

## ZT803 ELECTRO MAGNETIC FLOW METER

### Introduction

Ztech's Electromagnetic flow meter model ZT803 is designed for flow measurement of conductive liquids with no moving parts and a PTFE lining. Electromagnetic flow meter is suitable for measurement of flow of conductive liquids, which is based on Faraday's law of Electromagnetic induction, according to which a voltage is induced in electrically conducting body moving in a magnetic field & this voltage is directly proportional to the velocity. Standard outputs include analog, frequency, RS232/RS485 or GSM/GPRS connectivity. Local-and remote-display models are available with weather proof & flame proof enclosure as an optional feature. They meet the most demanding requirements on high measurement precision, long-term stability and hygienic standard.

### Features

Display	: Graphical Display 64*128
High Accuracy	: Up to 0.5% accuracy (Standard 1% Accuracy)
Wide Flow range	: Diameter from 15mm to 600mm
Resolution	: 5 digits Flowrate, Totalizer: 10 digits Totalizer
Electrode Material	: Various electrode materials available
End Connection Types	: Various Connections Available
Application	: All Conductive liquids having conductivity >20u/cm
Flow measure (Range)	: 0.3m/s minimum to 10m/s maximum (Velocity)

### Electronics Parameters

Flowrate	: 5Digit and Auto Adjust With Line Size
Flow Totalizer	: 10digit Totalizer Value
Real Time Clock	: Available
Bargraph	: Corresponds to 0-100% Flowrate
Tag Id	: User Configure Id (Numeric)
Velocity	: 5Digit Velocity 0.000 M/s to 10.000 M/s

### Configuration Functions/Parameters

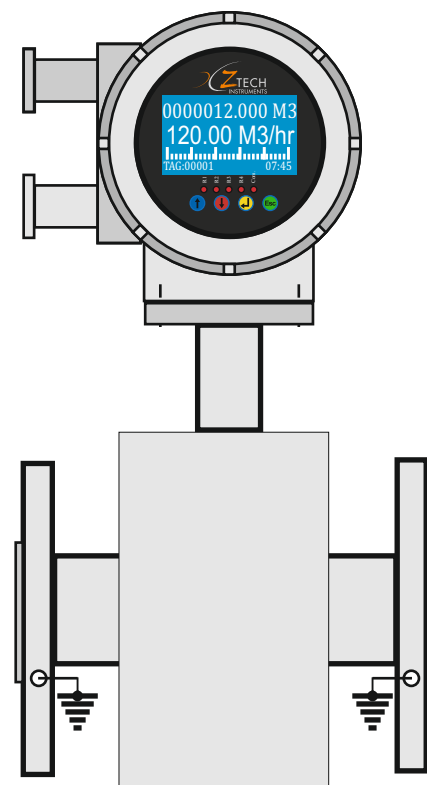
Configuration Data	: 4 Tactile Membrane Keys for Data Configuration
Flow Totalizer Reset	: Totalizer Reset Facility by Password Protection
Unit	: Gallon, Liter, M3, Cubic Feet (User Configurable)
Low Cut-Off	: User Configurable
Flow Direction	: Software Selection for Forward/Reverse Flow Direction
Flow Indication	: Reverse/Forward Flow Indication with Sign Indication
Damping Time	: User Configurable

### Alarm Indication and Detections

Flow Detection	: Empty Pipe Detection
Flow Indication	: Forward /Reverse
Alarm Indication	: Flow Alarm , Batch , Communication Status

### Sensor Description (Mechanical Parts)

Lining Material	: PTFE
Electrode Material	: SS316 (Default), Hystalloy C, Tantalum, Titanium
Measuring Tube Material	: SS304 (Default), SS316
Coil Housing	: SS304 (Default)
End Connection	: Flange , Tri Clover , SMS Connection
Protection Class	: IP65 (Standard), IP68 (Optional)



## Electromagnetic Flowmeter ZT803

### Output

Retransmission	: 4-20mA (Opto & Galvanic Isolated)
Control Alarm	: Max 2 Relay on Flow Rate
Batch Control Relay	: Control Relay on Totalizer for Batching Function
Pulse Output (Open Collector)	: Pulse Corresponds To Totalizer Quantity
Communications	: RS 485
Compatible with GPRS /GPS	: Yes

### Special Function (Optional)

Batching Facility	: Available
Data Logging	: Internal Data Logging Function
Log Data	: Approx. 15000 Reading (Flow Data)
Data Printing	: External Data Printing Function

**Security** : Password Protection for Configuration of Data

**Power Supply** : 90 - 260 VAC 50/60Hz, 24VDC, 12VDC

### Specification : Environmental

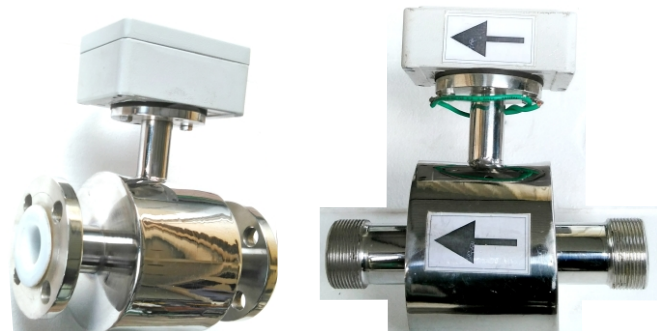
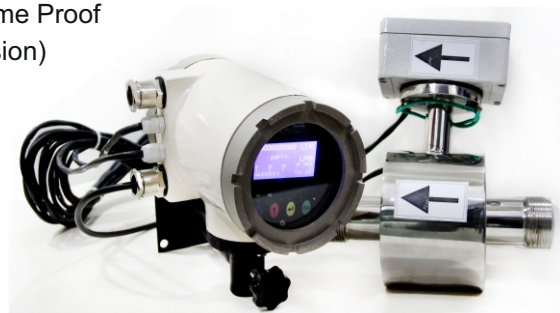
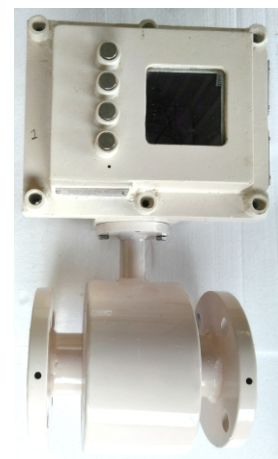
Ambient Temperature Range	: 0 To 55 °C (For Integral Flow Meter)
Process Temperature Range	: 0 To 150 °C (For Integral Flow Meter)
Process Temperature Range	: 0 To 150 °C (For Remote Flow Meter)
Ambient Humidity Range	: 5 To 95 % Rh (Non-Condensing)

### Specification : Physical

Weight	: As Per Line Size of Flow meter
Enclosure	: Aluminum Die cast, Weather Proof, Flame Proof
Protection	: IP65, IP68 (Optionally For Remote Version)
Dimension	: As Per Table

### Application

Water and Waste Water Management  
ETP Plant  
Pharmaceutical Application  
Power Industries  
Cement Industries  
Water Heating Boilers  
Sewage Treatment Plant  
Mining Industries  
Paper and Pulp Industries  
Food/Beverage Industries  
Fertilizer Industries



**Electromagnetic Flowmeter  
ZT803**

**Ordering Code**

**ZT803-X XX X X X X X X X (10 Digit code)**

**Option 1: Display(X)**

- 0 - Local (Integral Display)
- 1 - Remote Display (5 Meter Cable length)
- 2 - Remote Display (User Define Cable length)

**Option 2: Line Size(XX)**

- 00 - 015mm (1/2")
- 01 - 020mm (3/4")
- 02 - 025mm (1")
- 03 - 032mm (1 1/4")
- 04 - 040mm (1 1/2")
- 05 - 050mm (2")
- 06 - 065mm (2 1/2")
- 07 - 080mm (3")
- 08 - 100mm (4")
- 09 - 125mm (5")
- 10 - 150mm (6")
- 11 - 200mm (8")
- 12 - 250mm (10")
- 13 - 300mm (12")
- 14 - 350mm (14")
- 15 - 400mm (16")
- 16 - 450mm (18")
- 17 - 500mm (20")

**Option 3: Power(X)**

- 0 - 90-260VAC(Default)
- 1 - 24VDC
- 2 - 12VDC
- 3 - User Define

**Option 4: Output(X)**

- 0 - Rs485 and 4-20mA Retransmission(Default)
- 1 - 1 Relay on Flow rate
- 2 - 1 Relay on Totalizer
- 3 - 1 Relay on Flow rate and 1 Relay on Totalizer
- 4 - Pulse Output
- 5 - RS232
- 6 - Internal Data logging and Printing Function
- 7 - USB Output
- 8 - User Define

**Option 5: Electrode Selection(X)**

- 0 - 316L Stainless Steel(Default)
- 1 - Hastelloy C
- 2 - Tantalum
- 3 - Titanium
- 4 - User Define

**Option 6: Connection Types(X)**

- 0 - CS Flange(Default)
- 1 - SS316L Flange
- 2 - Threaded Type
- 3 - Tri clover Clamp
- 4 - User Define

**Option 7: Connection Types(X)**

- 0 - Weather Proof(Default)
- 1 - Flame proof Class II A, B

**Option 8:(X)**

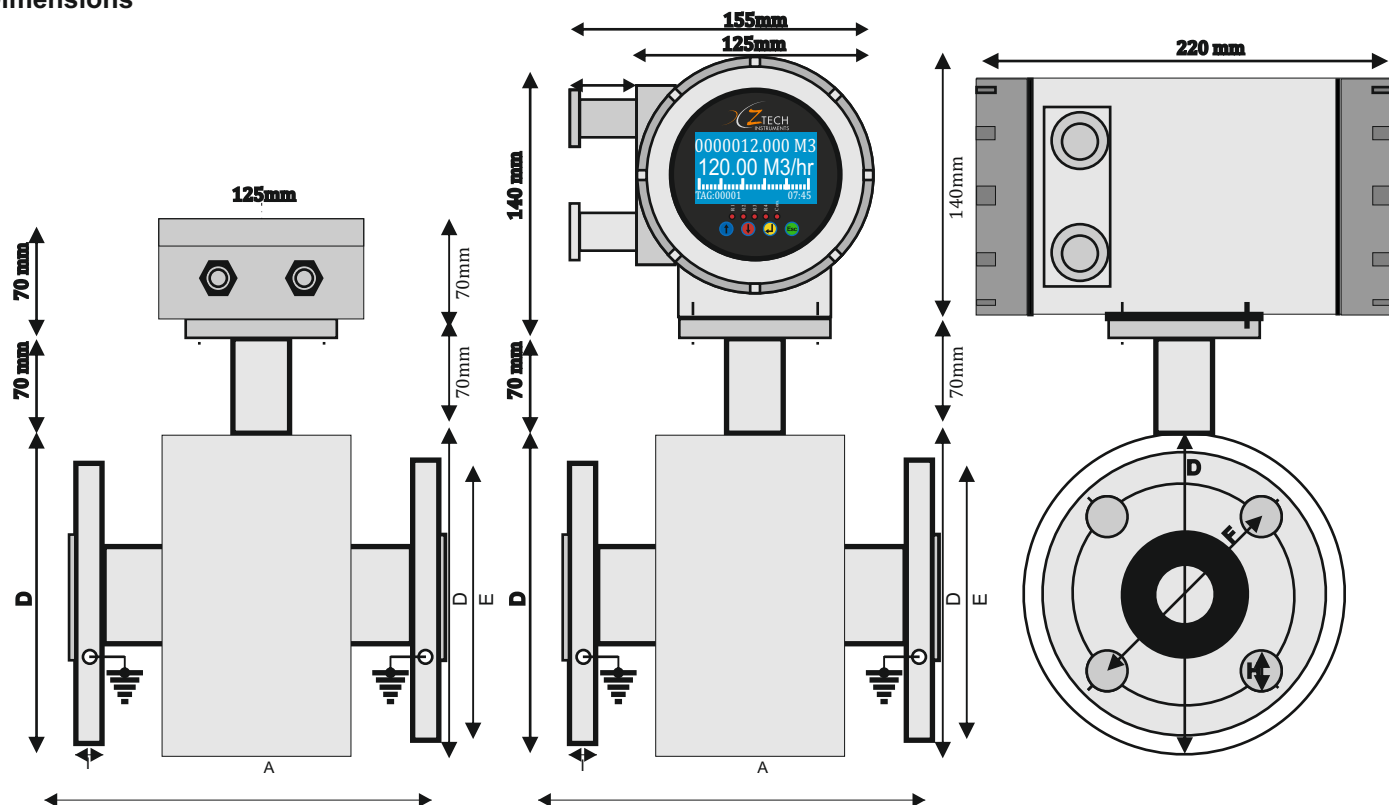
- 0 - None

**Option 9:(X)**

- 0 - None

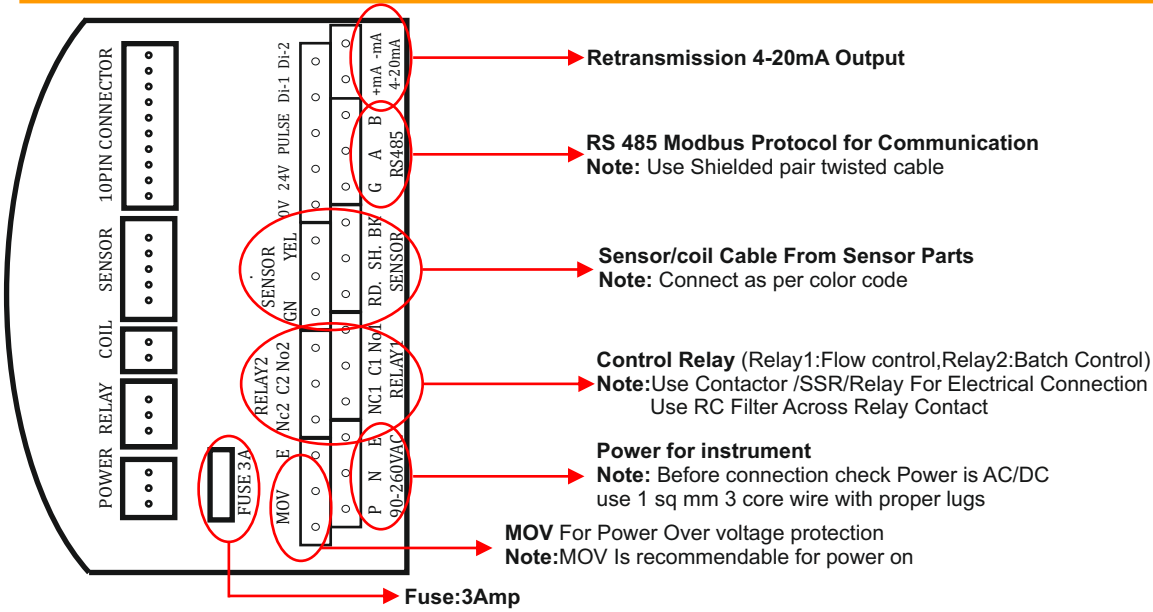
Flow rate Characteristics values		
Nominal Diameter		Recommended flow rate Min. /max. full scale value
(mm)	(inch)	(Velocity 0.3 to 10 m/s)
15	1/2"	6 – 120.00 LPM
20	3/4"	10 – 200.00 LPM
25	1"	10 – 300.00 LPM
32	1 1/4"	15 – 500.00 LPM
40	1 1/2"	25 – 700.00 LPM
50	2"	35 – 1100.0 LPM
65	2 1/2"	60 – 2000.0 LPM
80	3"	4 – 150.00 m3/hr
100	4"	8 – 270.00 m3/hr
125	5"	12 – 450.00 m3/hr
150	6"	20 – 600.0 m3/hr
200	8"	35 – 1100.0 m3/hr
250	10"	55 – 1700.0 m3/hr
300	12"	110 – 3300.0 m3/hr
350	14"	140 – 4200.0 m3/hr
400	16"	180 – 5400.0 m3/hr
450	18"	220 – 6600.0 m3/hr
500	20"	300 – 9600.0 m3/hr

Dimensions



(mm)	(inch)	Face To Face distance	Height	Flange Diameter	Pitch Circle Diameter (PCD)	Dia. of Hole	Thickness	Number of Holes
		A	D	E	F	H	I	
15	1/2"	200	117	88.9	60.4	15.7	11.2	4
20	3/4"	200	126	98.6	69.9	15.7	12.7	4
25	1"	200	136	108.0	79.2	15.7	14.2	4
32	1 1/4"	200	145	117.3	88.9	15.7	15.7	4
40	1 1/2"	200	155	127.0	98.6	15.7	17.5	4
50	2"	200	180	152.4	120.7	19.1	19.1	4
65	2 1/2"	200	206	177.8	139.7	19.1	22.4	4
80	3"	200	218	190.5	152.4	19.1	23.9	4
100	4"	250	258	228.6	190.5	19.1	23.9	8
125	5"	250	282	254.0	215.9	22.4	23.9	8
150	6"	300	307	279.4	241.3	22.4	25.4	8
200	8"	350	372	342.9	298.5	22.4	28.4	8
250	10"	400	434	406.4	362.0	25.4	30.2	12
300	12"	450	511	482.6	431.8	25.4	31.8	12
350	14"	530*	570*	533.4	476.3	28.4	35.1	12
400	16"	610*	630*	596.9	539.8	28.4	36.6	16
450	18"	660*	670*	635.0	577.9	31.8	39.6	16
500	20"	750*	740*	698.5	635.0	31.8	42.9	20

