

DESCRIPTION

The MS5321 is a plug-in PT transmitter that calculates the rms values of AC voltage signals from a PT, converts them into commonly used DC signals, and provides an isolated dual output.

ORDERING CODE

MS5321 - -

Model _____

Power Supply _____

A: 100 to 240V AC (50 to 60Hz)
D: 24V DC **P:** 100 to 240V DC

Input (AC Voltage Signal) _____

1: 0 to 110V AC, 50/60Hz
2: 0 to 150V AC, 50/60Hz
3: 0 to 300V AC, 50/60Hz
0: Other AC voltage signals, 50/60Hz

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
 3W: ±1V DC
 4W: ±10V DC
 5W: ±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.

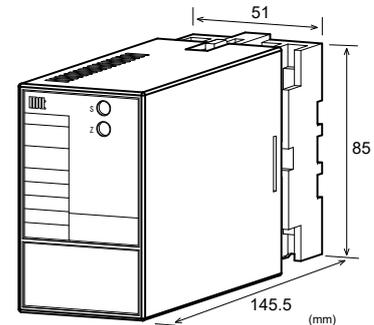
Options _____

No code: None
/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.) MS5321-A-2A6

Other Ordering Examples:
 For an input code of "0": MS5321-A-0A6 (Input: 0 to 200V)
 For an output code of "0": MS5321-A-2A0 (Output: 2 to 5V)
 For an option code of "X": MS5321-A-2A6/X (0-90% response time: 100ms max.)



SPECIFICATIONS

POWER SECTION

Power Requirements	100 to 240V AC: 85 to 264V AC (47 to 63Hz) 24V DC: 24V DC±10%		
Power Sensitivity	100 to 240V DC: 85 to 264V DC 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. 5.0VA	Approx. 1.6W	Approx. 6.0W

INPUT SECTION

Input Resistance	1MΩ min. with or without power.		
Allowable Input Current	Continuous: 120% of the rated input value Instantaneous: 1.5 times the rated input value (within 5 seconds)		
Crest Factor	3 max.		
Ranges Available	Between 0-10mV AC and 0-300V AC.		

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	-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 $\pm 0.25\%$ of span with at least 10% input (at 25°C $\pm 5^\circ$ C).
Temperature Effect	Better than $\pm 0.2\%$ of span per 10°C change in ambient.
Response Time	400ms 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	100M Ω 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

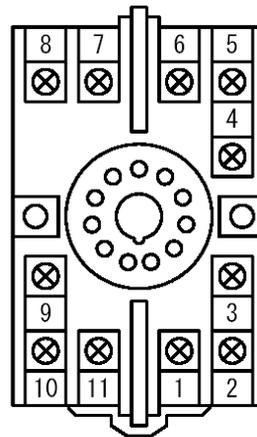
PHYSICAL

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 x H85 x 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	N.C.
⑤	L INPUT
⑥	N INPUT
⑦	P (+) POWER
⑧	N (-) POWER
⑨	GND
⑩	+ OUTPUT 2
⑪	- OUTPUT 2

BLOCK DIAGRAM

