

**DESCRIPTION**

The MS5506 is a plug-in strain gauge transmitter that supplies excitation voltage to strain-gauge type pressure sensors, load cells, and the like and converts their output signals into standard process signals. It provides an isolated single output.

**ORDERING CODE**

MS5506 - □ - □ □ □

**Model****Power Supply****A:** 100 to 240V AC (50 to 60Hz)**D:** 24V DC**P:** 100 to 240V DC**Excitation Voltage****E2:** 5V DC**0:** Other DC voltages**E3:** 10V DC**Input****1:** 0 to 10mV DC**1W:** ±10mV DC**2:** 0 to 100mV DC**2W:** ±100mV DC**0:** Other DC voltage signals**Output****A:** 4 to 20mA DC**D:** 0 to 20mA DC**Z:** Other DC current signals**1:** 0 to 10mV DC**2:** 0 to 100mV DC**3:** 0 to 1V DC**4:** 0 to 10V DC**5:** 0 to 5V DC**6:** 1 to 5V DC**0:** Other DC voltage signals**Options****No code:** None**/K:** Fast response (0 to 90% response time: 10ms max.)**/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. Also specify a bridge resistance. (e.g.) MS5506-A-E31A (350Ω)

**Other Ordering Examples:**

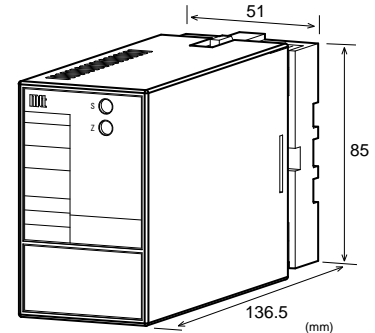
For an excitation voltage code of "0": MS5506-A-011 (700Ω / Excitation voltage: 4V)

For an input code of "0": MS5506-D-E204 (120Ω / Input: 0 to 20mV)

For an output code of "Z": MS5506-A-E32Z (350Ω / Output: 8 to 20mA)

For an option code of "X": MS5506-D-E215/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**

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
		Approx. 7.0VA	Approx. 2.1W
			100-240V DC
			Approx. 7.2W

● **INPUT SECTION**

Input Resistance	With power: 1MΩ min. Without power: 10kΩ min.
Allowable Input Voltage	30V DC max., continuous.
Excitation Voltage	5V DC at 120Ω bridge resistance 10V DC at 350Ω bridge resistance Other voltages
Range Available	
Input Range (DC)	-200mV to 200mV
Input Span (DC)	5mV* to 400mV
Input Bias	-100 to 100%
Excitation Voltage	3 to 10V

Note: For any input range including negative input signals, the input span ranges from \*10mV 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 -10 to 30mV input, the input span is 40mV and the bias -25%.

● **OUTPUT SECTION**

Allowable Output Load		
Voltage Output (DC)	1V span and up 10mV 100mV	2mA max. 10kΩ min. 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.)	

**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	85ms 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**

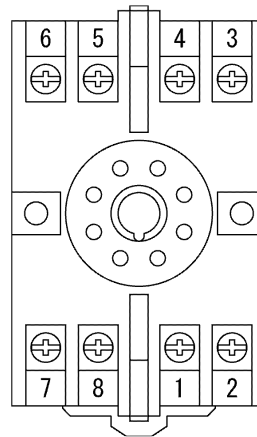
Installation	Wall/DIN rail mounting
Mounting Direction	Vertical
Screwing Torque	0.78 to 1.18 [Nm] * Recommended
Wiring	M3.5 screw terminal connection
External Dimensions	W51 x H85 x D136.5 mm (including the socket)
Weight	Main unit: 200g max. Socket: 60g max.

**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)
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	+ EX (Excitation voltage)	
⑥	- EX (Excitation voltage)	
⑦	P (+)	POWER
⑧	N (-)	

BLOCK DIAGRAM

