Ultra-Slim Distributor with Isolated Single Output

DESCRIPTION

The MS5007 is an ultra-slim distributor that powers a two-wire transmitter (output: 4 to 20mA), converts its signals into commonly used DC signals, and provides an isolated single output.

ORDERING CODE

MS5007 - □ / □ □

Model

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
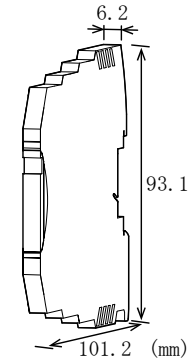3W: ±1V DC
4W: ±10V DC
5W: ±5V DC
0: Other DC voltage signals

Connection Type
No code: Screw connection
S: Spring-cage connection

Options
No code: None
/X: 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.) MS5007-A
        MS5007-A/S
        MS5007-A/X (Frequency characteristics 2Hz-3dB)
        MS5007-A/SX (Frequency characteristics 2Hz-3dB)

Another Ordering Example:
For an output code of "0": MS5007-0 (Output: 0 to 2V)

6. 2

93. 1

101. 2 (mm)

SPECIFICATIONS

●POWER SECTION

Power Requirement	24V DC±10%
Power Sensitivity	Better than ±0.1% of span.
Power Line Fuse	125mA fuse is installed (standard).
Current Consumption	
Voltage Output	42mA max. (at 24V DC) (Approx. 38mA for 100% input)
Current Output	63mA max. (at 24V DC) (Approx. 55mA for 100% input)

●INPUT SECTION

Input Signal	4 to 20mA DC from 2-wire transmitters
Input Resistance	250Ω
Transmitter Power Supply	Output voltage: 24 to 30V (0% input) 18V min. (100% input) Maximum current: 25mA (typ.)
Limit Current for Short-Circuit Protection	30mA max.
Permissible Short-Circuit Duration	Continuous.

●OUTPUT SECTION

Allowable Output Load		
Voltage Output (DC)	10V	5kΩ min.
	5V	2.5kΩ min.
	1V	500Ω min.
	10mV	10kΩ min.
	100mV	100kΩ min.
Current Output (DC)	4 to 20mA output	550Ω 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 ±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	1500V AC for 1 minute between input, output, and power. (Cutoff current: 0.5mA)
Operating Environment	Ambient temperature: -20 to 55°C Humidity: 5 to 90% RH (non-condensing)
Storage Temperature	-25 to 70°C

●PHYSICAL

Installation	DIN rail mounting
Wiring	Screw connection or spring-cage connection Recommended tightening torque for screw connection: 0.5 to 0.6 Nm
Wire Size	0.2 to 2.5 mm^2
External Dimensions	W93.1 × H101.2 × D6.2 mm
Weight	60g max.

●MATERIAL

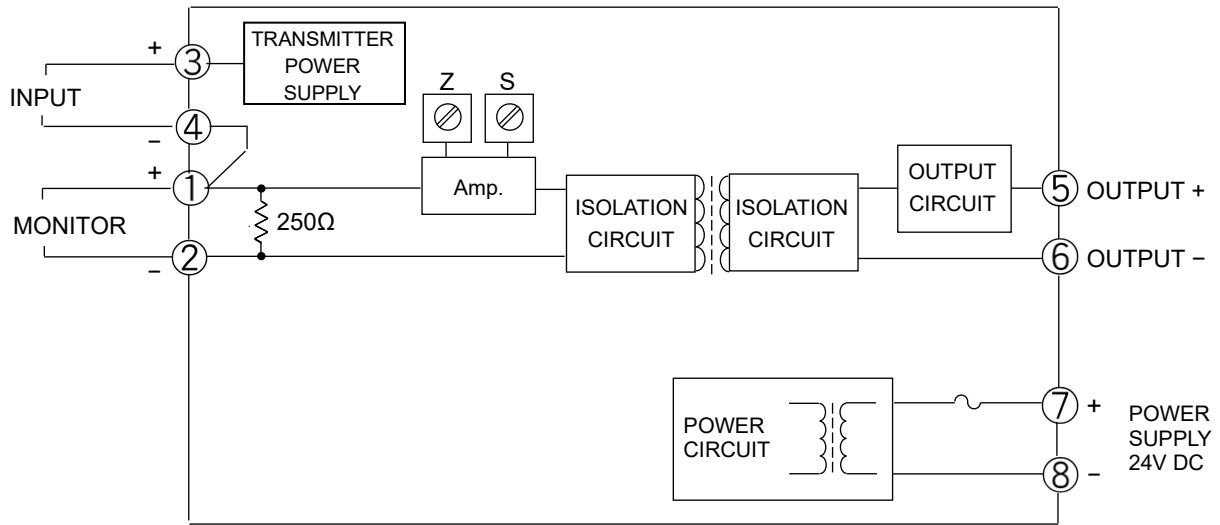| Housing	PBT resin (UL 94V-0)
Screw Terminal	Tin-plated copper alloy
Printed Circuit Board	Glass fabric, epoxy resin (FR-4: UL 94V-0)
Conformal Coating	HumiSeal® 1A27NSLU (Polyurethane)

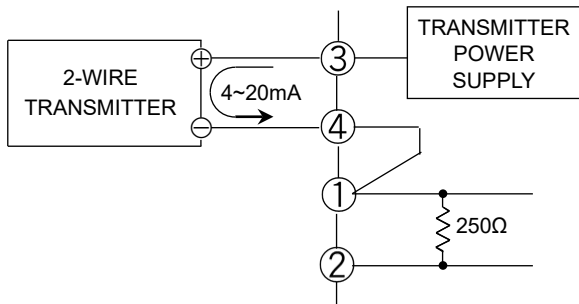* HumiSeal® is a registered trademark of Chase Corporation.

TERMINAL ASSIGNMENTS
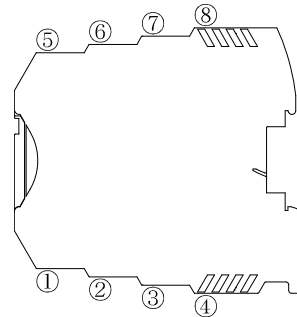
①	MONITOR +
②	MONITOR −
③	INPUT +
④	INPUT −
⑤	OUTPUT +
⑥	OUTPUT −
⑦	POWER +
⑧	POWER −

BLOCK DIAGRAM

When used as a distributor:

When used as an isolator:

MTT Corporation