

**DESCRIPTION**

The MS3737 is a slim plug-in distributor that powers a two-wire transmitter, converts its 4 to 20mA signals into commonly used DC signals, and provides a dual output. This model has no isolation between the input and output, providing a low-cost design. (The unit includes a transmitter power ON/OFF switch.)

**ORDERING CODE**

**Model** \_\_\_\_\_ **MS3737** -

**Power Supply** \_\_\_\_\_

**A:** 100 to 240V AC (50 to 60Hz)  
**D:** 24V DC                      **P:** 100 to 240V DC

**Input** \_\_\_\_\_

4 to 20mA DC from 2-wire transmitters

**Output 1** \_\_\_\_\_

1 to 5V DC

**Output 2** \_\_\_\_\_

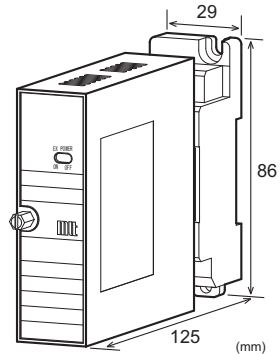
4 to 20mA DC

**Options** \_\_\_\_\_

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

**ORDERING INFORMATION**

To place an order, please use the ordering code format as shown above.  
(e.g.) MS3737-A


**SPECIFICATIONS**
**POWER SECTION**

<b>Power Requirements</b>	100 to 240V AC: 85 to 264V AC (47 to 63Hz) 24V DC: 24V DC±10% 100 to 240V DC: 85 to 264V DC		
<b>Power Sensitivity</b>	Better than ±0.1% of span for each power supply range.		
<b>Power Line Fuse</b>	160mA fuse is installed (standard).		
<b>Power Consumption</b>			
Power	100-240V AC	24V DC	100-240V DC
	5.0VA max	1.5W max	5.8W max

**INPUT SECTION**

<b>Input Signal</b>	4 to 20mA DC from 2-wire transmitters
<b>Input Resistance</b>	250Ω
<b>Transmitter Power Supply</b>	Output voltage: 26.4V, typical. with 0% input 21.6V, typical. with 100% input (Output 2: short) Maximum current: 22mA, typical.
<b>Limit Current for Short-Circuit Protection</b>	40mA max.
<b>Permissible Short-Circuit Duration</b>	Continuous.

Note: If the transmitter power supply is used for sensor excitation, the sensor should be connected between the terminals INPUT (+) and OUTPUT-2 (-), while the OUTPUT-2 terminals (+) and (-) should be kept open.

**OUTPUT SECTION**

<b>Output Signal</b>	Output 1: 1 to 5V DC Output 2: 4 to 20mA DC
<b>Allowable Load Resistance</b>	Output 1: 250kΩ min. Output 2: 10Ω max. (Up to 260Ω is allowable if the plus and minus terminals of OUTPUT-1 are short connected.)

● PERFORMANCE

Accuracy Rating	Better than $\pm 0.1\%$ . (Accuracy of the shunt resistor)
Temperature Effect	Better than $\pm 0.03\%$ of span per $10^{\circ}\text{C}$ change in ambient. (Temperature coefficient of the shunt resistor)
Isolation	Isolation between [Input, Output 1, Output 2] and power.
Insulation Resistance	$100\text{M}\Omega$ min. (@ 500V DC) between [Input, Output 1, Output 2], power, and ground.
Dielectric Strength	[Input, Output 1, Output 2] / [Power, Ground]: 2000V AC for 1 minute (Cutoff current: 0.5mA) Power / Ground: 2000V AC for 1 minute (Cutoff current: 5mA)
Surge Withstand Capability	Tested as per ANSI/IEEE C37.90.1-1989.
Operating Environment	Ambient temperature: $-5$ to $55^{\circ}\text{C}$ Humidity: 5 to 90% RH (non-condensing)
Storage Temperature	$-10$ to $60^{\circ}\text{C}$

● PHYSICAL

Installation	Wall/DIN rail mounting
Wiring	M3.5 screw terminal connection (with a power terminal block cover & drop-proof screws)
Screwing Torque	0.8 to 1.0 [Nm] * Recommended
External Dimensions	W29 x H86 x D125 mm (including the mounting screw and socket)
Weight	Main unit: 110g max. Socket: 80g max.

● MATERIAL

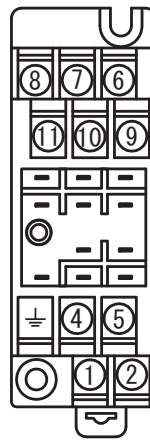
Housing	ABS resin (UL 94V-0)
Terminal Block	PBT resin (UL 94V-0)
Terminal Block Cover	PC resin (UL 94V-2)

DIN Rail Stopper	PP resin (UL 94HB)
Screw Terminal	Nickel-plated steel
Contacts Material and Finish	Brass with $0.2\mu\text{m}$ gold plating
Printed Circuit Board	Glass fabric, epoxy resin (FR-4: UL 94V-0)

● STANDARDS CONFORMITY

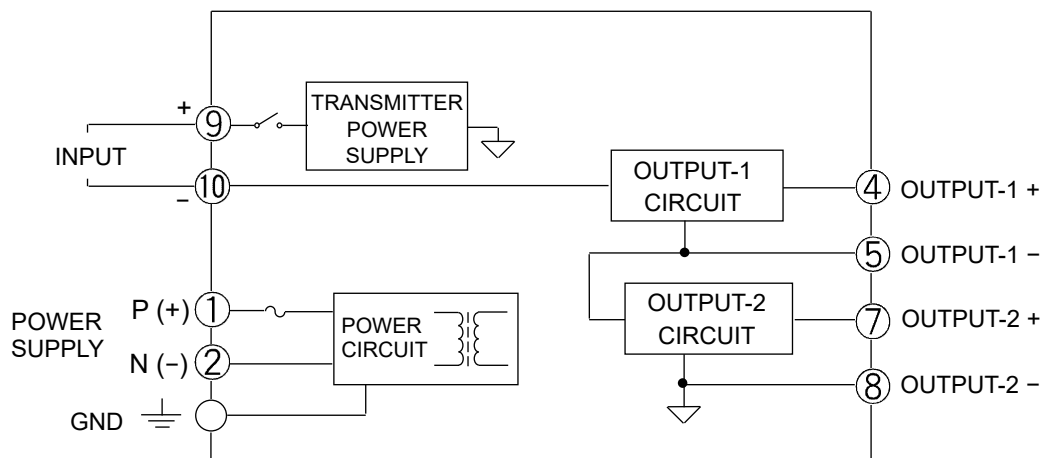
EC Directive Conformity	EMC Directive (2014/30/EU) EN61326-1:2013 Low Voltage Directive (2014/35/EU) IEC61010-1 EN61010-1:2010/A1:2019 Installation Category II Pollution Degree 2 Maximum operating voltage 300V Reinforced insulation between [input/output/GND] and power.
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TERMINAL ASSIGNMENTS



①	P (+)	POWER
②	N (-)	
③	GND	
④	+ OUTPUT 1	
⑤	- OUTPUT 1	
⑥	N.C.	
⑦	+ OUTPUT 2	
⑧	- OUTPUT 2	
⑨	+ INPUT	
⑩	- INPUT	
⑪	N.C.	

BLOCK DIAGRAM



Note: If the OUTPUT-1 is only used for distributor applications, the OUTPUT-2 terminals #7 and #8 should be short connected. If these terminals are open, the OUTPUT-1 gives no output.