

Product Specification Sheet Model: MS3064

Terminal Block Type Loop-Powered Isolator with Isolated Single Output

CE

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

Options

No code: None /**H**: Polyurethane conformal coating

ORDERING INFORMATION

To place an order, please use the ordering code format as shown above. (a, a) MS2064 V

(e.g.) MS3064-V

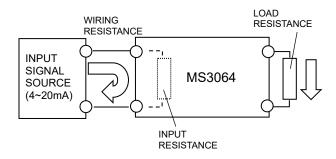
INPUT RESISTANCE CALCULATION

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

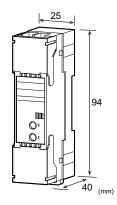
Input resistance = Approx. 230Ω + Load resistance (for 20mA DC input) Maximum output load: 350Ω (Allowable load resistance: 50 to 350Ω)

(Example) Input resistance with a load resistance of 250Ω Input resistance = Approx. $230\Omega + 250\Omega$ = 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

	4
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	30mA DC max.
Current	
OUTPUT SECTI	
Allowable Output Loa	
Voltage Output (DC)	$50k\Omega$ min.
Current Output (DC)	350Ω max.
	lowable load resistance: 50 to 350Ω)
Zero Adjustment	
Voltage Output Model	Approx. $\pm 2.5\%$ of span.
Current Output Model	Approx. $\pm 0.5\%$ of span.
	(Adjustable by the front-accessible
	trimmer.)
Span Adjustment	
Voltage Output Model	Approx. $\pm 2.5\%$ of span.
Current Output Model	Approx. $\pm 1.5\%$ of span.
	(Adjustable by the front-accessible
	trimmer.)
Voltage Output	Annroy E O
5.0 Voltage between	Approx. 5.0
Input Terminals (V)	
4.0	
Approx. 3. 7	
3.0 4	12 20
I	nput Current (mA)
Current Output	
12.0	Approx. 11.6
	(Load resistance 350Ω)
Voltage between 10.0	Approx. 9.6 (Load resistance 250Ω)
Input Terminals (V) 8.0	(Load Teststance 250 sz)
Approx 5.0	Approx 5.6
Approx 4.6	(Load resistance 50Ω)
6.0 Approx. 5.0 Approx. 4.6 Approx. 3.8 3.0	
	12 20 nput Current (mA)
•	

MTT Corporation

Accuracy RatingBetter than $\pm 0.1\%$ of span.TemperatureBetter than $\pm 0.15\%$ of span per 10°CEffectchange in ambient.Response Time15ms max. (0 to 90%) with a step input at 100%.Output Variation $0.01\%/\Omega$ (50 to 150 Ω)due to Load $0.005\%/\Omega$ (150 to 350Ω)Change* Adjusted at 250Ω for shipment.CMRR100dB min. (500V AC, $50/60Hz$)Isolation2-way isolation between input and output.Insulation100M Ω min. (@ 500V DC) between input and output.Dielectric StrengthInput / Output: 1500V AC for 1 minute (Cutoff current: $0.5mA$)Surge Withstand CapabilityTested as per ANSI/IEEE C37.90.1-1989.OperatingAmbient temperature: -5 to $55^{\circ}C$ EnvironmentHumidity: 5 to 90% RH (non-condensing)Storage TemperatureOIN rail mountingWiringM3.5 screw terminal connection (with drop-proof screws)Screwing Torque0.8 to 1.0 [Nm] * RecommendedExternal DimensionsW25.0 × H94.0 × D40.0 mmWeight70g max.	PERFORMANC	E
Temperature EffectBetter than $\pm 0.15\%$ of span per 10°C change in ambient.Response Time15ms max. (0 to 90%) with a step input at 100%.Output Variation due to Load $0.01\%/\Omega$ (50 to 150 Ω) $0.005\%/\Omega$ (150 to 350 Ω)Change* Adjusted at 250 Ω for shipment.CMRR100dB min. (500V AC, 50/60Hz)Isolation2-way isolation between input and output.Insulation Resistance100M Ω min. (@ 500V DC) between input and output.Dielectric StrengthInput / Output: 1500V AC for 1 minute (Cutoff current: 0.5mA)Surge Withstand CapabilityTested as per ANSI/IEEE C37.90.1-1989.Operating EnvironmentAmbient temperature: -5 to 55°C Humidity: 5 to 90% RH (non-condensing)Storage Temperature-10 to 60°CWiringM3.5 screw terminal connection (with drop-proof screws)Screwing Torque0.8 to 1.0 [Nm] * RecommendedExternal DimensionsW25.0 × H94.0 × D40.0 mm	Accuracy Rating	Better than $\pm 0.1\%$ of span.
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Screwing Torque 0.8 to 1.0 [Nm] * Recommended External W25.0 × H94.0 × D40.0 mm Dimensions	Wiring	M3.5 screw terminal connection
External W25.0 × H94.0 × D40.0 mm Dimensions		
Dimensions		0.8 to 1.0 [Nm] * Recommended
	External	$W25.0 \times H94.0 \times D40.0 \text{ mm}$
Weight 70g max.	Dimensions	
	Weight	70g max.

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

•STANDARDS CONFORMITY

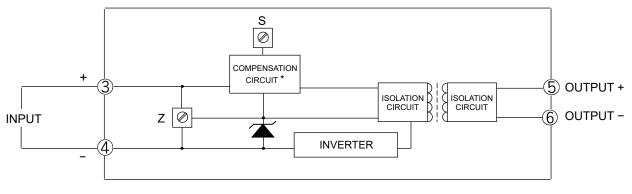
EC Directive	EMC Directive (2014/30/EU)
Conformity	EN61326-1:2013

TERMINAL ASSIGNMENTS

1	N.C.
2	N.C.
3	INPUT +
4	INPUT -
5	OUTPUT +
6	OUTPUT -
$\overline{\mathcal{O}}$	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:

