

DESCRIPTION

The MS3044 is a terminal block type high-level signal conditioner that converts DC current or voltage signals into commonly used DC signals and provides an isolated single output. This model features a fast response time of 70 μ s (0-90%).

ORDERING CODE

MS3044 -

Model _____

Power Supply
24V DC

Input _____

B: 2 to 10mA DC	3: 0 to 1V DC
C: 1 to 5mA DC	4: 0 to 10V DC
D: 0 to 20mA DC	5: 0 to 5V DC
E: 4 to 20mA DC	6: 1 to 5V DC
H: 10 to 50mA DC	4W: \pm 10V DC
Z: Other DC current signals	5W: \pm 5V DC
	0: Other DC voltage signals

Output _____

1: 0 to 10mV DC	1W: \pm 10mV DC
2: 0 to 100mV DC	2W: \pm 100mV DC
3: 0 to 1V DC	3W: \pm 1V DC
4: 0 to 10V DC	4W: \pm 10V DC
5: 0 to 5V DC	5W: \pm 5V DC
6: 1 to 5V DC	0: Other DC voltage signals

Options _____

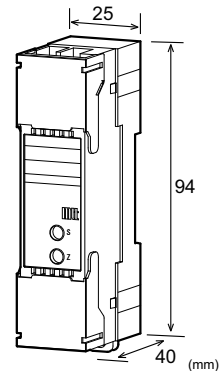
No code: None
/C: CE compliant.
/H: Polyurethane conformal coating
/X: Others (Special order)
 * For non-standard options, ask MTT for availability.

ORDERING INFORMATION

To place an order, please use the ordering code format as shown above.
 (e.g.) MS3044-4W4W

Other Ordering Examples:

For an input code of "0": MS3044-06/C (Input: 2 to 10V)
 For an output code of "0": MS3044-B0/C (Output: 2 to 5V)
 For an option code of "X": MS3044-66/CX (Response frequency: 5kHz)


SPECIFICATIONS
POWER SECTION

Power Requirement	24V DC: 24V DC \pm 10%
Power Sensitivity	Better than \pm 0.1% of span.
Power Line Fuse	250mA fuse is installed (standard).
Power Consumption	30mA max. Note: This value is in the condition of the rated voltage supplied.

INPUT SECTION

Input Resistance	With or without power: 1M Ω min.	
Voltage Input (DC)	4 to 20mA (std.)	50 Ω
Current Input (DC)	2 to 10mA	250 Ω
	1 to 5 mA	100 Ω
	0 to 20mA	50 Ω
	10 to 50mA	10 Ω
Allowable Input Voltage	30V DC max., continuous. (Standard for a span up to 10V)	
Voltage Input Model	40mA DC max., continuous. (Standard for 4 to 20mA)	
Current Input Model		
Ranges Available	Current Signal	Voltage Signal
Input Range (DC)	-100 to 100mA	-300 to 300V
Input Span (DC)	100 μ A ^{*1} to 200mA	200mV ^{*2} to 600V
Input Bias	-100 to 100%	-100 to 100%

Note: For any input range including negative input signals, the input spans for current and voltage signals range from ^{(*)1}200 μ A to 200mA and ^{(*)2}400mV to 600V, respectively.

Input Spec. Ex. 1: For 3 to 8V input, the input span is 5V and the bias +60%.

Input Spec. Ex. 2: For -5 to 0V input, the input span is 5V and the bias -100%.

Note: The input range of -30 to +30V is subject to CE approval.

● OUTPUT SECTION

Allowable Output Load	1V span and up 10mV 100mV	2mA max. 10kΩ min. 100kΩ min.
Zero Adjustment	Approx. ±2.5% of span. (Adjustable by the front-accessible trimmer.)	
Span Adjustment	Approx. ±2.5% of span. (Adjustable by the front-accessible trimmer.)	
Ranges Available	Voltage Signal -10 to 10V 10mV to 20V -100 to 100%	
Output Spec. Ex.:	For -1 to 4V output, the output span is 5V and the bias -20%.	

● 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	70μs max. (0 to 90%) with a step input at 100%. (Frequency characteristics: 10kHz-3dB)
CMRR	100dB min. (500V AC, 50/60Hz)
Isolation	3-way isolation between input, output, and power.
Insulation Resistance	100MΩ min. (@ 500V DC) between input, output, and power.
Dielectric Strength	Input / Output / 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: -5 to 55°C Humidity: 5 to 90% RH (non-condensing)
Storage Temperature	-10 to 60°C

● PHYSICAL

Installation	DIN rail mounting
Wiring	M3.5 screw terminal connection (with drop-proof screws)
Screwing Torque	0.8 to 1.0 [Nm] * Recommended
External Dimensions	W25.0 × H94.0 × D40.0 mm
Weight	90g max.

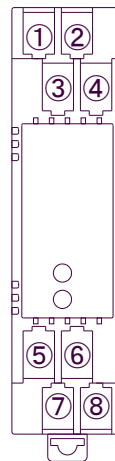
● MATERIAL

Housing	ABS resin (UL 94V-0)
Screw Terminal	Nickel-plated steel
Printed Circuit Board	Glass fabric, epoxy resin (FR-4: UL 94V-0)

● STANDARDS CONFORMITY

EC Directive	EMC Directive (2014/30/EU)
Conformity	EN61326-1:2013

TERMINAL ASSIGNMENTS



①	N.C.
②	N.C.
③	INPUT +
④	INPUT -
⑤	OUTPUT +
⑥	OUTPUT -
⑦	+ POWER
⑧	- POWER

BLOCK DIAGRAM

