



Standard Specifications Type: MS3743

MS3700

Slim-shaped Plug-in mV Signal Conditioner with Isolated Single/Dual Output (Fast Response Model)

Overview

MS3743 is a slim-shaped plug-in mV signal conditioner with isolated single/dual output to convert mV signals of sensors into various DC signals as selected at high speed. This is a fast response model with the following response time: 80 μ sec (0~90%) for both outputs in case of voltage output; 150 μ sec (0~90%) for both outputs in case of current output for Out-1. (RoHS-conformed)

Ordering Format

MS3743 - □ - □ - □ - □

Type

Power Supply

A : AC 85 ~ 264V D : DC 24V
 P : DC 85 ~ 264V

Input Signal

7 : 0 ~ 50mV DC 7W : ± 50mV DC
 2 : 0 ~ 100mV DC 2W : ± 100mV DC
 0 : Designated VDC

Output-1

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

Output-2

No entry: None.

Similar to Output-1.

☞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 550 Ω, and that of Out-2 will be 350 Ω.

Option

No entry None.

/X : Custom Order Additional cost required.

*Contact us for custom-order requirement.

Please specify upon ordering

•Product Model Number
 (Example) MS3743-A-244

Other items to be specified:

- For input "0": MS3743-A-044(入力 0~75mV)
- For output "Z": MS3743-A-2Z4(出力 8~20mA)
- For option "X": MS3743-A-2A6/X(Response Frequency 2kHz)



Specifications

Power Supply Section

Power Supply AC85~264V(Rating 100~240V) 47~63Hz
 DC24V±10%
 DC85~264V(Rating 100~240V)

Power Sensitivity Within ±0.1% of Span for each power supply voltage.

Power Supply Fuse 160mA Fuse

Maximum Power Consumption

Power Supply	AC85~264V	DC24V	DC85~264V
Single Output	4.0VA max. / 1.2W max.	4.8W max.	
Dual Output	5.0VA max. / 1.6W max. /	6.0W max.	

Input Section

Input Resistance 1M Ω min. With/Without excitation

Input Voltage Allowable 30V DC max. continuous

Range of Products Available

Input Range(DC)	-200mV~200mV
Input Span (DC)	20mV*1~400mV
Input Bias	-100~100%

*When negative input is contained, the span becomes*140mV~.

(e.g.1) 50~150mV⇒ Input Span 100mV, Bias 50%

(e.g.2) -10~30mV⇒ Input Span 40mV, Bias -25%

Output Section

Maximum Output Load

Voltage Output (DC)	1V Span min.	2mA max.
	10mV	10k Ω min.
	100mV	100k Ω min.
Current Output (DC)	4~20mA Single output	750 Ω max.
	4~20mA Dual output	Out-1 550 Ω max. Out-2 350 Ω max.

Zero Adjustment Approx. ±5% of Span

Range (Adjustable by Trimmer on front panel)

Span Adjustment Approx. ±5% of Span

Range (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

Conversion Accuracy	Within $\pm 0.1\%$ /F.S.(@25°C $\pm 5^\circ$ C)
Temp Characteristics	Within $\pm 0.2\%$ of Span with every 10°C variation
Response Time	In case of voltage input for Out-1: 80 μ sec max.(0~90%)@100% step input (Frequency characteristic: 10kHz-3dB) In case of current input for Out-1: 150 μ sec max.(0~90%)@100% step input (Frequency characteristic: 3kHz-3dB)
CMRR	100dB min. (500V AC, 50/60Hz)
Signal Isolation	Between Input - Out1-Out2-Power Supply-Ground
Isolation	100M Ω min. (@500V DC) Between Input-Out1-Out2-Power Supply-Ground
Dielectric Strength	Between Input-[Out1,Out2]-[Power Supply, Ground] :2000V AC, Shut Down Current 0.5mA for 1 minute Between Power Supply - Ground :2000V AC, Shut Down Current 5mA for 1 minute Between Out1 - Out2 :500V AC, Shut Down Current 0.5mA for 1 minute
Measures against SWC	Conform to ANSI/IEEE C37.90.1-1989
Operating Environment	Temperature: -5~55°C Humidity : 5~90%RH(Non-Condensing)
Storage Temp.	-10~60°C

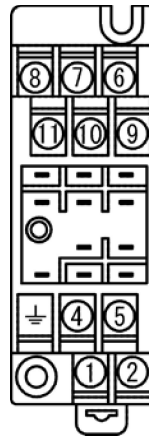
●Installation / Physical Specifications

Installation	Wall mounting &/or DIN-rail mounting
Wiring	M3.5 screw terminal connection (with P.S. terminal cover & screw drop-protection)
Screw Tightening Torque	0.8~1[N·m] Recommendable
Outer Dimension	W29×H86×D125mm (incl. set screws & terminal block)
Mass	Main body 120g max., Terminal Block 80g max.

●Materials

Housing	ABS Resin (UL-94V-0)
Terminal Block	ABS Resin (UL-94V-0)
Terminal Screws	Iron/Nickel-plated
Terminal Surface Treatment	0.2 μ m / Gold plated
P.C. Board	Glass-Epoxy (FR-4:UL-94V-0)
Moisture-proof Coating	HumiSeal Coating :HumiSeal 1A27NS(Polyurethane Resin)

Terminal Arrangement / Signal Assignment



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

Block Diagram

