

FLOW METERS • ULTRASONIC

IIT-200F Fixed Separated Ultrasonic Flowmeter

II-FM-002

Model TUF-2000SW • TUF-2000SS • TUF-2000SD

Transit-time ultrasonic



Full specification, variants, open points and ordering information. Transit-time flow and thermal energy measurement from DN15 to DN6000, clamp-on, insertion or inline.

ENQUIRIES

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ISSUED

24 October 2026

IIT-200F Fixed Separated Ultrasonic Flowmeter

Indiana catalogue ID **II-FM-002** Manufacturer model **TUF-2000SW · TUF-2000SS · TUF-2000SD** Flow Meters · Ultrasonic

IDENTIFICATION

Product	IIT-200F Fixed Separated Ultrasonic Flowmeter
Indiana catalogue ID	II-FM-002
Manufacturer model	TUF-2000SW · TUF-2000SS · TUF-2000SD
Category	Flow Meters · Ultrasonic
Measuring principle	Transit-time ultrasonic
Model line	IIT-200F
Document	Specification · issued 24 October 2026

01 Measurement

Operating principle	Transit-time ultrasonic flowmeter with multi-pulse digital processing technology
Accuracy	±1.0% of reading
Repeatability	±0.2%
Velocity	0 to ±7 m/s
Pipe diameter	DN15 mm to DN6000 mm
Turbidity	≤10,000 ppm with minimal bubble content

02 Output and interface

Current output	1 channel 4–20 mA, impedance 0–1 k Ω , accuracy 0.1%
Pulse output	1 channel OCT pulse, pulse width 6–1000 ms, default 200 ms
Relay output	1 channel
Signal input	3 channels 4–20 mA at 0.1% accuracy for temperature, pressure and level acquisition
Temperature input	Pt100 temperature transducer connection for heat and energy metering
Data interface	Isolated RS485 serial interface supporting MODBUS protocol and remote PC software upgrade
Display	2 × 20 character LCD with backlight; English, Chinese and Italian

Cable	Standard twisted-pair shielded cable up to 50 m; RS485 communication distance over 1000 m
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03 Data logging

Totaliser history	Last 512 days, 128 months and 10 years
Power events	64 timestamped power on/off events
Operating status	32 days retained
Expansion	Optional SD card memory up to 2 GB for paperless long-term data acquisition

04 Installation and environment

Pipe materials	Carbon steel, stainless steel, cast iron, copper, PVC, aluminium, cement, glass fibre
Straight run	Upstream $\geq 10D$, downstream $\geq 5D$, pump outlet $\geq 30D$
Convertor temperature	-20 °C to 60 °C
Transducer temperature	-30 °C to 160 °C
Convertor humidity	85% RH
Transducer protection	IP68, submersible up to 2 m
Power supply	DC 8–36 V or AC 85–264 V optional
Power consumption	1.5 W
Convertor dimensions	205 × 154 × 70 mm

05 Variants and model selection (3)

IIT-2000SW — WALL-MOUNTED CONVERTOR

Wall or surface mounting

Mounting	Wall / surface
Dimensions	170 × 180 × 56 mm
Power supply	DC 8–36 V or AC 85–264 V
Protection	IP65 enclosure

IIT-2000SS — PANEL-MOUNTED CONVERTOR

Cabinet or panel cutout

Mounting	Cabinet / panel cutout
Dimensions	170 × 180 × 56 mm
Cutout size	152 × 76 mm
Power supply	DC 8–36 V or AC 85–264 V

IIT-2000SD — EXPLOSION-PROOF CONVERTOR

Flameproof enclosure installations

Mounting	Flameproof enclosure
Dimensions	298 × 298 × 110 mm
Ex grade	DII BT4
Power supply	DC 8–36 V or AC 85–264 V

06 Tables

FLOW TRANSDUCER OPTIONS

TYPE	MODEL	MEASUREMENT RANGE	LIQUID TEMPERATURE	DIMENSIONS
Standard clamp-on	TS-2 (small)	DN15 – DN100 mm	–30 °C to 90 °C	45 × 25 × 32 mm
Standard clamp-on	TM-1 (medium)	DN50 – DN700 mm	–30 °C to 90 °C	64 × 39 × 44 mm
Standard clamp-on	TL-1 (large)	DN300 – DN6000 mm	–30 °C to 90 °C	97 × 54 × 53 mm
High-temp clamp-on	TS-2-HT (small)	DN15 – DN100 mm	–30 °C to 160 °C	45 × 25 × 32 mm
High-temp clamp-on	TM-1-HT (medium)	DN50 – DN700 mm	–30 °C to 160 °C	64 × 39 × 44 mm
High-temp clamp-on	TL-1-HT (large)	DN300 – DN6000 mm	–30 °C to 160 °C	97 × 54 × 53 mm
Insertion	TC-1 (standard)	DN80 – DN6000 mm	–30 °C to 160 °C	190 × 80 × 55 mm
Insertion	TC-2 (lengthened)	DN80 – DN6000 mm	–30 °C to 160 °C	335 × 80 × 55 mm
Inline pipe	G3	DN15 – DN25 mm	–30 °C to 160 °C	Standard pipe spool
Inline pipe	G2	DN32 – DN40 mm	–30 °C to 160 °C	Standard pipe spool
Inline pipe	G1	DN50 – DN6000 mm	–30 °C to 160 °C	Standard flanged pipe

