

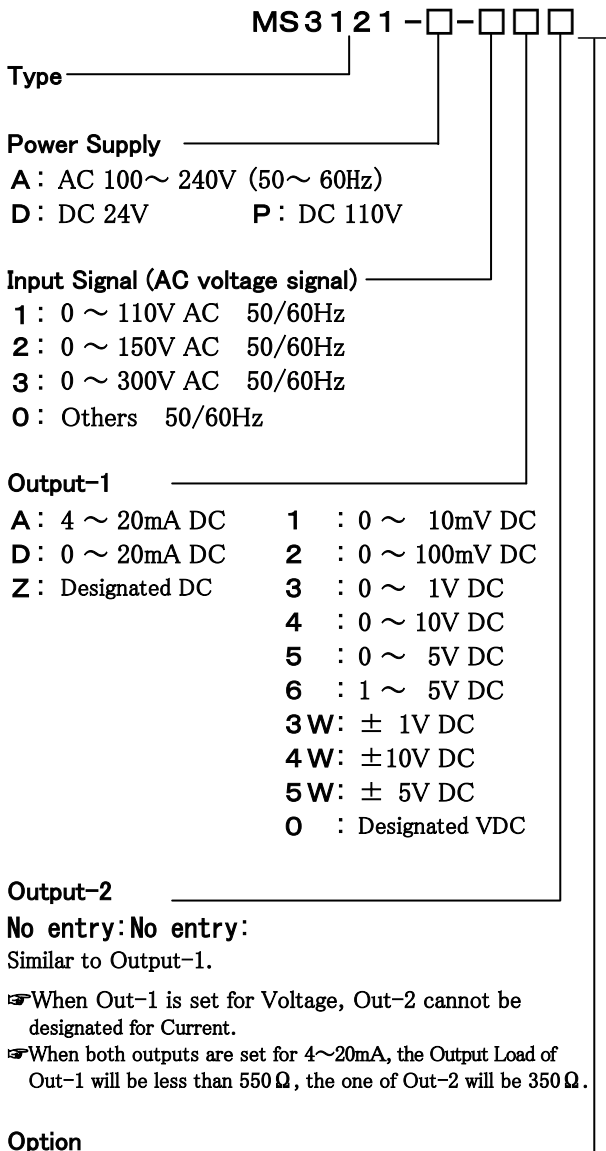


Terminal Block Type PT Transmitter with Single/Dual Output

Overview

MS3121 is a terminal block type PT transmitter with single/dual output to convert AC voltage signals from a PT to various DC signals as selected using effective value computing.

Ordering Format



A : AC 100 ~ 240V (50 ~ 60Hz)  
 D : DC 24V P : DC 110V

1 : 0 ~ 110V AC 50/60Hz  
 2 : 0 ~ 150V AC 50/60Hz  
 3 : 0 ~ 300V AC 50/60Hz  
 0 : Others 50/60Hz

A : 4 ~ 20mA DC 1 : 0 ~ 10mV DC  
 D : 0 ~ 20mA DC 2 : 0 ~ 100mV DC  
 Z : Designated DC 3 : 0 ~ 1V DC  
 4 : 0 ~ 10V DC  
 5 : 0 ~ 5V DC  
 6 : 1 ~ 5V DC  
 3W : ± 1V DC  
 4W : ± 10V DC  
 5W : ± 5V DC  
 0 : Designated VDC

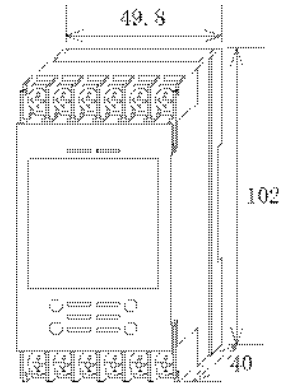
When Out-1 is set for Voltage, Out-2 cannot be designated for Current.  
 When both outputs are set for 4~20mA, the Output Load of Out-1 will be less than 550Ω, the one of Out-2 will be 350Ω.

No entry: None.  
 / X : Custom Order.  
 \*Contact us for custom-order requirement.

