

**DESCRIPTION**

The MS3707 is a slim, plug-in distributor that powers a two-wire transmitter, converts its 4 to 20mA signals into commonly used DC signals, and provides isolated single or dual output.  
 This model can also be used as an isolator.

**ORDERING CODE**

**MS3707 -**  -

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

**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** \_\_\_\_\_  
**No code:** None  
**The codes are the same as for Output 1.**

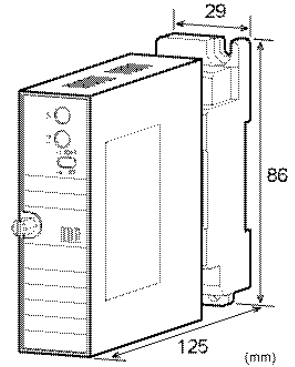
Note 1: When a voltage output is selected for Output 1, a current output cannot be selected for Output 2.  
 Note 2: When the code A (4 to 20mA) is selected for both of the two outputs, the output load will be 550Ω maximum for Output 1 and 350Ω maximum for Output 2.

**Options** \_\_\_\_\_  
**No code:** None  
**/K:** Fast response (0 to 90% response time: 10ms max.)  
**/L:** Dual current output with high output load  
 \* Not subject to CE approval.  
 (OUT-1: 750Ω / OUT-2: 550Ω)  
**/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.) MS3707-A-A6

Other Ordering Examples:  
 For an output code of "0": MS3707-A-60 (Output: 2 to 5V)  
 For an option code of "X": MS3707-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**

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 is installed (standard).		
<b>Power Consumption</b>			
Power	100-240V AC	24V DC	100-240V DC
Single Output	6.5VA max	2.1W max	7.2W max
Dual Output	7.5VA max	2.4W max	8.4W max

**INPUT SECTION**

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

**OUTPUT SECTION**

<b>Maximum 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.	
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	4-way isolation between input, output [Output 1/Output 2], power, and ground.
Insulation Resistance	100MΩ min. (@ 500V DC) between input, output [Output 1/Output 2], power, and ground.
Dielectric Strength	Input / Output [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

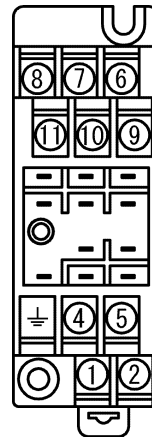
PHYSICAL	
Installation	Wall/DIN rail mounting
Wiring	M3.5 screw terminal connection (with a power terminal block cover & drop-out prevention screws)
Screwing Torque	0.8 to 1.0 [Nm] * Recommended
External Dimensions	W29 × H86 × D125mm (including the mounting screw and socket)
Weight	Main unit: 120g max. Socket: 80g max.

MATERIALS	
Housing	ABS resin (UL 94V-0)
Terminal Block	PBT resin (UL 94V-0)
Terminal Block Cover	PC resin (UL 94V-2)
DIN Rail Stopper	PP resin (UL 94HB)
Screw Terminal	Nickel-plated steel
Contacts Material and Finish	Brass with 0.2µm gold plating
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.

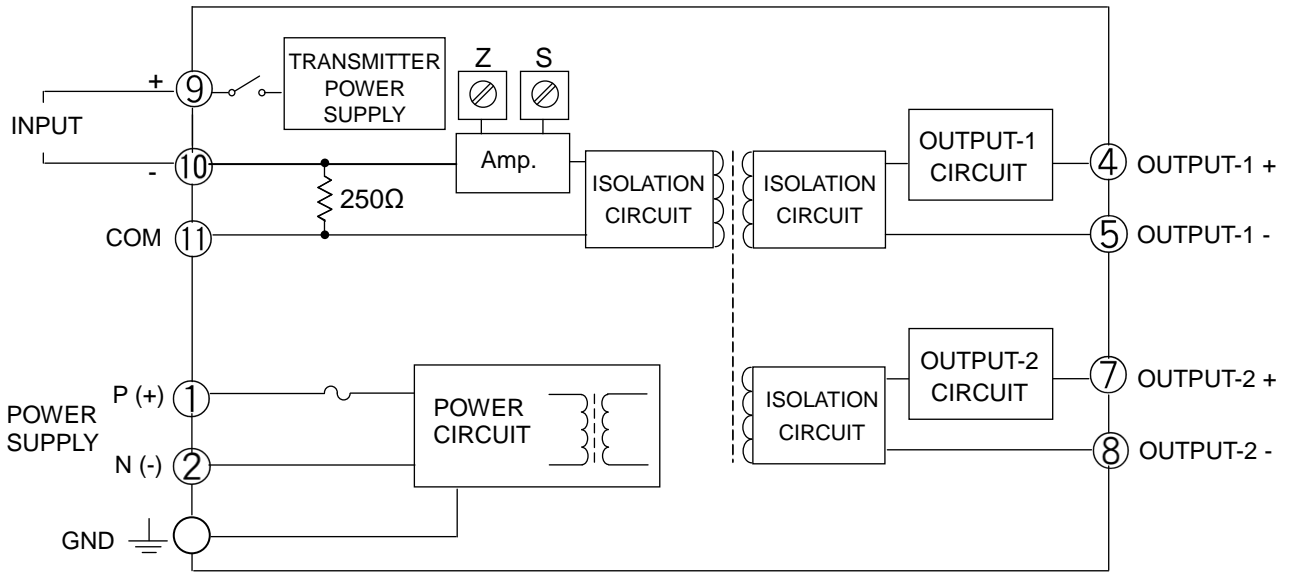
STANDARDS CONFORMITY	
CE Directive Conformity	EMC Directive (2014/30/EU) EN61326-1: 2013
	Low Voltage Directive (2014/35/EU) IEC61010-1/EN61010-1: 2010
	Installation Category II Pollution Degree 2 Maximum operating voltage 300V Reinforced insulation between [input/output/GND] and power.

**TERMINAL ASSIGNMENT**

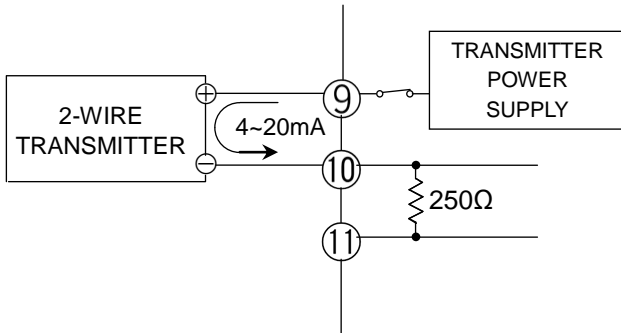


①	P (+)	POWER
②	N (-)	
⊥	GND	
④	+ OUTPUT 1	
⑤	- OUTPUT 1	
⑥	N.C.	
⑦	+ OUTPUT 2	
⑧	- OUTPUT 2	
⑨	+ INPUT	
⑩	- INPUT	
⑪	COM	

**BLOCK DIAGRAM**



Used as a distributor:



Used as an isolator:

