supp		·
Power Line Fuse	160mA fuse	e	
Maximum Power C	onsumption		
Power 10	0-240VAC	24V DC	100-240V DC
	Approx.	Approx.	Approx.
	4.0VA	1.2W	4.8W
Input Resistance	nput Resistance $1M\Omega$ min. with or without power.		
Allowable Input	Allowable Input 30V DC max., continuous.		
Voltage			
Range Available			
Input Range (DC)	_	00mV to 20	
Input Span (DC)	2	$20 \text{mV}^*$ to $400$	
Input Bias		-100 to 100	
Note: For any input r			
the input span	•		
Input Spec. Ex. 1: For 50 to 150mV input, the input span is			
10	0mV and the	0140 00/01	
Input Spec. Ex. 2: For -20 to 80mV input, the input span is			
10	0mV and the	bias -20%.	
	TION		
Allowable Output L	oad		
Voltage Output (DC)	1V span and	d up	2mA max.
	10mV		$10k\Omega$ min.
	100mV		$100k\Omega$ min.
Current Output (DC)	$4 \pm 20 \text{m}$		7500 max

	100mV	$100k\Omega$ mm.
Current Output (DC)	4 to 20mA	750Ω max.
Zero Adjustment	Approx. $\pm 5\%$ of span.	
	(Adjustable by the front-	accessible
	trimmer.)	
Span Adjustment	Approx. $\pm 5\%$ 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: Fo	or 4 to 20mA output	t, 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%.		

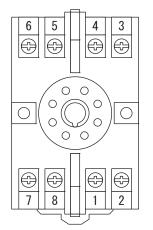
## PERFORMANCE

PERFORMANCE		
Accuracy Rating	Better than $\pm 0.1\%$ of span (at	
	25°C±5°C).	
Temperature	Better than $\pm 0.2\%$ of span per 10°C	
Effect	change in ambient.	
Response Time		
Voltage Output	$80\mu s$ max. (0 to 90%) with a step	
	input at 100%. (Frequency	
	characteristics: 10kHz-3dB)	
Current Output	$150 \mu s$ 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	$100M\Omega$ min. (@ 500V DC) between	
Resistance	input, output, and power.	
Dielectric	Input / Output / Power: 2000V AC for	
Strength	1 minute (Cutoff current: 0.5mA)	
Surge Withstand	Tested as per ANSI/IEEE	
Capability	C37.90.1-1989.	
Operating	Ambient temperature: -5 to 55°C	
Environment	Humidity: 5 to 90% RH	
	(non-condensing)	
Storage	-10 to 60°C	
Temperature		
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	W51 × H85 × D136.5 mm	
Dimensions	(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	Glass fabric, epoxy resin
Board	(FR-4: UL 94V-0)

# TERMINAL ASSIGNMENTS



1	+ OUTPUT
2	– OUTPUT
3	+ INPUT
4	– INPUT
(5)	N.C.
6	N.C.
$\overline{\mathcal{I}}$	P (+) POWER
8	N (-)

#### **BLOCK DIAGRAM**