PT100 TEMPERATURE TRANSDUCER OPTIONS

MODEL	DESCRIPTION	PIPE SIZE	TEMPERATURE RANGE	CUT OFF WATER?	ACCURACY
CT-1	Clamp-on temperature transducer Pt100	≥ DN50 mm	–40 °C to 160 °C	No	±0.1 °C

MODEL	DESCRIPTION	PIPE SIZE	TEMPERATURE RANGE	CUT OFF WATER?	ACCURACY
TCT-1	Insertion temperature transducer Pt100	≥ DN50 mm	−40 °C to 160 °C	Yes	100 °C ± 0.8 °C
PCT-1	Insertion Pt100 with hot-tap pressure installation	≥ DN50 mm	−40 °C to 160 °C	No	±0.1 °C
SCT-1	Insertion Pt100 for small size pipes	< DN50 mm	−40 °C to 160 °C	Yes	±0.1 °C

ORDERING CODE CONFIGURATOR

POSITION	OPTIONS
Convertor	W: wall · P: panel · B: explosion-proof
Transducer	TS-2 / TM-1 / TL-1 · TS-2-HT / TM-1-HT · TC-1 / TC-2 · G1 / G2 / G3
Pipe size	DN15 to DN6000 (mm)
Pipe material	0: carbon steel · 1: stainless steel · 2: cast iron · 3: glass fibre · 4: PVC · 5: cement
Pressure	1.6 MPa · 2.5 MPa · 4.0 MPa
Cable	5 m · 10 m · custom
Temperature sensor	None · CT-1 · TCT-1 · PCT-1 · SCT-1
SD card	0: yes · 1: no

07 Installation

NON-INVASIVE INSTALLATION

No need to cut pipes or shut down flow, with zero pressure loss. Suits retrofit installations and clean or potable water lines, and connects a clamp-on Pt100 for heat metering.

HOT-TAPPED UNDER PRESSURE

Requires drilling holes under pressure without disrupting flow. Suits lined pipes or severe scaling, and delivers high stability and long-term accuracy.

FLANGED / SPOOL MEASUREMENT

Requires pipe section replacement. Delivers the highest accuracy and extreme stability across varying fluid dynamics; recommended for critical custody transfer.

08 Applications and industries

APPLICATIONS

- Potable, hot, chilled, city and sea water
- Raw sewage and plant effluent

INDUSTRIES

- Water utilities
- HVAC and building services
- Power generation
- Chemical
- Food and beverage

— Chemical liquids including alcohol and solvents

— Oil products — crude, diesel, fuel, lubricating oil

— Beverages and ultra-pure fluids

— HVAC and industrial utility heat metering

09 Views



PRIMARY VIEW IIT-200F wall-mounted convertor with keypad and two-line display
Product photograph



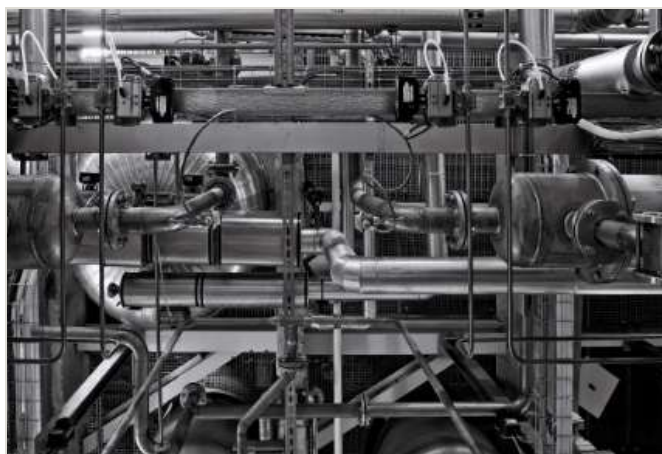
ALTERNATE VIEW Clamp-on ultrasonic transducers mounted on a pipe
Product photograph



ALTERNATE VIEW Insertion ultrasonic transducers
Product photograph



ALTERNATE VIEW Inline pipe-section ultrasonic flow sensor
Product photograph



APPLICATION Dense manifold of steel process pipes and valves, in black and white — illustrative environment, not an installation of this product
Illustrative scene

10 Ordering

Quote reference	II-FM-002 · model TUF-2000SW · TUF-2000SS · TUF-2000SD
Model / variant options	IIT-2000SW · IIT-2000SS · IIT-2000SD
Lead time, terms, documentation	Confirmed in the quotation

TO PREPARE A QUOTATION WE NEED

- Pipe size, material and wall thickness
- Lining material and condition, including scaling
- Liquid, its temperature and expected velocity
- Available straight run upstream and downstream
- Installation method — clamp-on, insertion or inline
- Heat metering required, and which Pt100 type
- Convertor mounting and hazardous-area requirement
- Signal cable length and output required

TELEPHONE +91 75033 02545 +91 92893 62447	EMAIL info@indianainstrutech.com	QUOTATION List the product, ID and quantity; add process conditions. We reply with a quotation.
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Ordering code example IIT-200F W + TM-1 + DN300 + 0 + 1.6 MPa + 10 m + PCT-1 + 0

Standard configuration includes: IIT-200F wall-mounted convertor + TM-1 medium transducer + 5 m signal cable + steel band clamps (DN200) + acoustic couplant (1 piece).

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