GENERAL

SMARTMEASUREMENT’s Alsonic-HL series is a hand-held, portable transit-time ultrasonic flowmeter with clamp-on transducers for non-invasive liquid measurement of liquids with less than 1-2% bubbles/solids. Our microprocessor based, user friendly field programmable flow measurement technique creates no interruption of the process flow and has low installation costs.

FEATURES

- 2 line LCD display with flow rate, totalizer & signal condition
- The flowmeter is designed for high accuracy ±1.0%
- Compact, lightweight design
- Wide range of fluid velocities (0.5 ~ ±12 m/s)
- Ni-MH Battery life for up to 16 hours continuous operation
- Transducers for pipe sizes of 1”~ 48” (25 to 1200mm)
- High accuracy of ±1.0% of reading (or ±0.2% of reading)
- Transducers include magnetic device, which can install on Metal pipe without mounting belt
- Response time less than 1 second

SPECIFICATIONS

- Measuring Principle: Transit time Ultrasonic
- Transducers: 1”~ 48” (25-1200 mm)
- Pipe Material: Cast Iron, Stainless Steel, Ductile Iron, Copper, PVC, Aluminum, Asbestos, Fiberglass, etc
- Liner Material: Tar Epoxy, Rubber, Mortar, Polypropylene, Polystyral, Polyethylene, Ebonite, Polyethylene, Teflon, etc
- Display: 2 Line LCD with backlight
- Flow rate: 5 digit with decimal point
- Totalizer: 7 digit, Forward, Reverse & Net values
- Eng. Units: m³, Liter, US Gallon, Imperial Gallon, Million Gallon, Cubic Feet, US Barrels, Imperial Barrels, Oil Barrel
- Time Unit: Second, Minute, Hour, Day
- Other: Velocity, Date, Time, Signal condition
- Accuracy: ±1% of reading (0.5 ~±12 m/s)
- Repeatability: ±0.2% of reading
- Keypad: 16 Key with tactile action
- Response Time: Less than 1 second
- Fluid velocity: 1.6~±39 ft/s (0.5 ~±12 m/s)
- Resolution: 0.0003 ft/s (0.0001 m/s)
- Ambient Temperature: -4~+122 °F (-20~+50 °C)
- Ambient Humidity: 90% RH or Less
- Built-in battery: Ni-MH Battery
- Operation Time: > 12 Hours
- Data Logger: flow rate, totalizer, time, date, etc...
- Communication: M-bus, Modbus
- Charger: 90 ~ 260V, 50/60 Hz, 8-12 Hour charging
- Output: RS485
- Alarm: High/Low with buzzer
- Power consumption: Less than 2W
- Dimension: 3.25” x 3.50” x 1.18” (83mm * 92mm * 35mm)
- Weight: 9lbs (4kg) (Including Carrying Case)
- Enclosure: IP65
- Converter: IP65, IP68 (optional)
**TRANSUDCERS**

**STANDARD TRANSUDCER**
Fluid Temperature: -40→80 °F (-30→80 °C)

<table>
<thead>
<tr>
<th>Model</th>
<th>Pipe Size</th>
<th>SCS (Small Size)</th>
<th>SCM (Medium Size)</th>
<th>SCL (Large Size)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>½&quot;-4&quot; (DN15-100mm)</td>
<td>2&quot;-40&quot; (DN50-1000mm)</td>
<td>12&quot;-240&quot; (DN300-6000mm)</td>
<td></td>
</tr>
</tbody>
</table>

**HIGH TEMPERATURE TRANSUDCER**
Fluid Temperature: -40→230 °F (-30→140 °C)

<table>
<thead>
<tr>
<th>Model</th>
<th>Pipe Size</th>
<th>SHS (Small Size)</th>
<th>SHL (Medium Size)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>½&quot;-4&quot; (DN15-100mm)</td>
<td>2&quot;-40&quot; (DN50-1000mm)</td>
<td></td>
</tr>
</tbody>
</table>

