



**Martech Controls**

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## Insertion Flow Meter **454FTB FOR GAS FLOW MEASUREMENT**



The Kurz Series 454FTB is the premier single-point insertion thermal mass flow meter for industrial gas flow measurements. The insertion style design allows you to incorporate the meter into existing duct or pipe configurations, from dosing lines and fuel gas feed lines, to aeration lines, up to large stacks and flare gases. The patented design supports temperatures up to 932°F (500°C). The sleek sensor support design virtually eliminates pressure drop in the flow stream.

The rugged design of the 454FTB is built for demanding environments including chemical and petrochemical processing, power, wastewater, pulp & paper mills, cement, and nuclear. Any application where durability, accuracy, and repeatability are required (such as combustion control, greenhouse gas emissions, air sampling, or stack and flare monitoring) make the 454FTB the ideal choice for flow instrumentation.



## SPECIFICATIONS

- **Velocity range**  
0 to 70,000 SFPM (325 NMPS)
- **Flow accuracy** (SCFM at laboratory conditions)  
± (1% of reading +20 SFPM)
- **0.25% reading repeatability**
- **Velocity time constant**  
1 second for velocity changes at  
6,000 SFPM (constant temperature)
- **Process temperature time constant**  
8 seconds for temperature changes at  
6,000 SFPM (constant velocity)
- **Temperature accuracy**  
± (0.5% of reading +1°C) for  
velocities above 100 SFPM
- **Electronics operating temperature**  
Integral display  
-13°F to 149°F (-25°C to 65°C)  
Remote aluminum enclosure  
-40°F to 149°F (-40°C to 65°C)  
Remote polycarbonate enclosure  
-13°F to 122°F (-25°C to 50°C)
- **Process pressure rating**  
Up to 300 PSIG (20 BARg)
- **Process temperature rating**  
-40°F to 500°F (-40°C to 260°C) HT or  
-40°F to 932°F (-40°C to 500°C) HHT

## FEATURES

- **Aluminum (Type 4, IP66) dual-chamber polyester powder-coated enclosure**
- **Adjustable display/keypad orientation**
- **Optically-isolated loop-powered 4-20 mA output**
- **Integral or remote user interface**
- **Easy-to-use interface**
- **User-configurable flow display (scrolling or static)**
- **User-configurable English or metric units for mass flow rate, velocity, and process temperature**
- **Velocity-dependent correction factors for flow rate**
- **Two optically isolated solid-state relays / alarms**
- **Built-in zero-mid-span drift check**
- **Built-in flow totalizers and elapsed time**
- **Configuration/data access via USB or RS-485 Modbus (ASCII or RTU)**
- **Patent US 7,418,878**
- **3-year warranty**

## APPROVALS

- **EPA mandatory GHG certification**  
40 CFR 98.34(c)(1)
- **Alarm output conformity**  
NAMUR NE43
- **CE and UKCA compliance**  
EMC, LVD, PED, ROHS, and WEEE
- **Canadian Registration**  
CRN
- **cETLus, ATEX, UKEX, IECEx approvals for Explosive Atmospheres protection by Flameproof and Increased Safety**  
EN/IEC/UL/CSA C22.2/60079-0  
EN/IEC/UL/CSA C22.2/60079-1  
EN/IEC/UL/CSA C22.2/60079-7  
Class I, Div. 1, Group B, C, and D  
Class I, Div. 2, Group A, B, C, and D

## OPTIONS

- **Enclosures**  
Aluminum, stainless steel, or remote-only polycarbonate
- **Multiple gas calibrations with up to five curves loaded in memory**
- **User-defined binary gas compositions**
- **Communication protocols**  
HART (v7 FSK) and PROFIBUS DP
- **Digital input dedicated to purge and zero-mid-span drift check**
- **Pulsed output as a remote flow totalizer**
- **SIL1 certification**  
via TUV Rheinland

## 454FTB Benefits

By improving gas flow management for process controls, facilities can increase efficiencies and decrease operation costs.

- The first thermal mass flow meter offering accurate and reliable gas flow measurements
- Realtime measurements enable early corrective action and reduced maintenance
- Optimizing air and gas flow processes allows facilities to increase efficiencies and reduce expenses
- Accurately report greenhouse gas emissions
- Highest process temperature operation
- Greatest signal definition available
- Extreme low flow sensitivity

## The Kurz Advantage

Kurz Instruments is dedicated to manufacturing and marketing the best thermal mass flow meters available and to support our customers in their efforts to improve their businesses.

In this effort, we provide:

- The highest repeatability, accuracy, and reliability available
- The fastest response to temperature and velocity changes in the industry
- Live signal down to zero
- Continuous self-monitoring electronics that verify the integrity of sensor wiring and measurements
- Sensors that do not overheat at zero flow using a patented constant temperature control method and power limiting design
- Velocity-temperature mapping for wide ranging velocity and temperature