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# TURCK

## FP100 | FM-IM...FX Remote Flow Sensors and Processors



# Remote Flow Sensors and Processors

## Reliable flow measurement

The new generation of FP100 remote flow sensors can be used with the new FM-IM...FX flow modules to monitor liquids in a safe, reliable and reproducible way. This product combination unites simple operability and high functionality with a wide connectivity range. Since the remote sensors function according to the calori-

metric principle, they provide information about the media temperature as well as the flow rate. The sensors can be used in almost all industrial applications thanks to their modular design. Numerous process adapters are available for the required process connection.

## Standard applications

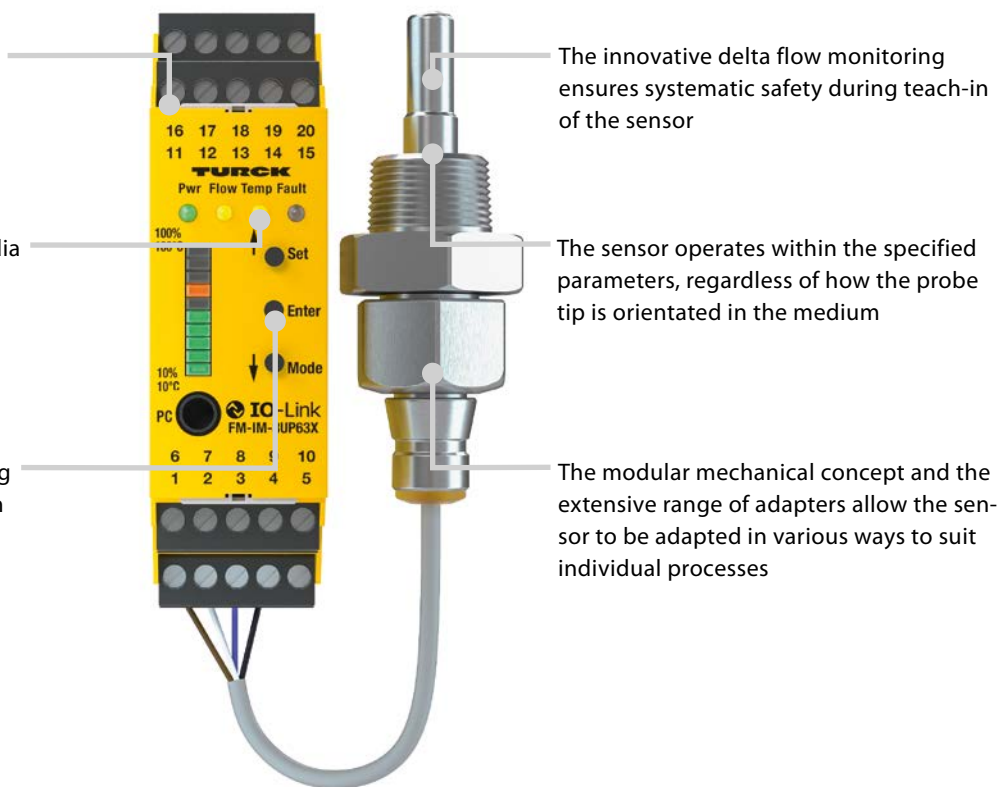
Flow sensors are typically used for monitoring purposes in the following application areas:

- Cooling circuits in welding applications
- Dry run protection for pumps
- Cleaning process cycles

The housing allows DIN rail or aperture plate mounting

Since the sensors also measure the media temperature, fewer components are required for a single application

Convenient and fast setting of switching points thanks to the simple Quick Teach function



The innovative delta flow monitoring ensures systematic safety during teach-in of the sensor

The sensor operates within the specified parameters, regardless of how the probe tip is orientated in the medium

The modular mechanical concept and the extensive range of adapters allow the sensor to be adapted in various ways to suit individual processes



### Modular concept

The modular mechanical concept enables a highly variable portfolio of flow sensors. The neutral M18 x 1 coupling nut adapts various process connections to the respective application. Well-planned warehouse management guarantees the shortest possible delivery times.



