Terminal Block Type Loop-Powered Isolator with Isolated Single Output

DESCRIPTION

The MS3064 is a terminal block type single-channel loop-powered isolator that takes the power from its input current loop.

ORDERING CODE

MS3064 - □

Model

Input
4 to 20mA DC

Output
A: 4 to 20mA DC
V: 1 to 5V DC

ORDERING INFORMATION

To place an order, please use the ordering code format as shown above.
(e.g.) MS3064-V

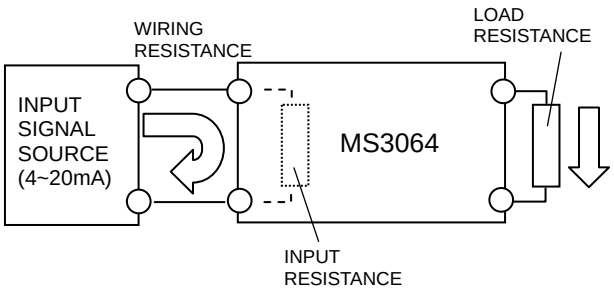
INPUT RESISTANCE CALCULATION

The input resistance for the current output model is calculated by the following equation:

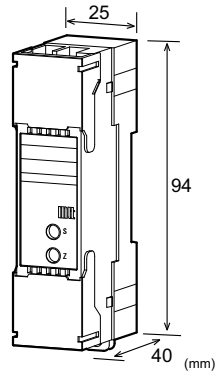
Input resistance = Approx. 230Ω + Load resistance (for 20mA DC input)
Maximum output load: 350Ω
(Allowable load resistance: 50 to 350Ω)

(Example) Input resistance with a load resistance of 250Ω
Input resistance = Approx. 230Ω + 250Ω = Approx. 480Ω (for 20mA DC input)

The allowable load resistance of an input signal source must be not less than the resistance calculated above, added to the wiring resistance.



Note: The input resistance for the voltage output model is fixed to approx. 250Ω (for 20mA DC input).



SPECIFICATIONS

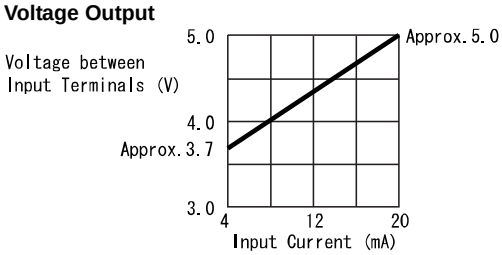
●INPUT SECTION

Input Signal	4 to 20mA DC
Input Resistance	
Voltage Output Model	Approx. 250Ω (for 20mA DC input)
Current Output Model	Approx. 230Ω + Load resistance (for 20mA DC input)
Allowable Input Current	30mA DC max.

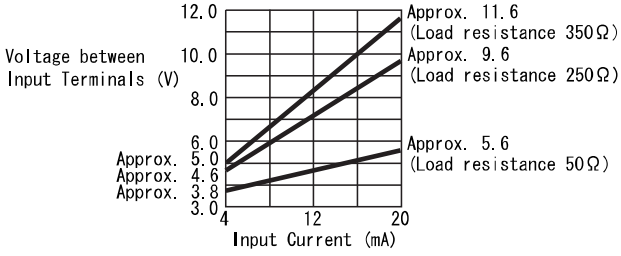
●OUTPUT SECTION

Allowable Output Load		
Voltage Output (DC)		50kΩ min.
Current Output (DC)	4 to 20mA	350Ω max.
	(Allowable load resistance: 50 to 350Ω)	
Zero Adjustment		
Voltage Output Model	Approx. ±2.5% of span.	
Current Output Model	Approx. ±0.5% of span. (Adjustable by the front-accessible trimmer.)	
Span Adjustment		
Voltage Output Model	Approx. ±2.5% of span.	
Current Output Model	Approx. ±1.5% of span. (Adjustable by the front-accessible trimmer.)	

Voltage Output



Current Output



●PERFORMANCE

Accuracy Rating	Better than ±0.1% of span.
Temperature Effect	Better than ±0.15% of span per 10°C change in ambient.
Response Time	15ms max. (0 to 90%) with a step input at 100%.
Output Variation due to Load Change	0.01%/Ω (50 to 150Ω) 0.005%/Ω (150 to 350Ω) * Adjusted at 250Ω for shipment.
CMRR	100dB min. (500V AC, 50/60Hz)
Isolation	2-way isolation between input and output.
Insulation Resistance	100MΩ min. (@ 500V DC) between input and output.
Dielectric Strength	Input / Output: 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	70g max.

●MATERIALS

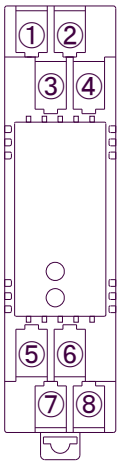
Housing	ABS resin (UL 94V-0)
Screw Terminal	Nickel-plated steel
Printed Circuit Board	Glass fabric epoxy resin (FR-4: UL 94V-0)
Anti-Humidity Coating	HumiSeal® 1A27NS (Polyurethane)

* HumiSeal® is a registered trademark of Chase Corporation.

●STANDARDS CONFORMITY

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

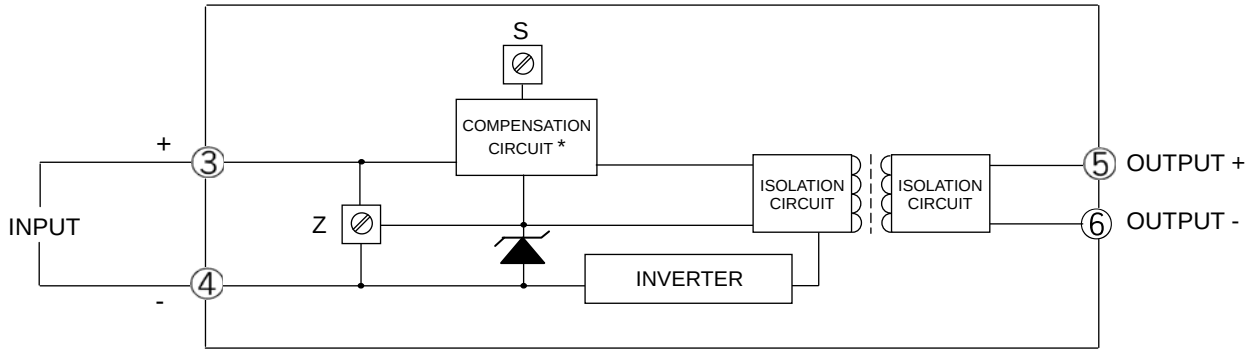
TERMINAL ASSIGNMENT



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

BLOCK DIAGRAM

Current Input / Current Output Model:



* CIRCUIT FOR COMPENSATING FOR OUTPUT VARIATION DUE TO LOAD CHANGE

Current Input / Voltage Output Model: