

NUFLO™

# MC-III™ EXP Flow Analyzer

For state-of-the-art liquid and gas measurement with data logging and Modbus communications in an easy-to-use explosion-proof totalizer, nothing compares with the NuFlo MC-III EXP Flow Analyzer.

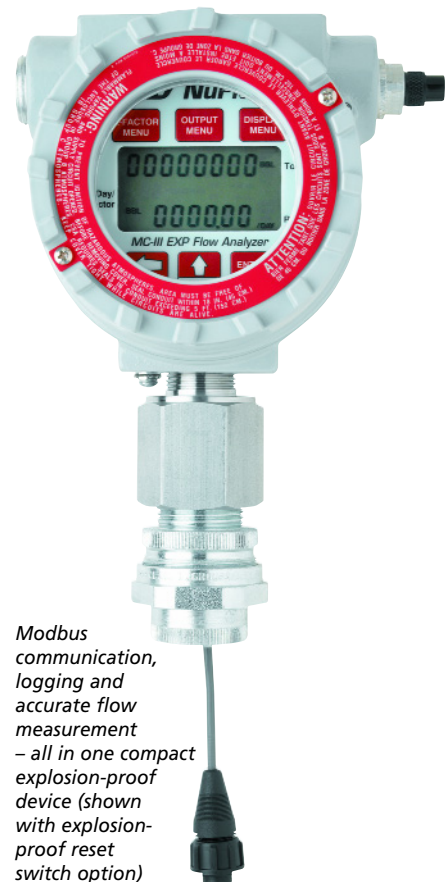
The MC-III EXP stores more flow logs and downloads them faster than any other flow analyzer on the market.

This powerhouse records up to 384 daily flow logs, 768 hourly logs, 345 event logs and downloads them to your computer via Modbus in less than a minute!

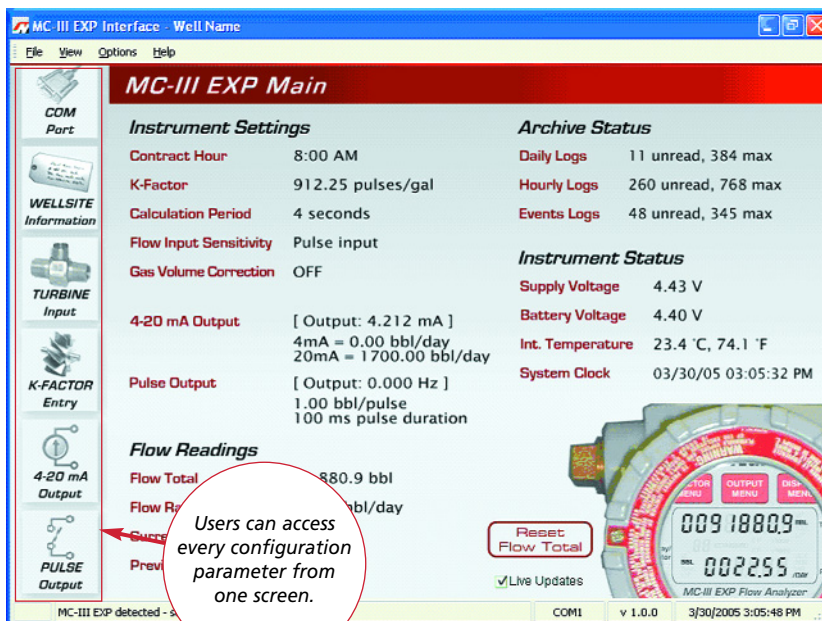
## Features

The MC-III EXP offers:

- RS-485 Modbus communications
- Extensive log archival capacity
- High-speed data downloads (less than a minute, based on 115K baud transfer speed)
- New interactive interface with a built-in "wizard" for quick and easy calibration and data access
- Simultaneous indication of rate and total
- Easy-to-read LCD displays
- Loop-powered analog output
- 12-point linearization
- Nonvolatile memory
- Password-protected security options
- Explosion-proof reset switch with daily log viewing capabilities (option)
- Intrinsically safe RS-485 output (option)



Modbus communication, logging and accurate flow measurement – all in one compact explosion-proof device (shown with explosion-proof reset switch option)



Interface software makes configuration quick and easy.

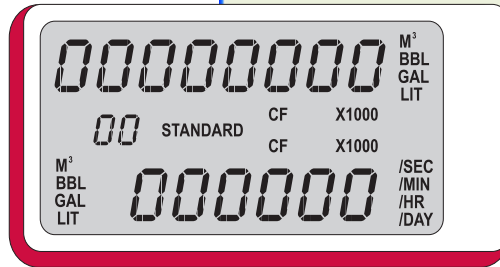
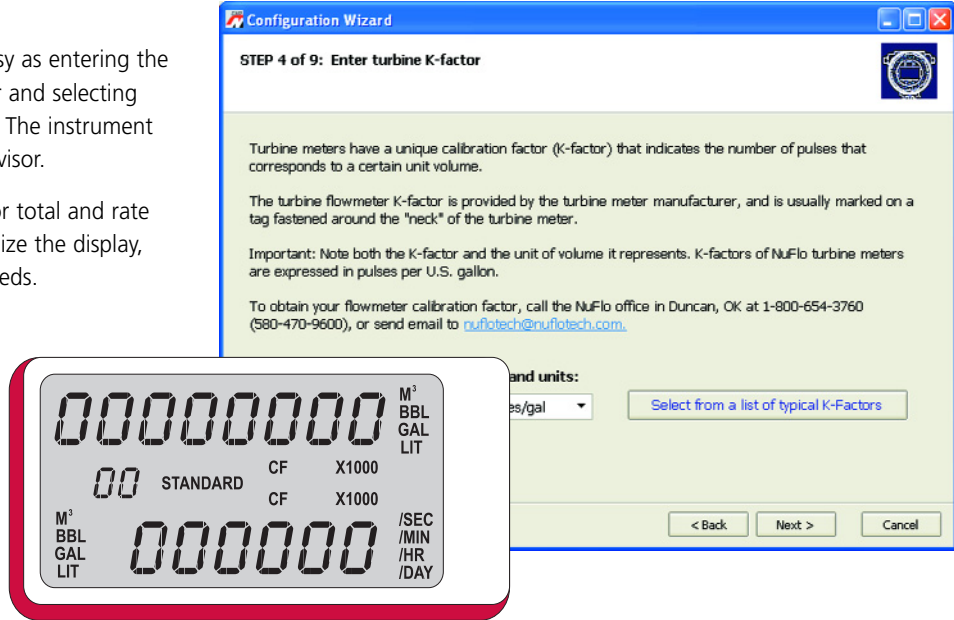
An all-new interactive software interface makes the MC-III EXP one of the easiest instruments to navigate and calibrate.

## Calibration

Calibrating the MC-III EXP is as easy as entering the calibration factor of the flowmeter and selecting the desired units of measurement. The instrument automatically calculates its own divisor.

The wide variety of unit options for total and rate gives users the freedom to customize the display, inputs, and outputs for specific needs.

With the built-in "wizard" that guides users step by step through the configuration process, even first-time users will get dependable results in just minutes.

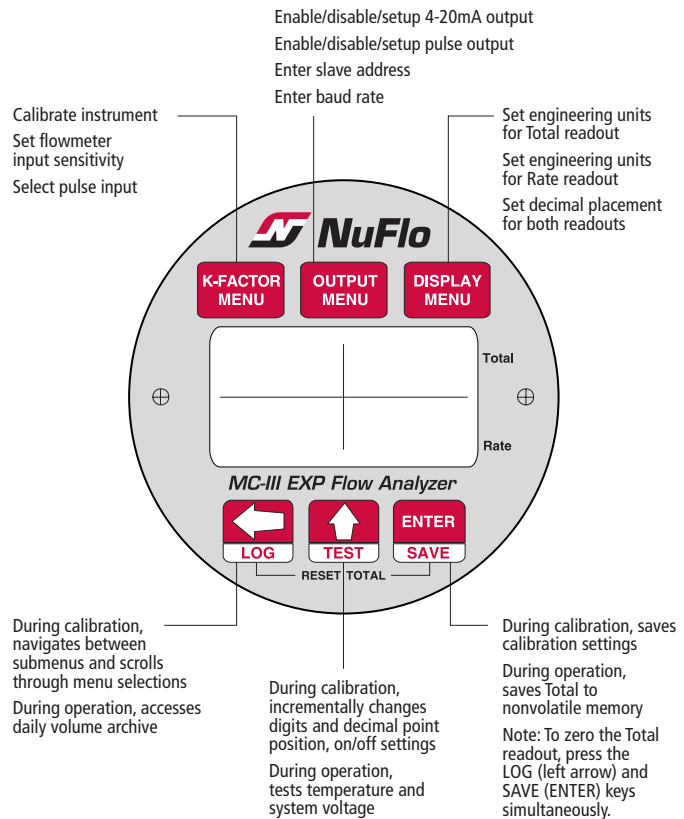
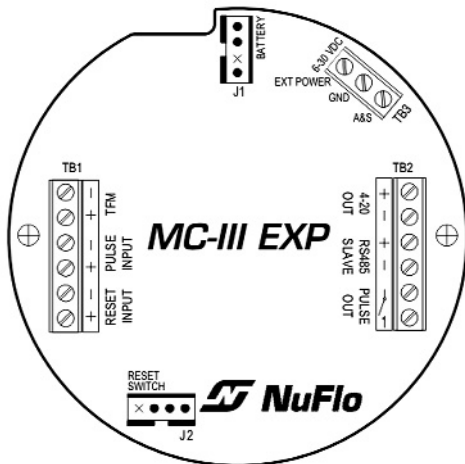


## Keypad Configuration

The MC-III EXP can be configured with either the software interface or the six-button keypad on the front of the instrument. Built-in shortcuts to common functions (see diagram at right) simplify configuration, reducing the user's time spent on-site.

