Plug-In Distributor with Isolated Single Output

DESCRIPTION

The MS5507 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

MS5507 - □ - □

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

A: 4 to 20mA DC
D: 0 to 20mA DC
Z: Other DC current signal
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 signal

Options

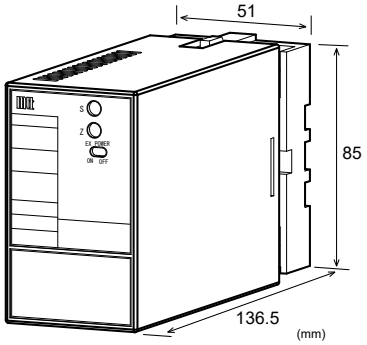
No code: None
/K: Fast response (0 to 90% response time: 10ms max.)
/X: Others (Special order)

* 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.) MS5507-A-A/K

Other Ordering Examples:
For an output code of "0": MS5507-A-0 (Output: 2 to 5V)
For an option code of "X": MS5507-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

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 Approx. 6.5VA	24V DC Approx. 2.1W	100-240V DC Approx. 7.2W

●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.
Limit Current for Short-Circuit Protection	40mA max.
Permissible Short-Circuit Duration	Continuous.

●OUTPUT SECTION

Allowable Output Load		
Voltage Output (DC)	1V span and up	2mA max.
	10mV	10kΩ min.
	100mV	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	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	3-way isolation between input, output, and power.
Insulation Resistance	100MΩ 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°C Humidity: 5 to 90% RH (non-condensing)
Storage Temperature	-10 to 60°C

●PHYSICAL

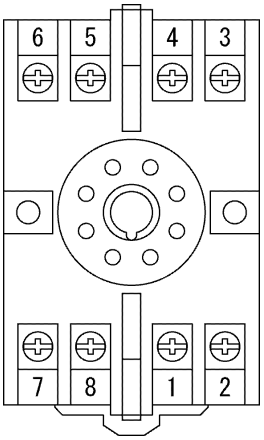
Installation	Wall/DIN rail mounting
Mounting Orientation	Vertical
Screwing Torque	0.78 to 1.18 [Nm] * Recommended
Wiring	M3.5 screw terminal connection
External Dimensions	W51 × H85 × D136.5mm (including the socket)
Weight	Main unit: 200g max. Socket: 60g max.

●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® 1A27NS (Polyurethane)

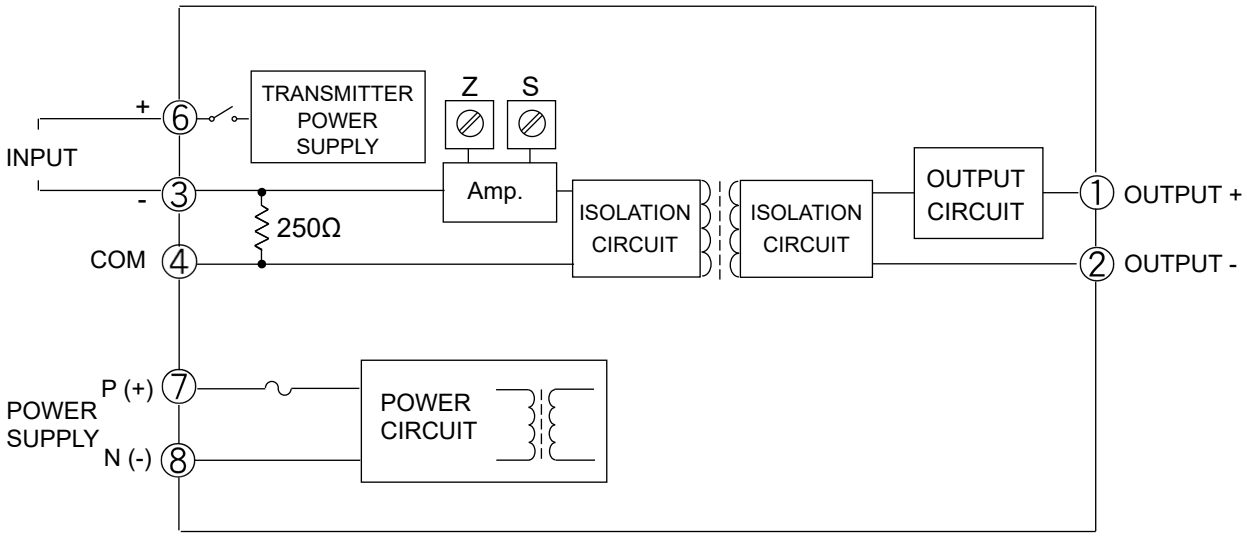
HumiSeal® is a registered trademark of Chase Corporation.

TERMINAL ASSIGNMENT

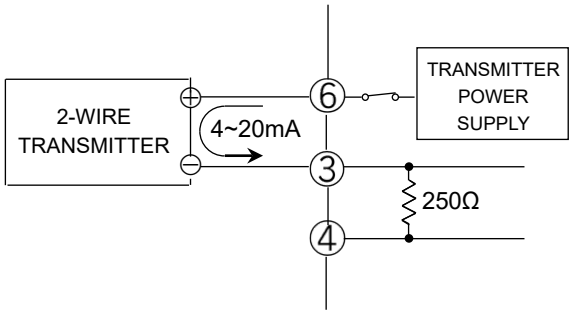


①	+ OUTPUT	
②	- OUTPUT	
③	- INPUT	
④	COM	
⑤	N.C.	
⑥	+ INPUT	
⑦	P (+)	POWER
⑧	N (-)	

BLOCK DIAGRAM



When used as a distributor:



When used as an isolator: