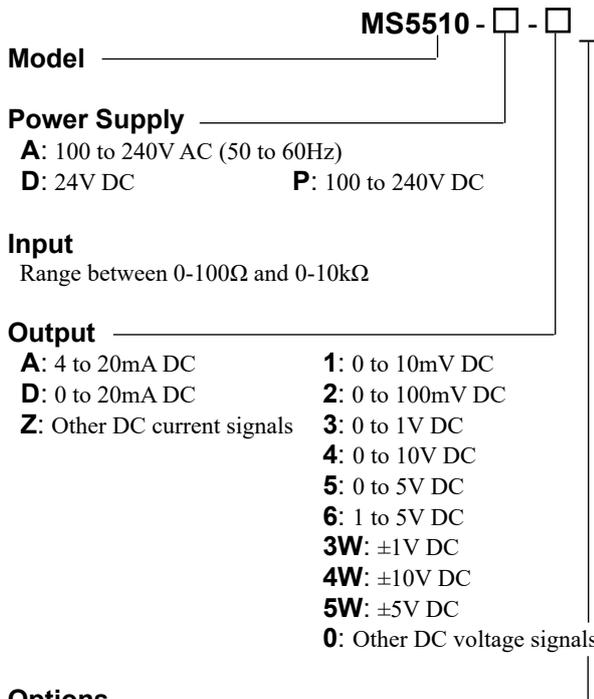


**DESCRIPTION**

The MS5510 is a plug-in potentiometer transmitter that detects changes in the resistance of potentiometric sensors, converts them into commonly used DC signals and provides an isolated single output.

**ORDERING CODE**


**MS5510 - [ ] - [ ]**

**Model** \_\_\_\_\_

**Power Supply** \_\_\_\_\_

**A:** 100 to 240V AC (50 to 60Hz)  
**D:** 24V DC                      **P:** 100 to 240V DC

**Input**  
 Range between 0-100Ω and 0-10kΩ

**Output**

<b>A:</b> 4 to 20mA DC	<b>1:</b> 0 to 10mV DC
<b>D:</b> 0 to 20mA DC	<b>2:</b> 0 to 100mV DC
<b>Z:</b> Other DC current signals	<b>3:</b> 0 to 1V DC
	<b>4:</b> 0 to 10V DC
	<b>5:</b> 0 to 5V DC
	<b>6:</b> 1 to 5V DC
	<b>3W:</b> ±1V DC
	<b>4W:</b> ±10V DC
	<b>5W:</b> ±5V DC
	<b>0:</b> Other DC voltage signals

**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 above.

(e.g.) MS5510-A-4/K

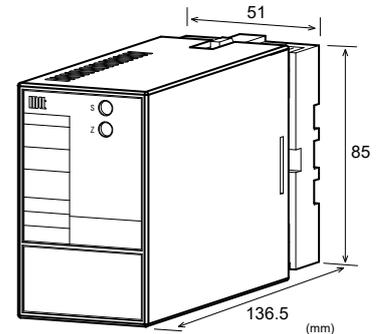
\* Factory adjustment of resistance range: Specify a resistance range if required (e.g. 0 to 1kΩ); otherwise, products will be supplied with a factory-adjusted resistance range of 0 to 10kΩ.

**Other Ordering Examples:**

For an output code of "0": MS5510-A-0 (Output: 2 to 5V)  
 For a specific resistance range: MS5510-A-A (0 to 500Ω)  
 (When you specify a resistance range, our factory performs the test accordingly, the fact of which will be indicated in the label attached.)

For an option code of "X": MS5510-A-A/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**

<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		
<b>Maximum Power Consumption</b>			
Power	100-240V AC	24V DC	100-240V DC
	Approx.	Approx.	Approx.
	4.5VA	1.1W	4.8W

**INPUT SECTION**

<b>Input Signal</b>	Range between 0-100Ω and 0-10kΩ.
<b>Measuring Voltage</b>	Approx. 0.5V
<b>Allowable Lead Wire Resistance</b>	10% or less of total resistance per wire. (The resistance of all three wires must be equal.)

**OUTPUT SECTION**

<b>Allowable Output Load</b>		
Voltage Output (DC)	1V span and up	2mA max.
	10mV	10kΩ min.
	100mV	100kΩ min.
Current Output (DC)	4 to 20mA	750Ω max.
<b>Zero Adjustment</b>	Approx. 0 to 50% of total resistance. (Adjustable by the front-accessible trimmer.)	
<b>Span Adjustment</b>	Approx. 50 to 100% of total resistance. (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 $\pm 0.2\%$ 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	170ms 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 $60^{\circ}\text{C}$

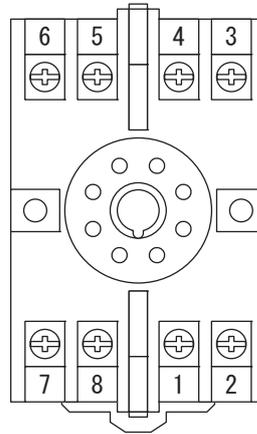
● PHYSICAL

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 D136.5 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)

TERMINAL ASSIGNMENTS



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

BLOCK DIAGRAM