**STANDARD-MOUNTING TRACK TRANSUDCER**
Fluid Temperature: -40→80 °F (-30→80 °C)

<table>
<thead>
<tr>
<th>Model</th>
<th>Pipe Size</th>
<th>MCS (Small Size)</th>
<th>MCM (Medium Size)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>½&quot;-4&quot; (DN15-100mm)</td>
<td>2&quot;-12&quot; (DN50-300mm)</td>
<td></td>
</tr>
</tbody>
</table>

**HIGH TEMPERATURE MOUNTING TRACK TRANSUDCER**
Fluid Temperature: -40→230 °F (-30→140 °C)

<table>
<thead>
<tr>
<th>Model</th>
<th>Pipe Size</th>
<th>MHS (Small Size)</th>
<th>MHL (Medium Size)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>½&quot;-4&quot; (DN15-100mm)</td>
<td>2&quot;-12&quot; (DN50-300mm)</td>
<td></td>
</tr>
</tbody>
</table>

**INSTALLATION**

**STRAIGHT RUN PIPING REQUIREMENT**

- Grove Valve: > 10D > 5D
- T-Tube: > 20D > 10D
- ELBOW 90°: > 10D > 5D
- Reducer: > 10D > 5D
COMBINATIONS

- Upstream Cable
- Downstream Cable
- Power Adaptor
- RS-232 Communication Cable
- Handheld Display

OTHER ACCESSORIES

- Measuring Tape
- Longer Mounting Belt
- Thickness gauge
### ALSONIC-HL

**Hand-held Transit-Time Ultrasonic Flow** Model ALSONIC Series

**EXAMPLE: ALSONIC-HL-SCS-C1-DL**

<table>
<thead>
<tr>
<th>ALSONIC-HL</th>
<th>**</th>
<th>**</th>
<th>**</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Handheld</strong></td>
<td>ALSONIC-HL</td>
<td>**</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td><strong>No transducers required</strong></td>
<td>NTS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Small clamp sensor, ½&quot; ~ 4&quot; (15 ~ 100 mm)</strong></td>
<td>SCS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Middle clamp sensor, 2&quot; ~ 24&quot; (50 ~ 600 mm)</strong></td>
<td>SCM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Large clamp sensor, 12&quot; ~ 240&quot; (300 ~ 6000 mm)</strong></td>
<td>SCL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>High Temperature clamp sensor, (-30 ~ 140°C); ½&quot; ~ 4&quot; (15 ~ 100 mm)</strong></td>
<td>SHS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>High Temperature clamp sensor, (-30 ~ 40°C); 2&quot; ~ 28&quot; (50 ~ 700 mm)</strong></td>
<td>SHL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mounting track Small clamp sensor, ½&quot; ~ 4&quot; (15 ~ 100 mm)</strong></td>
<td>MCS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mounting track Middle clamp sensor, 2&quot; ~ 12&quot; (50 ~ 300 mm)</strong></td>
<td>MCM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mounting track High Temperature clamp sensor, ½&quot; ~ 4&quot; (15 ~ 100 mm)</strong></td>
<td>MHS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mounting track High Temperature clamp sensor, 2&quot; ~ 12&quot; (50 ~ 300 mm)</strong></td>
<td>MHL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>No cable needed</strong></td>
<td>NC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5m length, 2 Cables</strong></td>
<td>C1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>10m length, 2 Cables</strong></td>
<td>C2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>15m length, 2 Cables</strong></td>
<td>C3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>None option</strong></td>
<td>NN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Thickness gauge</strong></td>
<td>TT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Extra single cable, 10m * 2</strong></td>
<td>Cable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mounting Belt, 6m * 2</strong></td>
<td>ST</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IP68 Protection for transducers</strong></td>
<td>68</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **HANDHELD FLOWMETER**
- **TRANSUCERS**
- **SIGNAL CABLE LENGTH**
- **OPTIONS**

Please provide the name of your fluid, including operating density and viscosity.

Please provide the pipe size and sensor connection type (insertion, clamp, etc.).

We will calibrate your flow meter as close to your operating conditions as possible.

Please specify output and installation type (compact, wall mount, panel mount, etc.).

Please provide the name of your pipe material.