# GENERAL

**THE SMARTMEASURERMENT ALSONICFX2** is a fixed-mount, transit-time ultrasonic flow and BTU meter, with clamp-on transducers for non-invasive liquid flow measurement. Our microprocessor based, user friendly, field programmable flow and energy measurement technique creates no interruption of the process flow and provides for all installation costs. For BTU/Energy applications both clamp-on and insertion RTDs are available.

# FEATURES

- 3 line LCD display with flowrate, totalizer & diagnostics
- Stores up 64 Day/month's totalizer daily values
- Batch control function
- Temperatures of up to (230°F) 110°C
- Transducers for pipe size from 1" ~ 48" (25 ~ 1200mm)
- Available with clamp on or insertion RTDs for BTU/Eenergy applications
- High accuracy of ±1% of reading
- Transducers include magnetic insert, for installation on metal pipe without mounting belt
- Data logger function; includes date, totalizer, signal condition & diagnostic code status
- Response time of less than 1 second

# SPECIFICATIONS

- **Measuring Principle:** Transit time ultrasonic
- **Pipe sizes:** M: 1" ~ 31" (25mm ~ 800 mm)
  L: 20" ~ 47" (500 mm ~ 1200 mm)
- **Pipe Material:** Cast Iron, Stainless Steel, Ductile Iron, Copper, PVC, Aluminum, Asbestos, Fiberglass, etc.
- **Display:** 2 line LCD with backlight
  - Flowrate — 5 digits with decimal point
  - Totalizer — 8 digits, forward, reverse & net values
  - Engineering Units — Million Gallon, Cubic Feet, US Barrels, Imperial Barrels, Oil Barrel
  - Time Units — second, minute, hour, day
  - Other — Velocity, Date, time, signal condition
- **Accuracy:** Std - ± 1% of reading (0.3 ~ 5 m/s)
  ± 5% of reading (0.1 ~ 10m/s)
- **Repeatability:** ±1% of reading
- **Communication:** RS485/Modbus
- **Keypad:** 16 key with tactile action

- **Response Time:** Less than 1 second
- **Flow Velocity:** 1 ~ 33ft/s (0.3 ~ 10m/s)
- **Resolution:** 0.0001m/s
- **Ambient Temperature:** -5 ~ 122°F (-20 ~ +60°C)
- **Mounting:** Wall mounting, panel, local or DIN Rail
- **Max. Cable Length:** 330' (100m)
- **Power Consumption:** Less than 2W
- **Power Supply:** Std – 24V$_{DC}$
  Opt – 85 ~ 264V$_{AC}$, 50/60 HZ
- **Data Storage:** Operation parameters, totalization, date are stored by EEPROM
- **Power output:** 4-20 mA, 0-20 mA
- **Output:** 1-9999 Hz
- **Data Logger:** 16 GSD card, 64 data points including flowrate, totalizer time, data
- **Alarm:** High/Low with buzzer as option
- **Protection:** Converter - IP65; Sensor - IP68

## ■ STANDARD TRANSDUCER

Fluid Temperature:     -22 ~ 230°F (-30 ~ +110°C)

Accuracy:     1%
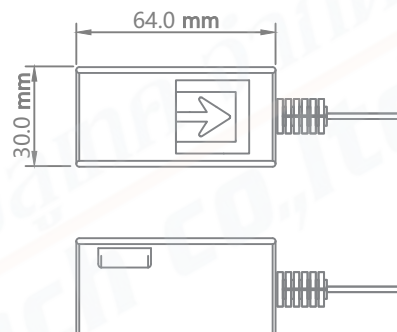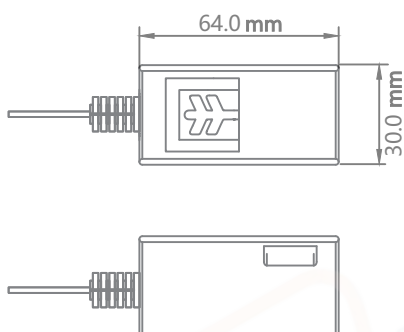
| Model | SC1 (Medium Size) | SC2 (Large Size) |
|---|---|---|
| Pipe Size | 1" ~ 32" (DN25 ~ 800mm) | 20" ~ 48" (DN500 ~ 1200mm) |

