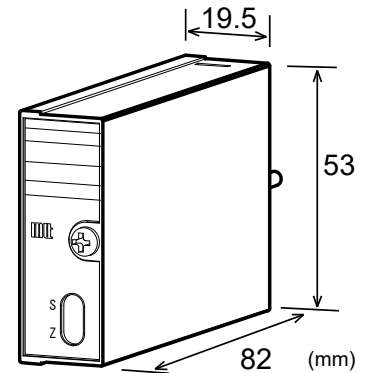




DESCRIPTION

The MS3903 is a chassis-mount millivolt isolator that amplifies millivolt input signals from sensors and converts them into mutually isolated dual channel DC output signals.

- ▽ A multi-slot chassis provides ease of maintenance and high-density mounting.
- ▽ Input, output 1, output 2, and power circuits are all isolated from each other.
- ▽ Equipped with a fuse on the DC power line as standard.



ORDERING INFORMATION

Ordering Code
MS3903-1□□-8□□_
[1] [2] [3]

SPECIFICATIONS

POWER SECTION

Power Requirement	24V DC±10%
Power Sensitivity	Better than ±0.1% of span per 10% change in supply voltage
Power Line Fuse	160mA fuse
Current Consumption	45mA max. at 24V DC

INPUT SECTION

Input (Specify a code in the field [1].)	<ul style="list-style-type: none"> ■ 0–10mV DC V2 ■ 0–100mV DC V3 ■ ±10mV DC W2 ■ ±100mV DC W3 ■ Other DC voltage signal X1 (□–□) <p style="margin-left: 20px;">Specify an input range in parentheses. The span must be between 5mV and 200mV.</p>
	<ul style="list-style-type: none"> Input Resistance: 1MΩ min. with or without power. Allowable Input Voltage: 30V DC max., continuous.

OUTPUT SECTION

Output (Specify a code in the field [2].)	<ul style="list-style-type: none"> Output 1 / Output 2 Code ■ 1–5V DC / 1–5V DC V1 ■ 0–5V DC / 0–5V DC V5 ■ 0–10V DC / 0–10V DC V6 ■ ±5V DC / ±5V DC W5 ■ ±10V DC / ±10V DC W6 ■ 1–5V DC / 4–20mA DC C1 <p>Note: Combinations of two outputs are only available as shown above.</p>
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Allowable Output Load	Voltage output: 2mA max. Current output: 300Ω max.
Zero Adjustment	Approx. ±2% of span. (Adjustable by front-accessible trimmer)
Span Adjustment	Approx. ±2% of span. (Adjustable by front-accessible trimmer)

ADDITIONAL

Option [3]	<ul style="list-style-type: none"> ■ Polyurethane conformal coating /H
Optional Parameter Changes	<p>You can optionally specify the following parameters when ordering. Please ask our Sales representatives for availability in advance.</p> <p><Parameter> <How to specify></p> <ul style="list-style-type: none"> ■ Response frequency · Fc = □□□Hz (Up to 200Hz) ■ Response time constant · Tc = □□□s (Up to 2ms @ 90%)

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	160ms 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, and power.
Dielectric Strength	Input / [Output 1, Output 2, Power]: 1500V AC for 1 minute (Cutoff current: 0.5mA) Output 1 / Output 2 / Power: 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: 0 to 55°C Humidity: 5 to 90% RH (non-condensing)
Storage Temperature	–10 to 60°C

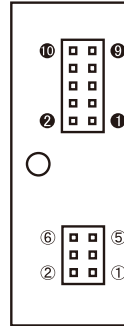
PHYSICAL

Installation	Mounted in an optional chassis (RC3900A-□□AI or RS3900-01TB).
Wiring	Wired to an optional chassis (RC3900A-□□AI or RS3900-01TB).
External Dimensions	W19.5 × H53 × D82 mm
Weight	70g max.

MATERIAL

Housing	ABS resin
PC Board	Glass fabric, epoxy resin (FR-4: UL 94V-0)

PIN ASSIGNMENTS



PIN	SIGNAL	PIN	SIGNAL
①	+ INPUT	①	+ OUTPUT 1
②	- INPUT	②	- OUTPUT 1
③	N. C.	③	+ OUTPUT 2
④	N. C.	④	- OUTPUT 2
⑤	N. C.	⑤	+ POWER DC24V
⑥	N. C.	⑥	- POWER DC24V
		⑦	N. C.
		⑧	N. C.
		⑨	F. G.
		⑩	N. C.

BLOCK DIAGRAM

