



# INSERTION TYPE ULTRASONIC FLOW METER





## COMMUNICATION INTERFACE



- » HIGH PERFORMANCE
- » COMPACT
- » ROBUST
- » RELIABLE
- » CLOUD CONNECTED
- » INDUSTRIAL GRADE

## INTRODUCTION

The insertion ultrasonic flowmeter consists of a converter and a insertion type sensor. Insertion type sensors can be installed by simply opening two mounting holes in the pipe surface. With the special opening tool, the insertion type ultrasonic sensor can be installed without water stop. Since the sensor is directly in contact with the fluid, the measurement is stable and reliable.

Pipe Size Starting from DN50 to DN 6000 .Technave TKN 205 offers MODBUS TCP,BACNET /IP and MBus Communication interface. GPRS/4G module available for remote monitoring and remote control through UENERGY cloud Server Platform.

## MEASURING DIAGRAM


### Flow Measurement




### Energy/BTU



## FLOW TRANSDUCERS

Flow Transducer Type	Picture	Model	Size
Insertion type Flow Transducer		TC-1 – Standard insertion	DN50-6000
		TC-2 – Extended insertion	
		TP-1 – Parallel mounted	DN200-6000

## TEMPERATURE TRANSDUCERS

Temperature Transducer Type	Picture	Model
Insertion type Temperature Sensor		Pt 100

## APPLICATIONS:

- » Flow meter verifications
- » Energy Audits
- » Network Metering
- » Food, Beverage & Pharmaceutical plants
- » Petrochemical industry

## CLOUD SERVER CONNECTED

TKN 205 GSM model helps to connect flowmeters to UBILL /UENERGY IOT solution. The subscription-based service helps the meter to automatically monitor real time values, log, analyze and notify all critical parameters of the meters. The platform helps the Energy consultants, utility companies, ESCO managers to evaluate timely insights of flow consumption.

## COMMUNICATION INTERFACE

- Rich intuitive dashboard
- Real time monitoring
- Energy auditing
- GEO Location mapping
- Measurement and verification
- Energy & cost saving tracking.
- Regression analysis
- Bill creation and Verification
- KPI analysis and portfolio benchmarking



## ORDER CODE

TKN205 X X XXX

F-Insertion Type Ultrasonic Flow Meter

B-Insertion Type BTU meter

TC1: Standard insertion type

TC2: Extended insertion type

TP1: Parallel-mounted (surface) type

000-MODBUS RTU Serial (Rs485) as Standard

MBT-Modbus TCP

BNT-Bacnet IP

BNM-Bacnet MSTP

GSM-GSM/GPRS Built in Modem

For Example-

TKN205-F-TC1-MBT insertion Type Ultrasonic flowmeter, Sensor Standard insertion Type, Modbus TCP.

Principle & Parameters	
<b>Principle</b>	Transit-time
<b>Accuracy</b>	Flow meter: $\pm 0.5\%$ ; Heat meter: $\pm 2.0\%$ .
<b>Output</b>	4~20mA analog
	OCT pulse
	Relay
<b>Input</b>	3 way 4~20mA analog input, acquisition signal of press and liquid level.
	Achieve heat measurement by connecting PT100 temperature sensors
<b>Interface</b>	RS485; MODBUS
<b>Pipe Material</b>	Steel, stainless steel, cast iron, copper, PVC, aluminum, etc.
<b>Caliber</b>	DN50mm~DN6000mm
<b>Straight Pipeline</b>	Upstream: 10D; Downstream: 5D; From the pump: 30D (D means outer diameter)
<b>Medium</b>	Single liquid that can conduct sound wave, such as water( $-30^{\circ}\text{C}\sim 160^{\circ}\text{C}$ ).
<b>Velocity</b>	-12m/s~12m/s
<b>Special Cable</b>	Shielded twisted-pair cable, length $\leq 50\text{m}$ .
<b>Temperature</b>	Main unit: $-20^{\circ}\text{C}\sim 70^{\circ}\text{C}$ ; Transducers: $-30^{\circ}\text{C}\sim 160^{\circ}\text{C}$
<b>Protection Class</b>	Main Unit: IP67; Sensors: IP68
<b>Power Supply</b>	DC24V ; AC85~264V; 50Hz
<b>Consumption</b>	1.5W

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