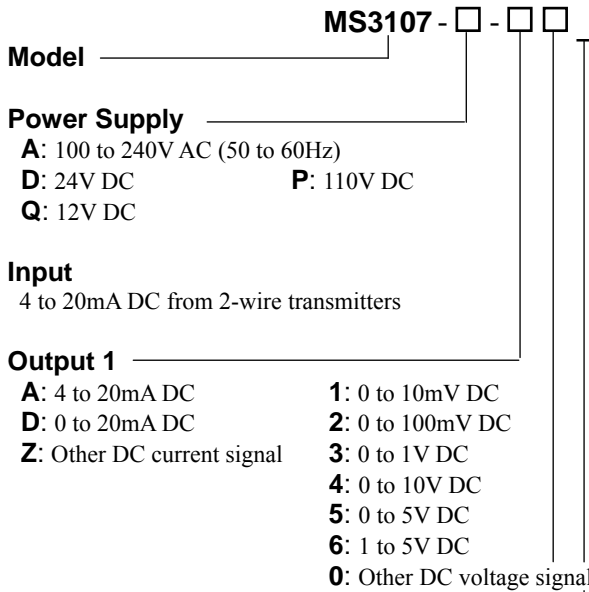


**DESCRIPTION**

The MS3107 is a terminal block type 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**

**Power Supply**

- A:** 100 to 240V AC (50 to 60Hz)
- D:** 24V DC                      **P:** 110V DC
- Q:** 12V 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.

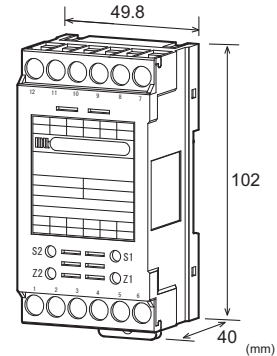
**Options**

- 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.) MS3107-A-A6

Other Ordering Examples:  
For an output code of "0": MS3107-A-60 (Output: 2 to 5V)  
For an option code of "X": MS3107-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% 110V DC: 90 to 121V DC 12V DC: 12V DC±20%	
<b>Power Sensitivity</b>	Better than ±0.1% of span for each power supply range.	
<b>Power Line Fuse</b>	160mA fuse 315mA fuse (for 12V DC power)	
<b>Maximum Power Consumption</b>	100-240V AC 24V DC 110V DC 12V DC	Approx. 9.0VA Approx. 2.4W Approx. 3.5W Approx. 2.4W

**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: 25V, typical. (0% input) 18V, typical. (100% input) Maximum current: 25mA, typical.	
<b>Limit Current for Short-Circuit Protection</b>	26mA (typ.) * The unit has a built-in short-circuit detection circuit.	
<b>Permissible Short-Circuit Duration</b>	Continuous.	

**OUTPUT SECTION**

<b>Allowable Output Load</b>		
<b>Voltage Output (DC)</b>	1V span and up 10mV 100mV	2mA max. 10kΩ min. 100kΩ min.
<b>Current Output (DC)</b>	4-20mA single output 4-20mA dual output	750Ω max. Output 1: 550Ω max. Output 2: 350Ω 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	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 ±0.1% of span (at 25°C±5°C).
Temperature Effect	Better than ±0.2% of span per 10°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	100MΩ 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°C Humidity: 5 to 90% RH (non-condensing)
Storage Temperature	-10 to 60°C

● **PHYSICAL**

Installation	DIN rail mounting
Wiring	M3.5 screw terminal connection (with drop-out prevention screws)
Screwing Torque	0.8 to 1.0 [Nm] * Recommended
External Dimensions	W49.8 × H102.0 × D40.0mm
Weight	140g max.

● **MATERIALS**

Housing	ABS resin (UL 94V-0)
Screw Terminal	Nickel-plated steel
Printed Circuit Board	Glass fabric epoxy resin (FR-4: UL 94V-0)
Anti-Humidity Coating	HumiSeal® 1A27NS (Polyurethane)

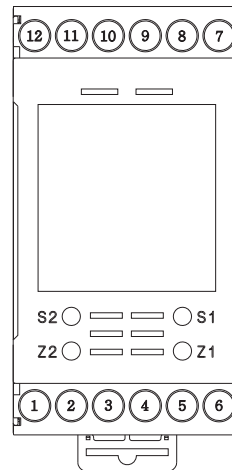
HumiSeal® is a registered trademark of Chase Corporation.

● **STANDARDS CONFORMITY**

EC Directive Conformity	EMC Directive (2014/30/EU) EN61326-1: 2013 Low Voltage Directive (2014/35/EU) IEC61010-1/EN61010-1: 2010 Installation Category II Pollution Degree 2 Maximum operating voltage 300V Reinforced insulation between [input/output/GND] and power.
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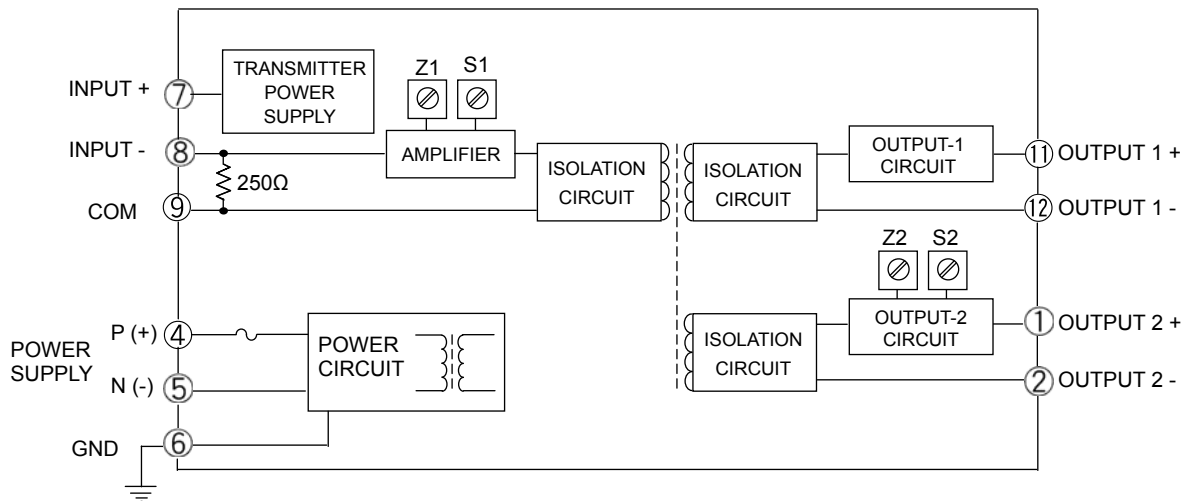
Note: The 12V DC version is not subject to CE approval.

**TERMINAL ASSIGNMENT**

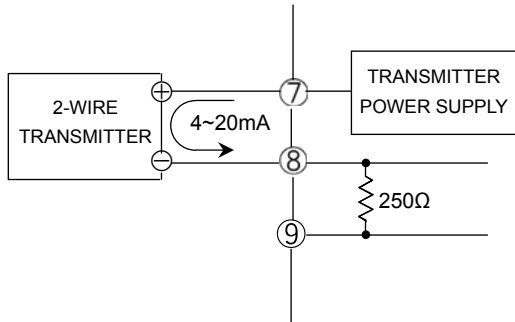


①	+ OUTPUT 2
②	- OUTPUT 2
③	N.C.
④	P (+)
⑤	N (-)
⑥	GND
⑦	+ INPUT
⑧	- INPUT
⑨	COM
⑩	N.C.
⑪	+ OUTPUT 1
⑫	- OUTPUT 1

**BLOCK DIAGRAM**



When used as a distributor:



When used as an isolator:

