

# SMARTFLOW®

## SMARTLINK® Tracer® VM Interface

Create data files to support process validation.

Monitor cooling conditions remotely.

### General Description

**SMARTLINK Tracer<sub>VM</sub> Interface** collects, transmits and saves data from Tracer<sub>VM</sub> Base flowmeters installed in injection mold cooling circuits.

**Signal Input:** Tracer<sub>VM</sub> Base Flowmeters purchased separately are connected via cable to the Smartlink Tracer<sub>VM</sub> Interface. The Smartlink Interface provides power to each flowmeter and receives voltage signals for temperature and flow.

**Connect to PC via Ethernet:** The Smartlink Interface communicates over Ethernet network connection to PC software for file storage and alerts. The files are easily read into external database software for reference or analysis.

Scientific Molders can use this data to confirm processing parameters and optimize cycle times and cooling water efficiency.

When used with PC software, a dry contact switch is available for connection to a peripheral or machine control to signal an alarm for out of limit cooling water conditions. Configuration files can be saved and retrieved as needed for specific molds and machine combinations. These files will contain alarm settings, cooling circuit names, unit preferences, and all parameters set by the user for maximum efficiency.

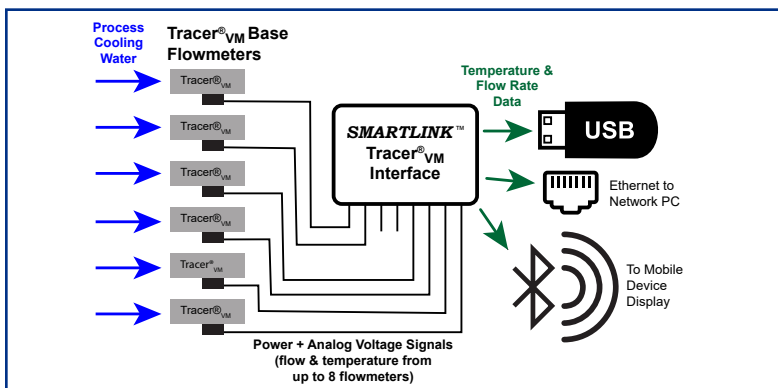
**Transmit to Mobile Devices via Bluetooth:** The Smartlink Interface wirelessly transmits flow and temperature to display on a mobile device. Flow condition data log files can be created via app and saved on USB flash drive documenting the mold cooling water conditions.



VMBTI-102

### Features and Benefits

- **Ethernet port connects the Interface to a local network** for communication with Data Logger PC Software.
- **Dry contact switch** signals out of limit temperature and flow rate conditions when using the Data Logger PC Software.
- **Provides power, ground and signal terminations** near the process to simplify connections to Tracer<sub>VM</sub> Base units.
- **Transmits temperature and flow conditions** in real time to mobile devices for process monitoring up to 20 meters away.
- **USB port provides mobile device charging** plus flash drive connection.
- **Gasketed, water-resistant plastic enclosure** provides secure mounting in locations where occasional water spray is present.
- **Smartflow Data Logger PC Software** is available for download from the [Smartflow-usa.com](http://Smartflow-usa.com) web site.



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*Design and specifications are subject to change without notice.*

# SMARTFLOW® SMARTLINK Tracer<sub>VM</sub> Interface

Smartlink Tracer<sub>VM</sub> Interface includes the interface module and software necessary to create cooling line log files to facilitate manufacturing process validation for critical parts.

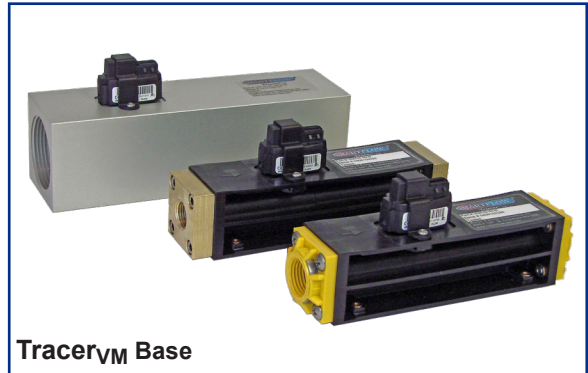
The Ethernet port on the Interface connects to local network enabling log file creation, storage and process alerts. Dry contact switch works with PC software to signal out of limit condition to external alarm or stack light.

Peripheral equipment such as PC, Mobile Device or flash drives are user provided. Voltage input for temperature and flow are provided by Tracer<sub>VM</sub> Base models. Refer to Smartflow catalog 186 for details.

The Tracer<sub>VM</sub> Mobile App facilitates remote display of flow and temperature readings and creation of log files to be saved on USB flash drive inserted in the Interface.

## Specifications

Housing .....	NEMA4X compliant
Operating Temperature .....	0°C to 52°C (32°F to 125°F)
Maximum Wireless Range .....	20 meters (65.6ft)
Maximum Tracer <sub>VM</sub> Base Flowmeter Distance to Smartlink Tracer <sub>VM</sub> Interface .....	3 meters (10ft)
Power Required.....	8 to 28VDC with earth ground (external) required to maintain signal integrity
Relay Switch Rating .....	2A, 250VAC/220VDC



Tracer<sub>VM</sub> Base

Smartlink Tracer<sub>VM</sub> Interface must be used with at least one Tracer<sub>VM</sub> Base Flowmeter for flow and temperature input. Up to eight flowmeters can be connected to one Smartlink Tracer<sub>VM</sub> Interface. See Smartflow Catalog 186 for Tracer<sub>VM</sub> Base details.

## Data Logger (PC Based Software)

The Data Logger Software is provided free of charge as a download from the product web page. The Data Logger displays temperature and flow rate data from up to 10 Smartlink Tracer<sub>VM</sub> Interface Modules with each module on a separate tab.

Functions:

- Save .csv file to specified location for archiving and analysis.
- Save configuration files for specific molds/machine combinations for retrieval as needed
- Name Smartlink Interface Units
- Name individual cooling circuits in the session (display only)
- Name .csv file
- Set Manual or Scheduled duration
- Select log rate between 1 and 3600 seconds
- Select Metric or English units
- Set alerts for low or high temperature and flow rates. **Alerts are disabled when recording is not active.**
- View real-time graph for each Tracer<sub>VM</sub> Base unit.

Smartlink Tracer<sub>VM</sub> Interface must be connected through a DHCP Client such as a wireless router or Local Area Network that will automatically assign an IP Address. The Interface will not communicate if plugged directly into a PC.

Dry contact switch changes state while alerts are active. Switch can be connected to external device such as low voltage stack light or machine control.

# SMARTFLOW® SMARTLINK TRACER<sub>VM</sub> Interface

## Data Logger Screens

PC-Based **Smartflow Data Logger Software** provides temperature and flow process data that can be used in database software for reference and analysis. These data records are useful to injection molders maintaining compliance to regulatory requirements and quality control.

Two screen views are available: Home View and Session View.

### Home View

The Home View displays graphs of temperature and flow cooling water conditions for all Tracer<sub>VM</sub> Base flowmeters connected to Smartlink Tracer<sub>VM</sub> Interface.

Up to 10 Interface Units can be displayed graphically on one screen. The maximum number of Smartlink Tracer<sub>VM</sub> Interface Units visible for selection is 30. The Home View can show overall health of cooling water lines across the shop floor. An unexpected value for flow or temperature can be seen quickly and may be an indication of a blocked cooling line or out-of-tolerance processing conditions resulting in poor molded part quality.

### Session View

Session view displays one Smartlink Tracer<sub>VM</sub> Interface with temperature and flow values for each connected Tracer<sub>VM</sub> Base flowmeter. A maximum of eight flowmeters can be viewed on the screen in Session View. A maximum of 10 Smartlink Interface units can be accessed as tabs in the session view at one time.

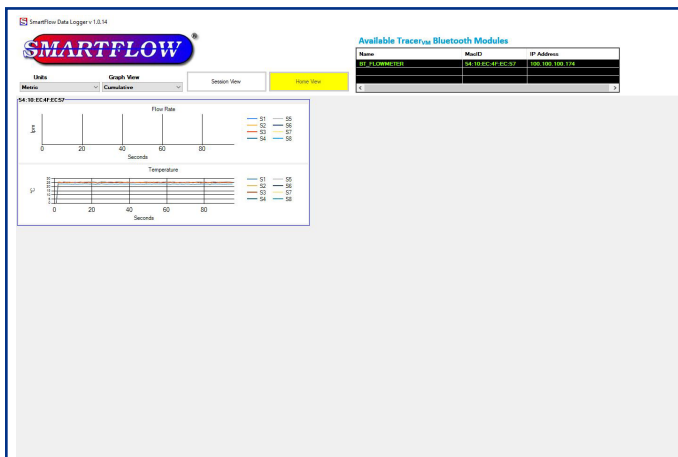
Log files are created in Session View. These can be started manually or scheduled as needed. Maximum recorded log length is 72 hours.

Session Controls box allows users to set alerts for low or high temperature and flow conditions. When data is being recorded, an alert will pop up on screen to notify the user when a parameter has been breached. The indicator will disappear as soon as the condition that caused the alert has cleared.

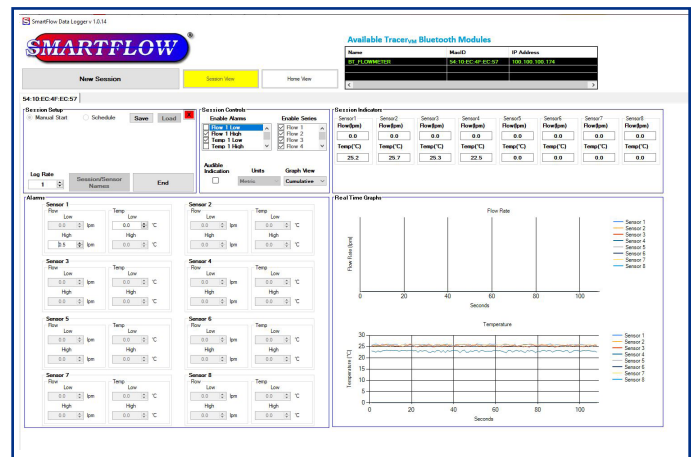
Dry contact switch changes state to indicate the out of limit condition when alert is active.

**Alerts and dry contact switch are disabled when session recording is not active.**

Session Indicators at the top of the screen display current temperature and flow values from Tracer<sub>VM</sub> Base Flowmeters that are connected to the selected Interface. Real Time Graphs are also displayed for each flowmeter connected to the Interface. Unused flowmeter locations may be disabled as needed. Active Interface units are selected via tabs located near the top of the screen.



Home View



Session View

# SMARTFLOW<sup>®</sup> SMARTLINK Tracer<sub>VM</sub> Interface

## Mobile App

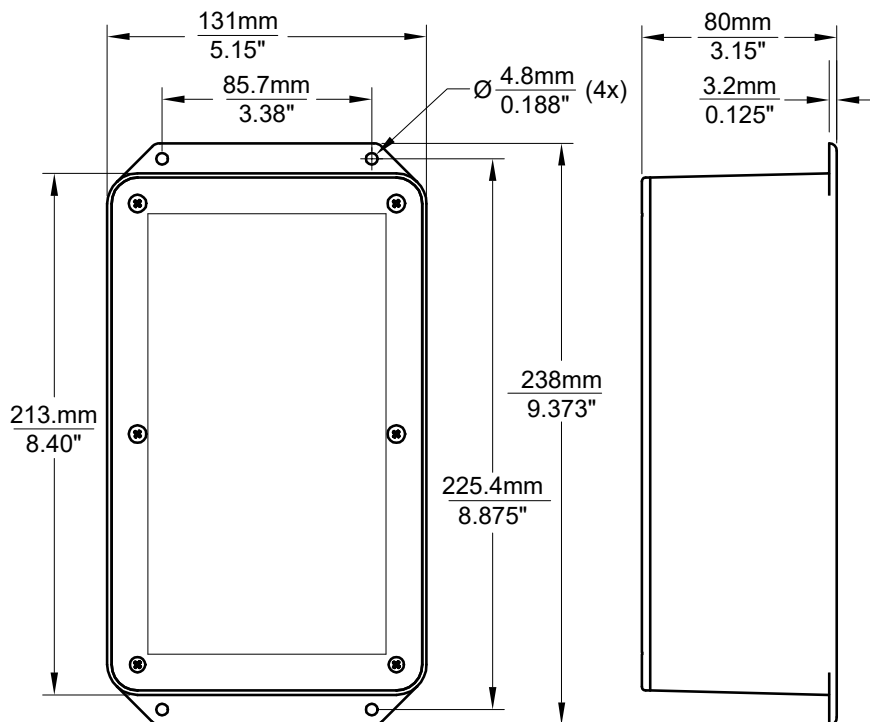
Tracer<sub>VM</sub> Mobile App is available for free download from iTunes or the Google Play store. Search for "Tracer<sub>VM</sub>". The mobile app displays temperature and flow rate data from one Interface module with up to 8 flowmeters at one time.

### Functions:

- Save .csv file to USB data storage device connected to the Bluetooth Interface Module for archiving and analysis.
- Name Interfaces
- Name individual cooling circuits on the device
- Name .csv file
- Select Manual or Scheduled duration
- Select log rate interval between 1 and 3600 seconds



## Enclosure Dimensions - Model Number VMBTI-102



**For An Inside Look at Turbulent Flow and other helpful processing articles, visit the Technical Documents section of the Smartflow-usa.com web site.**