masibus

9000C

Improved Specifications

Signal Isolator

Single (SOP) & Dual (DOP) Output
Aux (AP) & Loop (LP) Powered

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, also with aux or loop powered.

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.

DOP (AP) 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 2Wire field transmitters. An exceptional feature of extended universal power supply for the range of 20V to 265V DC or AC makes 9000C suitable for any Aux power supply available in field and thus providing easy to stock and easy to install.

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 side DIP switches available on the device and with minor calibration using front accessible trim-pots, depending upon field requirements, truly one model for all signals and all applications.

With 9000C (LP) Version, overall wiring can be reduced delivering same performance and overall power consumption can be reduced.

Dedicated 9000C 'H' model with HART pass through feature (AP only) compatible with 2 wire transmitter, allows HART signals to pass through both ways, for online configuration and diagnostics of HART transmitters.

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 0-10VI/O selection
- Extended universal power supply range: 20V to 265V DC or AC (AP Model)
- Full three port isolation
- Up to 2 outputs with short circuit protection
- High CMRR and NMRR
- Negligible long term drift
- CE certified model option
- High output load driving capability
- Wide zero & span adjustment limits
- Front calibration facility via multi turn trimpots
- HART pass through model

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
Input Range	'L' Version: 4-20mA 'S' Version: 4-20mA 'M' Version: 0/4 to 20mA, 0/1 to 5V, 0 to 10VDC (DIP switch selection) 'H' Version: 4-20mA, HART Pass
Input Impedance	
Current Input	≤100 Ω (LP) ≤10 Ω (AP)
Voltage Input	≥1 MΩ
Temperature Coefficient	≤100 ppm/°C
CMRR	>100 dB
NMRR	>70 dB

Output

Output Type	Voltage / Current
LP Model	'L' Version: 4-20mA
AP Model	'S' Version: 4-20mA 'M' Version: 0/4 to 20mA , 0/1 to 5V, 0 to 10VDC (DIP switch selection) 'H' Version: 4-20mA HART Pass on o/p-1, 4-20mA Standard on o/p-2
Response Time	≤50ms
Accuracy	± 0.1% of FS
Output Load (LP)	RLoad = [(Loop Supply Voltage – 10)/0.021]Ω
Output Load (AP)	mA: ≤750Ω@20mA (SOP Model) ≤550Ω@20mA (DOP/HART Pass Model) V: Current≤5 mA (e.g. for 0-5V: 5V/5mA ≥ 1 KΩ)
Output Loop Status LED	Green (AP, "S" version only)
Transmitter Power Supply (AP only)	24VDC (±10%) @20mA (SOP) 22VDC (±10%) @20mA (DOP)

Power Supply

AP Model	20 to 265V DC/AC 50-60Hz, ≤3W
LP Model	10 to 36VDC with reverse polarity protection

Isolation

9000C Aux Powered Model

Between power to Input and Output
- Reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 3KVAC (For CE marked 9000C SOP 'S' and 'M' model)
- Galvanic Isolation of 3KVAC for 1 minute (For CE marked and Non-CE model)

Between Input to Output
- Functional insulation according to IEC/EN 61010-1, rated insulation voltage 1.5KVAC (For CE marked 9000C SOP 'S' and 'M' Model)
- Galvanic Isolation of 1.5KVAC for 1 minute (For CE marked and Non-CE model)

Between Output to Output
- Galvanic Isolation of 1.5KVAC for 1 minute (For Non-CE DOP model)

9000C-L Loop Powered Model
- Galvanic Isolation of 1.5KVAC for 1 minute between Input and Output

Physical

Mounting Type	DIN Rail (35 mm)
Terminal Block	UL, CSA standard
Terminal Cable Size	2.5 mm^2
Enclosure Material	PA66
IP Rating	IP20
Size	
SOP Model (in mm) (AP & LP Model)	12.5(W) x 100.2(H) x 115.2(D)
DOP Model (in mm) (AP Model)	17.5(W) x 100.2(H) x 115.2(D)
"H" Version- SOP/DOP Models (in mm)	17.5(W) x 100.2(H) x 115.2(D)
Weight	
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.

ORDERING CODE

AUX-POWERED MODELS

Model		Input Type		No of O/P		O/P Type		CE Compliance	
9000C	S	X		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	
9000C	H	X		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.

Model		Input Type		No of O/P		O/P Type-1		O/P Type-2		CE Compliance	
9000C	M	X		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		

LOOP POWERED MODEL

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

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