masibus

9000U

Signal Isolator

Single/Dual/ Three/Four Output

Masibus signal isolator is a rugged 4 wire isolator available in compact DIN rail mounting enclosure designed to accept custom built and wide range of voltage and current input signals. Signal is isolated and converted to standard instrumentation signals compatible to commercially off the shelf (COTS) automation products.

9000U is available in two models, Single/Dual output and Three/Four output. Masibus' Signal Isolator Model 9000U provides galvanic isolation between field signals and receiving instrument, this in turn rejects any common mode voltage at field side and prevents ground loop problems. The isolator also protects expensive systems from high voltage faults on the field side.

With multiple outputs this model also acts as signal distributors. 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. 9000U is compatible with both 2 wire and 4 wire transmitters and has built-in transmitter power supply to power 2 Wire field transmitters.

Model 9000U offers a wide range of input/ output signal types which includes mA, mV, VDC. Model 9000U offers excellent accuracy and stability for reliable operation in hostile environments and offers full 3 port isolation between input, output and power supply.

Each channel zero and span calibration is adjustable by multi-turn potentiometers; the unit can accept a wide range of Aux. power from 90 to 265V AC or 18 to 36V DC.

Model 9000U is designed for easy customization and can be customized to signals levels from mV to Volts both at input and output side.

Features

- Rugged & accurate 4 wire isolator
- Three port isolation
- Universal AC/ DC Aux. supply
- Upto 4 outputs of different types available
- Wide zero & span adjustment limits
- 2KV AC Isolation between I/P, O/P and supply
- All standard current/voltage input/output options
- Non-standard input/output options also available
- Compact DIN rail enclosure
- Excellent long term stability
- High CMRR and NMRR

Applications

- Field Interface device
- Isolation of field signals
- Distribution of signals
- Translation of signals
- Factory automation
- SCADA
- DCS
- Impedance matching of transmitters and receiver instruments
- Powering of Field Transmitters

TECHNICAL SPECIFICATIONS

Input	
Input type	Voltage/ Current/ Potentiometer
Input Range Voltage Current Potentiometer	 Min: 0 to ±10mV to Max: 0 to ±600VDC Min: 0 to ±1mA to Max: 0 to ±100mA 0 to 10K Ω
Input Impedance Current Input Voltage Input	 51 Ω > 1M Ω
Temperature Coefficient	< 100ppm/°C
CMRR	> 100 dB
NMRR	> 70 dB

Output	
Output Type	Voltage/ Current
Input Range Voltage Current	 Min: 0 to ±100mV to Max: 0 to ±10VDC Min: 0 to ±1mA to Max: 0 to ±10mA/+20mA
Response Time	< 50ms
Accuracy	± 0.1% of FS
Load Resistance mA Output V Output	 Load Voltage <15V Load Current < 5 mA
Transmitter Power Supply	24V DC
Max Current Limit	26mA Electronic

Power Supply	
Voltage	90V AC-265V AC, 45Hz-65Hz / 110V DC-300V DC 18V DC-36V DC (Optional)
Power Consumption	< 10VA
Power Dissipation	1.5W (Typical)

Isolation (Withstanding voltage)
Between primary terminals* and secondary terminals**: **At least 2 KV AC for 1 minute**
Between primary terminals* and grounding terminal: **At least 2 KV AC for 1 minute**
Between grounding terminal and secondary terminals**: **At least 2 KV AC for 1 minute**
Between secondary terminals**: **At least 2 KV AC for 1 minute**
* Primary terminals indicate power terminals and relay output terminals.
** Secondary terminals indicate I/O terminals.
Insulation resistance: > 20MΩ@500 V DC between All terminals and grounding terminal.

Physical	
Mounting (mm)	DIN RAIL (35 mm) Mounting
Terminal Block	UL, CSA standard
Terminal Cable Size	2.5 mm^2
Enclosure	ABS
IP Rating	IP20
Size	
For SOP/DOP Model (mm)	75(H) x 55(W) x 110(D)
For TOP/FOP Model (mm)	75(H) x 100(W) x 110(D)
Weight	
For SOP/DOP Model	< 250 g
For TOP/FOP Model	< 450 g

Environmental	
Ambient Temperature	0 to 55 °C
Storage Temperature	0 to 85 °C
Humidity	30 to 95% RH (Non-Condensing)
Protection	Conformal Coating on PCB

Ordering Code for 9000U

Model		Input Type		Aux Power Supply		No of O/P		O/P type	
9000U	S	X		XX		X		X	
		C	4-20mA	U1	90-265 VAC	1	One	1	4-20mA
				U2	18-36 VDC	2	Two		
						3	Three		
						4	Four		

Model		Input Type		Aux Power Supply		No of O/P		O/P type-1		O/P type-2		O/P type-3		O/P type-4	
9000U	M	X		XX		X		X		X		X		X	
		C	4-20mA	U1	90-265 VAC	1	One	1	4-20mA	0	None	0	None	0	None
		D	0-20mA	U2	18-36 VDC	2	Two	2	0-20mA	1	4-20mA	1	4-20mA	1	4-20mA
		E	1-5VDC			3	Three	3	1-5VDC	2	0-20mA	2	0-20mA	2	0-20mA
		F	0-5VDC			4	Four	4	0-5VDC	3	1-5VDC	3	1-5VDC	3	1-5VDC
		G	0-10VDC					5	0-10VDC	4	0-5VDC	4	0-5VDC	4	0-5VDC
		S	Special					S	Special	5	0-10VDC	5	0-10VDC	5	0-10VDC
										S	Special	S	Special	S	Special

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Doc. Ref. 9000U/R2F/1116