## ■ PRODUCT ACESSORIES
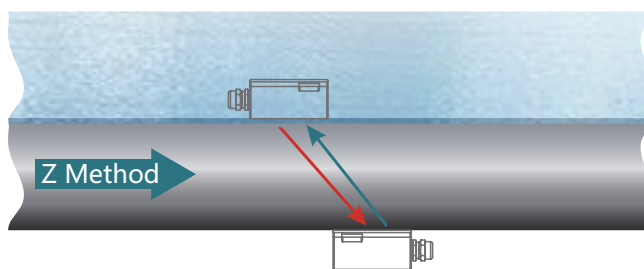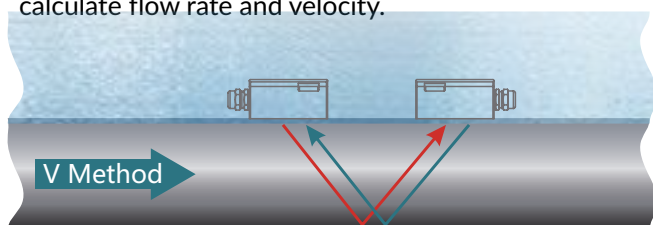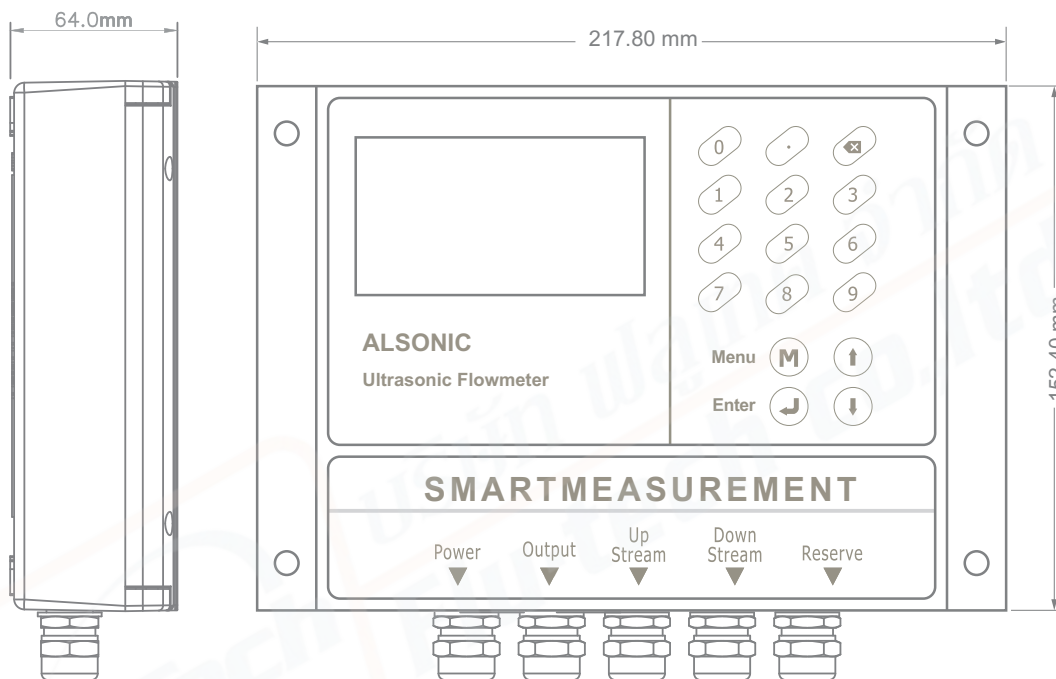
mounting plate

Cable

Worm Gear Clamp

## ■ MEASURING PRINCIPLE

The ultrasonic signal from the transducer is transmitted and received through the moving liquid. The difference between the upstream and downstream transit time, is directly proportional to Fluid Velocity, used to calculate flow rate and velocity.

