



Standard Specifications Type: MS3004

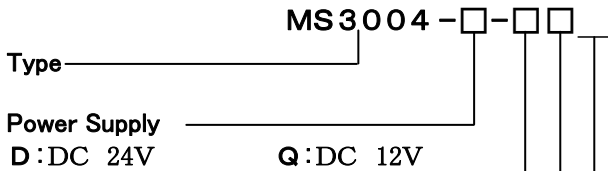
MS3000

Terminal Block Type DC Signal Conditioner with an Isolated Single Output (Isolator)

Overview

MS3004 is a terminal block type DC signal conditioner (isolator) with an isolated single output to convert DC or VDC signals into various DC signals as selected.

Ordering Format



\*The spec. of DC12V is exempt from CE marking.

Input Signal

A : 4 ~ 20mA DC	3 : 0 ~ 1V DC
B : 2 ~ 10mA DC	4 : 0 ~ 10V DC
C : 1 ~ 5mA DC	5 : 0 ~ 5V DC
D : 0 ~ 20mA DC	6 : 1 ~ 5V DC
E : 4 ~ 20mA DC*1	4W : ± 10V DC
H : 10 ~ 50mA DC	5W : ± 5V DC
Z : Designated DC	0 : Designated VDC

\*1 Input Resistance 50 Ω

Output Signal

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
	1W : ± 10mV DC
	2W : ± 100mV DC
	3W : ± 1V DC
	4W : ± 10V DC
	5W : ± 5V DC
	0 : Designated VDC

Option

No entry: None.

/K : Fast Response (Faster than 10msec: 0~90%)

/X : Custom Order

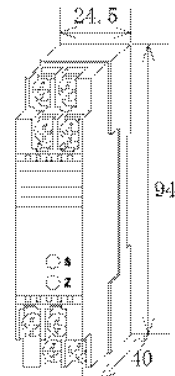
\*Contact us for custom-order requirement.

Please specify upon ordering

•Product Model Number  
 (Example) MS3004-D-A6

Other items to be specified:

- For input "Z": MS3004-D-ZA (入力 8~20mA)
- For output "0": MS3004-D-A0 (出力 2~5V)
- For option "X": MS3004-D-66/X (Response Frequency 5msec: 0~90%)
- For more than one option: Enter Option Codes in succession (/KX)



Specifications

●Power Supply Section

Range of allowable voltages	DC24V : DC24V ± 10%
	DC12V : DC12V ± 20%
Power Sensitivity	Within ± 0.1% of Span for each power supply voltage.
Power Supply Fuse	250mA Fuse

Maximum Power Consumption

Power Supply	DC24V	DC12V
Single Output	40mA max. / 70mA max.	
Dual Output	12mA max. / 25mA max.	

\*The above values apply when the rated supply voltage is used.

●Input Section

Input Resistance

Voltage Input(DC)	With excitation	1M Ω min.
	Without excitation	1M Ω min.
Current Input(DC)	4~20mA(Standard)	250 Ω
	2~10mA	250 Ω
	1~5mA	100 Ω
	0~20mA	250 Ω
	10~50mA	10 Ω

Input Voltage Allowable

Voltage Input	30V DC max. continuous (Span 10V or below: Standard)
Current Input	40mA DC max. continuous (4~20mA: Standard)

Range of Products Available

	Current Signal	Voltage Signal
Input Range(DC)	-100~100mA	-300~300V
Input Span(DC)	100 μ A*1~200mA	200mV*2~600V
Input Bias	-100~100%	-100~100%

\*When negative input is contained, the span becomes \*1200 μ A~, \*2400mV~.

(e.g.1) 3~8V⇒Input span 5V, Bias 60%

(e.g.2) -5~0V⇒Input span 5V, Bias -100%

●Output Section

Maximum Output Load

Voltage Output (DC)	1V Span min.	2mA max.
	10mV	10k Ω min.
	100mV	100k Ω min.
Current Output(DC)	550 Ω min.	

Zero Adjustment

Range Approx. ± 2.5% of Span (Adjustable by Trimmer on front panel)

Span Adjustment

Range Approx. ± 2.5% of Span (Adjustable by Trimmer on front panel)

● Output Section

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 ±0.1%/F. S. (@25°C±5°C)
Temp. Characteristics	Within ±0.2% of Span with every 10°C variation
Response Time	85msec max.(0~90%)@100% step input
CMRR	100dB min.(500V AC, 50/60Hz)
Signal Isolation	Between Input -Output - Power Supply
Isolation Resistance	100MΩ min. (@500V DC) Between Input -Output - Power Supply
Dielectric Strength	Between Input -Output - Power Supply :1500V AC, Shut Down Current 0.5mA for 1 min.
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	DIN-rail mounting
Wiring	M3.5 screw terminal connection (Screw drop-protection)
Screw Tightening Torque	0.8~1[N·m] Recommendable
Outer Dimension	W24.5×H94.0×D40.0mm
Mass	90g max.

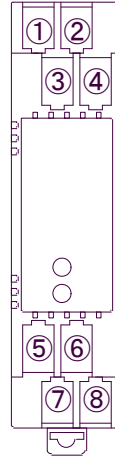
● Materials

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

● Compatible Standards

Compatible EC Directive	EMC Directive (2004/108/EC) EN61326-1:2006 Class A Low Voltage Directive (2006/95/EC) IEC61010-1/EN61010-1 Installation category II, Pollution degree 2
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Terminal Arrangement / Signal Assignment



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

Block Diagram

