

## Flow Indicator Totaliser (Model 1006)



Masibus' Model 1006 is a panel mounted rate totalizer with separate rate and total displays. When connected with a 4/20mA flow transmitter, Model 1006 will display the rate of flow in engineering unit and total flow in the same or different engineering unit. If the loop is disconnected or auxiliary power fail, the displayed total and all programming parameters are stored in non-volatile memory, and are automatically recovered when the loop/auxiliary power is restored.

A selectable square root extractor function enables the output from a differential flow transmitter to be displayed in linear units. This facility can be enabled or disabled from front keys. When fitted with optional alarms, Model 1006 will detect high and low flow rates and can perform simple flow batching operations. The facility to program the batch warning point and end point simplifies the control of batch processes.

The unit has a 4-digit flow rate and a 6-digit batch total/ inventory-total display. If the integrated total exceeds 6 digits, the display rolls to zero and the number of such roll overs is recorded. The displays have floating decimal point position. The unit is also suitable to be used with flow transmitters having frequency output like turbine, PD, magnetic pick-up type of flow elements .

Model 1006 FIT is equipped with additional features like transmitter power supply to excite field transmitter, isolated retransmission output for recorder and serial communication on RS 485 over MODBUS RTU protocol for PC based data acquisition and reporting system.

This model is packaged in 96mm x 96mm x 175mm metallic enclosure with 92mm x 92mm panel cutout size. Model 1006 can also be packaged in weather proof IP 55 or flame proof housing with wall mounting facility.

## Features

- *Input selectable from current, voltage & frequency*
- *Square root extractor*
- *Transmitter Power Supply*
- *Separate rate and total displays*
- *6-digit totalizer with password protected resetting*
- *Programmable conversion factor*
- *Options :*
  - *Alarm / Batch relay output*
  - *Retransmission output (Isolated)*
  - *RS 485 serial communication*
  - *Weather proof/ flame proof enclosures*

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Advanced Automation - Sure Solutions

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## TECHNICAL SPECIFICATIONS 1006

<b>General</b>	
Power Supply	230VAC OR 115VAC +/- 10% @ 50Hz Terminal Selectable, Optional 24V DC
Power Consumption	<10 VA
Operating temperature	0 to 55 °C
Operating humidity	< 95%RH (non condensing)
Warm-up time	10 min
Isolation level	1500V DC
<b>Process Value</b>	
Measurement accuracy	± 0.25% of FS ± 1Digit - For I/P signal. ± (0.45% of totalised reading + 1Digit) – for Integrated / Batch total.
No. of signals	1(one)
Input specification	Linear 4-20 mA/ 1-5 V DC, 0-20 mA/ 0-5 V DC.  Frequency 0-10KHz Low level 0 to 1V, High level 5 to 15V
Input impedance	250 Ohms for Current I/P 20K Ohms for Voltage Input
Polarity protection	Provided
Temperature drift	<0.001%FS/ °C
Digital Input	1 no. (Optional)
Instrument display	ZERO Value upon Input signal open or short connection
Digital Calibration	Front keys
<b>Set value</b>	
Setting method	Instrument keypad
Reset	Through Front Key password protected
Time Base for Totalizer	Programmable (Day / Hr / Min / Sec)
K Factor Function	Yes (Option)
Square root extraction	Yes
Memory/Data storage	Use EEPROM. Data will not be lost when power off, can hold for 10 years
<b>Display</b>	
Type & color	Numeric 7 Segment RED LED
Process Value	0.56" 4 Digit
Integrated (Total) Value	0.56" 6 Digit

## TECHNICAL SPECIFICATIONS 1006

Alarm Relays/Comm. Status	2 discrete LEDs
Rate Indication Range	Range programmable 0-9999
Totalizer Range	0-999999
Decimal point	Adjustable
User interface	4 keys in front sealed membrane
Scan time	250 mS
<b>Output</b>	
Flow Alarms (Optional)	2 Relays rated 2A @ 230V AC
Batch Alarms (Optional)	2 Relays rated 2A @ 230V AC
Contact Type	C-NO-NC Single change over
Retransmission output (Opti.)	Isolated 4-20 mA DC @ 500 Ohms
Retransmission accuracy.	(0.25% of FS+1 count)
Transmitter Power Supply	24V DC ±5% @ 50mA
<b>Serial Communication (Optional)</b>	
Baud rate	110-9600 bps, MODBUS, Programmable
Connection	9 Pin D type
Transmission distance	Less than 1200m for RS485
Communication	Slave mode
Application software	Optional
Data pattern	N,8,1
Error correction method	16 bit CRC
Address range	1-99
<b>Physical</b>	
Mounting type	Panel
Bezel size	96mm(W) X 96mm(H)
Cut-out dimension	92mm(W) X 92mm(H)
Depth with terminals	175mm
Weight	Less than 2 Kg
Hazardous classification	Use in safe area / Ex-Proof - Group IIA/IIB
IP Class	Enclosure - IP20
Enclosure type	General purpose MS Powder coated
Protection ( Optional )	IP55 or Ex-Proof - Group IIA/IIB
Electrical connection	2.5mm <sup>2</sup> / Screwed
Std. accessories	Mounting clamps

## ORDERING CODE

Model	Input Type		Aux Power supply		Communication		Mounting		Auxiliary o/p		
<b>1006</b>	X		XX		X		XX		X	X	X
	C	4-20mA	A1	115VAC	N	None	P0	Panel	Flow relay	Batch relay	Retx
	D	0-20mA	A2	230VAC	2	RS485	W1	Wall-IP55	N	N	N
	E	1-5VDC	A3	24VDC			FP	Wall-FLP	N	N	Y
	F	0-5VDC							N	Y	N
	N	0-10 KHz (Lo level)							Y	N	N
	P	0-10 KHz (Hi level)							N	Y	Y
	S	Special range in 0-10KHz*							Y	N	Y
	T	Digital I/p									

X - Specify from table  
Y - Yes  
N - No  
N - No  
\* - Consult factory