

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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TECHNICAL SPECIFICATIONS

1006

General

| | |
|-----------------------|---|
| Power Supply | 230VAC OR 110VAC +/- 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 |

Process Value

| | |
|----------------------|--|
| Measurement accuracy | 0.25% FS +1 count |
| 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 |
| Digital filter | Yes (Option - consult factory) |

Set value

| | |
|-------------------------|--|
| 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 |

Display

| | |
|--------------------------|---------------------------|
| Type & color | Numeric 7 Segment RED LED |
| Process Value | 0.56" 4 Digit |
| Integrated (Total) Value | 0.56" 6 Digit |

TECHNICAL SPECIFICATIONS

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| | |
|---------------------------|---------------------------------|
| 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 |

Output

| | |
|-------------------------------|--------------------------------|
| 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 |

Serial Communication (Optional)

| | |
|-------------------------|------------------------------------|
| 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 | 0-31 |

Physical

| | |
|--------------------------|---|
| 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 ² / Screwed |
| Std. accessories | Mounting clamps |

ORDERING CODE

| Model | Input Type | Aux Power supply | | Communication | | Mounting | | Auxiliary o/p | | |
|-------------|----------------------------|------------------|--------|---------------|-------|----------|-----------|---------------|-------------|------|
| | | | | | | | | | | |
| 1006 | X | XX | | X | | XX | | X | X | X |
| | C 4-20mA | A1 | 110VAC | 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 |
| | T Special range in 0-10KHz | | | | | | | Y | N | Y |

X - Specify from table
Y - Yes
N - No

Authorized Dealer:

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All specifications are subject to change without notice due technology reasons.
Doc ref. CB-0/1006/R0/0308