

**DESCRIPTION**

The MS5307 is a plug-in distributor that powers a two-wire transmitter, converts its 4 to 20mA signals into commonly used DC signals, and provides an isolated dual output. This model can also be used as an isolator.

**ORDERING CODE**

**Model** \_\_\_\_\_ **MS5307** -  -

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

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

**Input** \_\_\_\_\_

4 to 20mA DC from 2-wire transmitters

**Output 1** \_\_\_\_\_

**A:** 4 to 20mA DC                      **1:** 0 to 10mV DC  
**D:** 0 to 20mA DC                      **2:** 0 to 100mV DC  
**Z:** Other DC current signal        **3:** 0 to 1V DC  
   **4:** 0 to 10V DC  
   **5:** 0 to 5V DC  
   **6:** 1 to 5V DC  
   **0:** Other DC voltage signal

**Output 2** \_\_\_\_\_

**The codes are the same as for Output 1.**

Note 1: When a voltage output is selected for Output 1, a current output cannot be selected for Output 2.  
 Note 2: When the code A (4 to 20mA) is selected for both of the two outputs, the output load will be 550Ω maximum for Output 1 and 350Ω maximum for Output 2.

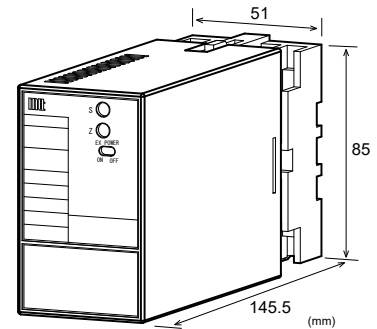
**Options** \_\_\_\_\_

**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.  
 (e.g.) MS5307-A-A6

Other Ordering Examples:  
 For an output code of "0": MS5307-A-60 (Output: 2 to 5V)  
 For an option code of "X": MS5307-A-AA/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. 7.0VA	Approx. 2.4W	Approx. 8.4W

**INPUT SECTION**

<b>Input Signal</b>	4 to 20mA DC from 2-wire transmitters		
<b>Input Resistance</b>	250Ω		
<b>Transmitter Power Supply</b>	Output voltage: 26.4V, typical. (0% input) 21.6V, typical. (100% input) Maximum current: 22mA, typical.		
<b>Limit Current for Short-Circuit Protection</b>	40mA max.		
<b>Permissible Short-Circuit Duration</b>	Continuous.		

**OUTPUT SECTION**

<b>Allowable Output Load</b>		
Voltage Output (DC)	1V span and up 10mV 100mV	2mA max. 10kΩ min. 100kΩ min.
Current Output (DC)	4-20mA single output 4-20mA dual output	750Ω max. Output 1: 550Ω max. Output 2: 350Ω 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.)	

Ranges Available		
	Current Signal	Voltage Signal
Output Range (DC)	0 to 20mA	0 to 10V
Output Span (DC)	4 to 20mA	10mV to 10V
Output Bias	0 to 100%	0 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 4 to 8V output, the output span is 4V and the bias +100%.

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	5-way isolation between input, output 1, output 2, power, and ground.
Insulation Resistance	100M $\Omega$ min. (@ 500V DC) between input, output 1, output 2, power, and ground.
Dielectric Strength	Input / [Output 1, Output 2] / [Power, Ground]: 2000V AC for 1 minute (Cutoff current: 0.5mA) Power / Ground: 2000V AC for 1 minute (Cutoff current: 5mA) Output 1 / Output 2: 500V 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 $60^{\circ}\text{C}$

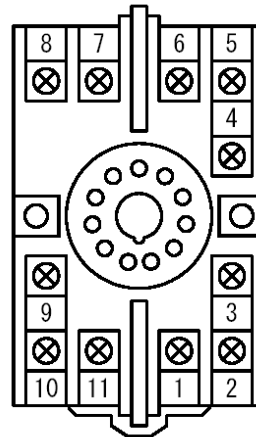
PHYSICAL	
Installation	Wall/DIN rail mounting
Mounting orientation	Vertical
Screwing Torque	0.78 to 1.18 [Nm] * Recommended
Wiring	M3.5 screw terminal connection
External Dimensions	W51 x H85 x D145.5mm (including the socket)
Weight	Main unit: 200g max. Socket: 80g max.

**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)

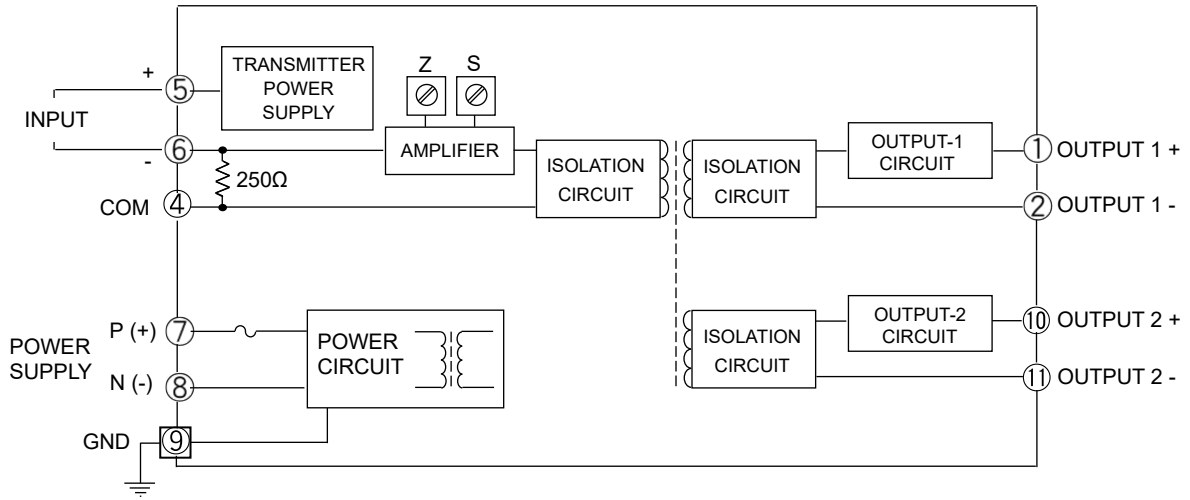
HumiSeal<sup>®</sup> is a registered trademark of Chase Corporation.

**TERMINAL ASSIGNMENT**

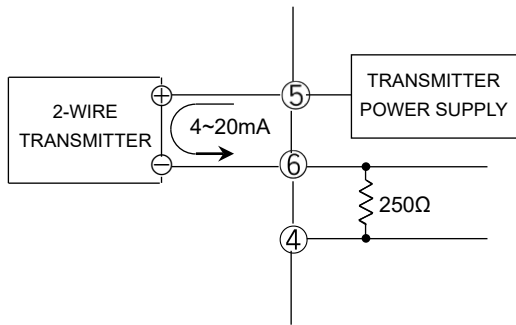


①	+ OUTPUT 1	
②	- OUTPUT 1	
③	N.C.	
④	COM	
⑤	+ INPUT	
⑥	- INPUT	
⑦	P (+)	POWER
⑧	N (-)	
⑨	GND	
⑩	+ OUTPUT 2	
⑪	- OUTPUT 2	

**BLOCK DIAGRAM**



When used as a distributor:



When used as an isolator:

