+ NUFLO MC Synergy Flow Totalizer

Condition-based monitoring. Made simple.

+

NUFLO MC Synergy Flow Totalizer. Setting new standards in condition-based monitoring.

Due to the breakthrough innovations of the MC Synergy Flow Totalizer, a powerful diagnostic tool historically available only with measurement technologies like Coriolis and Ultrasonics is now available for turbine meter flow measurement, at a fraction of the cost.

Sensia's newest totalizer fills this gap with a robust design that is affordable and easy to integrate into new or existing turbine installations.

ADJUST YOUR EXPECTATIONS WITH NUFLO MC SYNERGY FLOW TOTALIZER

With over 500,000 units installed, Sensia has a long history of raising the bar on performance expectations for digital totalizers. The NUFLO MC Synergy Flow Totalizer is no exception.

Never before has a digital flow totalizer offered operators such a game-changing feature set. When used with our QR code equipped NUFLO and BARTON liquid turbine meters and your smart phone or tablet, you can upload meter characteristics (including the multipoint calibration) wirelessly via Bluetooth.

Our complimentary Digital Data Plate app adds even more value by allowing you to configure many important parameters from your Apple or Android mobile device. Units of measure, display parameters, input types and sensitivity, health test parameters, serial ports, loop-powered analog out, HART communications, and more can be managed with the app. No PC required.

GET THE FULL PICTURE, FASTER

MC Synergy will monitor your turbine meter installation and can alarm and log abnormal conditions pertaining to the flow stream, the turbine meter, or MC Synergy itself.

The device will tell you when you are flowing outside the turbine meter's flow range (which can compromise accuracy or damage the meter). It will also alert you to vulnerabilities such as surging flow, erratic signals between the meter and the totalizer, and bent or broken rotor blades.

The device can even remind you to replace your meter's internals kit, and expertly predict the remaining life of your battery pack so you can proactively replace batteries based on need.

And there is much more, including embedded monitoring of turbine and system health, as well as eight user-configurable alarms, with over 30 selectable parameters.
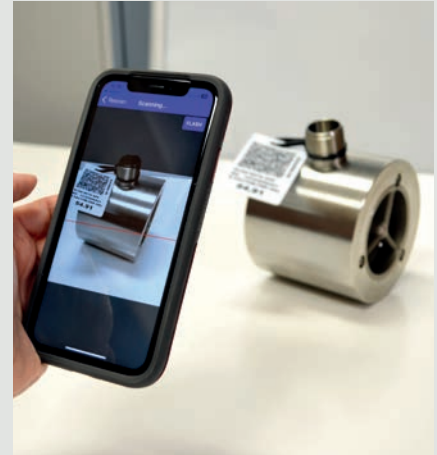
Easy to deploy, made to last.

Built for harsh environments, the EXP totalizer has an epoxy-coated low-copper aluminum housing suitable for CEC/NEC explosion-proof or ATEX/IECEx flameproof applications. For offshore installations, Sensia's all stainless-steel enclosure is an ideal option.

Alternatively, the WP totalizer has a weatherproof enclosure designed to deliver cost-savings in both purchase price and installation costs thanks to the utilization of non-arcing, non-heat producing and non-incendive protection techniques. This version offers North American CEC/NEC Division 2 hazardous location certification, easy access to the battery, and a head-tilt design for optimal display viewing.

CEC/NEC explosion-proof enclosure

ATEX/IECEx flameproof enclosure

Weatherproof enclosure

Features

+ User-configurable condition-based monitoring, logging and alarming
+ Wireless upload of calibration data and important parameters for Sensia turbine meters and internals kits
+ Dual RS485 Modbus communication ports
+ Dual digital outputs
+ Optional loop-powered analog output with HART communications
+ Optional Ethernet communications (Modbus TCP and Modbus over TCP)
+ Easy-to-read configurable LCD display

+ High-speed data downloads
+ MC-III compatible Modbus map
+ 12-point K-Factor and meter factor linearization
+ Password protected security for keypad, HART, and Bluetooth pairing
+ Large-capacity internal batteries provide two years' of autonomous operation
+ Battery monitor for current voltage and calculating remaining life
+ Real-time clock, backed by coin cell battery

+ Non-volatile memory
+ Complimentary app allows configuration via cell phone or tablet (Digital Date Plate)
+ Complimentary PC software allows configuration, online or offline (MC Synergy)
+ Complimentary PC software allows viewing of historical data, data exporting, and report creation (ScanData)
+ CEC, NEC, ATEX, and IECEx approvals

Upload meter data in seconds

The pioneering combination of the MC Synergy Flow Totalizer and our Digital Data Plate mobile app puts meter data at your fingertips. From your smartphone or tablet, simply scan the QR code attached to your Sensia turbine meter or internals kit. Your meter data uploads in seconds, error-free, with no internet connection required. You can then complete your device configuration.

FAST AND RELIABLE CONNECTION, IN THE FIELD AND IN THE OFFICE
Our PC-based interface can be downloaded from the Sensia website by as many users as you require. The program offers our most extensive configuration selections – including a Sensia first: offline configuration. Build your device configuration from the comfort of your office, then connect to the devices in the field and upload the data, limiting your exposure to HSE risks.

A SECURE AND RELIABLE AUDIT TRAIL
Before disconnecting, you can download data archives for a full audit trail in our secure SDF file format, which can't be manually manipulated like the CSV files used by other manufacturers.

View historical data in a tabular or graphical format using our complimentary ScanData software program. You can analyze process conditions and device operations, as well as review your current configuration.

INTERFACING WITH THE MC SYNERGY
The MC Synergy offers more methods to communicate than ever before. Choosing the best method depends on the task and preferences.

| Condensed list of information available by each communication method[1]	RS485, USB, or Ethernet	Local keys on the display	Bluetooth	HART
	MC Synergy PC program	Through the glass or cover off tactile	DDP iOS/Android App	HHC or data acquisition system
View real-time data	●	●	●	●
Configure display units, turbine input, reset total	●	●	●	●
Edit K-factors and meter factors, sync real time clock	●	●	●	●
Configure display items, analog out, serial ports	●	●	●	●
Configure HART, meter input type and signal sensitivity	●	●	●	●
Clear active alarms	●	●	●	
Import factory meter data			●	
Configure Ethernet, archive data, alarms	●			
Upgrade firmware, download data	●			

Note 1. The MC Synergy hardware installation, operation & maintenance manuals offer a greatly expanded list.

INTELLIGENT ACTION
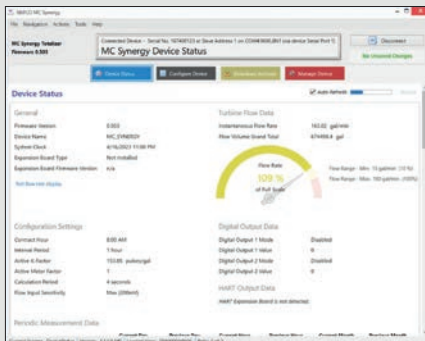
Cut time from detection to correction

When abnormal conditions occur, detection and response time are critical to maintaining measurement integrity. That's why our pioneering real-time condition-based monitoring helps you to respond quickly, dramatically reducing the time between detection and correction for conditions that would otherwise have remained unknown to the operator. These include physical damage (such as bent or broken blades), flow rates outside meter flow range, poor input signal, power loss, and much more. The result is a more efficient and sustainable operation.
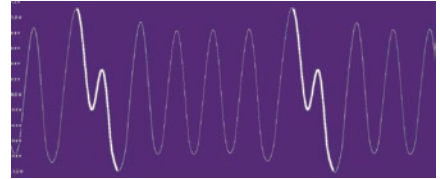
Turbine alarms

+ Flow rate outside of meter calibrated flow range (low or high)
+ Flow rate outside of meter operational flow range (low/low or high/high)
+ K-factor invalid
+ Flow stability warning (surging or slug flow)
+ Meter factor invalid
+ Erratic signal (electrical noise or weak signal present)
+ Bent blade (meters with flowrate size 1" and larger only)
+ Missing blade (meters with flowrate size 1" and larger only)
+ Replace internals kit (user-defined service interval exceeded)

System alarms

+ Time and date not set
+ External power supply failure
+ Expansion board power supply failure
+ Internal battery voltage low (BAT1 and BAT2)
+ Internal battery remaining life low (BAT1 and BAT2)

User-defined alarms

+ Create up to eight user configurable alarms from 35 variable items

Seamlessly connect to automation networks, including HART or Ethernet

We recognize that flexible connectivity is crucial for operators in many global markets. That's why we've made our device HART and Ethernet ready. Just add an expansion board to access this expanded connectivity.

The MC Synergy also retains the ability of the MC-III to communicate via Modbus (both Enron and RTU); however, the MC Synergy adds a second RS485 comm port, allowing for simultaneous communications to both an automation network and to a local comm port. The MC Synergy's Modbus map is backwards compatible with the MC-III, so replacement is essentially plug and play!

TAP-IN TO DUAL DIGITAL OUTPUTS
Two independently configurable digital outputs offer flexibility in monitoring flow. Configure a scaled pulse output that is proportional to the flow rate or retransmit the raw pulse signal from a turbine meter. Configure a status output to signal an alarm condition. Enable embedded turbine and system alarms or configure your own custom alarms. Condition-based monitoring has never been easier.

Solving challenges from the reservoir to refinery

We collaborate with our stakeholders in the production, transportation, and processing of oil and gas to provide meaningful and actionable data. This allows for the operator to better understand the end-to-end process, keep personnel and the environment safe, and be more productive. Utilizing industrial-scale digitalization and process automation, Sensia is helping customers to increase the productivity and profitability of every asset.

More information?

Identify your local representative at
https://sensiaglobal.com/Partner-Locator

Contact Sensia directly
measurement@sensiaglobal.com

sensia
Rockwell Automation + Schlumberger