

DESCRIPTION

The MS5307B 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

MS5307B - -

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 signals	3: 0 to 1V DC
	4: 0 to 10V DC
	5: 0 to 5V DC
	6: 1 to 5V DC
	0: Other DC voltage signals

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.

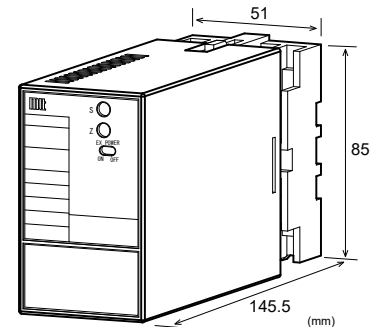
Options _____

No code: None
/K: Fast response (0 to 90% response time: 10ms max.)
/H: Polyurethane conformal coating
/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.) MS5307B-A-A6

Other Ordering Examples:
 For an output code of "0": MS5307B-A-60 (Output: 2 to 5V)
 For an option code of "X": MS5307B-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		
Maximum Power Consumption			
Power	100-240V AC	24V DC	100-240V DC
	Approx. 7.0VA	Approx. 2.4W	Approx. 8.4W

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 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%.

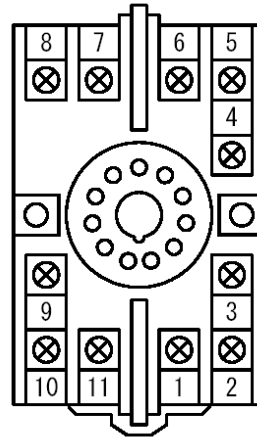
● PERFORMANCE	
Accuracy Rating	Better than ±0.1% of span (at 25°C±5°C).
Temperature Effect	Better than ±0.2% of span per 10°C change in ambient.
Response Time	85ms max. (0 to 90%) with a step input at 100%.
CMRR	100dB min. (500V AC, 50/60Hz)
Isolation	4-way isolation between input, output 1, output 2, and power.
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	Wall/DIN rail mounting
Mounting Direction	Vertical
Screwing Torque	0.78 to 1.18 [Nm] * Recommended
Wiring	M3.5 screw terminal connection
External Dimensions	W51 × H85 × D145.5 mm (including the socket)
Weight	Main unit: 200g max. Socket: 80g max.

● MATERIAL

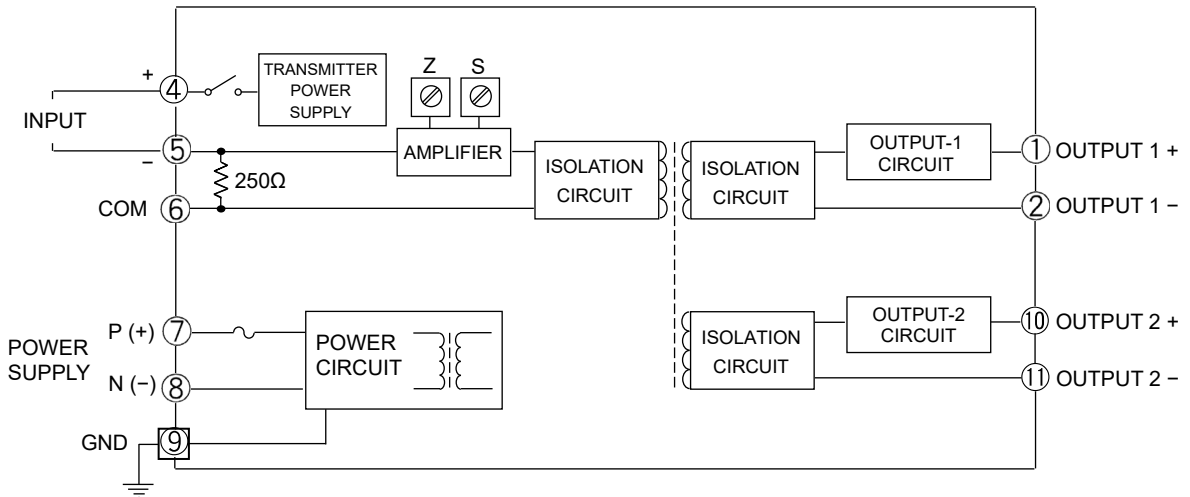
Housing	ABS resin (UL 94V-0)
Socket	ABS resin (UL 94V-0)
Screw Terminal	Galvanized steel with trivalent chromate finish
Printed Circuit Board	Glass fabric, epoxy resin (FR-4: UL 94V-0)

TERMINAL ASSIGNMENTS

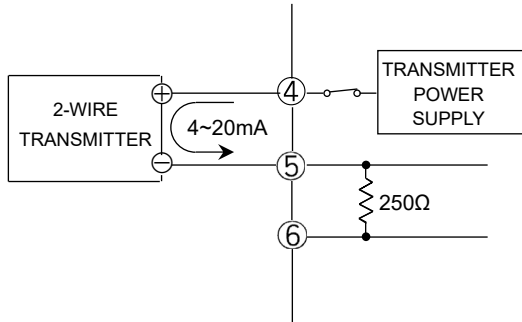


①	+ OUTPUT 1
②	- OUTPUT 1
③	N.C.
④	+ INPUT
⑤	- INPUT
⑥	COM
⑦	P (+)
⑧	N (-)
POWER	
⑨	GND
⑩	+ OUTPUT 2
⑪	- OUTPUT 2

BLOCK DIAGRAM



When used as a distributor:



When used as an isolator:

