

# PrismaTech®

We Measure it



# PrismaTech®

We Measure it

❖ **PrismaTech**, The Control System Knowledge-Based Company (**PrismaTech**) was started in 2008 by a number of distinguished researchers, specialists and graduates of universities in the fields of industrial automation, instrumentation, electronics and optoelectronics with the aim of promoting, localizing and using new technologies in these fields. After years of research and development, as the first Iranian manufacturer, Prismatic succeeded in producing a refractory meter, which is one of the essential needs of the food industry. Despite the lower cost, the quality of this product is on par with reputable global brands. In addition, different types of **PrismaTech** refractometers (inline, laboratory, and portable) are currently being used in the country's large food industry factories. Conductivity meters (in two main models, inline and desktop) and electromagnetic flow meters (in more than 50 different models and sizes) are other products designed and produced in this company that have been widely used in domestic and foreign industries. The newest product of Prismatic is Coriolis mass flowmeters, which are able to measure the density, mass flow rate and volume flow of different types of fluids with very high accuracy. This company is proud to design and produce products with global capability for use in domestic industries and export to other countries by relying on the knowledge of its human resources and using the most up-to-date methods and equipment for production and localization of new technologies in the country.





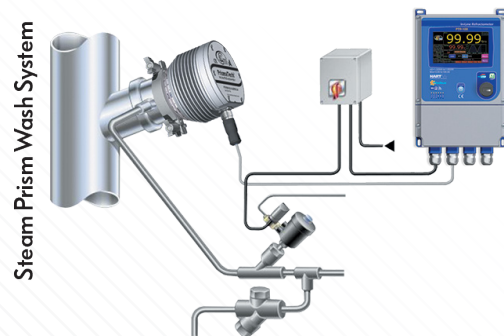
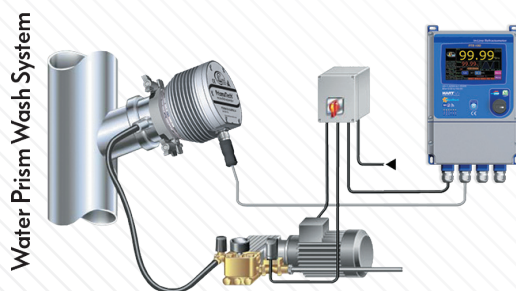
## Inline Refractometer

Refractometers are used as an efficient tool for measuring the concentration of a solution. They can be used in laboratories to measure the concentration of sampled materials or inline for real-time monitoring of the concentration of industrial liquids. PTR100 is an inline refractometer which directly can be installed on the production pipe-line. Moreover, it can be used in both clear and turbid liquids. The sensor and transmitter units of the device are separated and can be installed in different locations according to process designs.

| Model                      | PTR100 (PTR100T)                                          |
|----------------------------|-----------------------------------------------------------|
| Refractive Index Range     | 1.32500 ~ 1.54000                                         |
| Brix Range                 | 0 ~ 100 %Brix                                             |
| Brix Measurement Accuracy  | ±0.07 %Brix                                               |
| RI Measurement Accuracy    | ±0.00015                                                  |
| Process Critical Condition | 120°C, 12bar                                              |
| Optical Sensor             | CCD 3648 Pixel                                            |
| Prism Material             | Sapphire                                                  |
| Seal Degree of Protection  | IP67                                                      |
| Wetted Parts Material      | AISI316L/PTFE/Titanium                                    |
| Mounting Connections       | 3Aclamp 63mm (others on request)                          |
| Display                    | 4.3" Touch screen                                         |
| Outputs                    | Three Relay Outputs (6A)<br>Two Analog Outputs(0/4-20mA)  |
| Inputs                     | Two Digital Inputs (24V)                                  |
| Serial Port                | One unit RS485 With Modbus Protocol                       |
| PID Controller             | Two Units for Temperature and Concentration               |
| USB Port                   | One Port for transferring stored data as Excel file       |
| Data Logger                | Up to 6000 Sample<br>with customizable sampling intervals |
| Optional Communications    | Wifi, HART, Profibus, Profinet, Ethernet/IP               |



### Automatic Prism Wash System



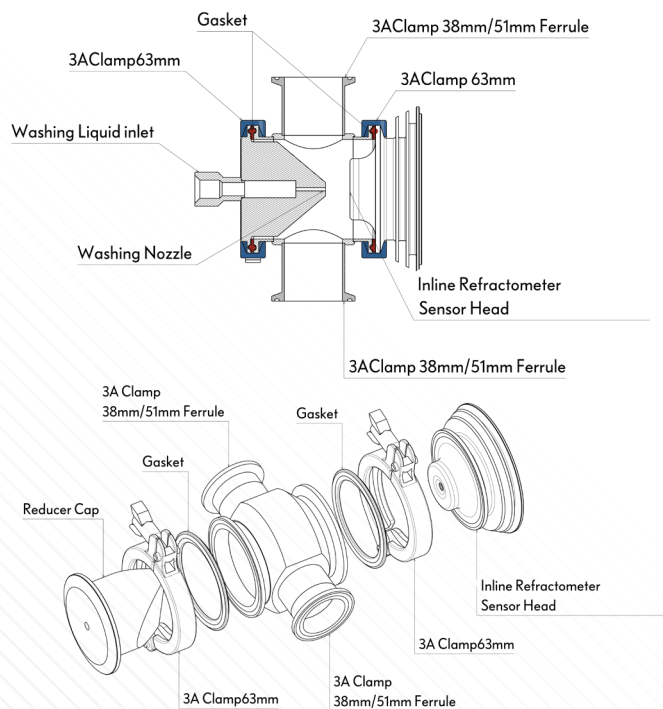
### Applications and Features

- Automatic concentration control using PID controller with analog output current in the range of 4 -20 mA or 0 - 20 mA
- Automatic temperature compensation (ATC) for precise measurement of concentration
- Sapphire Prism material
- Various output signals analog current, relay digital outputs, Modbus RTU
- Robust against environmental electrical noises, mechanical vibration, dust, and humidity (IP67)
- Robust against Clean In Place (CIP) using acidic and alkaline substances
- Stainless Steel AS316, Titanium, PTFE wetted parts material

## Compact Refractometer

**PrismaTech** Inline Refractometer model PTR100\_Cpt is an optoelectronic sensor that measures the concentration of a solution simultaneously on the process pipes (Real-Time). The sensor is also capable of sending the measured parameters using analog signals to industrial actuators to control the process automatically. The device can also control the process concentration and temperature directly without the need for any other controller. This is done using multiple PID analog outputs, digital and relay outputs, and digital inputs.

### Mounting connection



|                                |                        |
|--------------------------------|------------------------|
| <b>Model</b>                   | <b>PTR100_Cpt</b>      |
| Refractive Index Range         | 1.32500~1.54000        |
| <b>Brix Range</b>              | <b>0~100 % Brix</b>    |
| Brix Mesurement Accuracy       | ±0.1 % Brix            |
| nD Mesurement Accuracy         | ±0.0002                |
| Max Process Critical Condition | 95°C, 12 bar           |
| Prism Material                 | Sapphire               |
| Sensor Degree of Protection    | IP67                   |
| Wetted Parts Material          | AISI316L/PTFE/Titanium |
| Display                        | 320*240 TFT Color LCD  |
| Digital input/outputs          | 2DQ/1DQ-1DI            |
| Analog Outputs                 | 1AQ (0/4~20mA)         |
| Communication                  | RS485-Modbus RTU       |
| Optical Sensor                 | CCD 3648 Pixel         |
| Power Supply                   | 24VDC,500mA            |



### Applications and Features

- Automatic concentration control using PID controller with analog output current in the range of 4 -20 mA or 0 - 20 mA
- Automatic temperature compensation (ATC) for precise measurement of concentration
- Sapphire Prism material
- Various output signals analog current, digital outputs, Modbus RTU
- Robust against environmental electrical noises, mechanical vibration, dust, and humidity (IP67)
- Robust against Clean In Place (CIP) using acidic and alkaline substances
- Stainless Steel AS316, Titanium, PTFE wetted parts material









aTech®



## Coriolis Mass Flowmeter

A Coriolis mass flowmeter is based on the principle of vibrations. When the process fluid enters the sensor, it splits into two separate tubes. During operation, a drive coil stimulates the tubes to oscillate in opposition at the natural resonant frequency. As the tubes oscillate, the voltage generated from each pickup coil creates a sine wave. The time delay between the two sine waves is directly proportional to the mass flow rate. In addition, the fluid density can also be determined from the oscillation frequency of the measuring tubes. **PrismaTech** Coriolis Mass Flowmeter PTMas has been designed based on state-of-the-art technologies to meet the requirements of all industries such as food and beverage, oil and gas, wastewater, and so on. These flowmeters are constructed in various sizes, and they can simultaneously measure multiple parameters such as mass flow, density, volumetric flow, Brix, and fluid temperature.

### Model Selection

**PTMas 50-S-01-16-24**

Basic Model Name

#### Power Supply

Options:  
24: 24VDC  
220: 220VAC

#### Tube Material

Options:  
16: Stainless Steel AISI 316L  
04: Stainless Steel AISI 304L  
H2: Hastelloy C276

#### Connection Type

Options:  
01: 3A Clamp  
02: Flange  
03: Tube Nut

#### Tube Type

Options:  
S: S-Shaped  
T: Trapezoid Shape  
U: U-Shaped  
V: V-Shaped  
R: Straight-Shaped

#### Pipe size

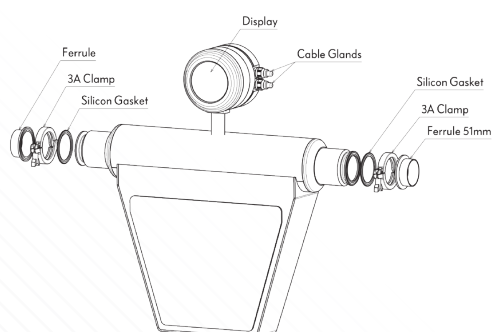
Options:  
DN: 08, 15, 25, 40, 50  
Inch: 1/4, 1/2, 1, 1 1/2, 2



### Applications and Features

- Universal measuring principle for liquids and gases
- Multivariable measurement (simultaneous measuring of mass flow, density, temperature, volumetric flow, and Brix)
- High flow measuring accuracy:  $\pm 0.15\%$
- High-density measuring accuracy:  $0.00025 \pm \text{gr/cc}$
- High zero stability
- Fully Automatic Temperature Compensation (ATC)
- Robust against environmental mechanical vibration
- Various sizes from DN8 up to DN100





|                                |                                                                             |
|--------------------------------|-----------------------------------------------------------------------------|
| <b>Model</b>                   | PTMas                                                                       |
| <b>Measurement Parameters</b>  | Mass Flow, Volumetric Flow, Density, Brix and Temperature                   |
| <b>Tube Structure</b>          | Twin Bent Tubes                                                             |
| <b>Tube Material</b>           | Stainless Steel AISI 316L, Hastelloy, others on request                     |
| <b>Mass Flow Accuracy</b>      | 0.15%                                                                       |
| <b>Density Accuracy</b>        | ±0.0005 gr/cm <sup>3</sup>                                                  |
| <b>Processor</b>               | 32-bit ARM Microcontroller H7 Series, Cortex M7                             |
| <b>Display</b>                 | 320 * 240 TFT Color LCD                                                     |
| <b>Communication</b>           | RS485/Modbus RTU<br>Optional ( Wifi, HART, Profibus, Profinet, Ethernet/IP) |
| <b>Digital Output</b>          | Two Digital Outputs (24VDC)                                                 |
| <b>Analog Output</b>           | Two Analog Outputs 4-20 mA                                                  |
| <b>Totalizer</b>               | Two Channels with adjustable units                                          |
| <b>Process Connection</b>      | 3A Clamp/ DIN 2501, ASME B16.5 Class150 Flange                              |
| <b>Degree of Protection</b>    | IP67                                                                        |
| <b>Operational Temperature</b> | Up to 150°C                                                                 |
| <b>Input Power Supply</b>      | 24VDC / 500mA                                                               |

## Dimensions and Measurement Ranges

| Model              | A  | B   | C   | D    | L   | H   | T   | Min-Max Flow rate for liquids (Kg/h) |
|--------------------|----|-----|-----|------|-----|-----|-----|--------------------------------------|
| PTMas08-S-01-16-24 | 39 | 240 | 95  | 41.5 | 367 | 255 | 119 | 0-2000                               |
| PTMas08-T-01-16-24 | 39 | 240 | 120 | 41.5 | 367 | 280 | 119 |                                      |
| PTMas08-U-01-16-24 | 34 | 120 | 145 | 41.5 | 229 | 305 | 119 |                                      |
| PTMas08-V-01-16-24 | 34 | 120 | 100 | 41.5 | 229 | 260 | 119 |                                      |
| PTMas15-S-01-16-24 | 49 | 261 | 99  | 47.5 | 398 | 259 | 119 | 0-6500                               |
| PTMas15-T-01-16-24 | 49 | 245 | 128 | 47.5 | 398 | 288 | 119 |                                      |
| PTMas15-U-01-16-24 | 39 | 172 | 173 | 47.5 | 273 | 333 | 119 |                                      |
| PTMas15-V-01-16-24 | 39 | 148 | 118 | 47.5 | 273 | 278 | 119 |                                      |
| PTMas25-S-01-16-24 | 48 | 296 | 108 | 59   | 434 | 268 | 119 | 0-18000                              |
| PTMas25-T-01-16-24 | 48 | 276 | 146 | 59   | 434 | 306 | 119 |                                      |
| PTMas25-U-01-16-24 | 42 | 205 | 225 | 59   | 324 | 385 | 119 |                                      |
| PTMas25-V-01-16-24 | 42 | 200 | 154 | 59   | 324 | 314 | 119 |                                      |
| PTMas40-S-01-16-24 | 61 | 386 | 145 | 71   | 558 | 305 | 119 | 0-45000                              |
| PTMas40-T-01-16-24 | 61 | 372 | 207 | 71   | 558 | 367 | 119 |                                      |
| PTMas40-U-01-16-24 | 55 | 310 | 243 | 71   | 456 | 403 | 119 |                                      |
| PTMas40-V-01-16-24 | 55 | 280 | 209 | 71   | 456 | 369 | 119 |                                      |
| PTMas50-S-01-16-24 | 79 | 486 | 185 | 100  | 720 | 345 | 119 | 0-70000                              |
| PTMas50-T-01-16-24 | 79 | 443 | 268 | 100  | 720 | 428 | 119 |                                      |
| PTMas50-U-01-16-24 | 64 | 370 | 377 | 100  | 562 | 537 | 119 |                                      |
| PTMas50-V-01-16-24 | 64 | 340 | 268 | 100  | 562 | 428 | 119 |                                      |

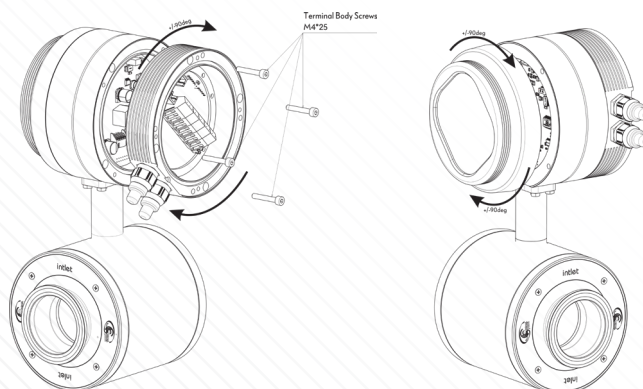
## Electromagnetic Flowmeter

|                            |                                                                       |
|----------------------------|-----------------------------------------------------------------------|
| Model                      | PTMag xx-SA-01/02-PT-24                                               |
| Power Supply               | 22 ~ 26VDC                                                            |
| Measurement Accuracy       | 0.4% Full Scale                                                       |
| Communication              | Modbus RTU,<br>Optional (Wifi, Hart, Profibus, Profinet, Ethernet IP) |
| Analog output              | 0/4 ~ 20mA one unit (max 1Kohm)                                       |
| Digital output             | Two units (Pulse/Frequency/Alarm)                                     |
| Digital input              | Two units (Hold/Total. Reset/MRS)                                     |
| Totalizer                  | 2 independent (with selectable units)                                 |
| Alarms                     | Empty pipe, AQ open loop, out of range, etc.                          |
| Electrodes material        | Titanium, Hastelloy, etc.                                             |
| Inner Lining material      | PTFE, PFA                                                             |
| Process Critical condition | 100°C, 12bar                                                          |
| Display                    | 320*240 TFT Color LCD                                                 |
| Sensor Body material       | AISI316L, AISI304                                                     |
| Process Connection         | ASME_B 16.5 CL150 Flange, 3A Clamp, etc.                              |
| Sensor Protection          | IP68                                                                  |
| Transmitter Protection     | IP67                                                                  |

Electromagnetic flowmeters are often selected because they are cost-effective, bi-directional, and provide highly accurate volumetric flow measurements.

**PrismaTech** PTMag electromagnetic flowmeters can be used in various industries like food and beverage, pharmaceuticals, paper and pulp, steel, oil and gas, and mining. Generally, PTMag electromagnetic flowmeters can be used to measure the flow rate of liquids with minimum conductivity of about 5µs/cm. PTMag flowmeter's different models are chosen according to their applications based on a range of liner materials, electrode materials, and pipeline sizes to accommodate a wide variety of process applications.

### Display and terminal cap angle rotations



### Applications and Features

- PTFE/PFA or NBR Lining, Titanium/Hastelloy or AISI316L electrodes, AISI316/304 Stainless steel or Carbon Steel sensor body
- Perfect choice for relatively high temperature, corrosive fluids
- Different output/input options (Serial, Analog, Digital, etc)
- Unique design with touch keys, high-quality graphical color display with user-friendly menus
- Reset the totalizers manually using menu parameters, by limits, and using digital inputs
- Various standard connection sizes and types with (ASME\_B 16.5 CL150 standard flanges, 3A Clamp, etc.)
- Positive, negative, and bi-directional flow measurement



|                            |                                                                                                     |
|----------------------------|-----------------------------------------------------------------------------------------------------|
| Model                      | PTMag xx-xx-xx-xx-24                                                                                |
| Power Supply               | 22 ~ 26VDC                                                                                          |
| Measurement Accuracy       | 0.4% Full Scale                                                                                     |
| Communication              | Modbus RTU,<br>Optional (Wifi, Hart, Profibus, Profinet, Ethernet IP)                               |
| Analog output              | 0/4 ~ 20mA one unit (max 1Kohm)                                                                     |
| Digital output             | Two units (Pulse/Frequency/Alarm)                                                                   |
| Digital input              | Two units (Total/Total. Reset/Filling Start)                                                        |
| Totalizer                  | 2 independent (with selectable units)                                                               |
| Alarms                     | Empty pipe, AQ open loop, out of range, etc.                                                        |
| Electrodes material        | AISI316L, Titanium                                                                                  |
| Inner Lining material      | PFA, PTFE, NBR                                                                                      |
| Process Critical condition | 150°C, 12bar (for PFA linings)<br>130°C, 12bar (for PTFE linings)<br>70°C, 12 bar (for NBR linings) |
| Sensor Body material       | AISI304, Carbon Steel                                                                               |
| Display                    | 320*240 TFT Color LCD                                                                               |
| Process Connection         | ASME_B 16.5 Cl150/ ISO7005 PN16 flange<br>3A Clamp                                                  |
| Degree of Protection       | IP67                                                                                                |



## Model Selection

### PTMag 51 - S/A- 01- PT - 24

Basic Model Name

#### Power Supply

Options:  
24: 24VDC  
220: 220VAC

#### Lining Material

Options:  
PT: PTFE    PE: PFA  
EP: EPDM    NB: NBR  
HR: Hard Rubber  
ZR: Zirconia Ceramic

#### Connection Type

Options:  
01: 3A Clamp  
02: Flange  
03: Tube Nut

#### Sensor/Transmitter mate

Options:  
S/A: Stainless Steel, Aluminum  
S/S: Both Stainless Steel  
C/A: Carbon Steel/ Aluminum

#### Pipe size

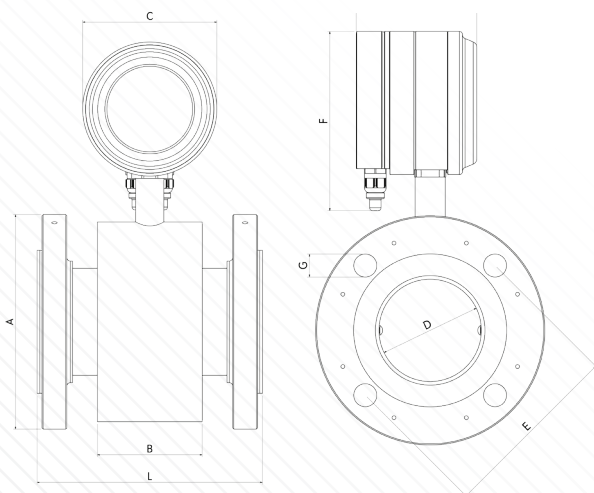
Options:  
Metric: 25, 38, 51, 63, 76, 102  
DN: 32, 40, 50, 80, 100  
Inch: 2, 3, 4, 5, 6

| Nominal pipe size |       | Minimum<br>Flow rate | Maximum<br>Flow rate | Accuracy | Units             |
|-------------------|-------|----------------------|----------------------|----------|-------------------|
| DN (mm)           | inch  |                      |                      |          |                   |
| 25                | 1     | 441                  | 14000                | 56       | L/h               |
| 32                | 1.1/4 | 700                  | 35000                | 140      | L/h               |
| 40                | 1.1/2 | 1.1                  | 45                   | 0.18     | m <sup>3</sup> /h |
| 50                | 2     | 1.7                  | 70                   | 0.28     | m <sup>3</sup> /h |
| 65                | 1.1/2 | 2.9                  | 120                  | 0.48     | m <sup>3</sup> /h |
| 80                | 3     | 4.5                  | 170                  | 0.68     | m <sup>3</sup> /h |
| 100               | 4     | 8.7                  | 282                  | 1.128    | m <sup>3</sup> /h |
| 125               | 5     | 10.5                 | 360                  | 1.44     | m <sup>3</sup> /h |
| 150               | 6     | 20                   | 600                  | 2.4      | m <sup>3</sup> /h |
| 200               | 8     | 35                   | 1100                 | 4.4      | m <sup>3</sup> /h |
| 250               | 10    | 55                   | 1600                 | 6.7      | m <sup>3</sup> /h |
| 300               | 12    | 80                   | 2400                 | 9.6      | m <sup>3</sup> /h |



Flange Connection  
PTFE Lining  
Stainless Steel Sensor Body

## Dimensions



3A Clamp Connection  
PTFE/PFA Lining  
Stainless Steel Sensor Body

| Nominal Pipe Size |       | A   | B   | C   | D    |       | E     | F   | G    | H   | I   | L   | Flange<br>Holes |
|-------------------|-------|-----|-----|-----|------|-------|-------|-----|------|-----|-----|-----|-----------------|
| DN (mm)           | Inch  |     |     |     | PTFE | NBR   |       |     |      |     |     |     |                 |
| 25                | 1     | 108 | 60  | 119 | 26   | -     | 79.2  | 149 | 15.7 | 272 | 100 | 150 | 4               |
| 32                | 1.1/4 | 117 | 64  | 119 | 35   | -     | 89    | 149 | 15.7 | 281 | 100 | 150 | 4               |
| 40                | 1.1/2 | 130 | 68  | 119 | 41   | -     | 196   | 149 | 15.7 | 294 | 100 | 150 | 4               |
| 50                | 2     | 152 | 88  | 119 | 52   | 47    | 120   | 149 | 19.1 | 316 | 100 | 200 | 4               |
| 65                | 2.1/2 | 178 | 88  | 119 | 33.5 | -     | 140   | 149 | 19.1 | 342 | 100 | 200 | 4               |
| 80                | 3     | 190 | 93  | 119 | 80   | 72.6  | 152.4 | 149 | 19.1 | 354 | 100 | 200 | 4(8)            |
| 100               | 4     | 228 | 108 | 119 | 100  | 98    | 190   | 149 | 19.1 | 392 | 100 | 250 | 8               |
| 125               | 5     | 250 | 138 | 119 | 126  | 124.5 | 210   | 149 | 22.4 | 414 | 100 | 250 | 8               |
| 150               | 6     | 285 | 148 | 119 | 152  | 149.5 | 240   | 149 | 22.4 | 449 | 100 | 300 | 8               |
| 200               | 8     | 343 | 158 | 119 | 202  | 202   | 298   | 149 | 22.4 | 507 | 100 | 350 | 8               |
| 250               | 10    | 406 | 180 | 119 | 255  | -     | 362   | 149 | 25.4 | 559 | 100 | 400 | 12              |
| 300               | 12    | 483 | 200 | 119 | 304  | -     | 432   | 149 | 25.4 | 600 | 100 | 500 | 12              |



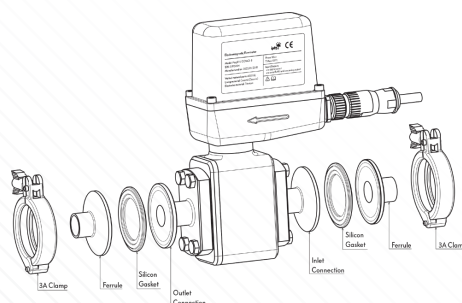
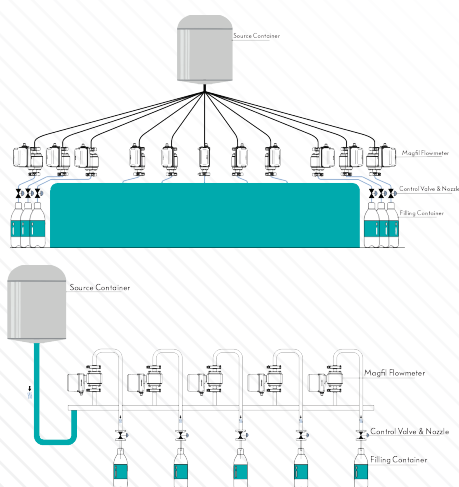
## Filling Electromagnetic Flowmeter Magfil

| Model                      | Magfil                           |
|----------------------------|----------------------------------|
| Measuring Accuracy         | ± 0.3% full Scale                |
| Lining Material            | Ceramic (Zirconia/ Alumina)      |
| Process Critical Condition | 150°C, 12bar                     |
| Power Supply               | 22 ~ 26VDC                       |
| Communication              | RS485 Modbus RTU                 |
| Digital output             | One Unit (Pulse/Frequency/Alarm) |
| Digital input              | One Unit (24VDC, 5mA)            |
| Enclosure Material         | AISI 304 Stainless Steel         |
| Wetted Parts Material      | AISI 316L Stainless Steel        |
| Electrodes Material        | Titanium                         |
| Cable Connector            | M12 Standard Connector           |
| Process Connection         | DN4 ~ DN25 3A Clamp              |
| Degree of Protection       | IP68                             |

Filling flowmeters are one of the inseparable elements of most industries, especially the food and beverage industry.

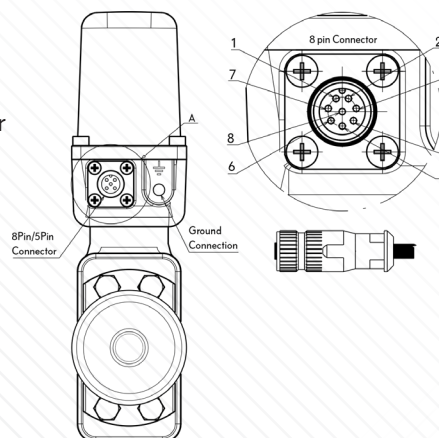
**PrismaTech** Magfil is an electromagnetic flowmeter designed based on state-of-the-art technologies to meet the requirements of filling applications. These flowmeters are highly accurate, and repeatable, and can be used in filling, batching, dosing, and CIP/SIP processes. They also offer high-temperature operation up to °150C. In addition, Magfil provides Modbus RTU communication. Hence, it is possible to make an industrial network consisting of about 200 Magfil flowmeters.

| DN (mm) | Minimum Flow Rate | Maximum Flow Rate | Accuracy | Unit |
|---------|-------------------|-------------------|----------|------|
| 4       | 2                 | 400               | 1.6      | L/h  |
| 6       | 5                 | 900               | 3.6      | L/h  |
| 8       | 7                 | 1600              | 6.4      | L/h  |
| 10      | 13                | 2500              | 10       | L/h  |
| 15      | 25                | 4200              | 17       | L/h  |
| 25      | 58                | 14000             | 56       | L/h  |



### Applications and Features

- Ceramic (Zirconia/Alumina) Lining and Titanium Electrodes
- Autonomous filling control without the need for any external controller
- Fully stainless steel body with standard 3A clamp connections
- High-temperature resistance (150°C)
- Resistant to mechanical vibrations and electronic noises
- Unique and compact design
- Usable for different kinds of filling machines
- Resistant to highly corrosive solutions
- Ability to measure flow in direct and reverse flows
- Different output options



## ◆ Inline Conductivitymeter Model PTCond-01-μ-xx-01-PE-24-xx

The PTCond-μ inline conductivity meter is used to measure the electrical conductivity of ultra-low electrical conductivity solutions such as pure, ultra-purified, and deionized water applications. This product has a variety of applications in different industries, for example, some cases can be mentioned: Boiler cooling systems, RO and EDI/EDR process water, ion exchange, distillation, semiconductor cleaning, degassing conductivity and other process applications in industry.

| Model PTCond               |                                 |
|----------------------------|---------------------------------|
| Conductivity Range         | 0 - 200 $\mu\text{S}/\text{cm}$ |
| Accuracy                   | $\pm 0.3\%$ Full Scale          |
| Max Process Temperature    | 120 $^{\circ}\text{C}$          |
| Supply                     | 24VDC                           |
| Sensor Enclosure material  | AISI304                         |
| Wetted material Protection | AISI 316L, PEEK IP67            |

| Specifications              |                                |
|-----------------------------|--------------------------------|
| Internal Sensors            | Board Voltages and Temperature |
| Digital Outputs             | Two Programmable               |
| Digital Input               | One Programmable               |
| Analog Outputs              | Two Current Outputs(0/4~20mA)  |
| Serial Output               | One Modbus RTU RS485           |
| Display/Setting unit Models | 320×240 TFT Color LCD          |



### Applications and Features

- Accurate and stable measurement with ultra-low thrust
- Built-in temperature sensor to compensate for automatic electrical conductivity
- Stainless steel body suitable for harsh environments
- Measurement with very high resolution 0.1  $\mu\text{S}/\text{cm}$
- Insulation from electrical noise and mechanical vibrations
- Can be installed on tanks and pipes of different sizes
- Ability to change the application (Customize) according to the product and the user's desired conditions

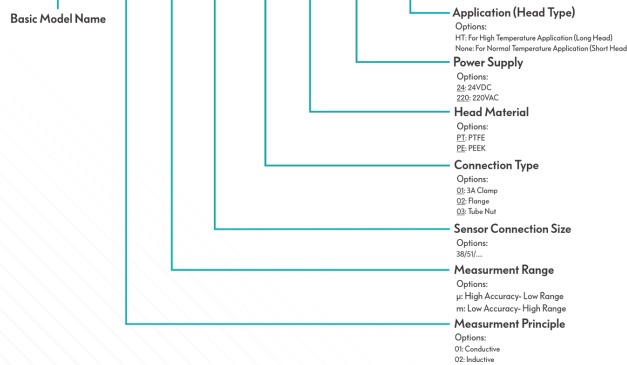


# Inline Conductivitymeter Model PTCond-01-m-xx-01-PE-24-xx

**PrismaTech** Inline conductivity meters are uniquely designed industrial-grade inline conductivity sensors that offer greatly improved range, accuracy, and stability with anti-interference capabilities. A built-in transmitter supports digital signal communication using Modbus RTU RS 485 protocol, designed to simplify on-site installation, calibration, and operation. PTCond contains four electrodes allowing the sensor to be less prone to fouling and deposition. This sensor maintains conductivity accuracy and precision, without the need for frequent calibrations.

## Model Selection

### PTCond 01 - m - 38 - 01 - PE - 24 - HT



|                             |                                 |
|-----------------------------|---------------------------------|
| Conductivity Range          | 0~1000 ms/cm                    |
| Accuracy                    | ± 0.5% Full Scale               |
| Max Process Temperature     | 120°C                           |
| Power Supply                | 24VDC                           |
| Electrodes material         | Titanium                        |
| Sensor Enclosure material   | AISI304                         |
| Head material               | AISI 316L, PEEK                 |
| Degree of Protection        | IP67                            |
| Internal Sensors            | Board Voltages and Temperature  |
| Display/Setting unit Models | 320*240 TFT Color LCD           |
| Digital Outputs             | Two Programmable                |
| Digital Input               | One Programmable                |
| Analog Outputs              | Two Current Outputs (0/4~20mA)  |
| Serial Output               | One unit Modbus RTU-RS485       |
| USB Port                    | Available on HMI Display models |
| Data Logger                 | 6000 Samples                    |



## Applications and Features

- Fast and accurate measurement
- RS485 port to communicate with a computer through the Modbus protocol up to a thousand meters away
- Can be used on CIP lines to measure and control the amount of soda and acid in washing processes
- Isolated against electrical noises and mechanical vibrations
- Can be used to measure the conductivity of a wide range of solutions
- Can be installed on tanks and pipes of different sizes

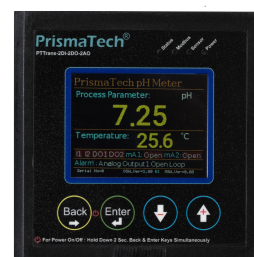
## Inline pH Meter, Precision Hydrogen Potential Measurement Instrument

The Inline pH Meter is an advanced electronic device designed for the accurate measurement of hydrogen potential (pH) in liquid samples. Utilizing a high sensitivity glass electrode and a differential voltage measurement circuit, it precisely determines the acidity or alkalinity of solutions with outstanding accuracy and repeatability.

Incorporating state-of-the-art signal processing and automatic temperature compensation (ATC) technology, the instrument minimizes temperature-related errors and ensures long-term stability of results.

### Specifications

|                                |                                             |
|--------------------------------|---------------------------------------------|
| Power                          | 18-30V DC                                   |
| pH Measuring Range             | 0.00 - 14.00                                |
| Resolution                     | 0.01 pH                                     |
| Accuracy                       | ±0.05 pH                                    |
| Measuring Temperature Range    | 0-90 °C                                     |
| Maximum Sensor Temperature     | 130 °C                                      |
| Maximum Pressure               | 6 Bar                                       |
| Temperature Calibration Sensor | PT1000                                      |
| Probe Reference Electrode      | Ag/AgCl                                     |
| Display                        | 320px×240px TFT Color LCD with 4 Touch Keys |
| Analog Output                  | 4-20mA, 2 Channel                           |
| Digital Output                 | 2 Channel, Isolated, 500mA                  |
| Digital Input                  | 2 Channel, Isolated                         |
| Communication Protocols        | Modbus RTU(RS485), Modbus TCP/IP (Ethernet) |
| IP Protection                  | IP67                                        |
| Transmitter Dimensions         | 95×95×82 mm                                 |
| Transmitter Cutout             | 85×85mm                                     |
| Sensor Connection Type         | 3A Clamp 38mm, Flange, ...                  |
| Sensor Enclosure Material      | Stainless Steel 316L                        |
| pH Electrode Dimension         | 12×120 mm                                   |



### Typical Applications

- Quality control and process monitoring in the food, pharmaceutical, and beverage industries
- Water and wastewater analysis in treatment plants, power stations, and petrochemical facilities
- Process control in chemical and biotechnology production plants

### Applications and Features

- High measurement accuracy, excellent repeatability, and long-term stability under varying environmental conditions.
- Durable, fast-response electrode with replaceable design for different applications
- Automatic multipoint calibration with international standard buffers (pH 4.01, 7.00, 10.01)
- Built-in ATC system for reliable readings across a wide temperature range
- High-resolution LCD/TFT display with user-friendly interface
- Weather-resistant housing (IP65/IP67) suitable for harsh industrial environments
- Multiple connection options for seamless integration into pipeline systems
- Low maintenance requirements and quick calibration capability
- Modular design adaptable to a wide range of industrial applications



## Benchtop Conductivitymeter

Conductivitymeters measure the electrical conductivity(EC) of aqueous solutions. Benchtop conductivitymeters can be found in almost any laboratory environment. BPTCond benchtop conductivitymeter can measure a conductivity range of 0.001  $\mu\text{S}/\text{cm}$  up to 1000  $\text{mS}/\text{cm}$  and offers automatic temperature compensation(ATC). Particular features include high reproducibility, Automatic calibration, multiple calibration points, and measured data logger.

| Model                    | BPTCond                        |
|--------------------------|--------------------------------|
| Measurment Range         | 0 ~ 1000 $\text{mS}/\text{cm}$ |
| Measurment Accuracy      | $\pm 0.5\%$ Full Scale         |
| Temperature Compensation | Continues                      |
| Electrodes Material      | AISI 316L                      |
| Enclosure Material       | Anodized Aluminium             |
| Sample Temperature Range | -25 ~ 100°C                    |
| Power Supply             | 24VDC                          |
| USB Port                 | One Unit                       |
| Data Logger              | 6000 Samples                   |
| Display                  | 4.3 inch Touch Screen HMI      |
| Serial Output            | Modbus RTU RS485               |



### Applications and Features

- 4.3 inch color touchscreen display
- Durable and standard probe
- Automatic and multi-point calibration system and automatic system for changing the measurement range
- Automatic temperature compensation (ATC) system
- Measurement of vinegar concentration in pickles
- Ability to store measurement results in device memory (up to 6000 samples)
- Direct transfer of measurement results on a USB flash drive

## Portable Refractometer

**PrismaTech** portable refractometer was designed with the use of modern technologies and the highest quality parts to measure and monitor the concentration of solutions in research laboratories and quality control departments of industrial plants. With the ease of use, accuracy, and reliability in measurement, this device is a perfect choice for any usage.

**PrismaTech** portable refractometers can be easily calibrated by multi-point tables for Brix, Refractive index, S.g, and Sp (in the Clinical model), and five other user scales

| Model                         | PTRP100                     | PTRP_U_S100 (Clinical)                  |
|-------------------------------|-----------------------------|-----------------------------------------|
| Refractive Index Range        | 1.32500~1.54000             | 1.32500~1.54000                         |
| Main Unit Range               | 0~100 %Brix                 | 1.0000 ~ 1.0600 Sg / 0.000 ~ 12.000g/dl |
| Measurement Accuracy          | 0.1 %Brix                   | 0.001 Sg, 0.1 Sp                        |
| nD Measurment accuracy        | 0.0002                      | 0.0002                                  |
| Max Sample Temperature        | 80°C                        | 80°C                                    |
| Temperatures compensation     | Automatic 5~50°C            | Automatic 5~50°C                        |
| Sample Temperature Adjustment | NA                          | NA                                      |
| Optical Sensor                | CCD 3648 Pixel              | CCD 3648Pixel                           |
| Prism Material                | Sapphire                    | Sapphire                                |
| Sample well Material          | AISI316L                    | AISI316L                                |
| External Ports                | USB mini, USB, Wifi         | USB mini, USB, Wifi                     |
| User Scales                   | 5 units                     | 5 units                                 |
| Data Logger                   | Up to 6000 Samples          | Up to 6000 Samples                      |
| Data Logger format            | Microsoft Excel .csv format | Microsoft Excel .csv format             |
| Dimensions                    | 172*84*44 (mm)              | 172*84*44 (mm)                          |



### Applications and Features

- Sapphire prism material with high mechanical and thermal resistance and AISI316L steel sample well
- Ability to define 5 different scales by the user (User Scale)
- Charging by USB port and ability to charge by mobile charger
- Ability to connect directly to a computer
- Auto Power off and Power management to increase battery life
- The ability to store and retrieve information related to the concentration of up to 6000 samples and transfer data on flash
- The ability to measure the specific gravity of urine from 1.000 to 1.060 with an accuracy of 0.001s.g (in the clinical model)
- Ability to measure serum protein with a range of 0 to 12g/dl (in the clinical model)



## Benchtop Refractometer

BPTR100 automatic or laboratory (benchtop) Refractometer, with the use of modern technologies and highest quality parts is designed to measure and monitor the concentration and refractive index of liquid samples in laboratories. With ease of use, accuracy, and reliability in measurement, this device is a perfect choice for both industrial laboratories and research centers. **PrismaTech** benchtop refractometer can display the concentration in up to 40 other user scales in addition to Brix and refractive index (nD) simultaneously.

| Model                          | BPTR 100                    |
|--------------------------------|-----------------------------|
| Refractive Index Range         | 1,32500~1,54000             |
| Main Unit Range                | 0~100 % Brix                |
| Measurement Accuracy           | 0.05%Brix                   |
| nD Measurement accuracy        | 0.0001                      |
| Max Sample Temperature         | 85°C                        |
| Temperatures compensation      | Automatic 5~85°C            |
| Sample Temperatures Adjustment | With controlled peltier     |
| Optical Sensor                 | CCD 3648 Pixel              |
| Prism Material                 | Sapphire                    |
| Sensor Enclosure               | Sensor IP67                 |
| Wetted Parts Material          | AISI 316L                   |
| Case Body Material             | Aluminium                   |
| Display                        | 4.3/7" Touch screen         |
| External Ports                 | USB, USB-b                  |
| User Scales                    | 40units                     |
| Data Logger                    | Up to 6000 Samples          |
| Data Logger format             | Microsoft Excel .csv format |
| Dimensions                     | 350*170*216 (mm)            |



### Applications and Features

- Fast and accurate measurement
- Sapphire Prism material, AISI316L head material
- Automatic and precise sample temperature adjustment using internal Peltier
- Displaying nD and Brix at the same time
- Capable of storing the measurement results of up to 6000 samples and printing them on paper directly
- USB port for transferring stored measurement results to a flash disk as a Microsoft Excel .csv file
- Touch screen display
- The best choice for measuring the concentration of high corrosive materials like acids and bases



PrismaTech®  
Flow Direction

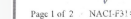


# PrismaTech®

We Measure it



















**PrismaTech®**  
We Measure it

[www.primatech.ir](http://www.primatech.ir) [www.controlsystemco.com](http://www.controlsystemco.com) [Sales.controlsystemco@gmail.com](mailto:Sales.controlsystemco@gmail.com)

PrismaTech, 8th Avenue, Shahid Babai Blvd, Payam Airport, Alborz province, Karaj, Iran. Po 3187411430  
Tel: (+98) 2634095091-3 Fax: (+98) 2634095094 Technical Support: (+98) 09336594017

Designed By: Ehsan.Ramezani