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masibus



1008S



1008S-XP

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Flow Indicator-Totalizer

Masibus' Model 1008S/1008S-XP has features and performance you will find only in high end flow computers, like high accuracy, high resolution, PT compensation and fast sampling to measure and totalize with precision even fast changing flow rates. The unit has a 5-digit flow rate display and an 8-digit batch total/ integrated total display with rollover counts. All totalized data and configured parameters are stored in non-volatile memory and retained during power off and power disruptions. Model 1008S is available in panel mount option, whereas 1008S-XP is available in Ex-proof, wall mount dual compartment enclosure having touch sensitive keys for operation.

Flow totalizer has optional four relays, 2 for flow rate and 2 for batch total, the flow rate relays can be setup for high/low alarm and the batch total relays for pre and final batch total. 1008S also has optional four digital inputs to operate the totalizing function remotely. RS-485 and flow rate Re-transmission option allows easy interface with PLC/DCS/SCADA systems. A selectable square root extractor function enables compatibility with DP transmitters without built-in square root extractor.

Flow totalizer is field selectable for mA/V DC or frequency flow rate input signal, for 4-20mA 2 wire transmitter it has a 24V DC transmitter supply as a standard, the input signal can be scaled from 0 to 30000 engineering value and the time base is selectable from sec./min./hour/day, for frequency input the K factor is user programmable, the unit also has an option to accept 2 more dc signals for pressure and temperature compensation for liquid/gas flow, saturated steam or super heated steam measurement.

Features

- Input selectable from current, voltage & frequency
- Available in two options
  - 1008S: Panel mount
  - 1008S-XP: Wall mount, dual compartment, Ex-proof (IP65, Gas group, IIA/IIB) with touch sense keys
- Square root extractor
- 5 Digit flow rate & 8 digit batch/ integrated total with rollover count
- Programmable K factor for freq input
- Programmable low/zero cutoff facility
- 8-Digit totalizer with password protected resetting
- Programmable time base day/hr/min./sec.
- Programmable zero flow rate
- Pulse output
- Mass flow measurement with additional pressure and temperature I/P
- Gas/ liquid flow measurement
  - Superheated steam flow measurement
  - Saturated steam flow measurement
- Options:
  - DI inputs for remote operation
  - Mass flow measurement
  - 4 Configurable relays for flow/batch
  - Retransmission output (Isolated)
  - RS-485 serial communication (Isolated)

Applications

- Monitoring and controlling continuous and batch flow processes like:
  - Mixing operation in chemical/Pharma
  - Fuel consumption
  - Custody transfer
  - Energy management
  - Batch filling
- Receiver instrument for turbine, PD & magnetic pickup flow elements

TECHNICAL SPECIFICATIONS

Input

Input 1	
Current	0/4-20mA
Voltage	0/1-5V DC
ADC Resolution	16 bits
Sampling Speed	10 Samples/sec.
Input Impedance	
Current Input	250 Ω
Voltage Input	> 300K Ω
NMRR	> 50dB
CMRR	> 100dB
Time Base Accuracy	100 ppm
Measurement Accuracy	0.025% FS [For current / voltage]
Polarity Protection	Provided
Temp-co	100 ppm
Frequency Input*	0-10KHz *Max. pulse level<=24V, min. pulse level > 5.0V
Input 2 (Optional)	
Current	0/4-20mA
Voltage	0/1-5V DC
Measurement Accuracy	0.025% FS [For current / voltage]
Purpose	Pressure/temperature compensation for standard vol. flow/mass flow
Input 3 (Optional)	
RTD	100.0 – 235.0 °C
Resolution	0.1 °C
Accuracy	0.25%
Digital Input (Optional)	
No. of Channels	4 Nos.
Input Type	Dry contact/open collector
Exc. Voltage/Current	12V DC@10mA
Input Function	Stop batch, Integration total zero, start batch, batch total zero

