

Clamp-On flow: TTFM



TTFM100-F1-NG field transmitter



TTFM100B-HH-NG portable clamp-on

Applications

- Water treatment, slurry and process water pumping;
- Flow balancing;
- Hydro-electric, cooling, anti-fire stations;
- Water District
- Oil and chemical industries;
- Extraction industries;
- Food, paper and pharmaceutical industries;
- Car industries;

The Transit Time Flow Meter of TTFM100/2009 NEW GENERATION series measures flowrate by calculating the spreading time of an ultrasonic wave in a liquid, going upstream and downstream into a pipe.

This flow meter is mostly used to measure the flow rate of homogeneous fluids, also with a **quite high percentage of suspended solids**. The measuring system is composed of a couple of ultrasonic transducers acoustically coupled to the external pipe's wall (it is also possible to use transducers in direct contact with fluid to be measured- called wetted sensors) and a HOST unit elaborating the signal that are sent and received from the transducers. The HOST unit has a DSP microprocessor, it gives signals for interfacing with the process or the control systems.

Technical data

Transmitter

- Linearity better than 0.5%
- Repeatability better than 0.2%
- Accuracy better than $\pm 0.5\%$
(for speeds > 0.5 mt/sec)
- Power Supply 24VDC and/or 85-264VAC
- Inputs 4 tot 20mA / outputs 4 tot 20mA / RS485
- Protocols: MBUS, MODBUS, extended protocol
- Menulanguage: English
- Range by transducer from DN15 to DN6000mm
- Wallmount/ Dinrail Mount / pipe mount

Sensor type standard:

- Temp range 80°C
- TTS-100-S1-NG from DN15 to DN100
- TTS-100-M1-NG from DN50 to DN1000
- TTS-100-L1-NG from DN300 to DN6000



Sensor type HT:

- Temp range 160°C
- TTS-100-S1-NG-HT from DN15 to DN100
- TTS-100-M1-NG-HT from DN50 to DN1000
- TTS-100-L1-NG from DN300 to DN6000



Wetted sensors:

- Max 20 bar
- TTS-100-B1-NG-1"short from DN50 to DN2000
- TTS-100-B2-NG-1"Long from DN50 to DN2000



PI sensors:

- Max 20 bar
- TTS-100-PI-NG-15 DN15
- TTS-100-PI-NG-20 DN20
- TTS-100-PI-NG-25 DN25
- TTS-100-PI-NG-32 DN32
- TTS-100-PI-NG-40 DN40



Informeer naar onze overige clamp-on flowmeters indien nodig.

Multisens

The essence of sensing

Multisens BV Dorpsstraat 118, 4711 EL St. Willebrord Netherlands Tel.: +31-(0)165-713025 Fax.: +31-(0)165-713026
Web: www.multisens.eu Mail: info@Multisens.eu

Clamp-On flow: TTFM

Linearity: better than 0.5%, Repeatability: better than 0.2%, Accuracy: better than ±0.5% (Battery Powered 2%).



TTFM100-F2000-NG field transmitter

Transmitter TTFM100-F2000-NG

- Power 8 to 36VDC / 10 to 30VAC
- Menu language: English
- Range by via transducer from DN15 to DN6000
- 3 types of sensor transducers available
- Wall mount, IP68
- Setup by external keypad or software via RS485
- Protocol M-bus, MODBUS

Transmitter TTFM200-F3-NG

- Type TTFM200-F3-NG
- Setup by external keypad or software via RS485
- Setup by laptop
- Software included
- IP68
- Battery powered or 8..36VDC
- 4..20mA out, relay, OCT, RS485 Modbus
- included 1 sensor pair type TTS-M1-NG
- Sensors for pipes from DN50 to DN1000

Transmitter TTFM100-F18-NG

- Type TTFM100-F18-NG
- Setup by external keypad, RS485 interface, local
- DINRAIL mounting IP20
- Power supply 8 to 36VDC
- 4..20mA output, calorimeter
- 122x82mm

TT Flow meter external panel and program kit

- External keypad Works for:
- TTFM100-F2000-NG
- TTFM-F3-NG
- Kit to be used for TTFM100-F200-NG; TTFM200-F3-NG
- Comes with USB/RS485 converter and cable
- CD with software under Windows XP, Vista, Server 2008



TTFM200-F3-NG



TTFM100-F18-NG

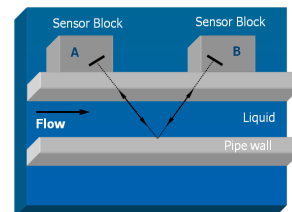


TTFM panel & Program kit

The TTFM100/2009 N.G. series includes a range of flow meters whose electronics is composed of a single board: high precision, high fidelity, high competitively.

The devices main features are:

- Clamp-on sensors: it is not necessary to stop the flow to install them; Wetted sensors.
- AC and DC supply: 85..264 VAC and 24 VDC.
- The time difference during the measuring process could be 0.2 ns.
- Analog (4-20 ma), pulses (relays), frequency (OCT) and MODBUS RS485 outputs.
- All the measures could be driven to the RS485 in order to save data into a PC remotely transmitted by telemetry.



$$V_f = K_n \frac{1}{\sin \theta} \left(\frac{l}{t} - c_f \right)$$

Clamp-On flow: TTFM



TTFM100B-HH-NG portable clamp-on



TTFM100B-HH-NG clamp-on

- Handheld powered by 3x AAA batteries
- Weight 500gr, 210x90x30mm
- Datalogger for 2000 datalines
- RS232 interface for datadownload
- Measures from DN15 to DN6000
- Big LCD display from 4x 16 characters



Ultrasone thickness gauge

TT100-8812-NG Thickness gauge

- LCD display 4 digits
- 120x62x30mm weight 162gr.
- Easy to use and calibrate
- Calibration built in
- Resolution 0,1mm
- Works for many materials
- Powered by 4xAAA cels



Rail guide

Rail guide type 30599

- Usable till 300mm pipediameter
- For 300 and 600mm use 2 guides in V mount
- For 600mm use 2 guides in Z mount
- SS material
- Can be used for fixed and portable clamp-on meters
- TTS100-TS2-NG, TTS100-TM1-NG geschikt



Clamp on installationpaper

Clamp-on installation paper

- Ideal for installation on pipes > 600mm
- Voor applications with Z mount
- 0,3 kg / rol
- H=30cm. , L=20m.

