

Electromagnetic Flow Transmitter

FT015 電磁式流量傳訊器

















BTU(Energy)

Introduction

FT015 electromagnetic flow meter is suitable for measuring the volumetric flow of conductive liquid in a closed tube. LCD display, mA/Pulse/RS485/HART output, and simultaneously show instant flow & flow rate and cumulative flow. The measurement principle is based on <law of Faraday's electromagnetic induction>. When measuring flow rate, fluid flows through the magnetic field generated by the electromagnetic coil. The conductive liquid flow induces a voltage proportional to the average flow rate (i.e., volume flow), thus requiring the measured liquid with a minimum conductivity. The induced voltage signal through the positive electrode and the ground electrode measures the flow rate and then transmits the data to the microcomputer then displays the calculated flow rate. The transmitter can convert signal into a digital/analog and transmit it to the central system (DCS, PLC, DDC, PC). LoRa & NB-IoT is also available on the IoT specifications.

Feature

- LCD display can be (integrated) or (separated) with the flow meter
- Can display instant flow, total flow, flow rate, temperature, temperature difference, total amount of heat, etc. (BTU type)
- Results are not affected by physical properties such as temperature, pressure, or viscosity, and are used to measure various flow rates of conductive liquids
- FEP lining & SUS body (optional) for working in corrosive environments
- Quantitative control function (optional) for batch control of flow
- Set parameters stored in pluggable EEPROM, and accumulated data will not lose when power is off.

- Built in RS485 Modbus (RTU) protocol, and HART/Profibus can also be purchased.
- Chinese/English operation interface freely switch
- Automatic Zeroing adjustment, show no display in empty tube state, and alarm, error code display.
- Lightning protection design circuit, high efficiency anti-interference circuit, EMC electromagnetic compatibility test, suitable for various harsh environments and outdoor installation
- Maximum measurable flow is 1.2 times of the standard flow value
- Measure forward/reverse flow (optional) and attach point output
- Optional LoRa or NB-IoT communication output

Application

- Instant flow, cumulative flow and flow rate of liquids and slurries
- Flow measurement of sludge, mud, pulp, mortar, etc.
- Pure water, domestic sewage, industrial wastewater, process wastewater flow measurement
- Air conditioning BTU heat metering

- Chemical and biomedical pharmaceuticals, etc.
- Food, beverage, catering industry, etc.
- Semiconductor process water, air conditioning cooling water, etc.
- Tap water flow meter, reservoir, pumping station, sewage treatment plant, etc.

FT015-E-2019-05



Electromagnetic Flow Transmitter

| Specification | | | | | | | |
|--|--|--|--|--|--|------------------------------------|--|
| Sensor | | | | | | | |
| Type | Economic | Standard | | Sani tary | | | |
| Model | A | В | С | D | E | F | |
| Mechanical Specific | | | | | | | |
| | Die-casting aluminum | Carbon Steel | SUS304 | Die-casting | SUS304 | SUS316 | |
| Body Material | (DN15~100) | (DN125~500) | (DN125 | aluminum | (DN15~150) | (DN15~150) | |
| | Carbon Steel (DN125~1000) | (====== | ~500) | (DN15~100) | (===== | (===== | |
| Electrode Material | SUS316L(Standard) | SUS316L; Hastelloy C; Ti; Ta; Pt | | | SUS316L; Hastelloy C; Ti | | |
| | Hastelloy C FEP(DN15~500) | FEP(DN15~500); PU(DN15~500) | | | | | |
| Lining Material | Chloroprene Rubber(DN65~500) | Chloroprene Rubber(DN65~500) | | | FEP(DN15~150) | | |
| Connecting Material | * | ; Carbon Steel | | | SUS304 | SUS316 | |
| Connecting Type/Size | 100001 | Flange | | | | tary flange | |
| Measure tube Material | | SUS304 | | | Berew / Barr | tary rrange | |
| Pipe diameter | | DN15~500(mm) | | | | | |
| Product Performance | | | () | | | | |
| Measuring Range | 0.5~10m/s | 0.2~15m/s | | | 0.5~1 | 10m/s | |
| Accuracy | | ±0. | 5% F. S. | | - | | |
| Measure Medium | Liq | uid (electric | conductiv | ity $>5 \mu \text{s/cm}$) | | | |
| Install Requirement | 5D; 3D | | | | | | |
| Electrical Specific | cation | | | | | | |
| Electrical Connection | | | 20x1.5 | | | | |
| Electrode | | Three electrodes | | | | | |
| Ingress Protection | | (Integrate ; Se | parate); | IP68(Separate) | | | |
| Environmental Condi | | | | | 1) | | |
| Working Pressure | | nax, Depending | on the co | onnection metho | od) | | |
| the second contract of the second contract of the second | | (CD 1: I | M 1: | . 100°C (D | | 1) | |
| Medium Temperature | <80°C (FEP lining); <60°C | C (CR lining, I | PU lining) | ; <120°C (Remo | | ng only) | |
| | <80°C (FEP lining); <60°C | C (CR lining, I | PU lining) |);<120℃ (Remo | | ng only) | |
| Display | <pre><80°C (FEP lining); <60°C Flow Economic</pre> | | | | ote, FEP lini | | |
| | | C (CR lining, I | | | | | |
| Display Type | Flow Economic | Flow Standar | | | ote, FEP linin | | |
| Display Type Model Product Performance Accuracy | Flow Economic | Flow Standar | rd; Remote | e B1 | ote, FEP linin | | |
| Display Type Model Product Performance Accuracy Operating Interface | Flow Economic A | Flow Standar B ±0.5% F.S; ± Chine | rd; Remote | e B1 | ote, FEP linin FU(Energy); Re C | emote | |
| Display Type Model Product Performance Accuracy | Flow Economic A No | Flow Standar B ±0.5% F.S;± Chine | rd; Remote | e B1 | CU(Energy); ReCC | emote | |
| Display Type Model Product Performance Accuracy Operating Interface | Flow Economic A No Energy un | Flow Standar B ±0.5% F.S; ± Chine one nit: None | rd; Remote | e B1 .(Optional) ish Energy un | CU(Energy); ReCCCPT100; PT100; PT100 | emote 00 K · KWH · WH | |
| Display Type Model Product Performance Accuracy Operating Interface | Flow Economic A P S No Energy un Temperature | Flow Standar B ±0.5% F.S; ± Chine one nit: None unit: None | o.25% F.S | e B1 .(Optional) ish Energy un Temp | CU(Energy); Ro C PT100; PT100 it: KJ \ MJ \ J | emote 00 K · KWH · WH | |
| Display Type Model Product Performance Accuracy Operating Interface Resistance Thermometers | Flow Economic A P S No Energy un Temperature | Flow Standar B ±0.5% F.S; ± Chine one nit: None e unit: None ant flow: m³/h | o. 25% F. Sese / Engl | e B1 .(Optional) .ish Energy un Temp | CU(Energy); Ro C PT100; PT100 it: KJ \ MJ \ J | emote 00 K · KWH · WH | |
| Type Model Product Performance Accuracy Operating Interface Resistance Thermometers Measure Unit | Flow Economic A No Energy un Temperature Inst | Flow Standar B ±0.5% F.S; ± Chine one nit: None e unit: None ant flow: m³/h | o.25% F.S | e B1 .(Optional) .ish Energy un Temp | CU(Energy); Ro C PT100; PT100 it: KJ \ MJ \ J | emote 00 K · KWH · WH | |
| Display Type Model Product Performance Accuracy Operating Interface Resistance Thermometers Measure Unit Electrical Specific | Flow Economic A No Energy un Temperature Inst | Flow Standar B ±0.5% F.S; ± Chine one nit: None e unit: None ant flow: m³/h Cumulat | O. 25% F. Sese / Engl | e B1 .(Optional) ish Energy un Temp /s \ L/h \ L/m \] : m³ \ L | CU(Energy); Ro C PT100; PT100 it: KJ \ MJ \ J | emote 00 K · KWH · WH | |
| Display Type Model Product Performance Accuracy Operating Interface Resistance Thermometers Measure Unit Electrical Specific Power Supply | Flow Economic A S Energy un Temperature Inst | Flow Standar B ±0.5% F.S; ± Chine one nit: None e unit: None ant flow: m³/h Cumulat AC 85~2 | o. 25% F. Sese / Engl | e B7 .(Optional) ish Energy un Temp /s、L/h、L/m、l : m³、L | CU(Energy); ReCC PT100; PT100 it: KJ、MJ、Jerature unit | emote 00 K · KWH · WH : °C · °F | |
| Display Type Model Product Performance Accuracy Operating Interface Resistance Thermometers Measure Unit Electrical Specific Power Supply Display | Flow Economic A S Energy un Temperature Inst | Flow Standar B ±0.5% F.S; ± Chine one nit: None e unit: None ant flow: m³/h Cumulat AC 85~2 | O. 25% F. Sese / Engl | e B1 .(Optional) ish Energy un Temp /s、L/h、L/m、l : m³、L | CU(Energy); Ro C PT100; PT100 it: KJ \ MJ \ J | emote 00 K · KWH · WH : °C · °F | |
| Display Type Model Product Performance Accuracy Operating Interface Resistance Thermometers Measure Unit Electrical Specific Power Supply Display IoT | Flow Economic A S Energy un Temperature Inst | Flow Standar B ±0.5% F.S; ± Chine one nit: None e unit: None cant flow: m³/h Cumulat AC 85~2 chape LCD LoRa(Optiona | O. 25% F. Sese / Engl | e B1 .(Optional) ish Energy un Temp /s、L/h、L/m、l : m³、L | CU(Energy); ReCC PT100; PT100 it: KJ、MJ、Jerature unit | emote 00 K · KWH · WH : °C · °F | |
| Display Type Model Product Performance Accuracy Operating Interface Resistance Thermometers Measure Unit Electrical Specific Power Supply Display IoT Analogue Output | Flow Economic A S Energy un Temperature Inst Circle s | Flow Standar B ±0.5% F.S; ± Chine one nit: None e unit: None ant flow: m³/h Cumulat AC 85~2 shape LCD LoRa(Optiona | 0.25% F.S ese / Engl m³/m m³/s ive flow 240V; DC 2 1); NB-Io DC 4~20mA | Energy un Temp /s \ L/h \ L/m \] Energy un Temp /s \ L/h \ L/m \] Energy un Temp /s \ L/h \ L/m \] Energy un Temp | PT100; PT100 it: KJ \ MJ \ J erature unit: L/s Square shape | emote 00 K · KWH · WH : °C · °F | |
| Display Type Model Product Performance Accuracy Operating Interface Resistance Thermometers Measure Unit Electrical Specific Power Supply Display IoT Analogue Output Digital Output | Flow Economic A S Energy un Temperature Inst | Flow Standar B ±0.5% F.S; ± Chine one nit: None e unit: None ant flow: m³/h Cumulat AC 85~2 shape LCD LoRa(Optiona | 0.25% F.S ese / Engl m³/m m³/s ive flow 240V; DC 2 1); NB-Io DC 4~20mA | e B1 .(Optional) ish Energy un Temp /s、L/h、L/m、l : m³、L | PT100; PT100 it: KJ \ MJ \ J erature unit: L/s Square shape | emote 00 K · KWH · WH : °C · °F | |
| Display Type Model Product Performance Accuracy Operating Interface Resistance Thermometers Measure Unit Electrical Specific Power Supply Display IoT Analogue Output | Flow Economic A S Energy un Temperature Inst Circle s | Flow Standar B ±0.5% F.S; ± Chine one nit: None e unit: None ant flow: m³/h Cumulat AC 85~2 Shape LCD LoRa(Optiona | O. 25% F. Sese / Englowers flow 240V; DC 2 1); NB-Io DC 4~20mA HART(Option | Energy un Temp (s \ L/h \ L/m \) : m³ \ L 20~36V T(Optional) conal); Profibus | PT100; PT100 it: KJ \ MJ \ J erature unit: L/s Square shape | emote 00 K · KWH · WH : °C · °F | |
| Display Type Model Product Performance Accuracy Operating Interface Resistance Thermometers Measure Unit Electrical Specific Power Supply Display IoT Analogue Output Digital Output Control Output | Flow Economic A S Energy un Temperature Inst Circle s | Flow Standar B ±0.5% F.S; ± Chine one nit: None e unit: None ant flow: m³/h Cumulat AC 85~2 Shape LCD LoRa(Optiona | o. 25% F. Sese / Englowers nm³/m nm | Energy un Temp (s \ L/h \ L/m \) : m³ \ L 20~36V T(Optional) conal); Profibus | PT100; PT100 it: KJ \ MJ \ J erature unit: L/s Square shape | emote 00 K K KWH WH C F | |
| Display Type Model Product Performance Accuracy Operating Interface Resistance Thermometers Measure Unit Electrical Specific Power Supply Display IoT Analogue Output Digital Output Control Output Communication Protocol | Flow Economic A S Energy un Temperature Inst Circle s | Flow Standar B ±0.5% F.S; ± Chine one nit: None e unit: None ant flow: m³/h Cumulat AC 85~2 Shape LCD LoRa(Optiona | o. 25% F. Sese / Englowers o. 25% F. Sese / Englowers o. m³/m · | Energy un Temp (s \ L/h \ L/m \) : m³ \ L 20~36V T(Optional) conal); Profibus | PT100; PT100 it: KJ \ MJ \ J erature unit: L/s Square shape | emote 00 K · KWH · WH : °C · °F | |
| Display Type Model Product Performance Accuracy Operating Interface Resistance Thermometer: Measure Unit Electrical Specific Power Supply Display IoT Analogue Output Digital Output Control Output Communication Protocol Electrical Connections Ingress Protection Certification | Flow Economic A Energy un Temperature Inst Cation HART(Optional) | Flow Standar B ±0.5% F.S; ± Chine one nit: None e unit: None ant flow: m³/h Cumulat AC 85~2 Shape LCD LoRa(Optiona | o. 25% F. Sese / Engles m³/m m³/m m³/m m²/m m²/m m²/m m²/m m²/m | Energy un Temp (s \ L/h \ L/m \) : m³ \ L 20~36V T(Optional) conal); Profibus | PT100; PT100 it: KJ \ MJ \ J erature unit: L/s Square shape | emote 00 K · KWH · WH : °C · °F | |
| Display Type Model Product Performance Accuracy Operating Interface Resistance Thermometers Measure Unit Electrical Specific Power Supply Display IoT Analogue Output Digital Output Control Output Control Output Communication Protocol Electrical Connections Ingress Protection Certification Mechanical Specific | Flow Economic A Energy un Temperature Inst Cation HART(Optional) | Flow Standar B ±0.5% F.S; ± Chine one nit: None e unit: None ant flow: m³/h Cumulat AC 85~2 Shape LCD LoRa(Optiona | o. 25% F. Sese / Englowers nm³/m nm²/m nm | e B7 .(Optional) ish Energy un Temp /s、L/h、L/m、] : m³、L 20~36V T(Optional) onal); Profibus | PT100; PT100 it: KJ \ MJ \ J erature unit: L/s Square shape | emote 00 K K KWH WH C F | |
| Display Type Model Product Performance Accuracy Operating Interface Resistance Thermometers Measure Unit Electrical Specific Power Supply Display IoT Analogue Output Digital Output Control Output Communication Protocol Electrical Connections Ingress Protection Certification Mechanical Specific Body Material | Flow Economic A S Energy un Temperature Inst Circle s HART(Optional) | Flow Standar B ±0.5% F.S; ± Chine one nit: None e unit: None ant flow: m³/h Cumulat AC 85~2 Shape LCD LoRa(Optiona | o. 25% F. Sese / Englowers flow and the sese / Englowers flow | e B7 .(Optional) ish Energy un Temp /s、L/h、L/m、] : m³、L 20~36V T(Optional) onal); Profibus | PT100; PT100 it: KJ \ MJ \ J erature unit: L/s Square shape | emote 00 K · KWH · WH : °C · °F | |
| Display Type Model Product Performance Accuracy Operating Interface Resistance Thermometers Measure Unit Electrical Specific Power Supply Display IoT Analogue Output Digital Output Control Output Control Output Communication Protocol Electrical Connections Ingress Protection Certification Mechanical Specific Body Material Environmental Condi | Flow Economic A S Energy un Temperature Inst Circle s HART(Optional) | Flow Standar B ±0.5% F.S; ± Chine one nit: None e unit: None ant flow: m³/h Cumulat AC 85~2 shape LCD LoRa(Optiona RS485 | o. 25% F. Sese / Englowers flow and the sese / Englowers flow | e B7 .(Optional) ish Energy un Temp /s、L/h、L/m、] : m³、L 20~36V T(Optional) onal); Profibus | PT100; PT100 it: KJ \ MJ \ J erature unit: L/s Square shape | emote 00 K K KWH WH C F | |
| Display Type Model Product Performance Accuracy Operating Interface Resistance Thermometers Measure Unit Electrical Specific Power Supply Display IoT Analogue Output Digital Output Control Output Communication Protocol Electrical Connections Ingress Protection Certification Mechanical Specific Body Material | Flow Economic A S Energy un Temperature Inst Circle s HART(Optional) | Flow Standar B ±0.5% F.S; ± Chine one nit: None e unit: None ant flow: m³/h Cumulat AC 85~2 shape LCD LoRa(Optiona RS485 | o. 25% F. Sese / Englowers nm³/m nm²/m nm | e B7 .(Optional) ish Energy un Temp /s、L/h、L/m、] : m³、L 20~36V T(Optional) onal); Profibus | PT100; PT100 it: KJ \ MJ \ J erature unit: L/s Square shape | emote 00 K K KWH WH C F | |