

Isolator (Model 9000U)



Masibus Signal Isolator Model 9000U is a rugged 4 wire isolator designed to accept custom-built and wide range of voltage and current input signals. Signal is then isolated and converted to standard instrumentation signals, acceptable to commercially off the shelf (COTS) automation products.

Masibus' Signal Isolator Model 9000U enables analog signals to transmit without galvanic connections between the field and the receiving instrument. This in turn allows ground or reference levels to float up to thousands of volts at its input terminals, and prevents circulating current between differing ground potentials that can contaminate input signal. Model 9000U will isolate the contaminated signal to a clean signal for accurate measurement and control application.

Isolation provided by Masibus Model 9000U saves the control system from damage due to accidental application of high voltage or induced voltages on the input signal and in turn avoids wrong output signals to process. They also act as signal distributors when used with more number of outputs. Model 9000U series is available with multiple outputs up to 2 nos for signal distribution. A typical application could be where the signal has to be distributed for indication on local panel/ field control room/ main control room and DCS system. The Isolator provides a good protection for sensitive system parts against voltage spikes etc.

Model 9000U offers a wide range of input/ output signal types include mA, mV, VDC. Built-in transmitter power supply (TPS) can drive field transmitters in case of 4-20mA DC input. Model 9000U offers excellent accuracy and stability for reliable operation in hostile environments and full isolation safely separates each input channel, each output channel and the power supply.

Features

- *Rugged & accurate 4 wire isolator*
- *Three port isolation*
- *Accepts non-std signal input option*
- *Input:*
 - *Voltage $\pm 10\text{mV}$ to $\pm 600\text{VDC}$*
 - *Current $\pm 1\text{mA}$ to $\pm 100\text{mA}$*
- *Mains/DC operated*
- *Up to 2 outputs of different types available*
- *DIN rail/back panel mounted*
- *Built in transmitter powering*
- *Duplex isolator version option*
- *Wide zero & span adjustment limits*

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9000U

TECHNICAL SPECIFICATIONS 9000U

Input	Refer Table 1
Input Impedance	For Current I/P 51Ω For Voltage I/P ≥ 5 MΩ
Power Supply	110VAC to 265VAC 45Hz to 65Hz Std. 18VDC to 36VDC on request.
Power Consumption	Less than 10VA
Output	Refer Table 1
Auxiliary Output	Transmitter Power Supply 24VDC Preferred Max load: 1.2KΩ Max current Limit: 26mA Electronic
Isolation	1.5KV AC between Input to Output 1 Input to Output 2 Output 1 to Output 2 Input to Power Output 1 to Power and Output 2 to Power
Accuracy	± 0.1% of FS
Humidity	Upto 95% RH (Non-Condensing)
Ambient Temperature	0 to 55 C
Temperature Coefficient	<100ppm
CMRR	>100dB
NMRR	>70dB
Mounting	DIN RAIL (35 mm) Mounting
Load Resistance	The table below shows corresponding load according to current or voltage ratings.
Load Resistance	O/Ps
750Ω	0mA to 20mA and 4mA to 20mA
910Ω	-10mA to +10mA
9.1KΩ	-1mA to +1mA and 0mA to 1mA
200Ω	0V to 1V, 0V to -1V, -1V to 0V, 1V to 0V, -1V to 1V and 1V to -1V
1KΩ	0V to 5V, 0V to -5V, 5V to 0V, -5V to 0V, -5V to +5V and +5V to -5V
1.5KΩ	10V to 0V, -10V to 0V, 0V to 10V, 0V to -10V, -10V to 10V and 10V to -10V
Size	
Upto Two Outputs	55mm x 75mm x 110mm

TABLE 1

Type of signal	Inputs	Outputs
Unidirectional Increasing Voltage	0 to 10mV	0 to 1V
	0 to 50mV	0 to 1V
	0 to 100mV	0 to 5V
	0 to 1V	0 to 5V
	0 to 5V	0 to 10V
	0 to 10V	0 to 10V
Unidirectional decreasing Voltage	0 to -10mV	0 to -1V
	0 to -50mV	0 to -1V
	0 to -100mV	0 to -5V
	0 to -1V	0 to -5V
	0 to -5V	0 to -10V
	0 to -10V	0 to -10V

TABLE 1 (Cont.)

Positive Unidirectional decreasing Voltage	+10mV to 0	+1V to 0
	+50mV to 0	+1V to 0
	+100mV to 0	+5V to 0
	+1V to 0	+5V to 0
	+5V to 0	+10V to 0
Negative Unidirectional decreasing Voltage	+10V to 0	+10V to 0
	-10mV to 0	-1V to 0
	-50mV to 0	-1V to 0
	-100mV to 0	-5V to 0
	-1V to 0	-5V to 0
Bi directional increasing Voltage	-5V to 0	-10V to 0
	-10V to 0	-10V to 0
	-10mV to +10mV	-1V to +1V
	-50mV to +50mV	-1V to +1V
	-100mV to +100mV	-5V to +5V
Bi directional decreasing Voltage	-1V to +1V	-5V to +5V
	-5V to +5V	-10V to +10V
	-10V to +10V	-10V to +10V
	+10mV to -10mV	+1V to -1V
	+50mV to -50mV	+1V to -1V
Unidirectional Increasing current	+100mV to -100mV	+5V to -5V
	+1V to -1V	+5V to -5V
	+5V to -5V	+10V to -10V
	+10V to -10V	+10V to -10V
	0mA to 1mA	0mA to 20mA
Bi directional Increasing Current	0mA to 20mA	4mA to 20mA
	4mA to 20mA	4mA to 20mA
	-1mA to +1mA	-1mA to +1mA
Bi directional Increasing Current	-5mA to +5mA	-10mA to +10mA
	-10mA to +10mA	-10mA to +10mA
	+1mA to -1mA	+1mA to -1mA
Bi directional Increasing Current	+5mA to -5mA	+10mA to -10mA
	+10mA to -10mA	+10mA to -10mA

ORDERING CODE

Model 9000		Input Type		APS		No of O/P & type	
X		XX		X	X	X	X
C	4-20mA	U1	110-265 VAC	1	One	1	4-20mA
D	0-20mA	U2	18-36 VDC	2	Two	2	0-20mA
E	1-5VDC					3	1-5VDC
F	0-5VDC					4	0-5VDC
G	0-10VDC					5	0-10VDC
S	Special					S	Special

X - Specify from table

S - Specify from table 1

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