



9000C

Signal Isolator

Single Output (SOP) Dual Output (DOP)

Slim. Isolated. Reliable

Masibus 9000C Signal Isolator is slim yet rugged 4 wire and 2 wire isolator used for reliable isolation and attenuation of industry standard field signals. 9000C is available in single or dual output models.

9000C has higher noise rejection ratio that ensures accurate and noise free signal conditioning. Its slim DIN rail mount design occupies less space and reduces cost of overall installation.

With DOP (AP only), this model also acts as signal distributor. A typical application could be where the signal has to be distributed for indication on local panel, field control room, main control room or DCS system. The Isolator provides good protection to sensitive system parts against voltage spikes etc.

Model 9000C (AP) has built-in Transmitter Power Supply (TPS) to drive field transmitters delivering 0/4-20 mA DC outputs signal. An exceptional feature of advanced extended universal power supply for the range of 20V to 265V DC or AC makes 9000C suitable for power supply range available in field thus providing easy installation.

9000C 'M' version model is further enhanced with switch selectable I/O configuration for I/O ranges 0/4-20mA, 0/1-5V and 0-10V. This feature allows user to have freedom to change 0/4-20mA, 0/1-5V and 0-10V I/O types, using switch available on side of device and with minor tuning using front accessible trim-pots, depending upon field requirements.

With 9000C 'L' LP Version, overall wiring can be reduced availing same performance and overall power consumption can be reduced.

Dedicated 9000C model with HART pass through feature, (available in AP only) compatible with 2 wire transmitter, allows user to configure HART compatible transmitters without disrupting HART signals and wirings.

Masibus' 9000C model offers excellent accuracy and stability for reliable operation in hostile environments and full isolation safely separates input channel, each output channel and the power supply.

Features

- Available in Aux Powered (AP) and Loop Powered (LP) options
- Slim DIN rail mount design of 12.5mm for single output and 17.5mm for dual output
- Rugged & accurate 4 wire and 2 wire Isolator
- Switch option for 0/4-20mA, 0/1-5V and 0-10V/I/O selection
- Extended universal power supply range: 20V to 265V DC or AC (Aux powered model)
- Full three port isolation
- Up to 2 outputs with short circuit protection
- High CMRR and NMRR
- Lowest long term drift
- Available with EMI-EMC compliance (optional)
- High output load driving capability
- Wide zero & span adjustment limits
- Front calibration facility via multiturn trimpot
- HART pass through feature (optional, available in AP compatible with 2 wire transmitter)

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		Power Supply	
Input Type	Voltage / Current	AP Model	20 to 265V DC/AC 50-60Hz, <3W SOP, <5W DOP model
Input Range	'L' Version: 4-20mA	LP Model	10 to 36VDC with reverse polarity protection
	'S' Version: 4-20mA	Isolation	
	'M' Version: 0/4 to 20mA, 0/1 to 5V, 0 to 10VDC (DIP switch selection)	9000C Aux Powered Model	
Input Impedance	'H' Version: 4-20mA, HART Pass	Between power to Input and Output	
	Current Input	• Reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 3KVAC (For CE marked 9000C SOP 'S' and 'M' model)	
Voltage Input	≤100 Ω (LP) ≤10 Ω (AP)	• Galvanic Isolation of 3KVAC for 1 minute (For CE marked and Non-CE model)	
Temperature Coefficient	≥1 MΩ	Between Input to Output	
CMRR	≤100 ppm/°C	• Functional insulation according to IEC/EN 61010-1, rated insulation voltage 1.5KVAC (For CE marked 9000C SOP 'S' and 'M' Model)	
NMRR	>100 dB	• Galvanic Isolation of 1.5KVAC for 1 minute (For CE marked and Non-CE model)	
	>70 dB	Between Output to Output	
Output		• Galvanic Isolation of 1.5KVAC for 1 minute (For Non-CE DOP model)	
Output Type	Voltage / Current	9000C-L Loop Powered Model	
LP Model	'L' Version: 4-20mA	• Galvanic Isolation of 1.5KVAC for 1 minute between Input and Output	
AP Model	'S' Version: 4-20mA	Physical	
	'M' Version: 0/4 to 20mA, 0/1 to 5V, 0 to 10VDC (DIP switch selection)	Mounting Type	DIN Rail (35 mm)
	'H' Version: 4-20mA HART Pass on o/p-1, 4-20mA Standard on o/p-2	Terminal Block	UL, CSA standard
	Response Time	Terminal Cable Size	2.5 mm ²
Accuracy	≤50ms	Enclosure Material	PA66
Output Load (LP)	± 0.1% of FS	IP Rating	IP20
Output Load (AP)	Output Load (LP)	Size	
	RLoad = [(Loop Supply Voltage - 10)/0.021]Ω	SOP Model (in mm)	12.5(W) x 100.2(H) x 115.2(D)
	mA: Load Voltage ≤15V (e.g. for 4-20mA: 15V/20mA ≤ 750Ω)	(AP & LP Model)	
V: Load Current ≤5 mA (e.g. for 0-5V: 5V/5mA ≥ 1 KΩ)	DOP Model (in mm) (AP Model)	17.5(W) x 100.2(H) x 115.2(D)	
For 4 to 20mA (HART Pass): ≤ 600Ω	"H" Version- SOP/DOP Models (in mm)	17.5(W) x 100.2(H) x 115.2(D)	
Output Loop Status LED	Green (AP, "S" version only)	Weight	
Transmitter Power Supply (AP only)	24VDC (±10%) @26mA (Max Current Limit)	SOP Model (AP & LP Model)	100 gms approx
		DOP Model (AP Model)	130 gms approx
		"H" Version	130 gms approx
		Environmental	
		Operating Temperature	0 to 55 °C
		Relative Humidity	30 to 95% RH (Non-Condensing)
		Protection	Conformal coating on PCB
		Directive Conformity	
		Electromagnetic Compatibility Directive 2014/30/EU	*IEC 61326-1 :2012
		Low Voltage Directive 2014/35/EU	*IEC 61010-1 :2010
		*Applicable only for CE marked 9000C SOP Aux Powered 'S' and 'M' Model.	

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AUX-POWERED MODELS

Model	Input Type	No of O/P	O/P Type	CE Compliance					
9000C	S	X	X	X					
		C	4-20mA	1	One	1	4-20mA	N	NO
					2	Two		Y	YES*

Model	Input Type	No of O/P	O/P Type-1	O/P Type-2	CE Compliance						
9000C	M	X	X	X	X						
		C	4-20mA	1	One	1	4-20mA	0	None	N	NO
		D	0-20mA	2	Two	2	0-20mA	1	4-20mA	Y	YES*
		E	1-5VDC			3	1-5VDC	2	0-20mA		
		F	0-5VDC			4	0-5VDC	3	1-5VDC		
		G	0-10VDC			5	0-10VDC	4	0-5VDC		
						5	0-10VDC				

Model	Input Type	No of O/P	O/P Type				
9000C	H	X	X				
		C	4-20mA	1	One	1	4-20mA
				2	Two		

*CE Compliance is available in SOP (Single Output) models only. It is not applicable for DOP (Dual Output) and HART Pass models.

LOOP POWERED MODEL

Model	Input Type	O/P Type-1	
9000C	L	X	X
		C	4-20mA