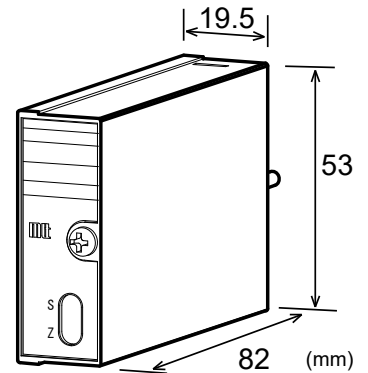




DESCRIPTION

The MS3954 is a chassis-mount high-level signal conditioner that converts DC input signals into isolated DC output signals.

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



ORDERING INFORMATION

Ordering Code
MS3954-1□□-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	30mA max. at 24V DC

INPUT SECTION

Input (Specify a code in the field [1].)	<ul style="list-style-type: none"> ■ 4–20mA DC C1 ■ 2–10mA DC C3 ■ 1–5mA DC C4 ■ 10–50mA DC C5 ■ Other DC current signals CY(□–□) <p style="margin-left: 20px;">Specify a DC current range in parentheses. The ranges available are from 0–100µA to 0–100mA and from ±100µA to ±100mA.</p>
	<ul style="list-style-type: none"> ■ 1–5V DC V1 ■ 0–1V DC V4 ■ 0–5V DC V5 ■ 0–10V DC V6 ■ 0.4–2V DC V7 ■ ±5V DC W5 ■ ±10V DC W6 ■ Other DC voltage signals X2(□–□) <p style="margin-left: 20px;">Specify a DC voltage range in parentheses. The ranges available are from 0–200mV to 0–50V and from ±200mV to ±50V.</p>

Input Resistance	<p>Voltage input: 1MΩ min. with power (10kΩ min. without power)</p> <p>Current input: 250Ω (Standard for 4–20mA)</p>
Allowable Input Voltage	<p>Voltage input: 30V DC max., continuous. (Standard for a span up to 10V)</p> <p>Current input: 40mA DC max., continuous. (Standard for 4–20mA)</p>

OUTPUT SECTION

Output (Specify a code in the field [2].)	<ul style="list-style-type: none"> ■ 1–5V DC V1 ■ 0–10mV DC V2 ■ 0–100mV DC V3 ■ 0–1V DC V4 ■ 0–5V DC V5 ■ 0–10V DC V6 ■ Other DC voltage signals VX(□–□) <p style="margin-left: 20px;">Specify a voltage range in parentheses. The range available is from 0 to 10V.</p>
	<ul style="list-style-type: none"> ■ ±10mV DC W2 ■ ±100mV DC W3 ■ ±1V DC W4 ■ ±5V DC W5 ■ ±10V DC W6 ■ Other DC voltage signals VX(□–□) <p style="margin-left: 20px;">Specify a voltage range in parentheses. The range available is –10 to 10V.</p>
Allowable Output Load	<p>1V span and up: 2mA max.</p> <p>10mV: 10kΩ min.</p> <p>100mV: 100kΩ min.</p>
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]	■ Polyurethane conformal coating /H
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PERFORMANCE

Accuracy Rating	Better than $\pm 0.1\%$ of span (at $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$)
Temperature Effect	Better than $\pm 0.2\%$ of span per 10°C change in ambient.
Response Time	15ms max. (0 to 90%) with a step input at 100%.
CMRR	100dB min. (500V AC, 50/60Hz)
Isolation	3-way isolation between input, output, and power.
Insulation Resistance	100M Ω min. (@ 500V DC) between input, output, and power.
Dielectric Strength	Input / Power: 500V AC for 1 minute (Cutoff current: 0.5mA) Output / [Input, Power]: 1500V 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

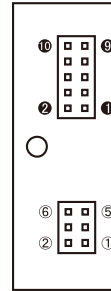
PHYSICAL

Installation	Mounted in an optional chassis (RC3900A-□□AO).
Wiring	Wired to an optional chassis (RC3900A-□□AO).
External Dimensions	W19.5 × H53 × D82 mm
Weight	55g max.

MATERIAL

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

PIN ASSIGNMENTS



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

BLOCK DIAGRAM