## Inputs / Outputs

The MC-III EXP flow analyzer connects to a turbine meter or a pre-amplifier. Users can select a 4-20 mA output, a pulse output, or an amplified flowmeter frequency output that allows remote equipment to calculate flow rates and volume.



## Display

- 8-digit display of Total
- 6-digit display of Rate (11-segment characters for easy-to-read prompts)
- Character height - 0.300 in.
- Adjustable contrast and update period
- User-selectable units of measurement:
  - Total: bbl, gal, liters, cubic meters, cubic feet, standard cubic feet, user-defined units (and all units x 1000)
  - Rate: Any of the above Total engineering units per day, hour, minute, or second

## Calibration

- Liquid flowmeter: User enters calibration factor of meter and selects units of measurement
- Gas flowmeter: User enters calibration factor of meter, pressure and temperature parameters, and FPV via user interface software

## Power Supply Options

- 3.6 VDC lithium battery pack
  - 2-year typical life (main or backup power supply)
- Alkaline battery pack option (main or backup power supply)
- External power supply (6 to 30 VDC) with internal battery backup
- Loop-powered (4-20 mA output) with internal battery backup

## Environmental

### Operating Temperature Range

- -40°F to +158°F (-40°C to +70°C)
- LCD contrast is reduced below -20°C

## Certification

- CSA-approved for US and Canada
- Class 1, Div. 1, Groups B, C, D (explosion-proof)
- Type 4 enclosure
- T6 temperature class

## Communications/

### Archive Retrieval

- RTU mode Modbus
- Enron Modbus compliant

## Logging Capabilities

- 384 daily logs
- 768 hourly logs
- 345 event logs

## Inputs

### Turbine Meter Input

- Configurable sensitivity adjustment
- Frequency range: 0 to 3500 Hz

### Remote Reset Input

- Optically isolated
- Supply range: 3.0 to 30 VDC

### External Reset Switch (Option)

- Explosion-proof
- Daily log viewing capabilities

### Pulse Input

- Optically isolated
- Supply range: 3.0 to 30 VDC

## Outputs

### Analog Output

- 4-20 mA, loop-powered (two-wire)
- 16-bit resolution
- Accuracy: 0.1% of FS @ 25°C, 50 PPM/°C temperature drift
- Loop power: 8.0 to 30 VDC
- Zero and full-scale engineering values configurable from front panel

### RS-485 Communications

- Baud rates: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600 and up to 115.2K

### Volumetric Pulse Output

- Solid-state relay
- Output rating: 60 mA max @ 50 VDC
- Configurable pulse duration and scale factor

### Amp and Square Output

- Open-drain transistor output of turbine meter input signal
- Output rating: 50 mA @ 30 VDC (Analog output and amp and square outputs cannot be used simultaneously)

## Interface Software

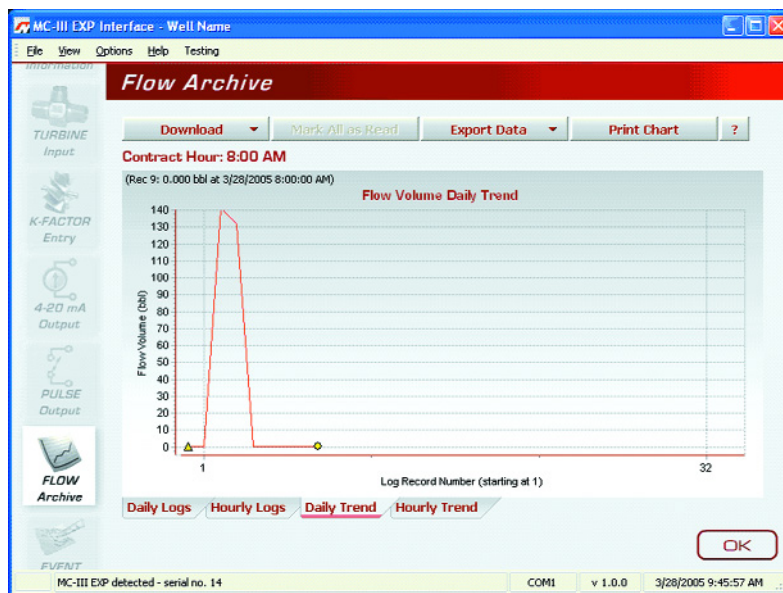
- Provided at no additional charge
- Complete configuration
- Real-time data
- Downloads
  - reports
  - charts
  - exports to .xls and .csv formats
- "Wizard" offers step-by-step calibration procedure
- Windows® 2000 or XP required

## Flow Logs

- Stores 384 daily logs, 768 hourly logs
- Allows printing of data in tabular and chart formats
- Exports data to spreadsheet (.xls and .csv formats supported)

## Event Logs

- Tracks user changes in up to 345 event logs
  - K-factor changes
  - Input setting changes
  - Power-on reset/"watch-dog" reset
  - Flow cutoff/ frequency cutoff
- Allows printing of tabular data
- Exports data to spreadsheet (.xls and .csv formats supported)



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