

**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 $\mu$ s (0-90%).

**ORDERING CODE**

**Model** \_\_\_\_\_ **MS3044** -

**Power Supply**  
24V DC

**Input**

<b>B:</b> 2 to 10mA DC	<b>3:</b> 0 to 1V DC
<b>C:</b> 1 to 5mA DC	<b>4:</b> 0 to 10V DC
<b>D:</b> 0 to 20mA DC	<b>5:</b> 0 to 5V DC
<b>E:</b> 4 to 20mA DC	<b>6:</b> 1 to 5V DC
<b>H:</b> 10 to 50mA DC	<b>4W:</b> $\pm$ 10V DC
<b>Z:</b> Other DC current signal	<b>5W:</b> $\pm$ 5V DC
	<b>0:</b> Other DC voltage signal

**Output**

<b>1:</b> 0 to 10mV DC	<b>1W:</b> $\pm$ 10mV DC
<b>2:</b> 0 to 100mV DC	<b>2W:</b> $\pm$ 100mV DC
<b>3:</b> 0 to 1V DC	<b>3W:</b> $\pm$ 1V DC
<b>4:</b> 0 to 10V DC	<b>4W:</b> $\pm$ 10V DC
<b>5:</b> 0 to 5V DC	<b>5W:</b> $\pm$ 5V DC
<b>6:</b> 1 to 5V DC	<b>0:</b> Other DC voltage signal

**Options**

**No code:** None  
**/C:** CE compliant.  
**/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.

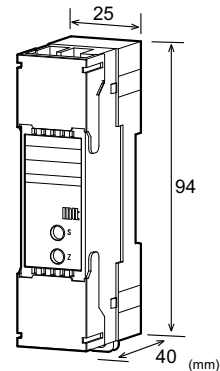
(e.g.) MS3044-4W4W

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**

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

**INPUT SECTION**

<b>Input Resistance</b>	Voltage Input (DC) With or without power: 1M $\Omega$ min.	
<b>Current Input (DC)</b>	4 to 20mA (std.)	50 $\Omega$
	2 to 10mA	250 $\Omega$
	1 to 5 mA	100 $\Omega$
	0 to 20mA	50 $\Omega$
	10 to 50mA	10 $\Omega$
<b>Allowable Input Voltage</b>	Voltage Input Model 30V DC max., continuous. (Standard for a span up to 10V)	
	Current Input Model 40mA DC max., continuous. (Standard for 4 to 20mA)	

**Ranges Available**

	Current Signal	Voltage Signal
Input Range (DC)	-100 to 100mA	-300 to 300V
Input Span (DC)	100 $\mu$ A <sup>*1</sup> to 200mA	200mV <sup>*2</sup> 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 <sup>(\*)1</sup>200 $\mu$ A to 200mA and <sup>(\*)2</sup>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.)	
<b>Ranges Available</b>		
	Voltage Signal	
Output Range (DC)	-10 to 10V	
Output Span (DC)	10mV to 20V	
Output Bias	-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-out prevention screws)	
Screwing Torque	0.8 to 1.0 [Nm] * Recommended	
External Dimensions	W25.0 × H94.0 × D40.0mm	
Weight	90g max.	

● **MATERIALS**

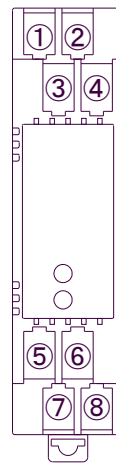
Housing	ABS resin (UL 94V-0)
Screw Terminal	Nickel-plated steel
Printed Circuit Board	Glass fabric epoxy resin (FR-4: UL 94V-0)
Anti-Humidity Coating	HumiSeal <sup>®</sup> 1A27NS (Polyurethane)

\* HumiSeal<sup>®</sup> is a registered trademark of Chase Corporation.

● **STANDARDS CONFORMITY**

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

**TERMINAL ASSIGNMENT**



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

BLOCK DIAGRAM