V Method

Z Method

■ DIMENSION



| | |
|---|---|
| **Size:** | 8.58" x 5.98" x 2.52" (218*152*64mm) |
| **Setting** | Flow unit, zero, clear total flow, K- factor |
| **Parameters:** | Passwords, data linearity factor |
| **Inputs:** | 2 channel 4 ~ 20 mA analog input (heat/energy) |
| | Three-wire PT100 resistor input (heat/energy) |

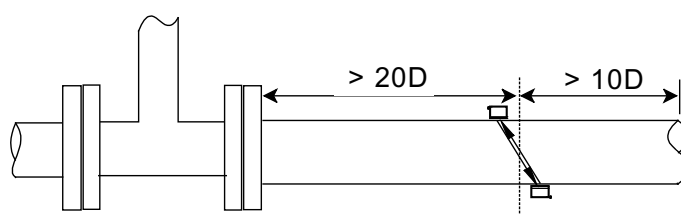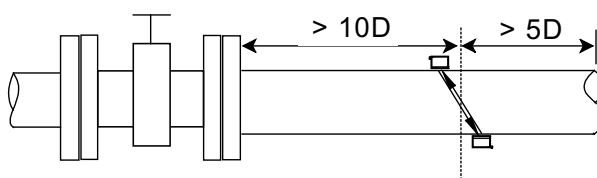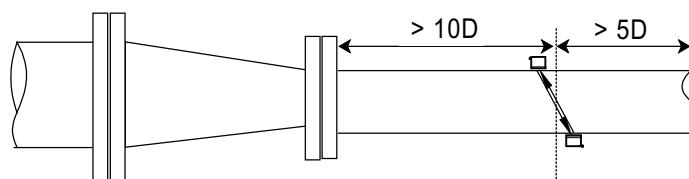| | |
|---|---|
| **Outputs:** | Isolated RS232/RS485 output |
| | 1 channel OCT, 1 channel 4 ~ 20mA output |
| | 1 relay output, SD card data |
| | logger (optional) |
| **Protection:** | IP65 |

ELBOW 90°
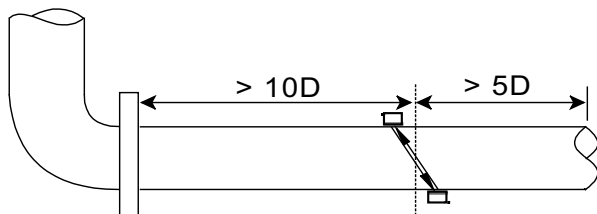


Tee Fitting



Valve



Reducer

| TYPE OF FLUID | Please provide the name of your fluid, including operating density and viscosity |
|---|---|
| FULL-SCALE FLOW RATE | Please provide the max, min and nominal flow rates. |
| LINE SIZE | Please provide the line size |
| PRESSURE & TEMPERATURE | We will calibrate your flow meter as close to your operating conditions as possible |

## ALSONIC-FX SERIES

### EXAMPLE: ALSONIC-FX2-SC1-C1-NN

| ALSONIC-FX | ** | ** | ** | ** | DESCRIPTION |
|---|---|---|---|---|---|
| Wall mount with display and RS485 | 2 | | | | Flow Meter |
| Middleclamp sensor(-30 ~ +75˚C), 1" ~ 31" (25 ~ 800mm) | | SC1 | | | Transducers |
| Large clamp sensor (-30 ~ +75˚C), 20" ~ 48" (500 ~ 1200 mm) | | SC2 | | | |
| High Temperature clamp sensor (-30 ~ +110˚C), 1" ~ 20" (25 ~ 500mm) | | HC1 | | | |
| Standard insertion sensor (-30 ~ +110˚C), 3" ~ 47" (80 ~ 1200 mm) | | IC1 | | | |
| 304SS Inline sensor (-30 ~ +110˚C) with pipe size ** | | DN | | | |
| Other transducer | | ** | | | |
| No cable | | | NC | | Signal Cable Length |
| 5M x 2 Cables | | | C1 | | |
| **m cables up to +75˚C | | | C** | | |
| **m cables up to +110˚C | | | H** | | |
| No option | | | | NN | Options |
| Worm gear steel mounting belt - please offer line size <DN500 | | | | SM | |
| Thickness gauge | | | | TT | |
| Data logger for wall mount | | | | DL | |
| Ex proof chassis for wall mount transmitter | | | | EX | |