**Electromagnetic Flowmeter  
ZT803**

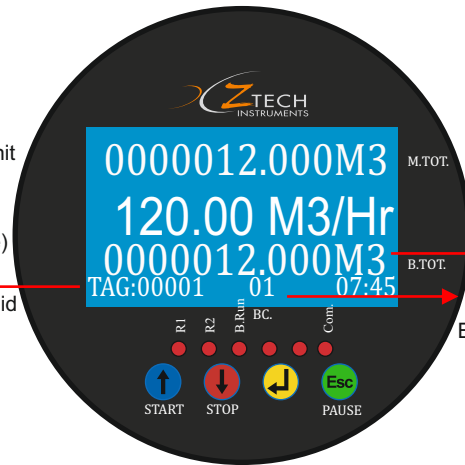


**Electrical Connections**



**Front Panel Description  
Flow Meter**

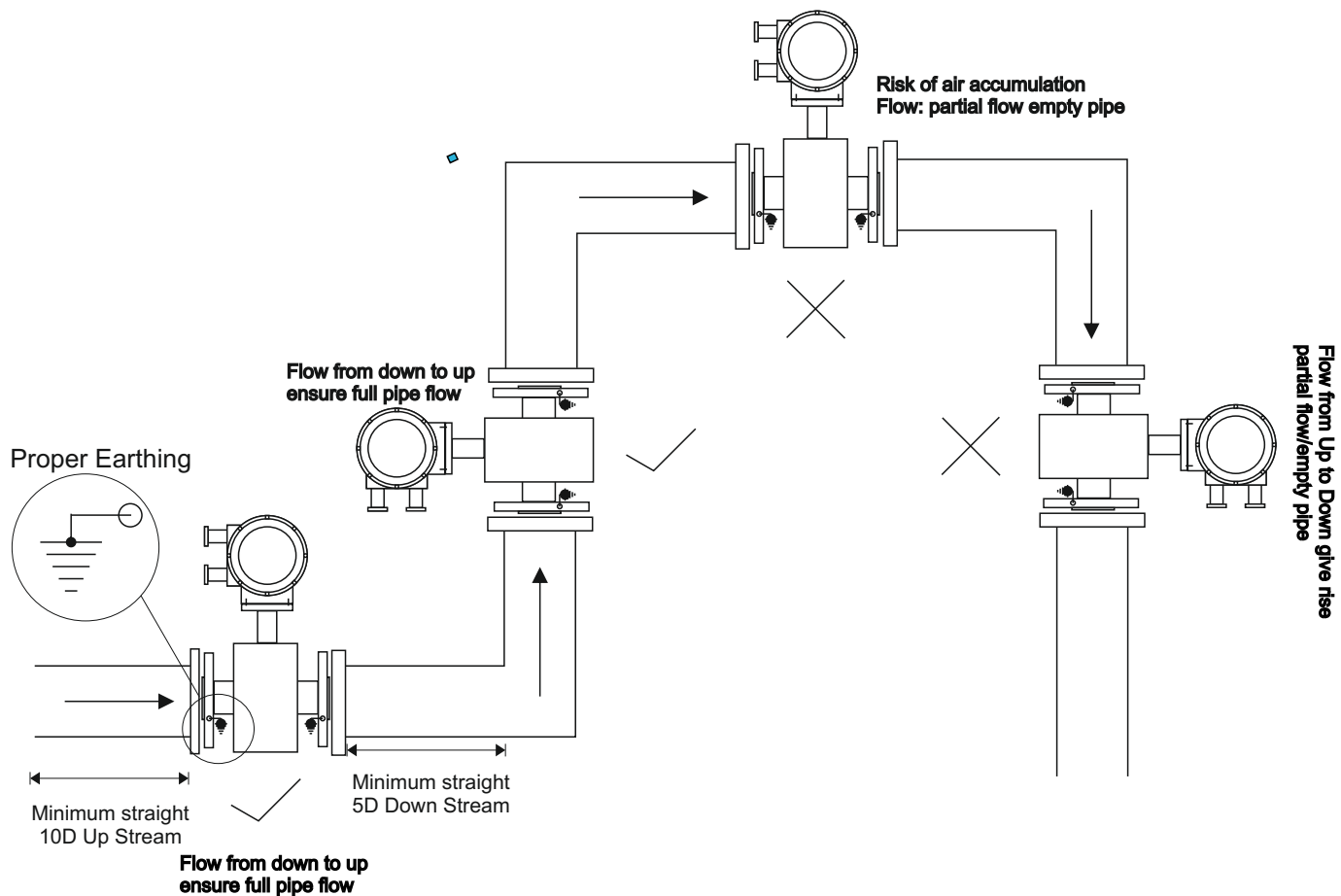
- 10 Digit Totalizer Value with unit
- 5 Digit Flow Rate with unit
- 0-100% Bargraph (Flow range)
- Real time clock
- Alarm indication
- front keys



**Front Panel Description  
Batch-Flow Meter**

- 10 Digit Batch Totalizer Value with unit
- Batch Counter

## Installation Guideline



Flow Must be Full Bore

Strait Pipe: Up Stream(10 Pipe Diameter),Down Stream (5Pipe Diameter)

Install the Flow Meter Vertically or Incline With Flow from Down To Up As This Ensure That the Pipe Is Always Full

Proper Grounding/Farthing to Flanges is Compulsory

Use Proper Wire and Proper Glanding will avoid from External Environment Parameter like (Water, Dust, Gases)

For Communication use Shielded core twisted pair wire only

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