Display & Keys

Process Value	0.56" 5 Digit, 7 segment RED LED
Total/Int. Value	0.4" 8 Digit, 7 segment RED LED
Rate Indication Range	Range programmable 0-30000
Totalizing Range	0-99999999
Decimal Point	Adjustable
Resolution	1 Count
Keys	Stop, start, escape & enter

Special Features

Batch/Integrated Total Reset	Front key (Password protected)
Time Base for Totalizer	Programmable (day / hr /min. / sec.)
K Factor Function	Yes (Frequency I/P)
Square Root Extraction	For differential pressure transmitter
Memory/Data Storage	NVRAM/EEPROM. Data will not be lost when power off, can hold for 10 years
Mass Flow Measurement	With two extra compensating I/P for pressure and temperature

Output

Relay (Optional)	
2 Relays	Programmable for flow rate or batch alarm
4 Relays	2 Relays programmable for flow rate alarm & 2 Relays programmable for batch alarm
Contact Type	C-NO-NC Single change over
Rating	250V AC/30V DC@2A
Retransmission (Optional)	
Type	Isolated 4-20 mA DC @ 500 Ω
Accuracy	0.25% of FS +1 count
Serial Communication (RS485) (Optional)	
Baud Rate (bps)	9600/19200, Programmable
Protocol	Modbus-RTU
Data Pattern	N, 8,1
Transmitter Power Supply	24V DC ±5% @ 50 mA

Power Supply

Power Supply	85-265V AC @ 50Hz (Standard) 24V DC ±10% (Optional)
Power Consumption	<10 VA

Isolation (Withstanding voltage)

Between primary terminals* and secondary terminals**: **At least 1500 V AC for 1 minute**
Between primary terminals* and grounding terminal: **At least 1500 V AC for 1 minute**
Between grounding terminal and secondary terminals**: **At least 1500 V AC for 1 minute**
Between secondary terminals**: **At least 500 V AC for 1 minute**
* Primary terminals indicate power terminals and relay output terminals.
** Secondary terminals indicate analog/digital I/O and Communication O/P.
Insulation resistance: 50MΩ or more @ 500V DC between power terminals and grounding terminal.

Physical

	1008S	1008S-XP
Mounting Type	Panel	Wall mount using 4 nos. of M8 size bolts
Dimension (mm)	96(H)x96(W)x125(D)	340(H) X 186(W) X 110(D)
Panel Cut-out (mm)	92(H) X 92(W)	NA
Weight	500 grams	6 Kgs
Ingress Protection	IP20	IP65
Area Classification	Safe	Zone 1 & 2, Gas group: IIA & IIB
Enclosure Type	ABS Plastic	Explosion proof, aluminum alloy LM-6, Ex-d, dual compartment
Electrical Connection/ Cable Entry Size	2.5mm² / screwed	3/4" ET – 5 nos.

Environmental

Operating Temperature	0 to 55 °C
Storage Temperature	0 to 80 °C
Operating Humidity	30 - 95%RH (Non condensing)
Warm-Up Time	>10 min

Ordering Code

Model	Input Types	Digital Input	Power Supply	Communication	Relay	Retransmission O/P	Type of Flow Measurement	No of extra Glands (only for 1008S-XP)#
1008S	X	X	XX	X	X	X	XX	X
1008S-XP	C 4-20mA	N None	A1 85-265V AC	N None	N None	N None	N None (with single I/P)	N None
	D 0-20mA	Y Yes	A3 24V DC	2 RS485	2 2 Relays	Y Yes	PT PT Compensated liquid/ gas flow	1 1 extra gland
	E 1-5V DC				4 4 Relays		SS Saturated steam flow	2 2 extra glands
	F 0-5V DC						SH Super heated steam	3 3 extra glands
	G 0-10V DC							
	N 0-10 KHz							
	S Special*							

X – Specify from table
*Consult factory

Standard Accessory

2 nos mounting clamps alongwith 1008S model
2 nos 3/4" ET Cable glands and 3 blind plugs alongwith 1008S-XP model

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All specifications are subject to change without notice due to continuous improvements.
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