

Flow Measurement

SITRANS F US Clamp-on

SITRANS FUE1010 (HVAC)
Check metering kit

Overview



The SITRANS FUE1010 dual channel clamp-on check metering kit is an all inclusive HVAC chilled water kit developed especially for verifying the accuracy and performance of any brand or type of flowmeter. The meter's portability makes it capable of verifying the performance of meters based on any existing flow measurement principle: electromagnetic, vortex, insertion turbine, or ultrasonic. Perfect for areas where no metering exists. Ideal for balancing building performance. It accurately computes flow over an extremely wide range and measures practically all conductive or non-conductive clean or moderately aerated liquids or liquids with suspended solids. Dual channel models can measure two separate applications at the same time.

Benefits

- Performance check or verification of any type or brand of flowmeter
- Measures energy rate and total consumption with highest accuracy available
- Accurately measures at both low flow rates and low differential temperatures
- Field use is facilitated by meter portability charge for 4 hours of normal operation
- 1 MByte datalogger capability downloadable to PC via included RS 232 cable
- Performs fast, easy and cost-efficient on-site measurement of any convoluted pipe from 25.4 mm to 9.14 m (1.0" to 360")
- Delivered as an all inclusive kit with all the equipment needed to conduct performance and verification tests (cables, multiple sensors, flow transmitter etc.)
- Comes in a sturdy rolling case with a telescope handle that holds all the equipment needed to conduct performance and verification tests.

Application

The SITRANS FUE1010 Check Metering Kit is a highly accurate clamp-on non-intrusive ultrasonic flow display transmitter or revenue grade thermal energy sub-metering and energy efficiency distribution monitoring, with a real time coefficient of performance (COP) for HVAC systems. This kit is ideal for applications which include:

- Chilled water sub-metering
- Condenser water
- Potable water
- Ammonia and glycol
- River and lake water
- Lake source cooling

Design

- IP40 (NEMA 1) Impact resistant enclosure, constructed of flame retardant ABS with polycarbonate display and polyester keypad
- Dual channel/dual path

Function

- Integral 33 button keypad and large (128 x 240 pixel) graphic display visible up to 12 m (40 ft) away
- 4-wire 1000 Ω platinum RTD's for supply and return temperature measurements are precision matched to within 0.01 $^{\circ}\text{C}$ (0.02 $^{\circ}\text{F}$)
- Chiller efficiency analysis: accepts an independent analog input representing kW usage for calculation of the following functions which can be selected for data logging or output purposes:
 - Cooling load (kW/ton)
 - Coefficient of performance (COP)
 - Energy efficiency ratio (EER)
- Temperature is factory calibrated with built-in field calibrator
- Built-in energy/BTU mode
- Detection of aeration and cavitation caused by worn or damaged impellers, misaligned shafts, etc.
- Current, voltage, frequency and RS 232 outputs (see specification section for details)
- Optional current, voltage and temperature inputs (see specification section for details)
- ZeroMatic Path automatically sets zero
- Bi-directional flow operation
- 1 MByte data logger with both site and data logger storage
- English, Spanish, German, Italian and French language options

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Technical specifications

Pipe sizes	25.4 mm ... 9.14 m (1 ... 360")
Accuracy	± 0.5 % ... ± 2.0 % of flow rate
Flow range	12 m/s (40 ft/s) bidirectional
Media temperature	-40 ... +104 °C (-40 ... 220 °F)
Enclosure ratings	IP40 (NEMA 1) impact resistant

See page 3/340 for complete technical specifications

Certificates and approvals

Portable enclosures	
Unclassified locations	UL ULc
Classified locations	
CE	EMC Directive 2004/108/EC ATEX Directive 94/9/EC

Selection and Ordering data

Article No.

Energy check metering kit

CQO:FUEHVACKIT

Content of delivery

1	Dual channel portable submersible flow transmitter
1 pair	Universal sensors C3
1 pair	Doppler sensors
1 pair	High precision sensors C2
1 pair	High precision sensors D1
2 pairs	RTDs
2 pairs	Mounting Ezclamp (4 mounting Ezclamp chains)
1	Battery charger
2 pairs	6 m (20 ft) sensor cables
1	RS 232 cable
4	RTD cable 6 m (20 ft)
4	Mountings for RTDs
1	Spacer bar (Portable)
2	F connector to BNC
1	Flow case
1	Flow meter manual
1	Laminated card set
1	Certificate of intrinsic calibration