### Display and diagnostics

In addition to visual diagnostics on-site, various other diagnostic options are available to the user, such as wire-break and short-circuit monitoring on the sensor side. Furthermore, monitoring of flow rates and media temperatures within the operating and display range is also possible.

## Reducing downtime

Flow sensors are used primarily to increase plant availability and to reduce downtime. In addition, the sensors facilitate engineering with their versatile integration options in existing and new plants as well as simple, intuitive commissioning.

## Flow and temperature

Since the sensors measure the media temperature as well as the flow rate, they can be used in a much larger range of applications. For example, it is possible to use the temperature values in addition to the flow values as part of preventive maintenance to predict any imminent events.

## Product features

The flow switching point can be set quickly and safely directly on the flow module using Quick Teach. The LED bar displays either the process value of the flow or the media temperature, along with the respective switching point. The manual locking option reliably prevents accidental operation errors.

### FLOW and TEMP LEDs

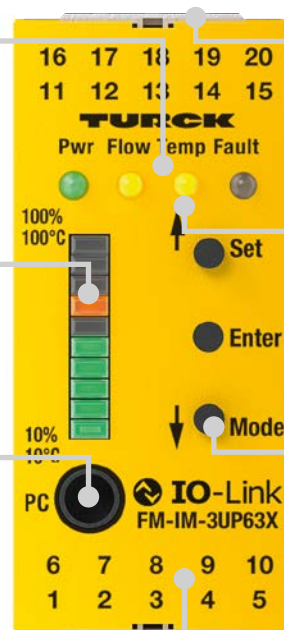
Two LED displays clearly indicate the status of the outputs and the active teach mode

### Process value display

The 10-segment bicolor LED bar displays either the flow or temperature values clearly legible

### Communication

In addition to standard connection terminals, an additional, easily accessible port is also available for IO-Link communication



### Label holders

There is a label holder on each side of the device to denote the device description and/or the measuring points

### Status LED

Additional LEDs provide information about the status of power supply, errors and locking function and – if available – IO-Link communication

### MODE, ENTER and SET

The standard controls with the recessed ENTER key allow safe menu navigation

### Label

The plastic housing is scratch-resistant and inscribed in a contrasting color



### Delta flow monitoring

All teach functions are only enabled once there is a constant flow. The user is thus significantly assisted in reducing random or systematic errors.



### Sensor adjustment

The sensor generally operates within the specified parameters, regardless of how the probe is oriented. This reliably prevents possible misinterpretations of the sensor signal.

# Types and Features

## FP100 remote flow sensors

Ident-No.	Type designation*	Process connection	Rod length [mm]	Operating voltage	Output function	Communication	Electrical connection
100001050	FP100-300L-63-NA-H1141	N1/2	97	depends on evaluation unit FM-IM...FX			M12 × 1, 4-pin
100001052	FP100-300L-62-NA-H1141	G1/2	117				M12 × 1, 4-pin
100001044	FP100-300L-30-NA-H1141	G1/2	60				M12 × 1, 4-pin
100001055	FP100-300L-30-NA-2M	G1/2	60				PVC cable, 2 m
100001047	FP100-300L-16-NA-H1141	N1/2	60				M12 × 1, 4-pin

\*Medium: Liquid

Operating range: 1...300 cm/s

Material (contact with media): V4A 1.4571 (316 Ti)

## FM flow module processors

Ident-No.	Type designation*	Operating voltage	Output function	Communication	Electrical connection
100000818	FM-IM-3UP63FX	24 VDC	PNP (NO/NC)	IO-Link	Clamps
100000820	FM-IM-3UR38FX	20...125 VDC/20...250 VAC	Relay (NO/NC)	IO-Link	Clamps
100000819	FM-IM-2UPLi63FX	24 VDC	4...20 mA/PNP (NO/NC)	IO-Link	Clamps

\*Medium, operating range, process connection, material (contact with media): depends on remote probe

## Product highlights

- Modular mechanical concept
- Variable sensor orientation
- Media temperature measurement
- Delta flow monitoring
- Quick Teach option
- Diagnostic function
- IO-Link 1.1 communication



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