

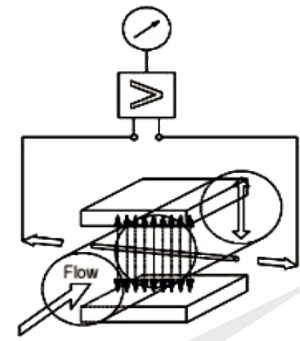
# ELECTROMAGNETIC FLOW METER



## Introduction

Arrowmech Instruments & Automation AEFM-100 are micro controller based full bore type electromagnetic flow meter specially used for various industrial applications. This flow meter accurately measure the flow rate of conductive liquids and slurries in closed pipes. Due to simple and rigid design, the flow meter is an obstruction less & maintenance free instrument in place of convectional mechanical flow measuring devices. The use of advance technology offers highest ability & better measuring accuracy in the form of electrical signal 4-20 mA DC, Pulse, RS 485 linearly proportional to volumetric flow.

## Construction



## Industries We Serve

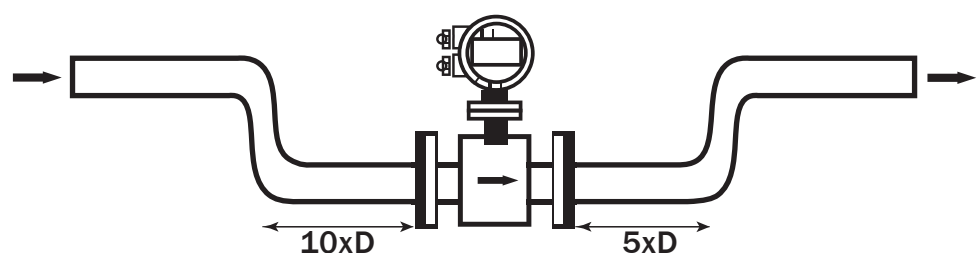
- ❖ Effluent Treatment Plant
- ❖ Water Supply Scheme
- ❖ Food & Drug Industries
- ❖ Chemical & Fertilizer Industries
- ❖ Dairy Industries
- ❖ Sugar Industries
- ❖ Textile Processing Industries
- ❖ Petrochemical Industries
- ❖ Pharmaceutical industries
- ❖ Metallurgy industries

## Technical Specification

| Parameters                             | Specifications   |
|--|--|
| Nominal Diameter (mm)                  | 15 to 300  |
| Process Pressure (kg/cm <sup>2</sup> ) | 10   |
| Conductivity                           | ≥ 10 μS/cm   |
| Response time                          | 0.3 Second   |
| Empty pipe detection                   | Yes  |
| Environment temperature                | 0°C to 55°C  |
| Measuring Tube Material                | SS 316   |
| Sensor Hosing Material                 | MS / SS 304 / SS 316   |
| Connection                             | Flange ANSI 150  |
| Internal Lining                        | PTFE / Rubber  |
| Electrode Material                     | SS 316/Hastelloy C/Titanium/Tantalum   |
| Process Temperature                    | PTFE - 150°C   |
| Display Version                        | Remote / Integral  |
| Processor                              | ARM Microprocessor   |
| Electronic Housing                     | Die cast Alluminium, IP 65   |
| Display                                | LCD Display Multiple Information   |
| Measuring Units                        | Selectable :<br>M <sup>3</sup> /h, M <sup>3</sup> /m, M <sup>3</sup> /s, Kg/h, Kg/m,<br>Kg/s, L/h, L/m, L/s. |
| Power supply                           | 230V AC or 24V DC  |
| Output                                 | 4 – 20 mA (Isolated) /RS 485/Pulse   |
| Remote Display                         | Std. 10 meter Cable  |
| Measuring Range                        | 0.2 to 12m/sec. (Bidirectional)  |
| Accuracy % of Measured Value           | ±0.5 (±0.2% Contact Factory)   |
| Repeatability                          | ± 1% of Span   |
| Protection class for transmitter       | IP 67  |

## Features

- ❖ Surge Protector
- ❖ Auto “Zero” Calibration
- ❖ Detect Empty or Full Pipe by Capacitance Technology
- ❖ Measuring both forward & reverse flow.
- ❖ Multiple Flow Rate Unit Available
- ❖ Adjustable Damping Time
- ❖ Low Flow Rate Removal
- ❖ Reset Totalizer
- ❖ Pre-set totalizer



D= Diameter of Flow Meter in Inch

## Application

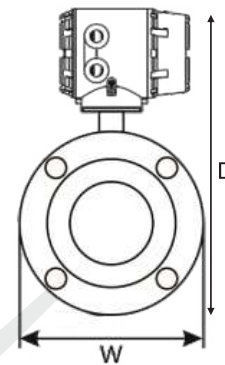
- ❖ Raw Water
- ❖ Portable Water
- ❖ Sea Water
- ❖ Waste Water
- ❖ Heat Exchanger
- ❖ Industrial & Domestic Effluent Syrup
- ❖ Molasses
- ❖ Fruit Juice
- ❖ Pulp & Beverages
- ❖ Acidic & Alkaline Solution
- ❖ Cooling Water
- ❖ Brine Solutions
- ❖ Paper Pulp
- ❖ Black, Green & White Liquor
- ❖ Neutral Salts Solution

## Flow Range Chart (M<sup>3</sup>/hr)

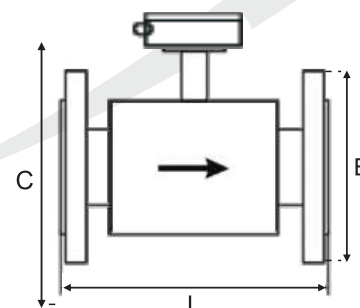
| DN (mm) | Flow Meter Range<br>M <sup>3</sup> /hr |
|---------|--|
| DN 15   | 0.64 - 3.82                            |
| DN 20   | 1.13 - 6.78                            |
| DN 25   | 1.77 - 10.6                            |
| DN 32   | 2.90 - 17.4                            |
| DN 40   | 4.52 - 27.24                           |
| DN 50   | 7.07 - 42.41                           |
| DN 65   | 11.95 - 71.68                          |
| DN 80   | 18.10 - 108.87                         |
| DN 100  | 28.27 - 169.65                         |
| DN 125  | 44.18 - 365.07                         |
| DN 150  | 63.62 - 381.7                          |
| DN 200  | 113.09 - 678.58                        |
| DN 250  | 176.7 - 1060.3                         |

## Dimension Chart

| DN (mm) | L (mm) | B (mm) | C (mm) | D (mm) | PCD OF FLANGE |
|---------|--------|--------|--------|--------|---------------|
| DN 15   | 191    | 88.9   | 193.9  | 253.9  | 60.5          |
| DN 20   | 191    | 98.4   | 293.4  | 263.4  | 70.0          |
| DN 25   | 191    | 107.9  | 212.9  | 272.9  | 79.5          |
| DN 32   | 191    | 117.5  | 222.5  | 282.5  | 89.0          |
| DN 40   | 191    | 127.0  | 232.0  | 292.0  | 98.5          |
| DN 50   | 192    | 152.4  | 257.4  | 317.4  | 120.5         |
| DN 65   | 192    | 177.8  | 282.8  | 342.8  | 139.5         |
| DN 80   | 192    | 190.5  | 295.5  | 355.5  | 152.5         |
| DN 100  | 237    | 228.6  | 333.6  | 393.6  | 190.5         |
| DN 125  | 240    | 254.0  | 359.0  | 419.0  | 216.0         |
| DN 150  | 240    | 279.6  | 384.6  | 444.6  | 241.5         |
| DN 200  | 310    | 342.9  | 447.9  | 507.9  | 298.5         |
| DN 250  | 362    | 406.9  | 511.9  | 571.9  | 362.0         |



**Integral**



**Remote**

## Characteristics

- No Moving Parts. Easy to Maintain. There is no pressure drop as there are no choked flow parts.
- Minimum Conductivity can be as low as 10  $\mu\text{s}/\text{cm}$ . With proper lining, AEFM-100 is perfect for Acidic, Alkali, Neutral Salts Solutions with high Accuracy of  $\pm 0.3\%$  to  $\pm 0.5\%$ .
- AEFM-100 is based on volume flow rate measuring, which is independent to flow pressure, temperature, density and viscosity.
- The induced voltage is generated in the area filled with magnetic field, which is cross section area of pipe, so very short pipe section is needed for (10x Diameter) for upstream and (5x Diameter) for downstream.
- Corrosion resistance and Abrasion resistance can be achieved by choosing appropriate materials for the wetted parts (Lining & Electrode).
- Convertor Features: High Reliability, High Accuracy, Lower Power Consumption, stable "Zero" output, easy to use, LCD display for flow rate, velocity, total flow, empty line, direction etc.
- Output: RS485, Pulse, 4~20 mA (Isolated).



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Factory: W/41, Laxminarayan Industrial Estate, Opp. Daksheshwar Mahadev, BRC Compound, Udhna, Surat, Gujarat - 394210

# IOT MODULE

## (AIOT410)



## Summary

IOT Module - AIOT410 from Arrowmech Instruments & Automation is designed to transmit Electromagnetic Flow Meter data to the server. It acquires data from the instrument through RS-485 and transmits to the cloud. We provide Website & Mobile Applications (iOS & Android) to monitor Flow Meter Data. This is a worthwhile solution for Industry 4.0 Applications. It can be fully customized as per user needs.

## Features

- RS-485 Input
- Wifi Connectivity
- SIM Connectivity (optional)
- Power Supply - 230V AC or 24V DC (optional)
- Web Configuration
- LAN Connectivity (optional)
- Web, iOS & Android Application to monitor data



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# Ultrasonic Flowmeter Clamp On






- ▶ Measurement accuracy 1% ~ 2%.
- ▶ Display protection class IP67, sensor protection class IP68.
- ▶ Wide measurement range, pipe size from DN 25MM to DN 6000mm.
- ▶ Easy for installation, no need to cut pipe



# General Specification

| Items         | Performance & Parameter                  |
|---------------|--|
| Principle     | Transit Time                             |
| Accuracy      | ±1% ~ 2%                                 |
| Display       | 2 x 20 LCD backlight display with keypad |
| Output        | 4~20ma, pulse, RS485                     |
| Cable         | 5m Twisted pair Sheilded cable           |
| Pipe Diameter | 25mm to 6000mm                           |
| Process Temp  | 30°C to 160°C                            |
| Ambient Temp  | 20°C to 60°C                             |
| Power Supply  | 230V AC or 24V DC                        |
| Dimention     | Display- 132 x 150 x 85mm                |

# Sensor Specification

| Types           | Picture   | Spec.       | Measurement Range | Temperature | Dimension      |
|-----------------|---|-------------|-------------------|-------------|----------------|
| Clamp on Sensor |  | Small size  | DN25~DN100        | -30~160°C   | 45 x 25 x 32mm |
|                 |  | Medium size | DN50~DN700        | -30~160°C   | 64 x 39 x 44mm |
|                 |  | Large size  | DN300~DN6000      | -30~160°C   | 97 x 54 x 53mm |



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# ULTRASONIC FLOWMETER BATTERY OPERATED






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