Please specify upon ordering

•Product Model Number  
 (Example) MS3121-A-2A6

Other items to be specified:  
 •For input "0": MS3121-A-0AA (Input AC0~200V)  
 •For output "0"時 MS3121-A-160 (Output2~5V)  
 •For option "X": MS3120-A-1AA/X (Response rate 100msec max.:0~90%)



Specifications

●Power Supply Section

Range of Allowable Voltages	AC100~240V : AC85~264V (47~63Hz) DC24V : DC24V±10%
Power Sensitivity	Within ±0.1% of Span for each power supply voltage.
Power Supply Fuse	160mA Fuse
Maximum Power	
Power Supply	AC100~240V DC24V DC110V
Single Output	Approx. 4.5VA /Approx. 1.2W /Approx.4.8W
Dual Output	Approx. 5.0VA /Approx. 1.6W /Approx. 6.0W

●Input Section

Input Resistance	1MΩ min. With/without excitation
Input Voltage	Continuous 120% Rated Input
Allowable Crest Factor	Instantaneous 1.5 x Rated Input (5 sec.) 3 max.
Range of product available	Within range between AC0~10mV and AC0~300V

●Output Section

Maximum Output Load	
Voltage Output (DC)	1V Span min. 2mA max. 10mV 10kΩ min. 100mV 100kΩ min.
Current Output (DC)	4~20mA Single output 750Ω max. 4~20mA Dual output Out-1 550Ω max. Out-2 350Ω max.
Zero Adjustment Range	Approx. ±5% ( of Span (Adjustable by Trimmer on front panel)
Span Adjustment Range	Approx. ±5% ( of Span (Adjustable by Trimmer on front panel)

Range of Products Available		
	Current Signal	Voltage Signal
Output Range (DC)	0~20mA	-10~10V
Output Span (DC)	4~20mA	10mV~20V
Output Bias	0~100%	-100~100%

\*For current output smaller than 0.1mA, the accuracy is not guaranteed.  
 (e.g.1) 4~20mA⇒Output Span 16mA, Bias 25%  
 (e.g.2) -1~4V⇒Output Span 5V, Bias -20%

● Standard Performance

<b>Conversion Accuracy</b>	Within $\pm 0.25\%$ /F.S. at 10% or more of Span (@25°C $\pm 5^\circ\text{C}$ )
<b>Temp. Characteristics</b>	Within $\pm 0.2\%$ of Span with every 10°C variation
<b>Response Time</b>	400msec max. (0~90%) @100% step input
<b>CMRR</b>	100dB min. (500V AC, 50/60Hz)
<b>Signal Isolation</b>	Between Input - Out1-Out2-Power Supply-Ground
<b>Isolation Resistance</b>	100M $\Omega$ min. (@500V DC)
<b>Dielectric Strength</b>	Between Input - [Out1, Out2] - [Power Supply, Ground] :200V AC, Shut Down Current 0.5mA for 1 minute Between Power Supply - Ground :200V AC, Shut Down Current 5mA for 1 minute Between Out1 - Out2 :500V AC, Shut Down Current 0.5mA for 1 minute
<b>Measures against SWC</b>	Conform to ANSI/IEEE C37.90.1-1989
<b>Operating Environment</b>	Temperature: $-5\sim 55^\circ\text{C}$ Humidity : $5\sim 90\%$ RH (Non-Condensing)
<b>Storage Temp.</b>	$-10\sim 60^\circ\text{C}$

● Installation / Physical Specifications

<b>Installation</b>	DIN-rail mounting
<b>Wiring</b>	M3.5 screw terminal connection (Screw drop-protection)
<b>Screw Tightening Torque</b>	0.8~1[N·m] Recommendable
<b>Outer Dimension</b>	W49.8×H102.0×D40.0mm (incl. DIN rail)
<b>Mass</b>	140g max.

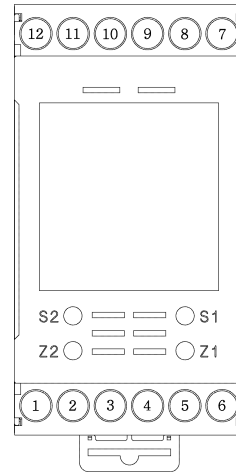
● Materials

<b>Housing</b>	ABS Resin (UL-94V-0)
<b>Terminal Screws</b>	Iron/Nickel-plated
<b>P.C. Board</b>	Glass-Epoxy (FR-4; UL-94V-0)
<b>Moisture-proof Coating</b>	HumiSeal Coating :HumiSeal 1A27NS(Polyurethane Resin)

● Compatible Standards

<b>Compatible EC Directive</b>	EMC Directive (2004/108/EC) EN61326-1:2006 Low Voltage Directive (2006/95/EC) IEC61010-1/EN61010-1 Installation category II, Pollution degree 2, Max. operating voltage 300V Reinforced insulation between [Input·Output·GND]-Power Supply
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Terminal Arrangement / Signal Assignment



①	+ OUTPUT 2
②	- OUTPUT 2
③	N. C
④	P (+) POWER
⑤	N (-) POWER
⑥	GND
⑦	L INPUT
⑧	N INPUT
⑨	N. C
⑩	N. C
⑪	+ OUTPUT 1
⑫	- OUTPUT 1

Block Diagram

