

# Aqua 2000Pro Series - 2 Wire Transmitter

For quick and reliable measurement for pH and Conductivity

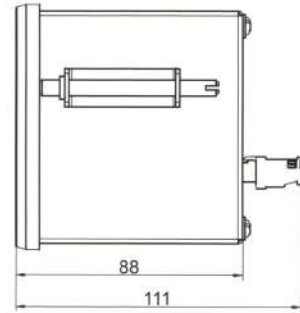
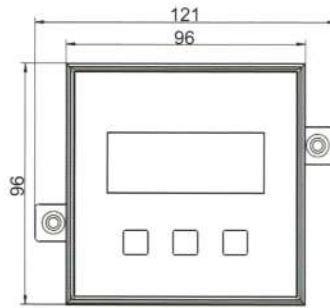


# Aqua 2000Pro Series - 2 Wire Transmitter

Forbes Marshall make Aqua 2000Pro series panel mount-type transmitters are microcontroller based 2-wire instruments which assure reliable and continuous measurement of parameters like pH, Redox, Conductivity, Resistivity and TDS. These parameters are of vital importance across the entire spectrum of pure water to waste water applications in all types of industries.

Aqua 2000pro series transmitter can be supplied to an actual user for any of his process requirement as well to OEM or integrators who may need to incorporate it in their package supply.

Aqua 2000pro series transmitters are factory calibrated and subjected to vigorous tests to qualify for stringent industrial requirements. These instruments can be easily commissioned by users with the help of the operating guidelines provided along with the instruments.



## Features

User friendly, password protected, menu-driven programme with a simple set-up and easy to use operation

Built-in non-volatile memory to ensure that calibration and other information is not erased if power supply fails

Large dual line display LCD

Calibration and sensor offset adjustment from the keypad

Automatic temperature compensation (ATC)

Manual temperature compensation setting available

Quick calibration menu

Small and compact design

Good for all types of general applications

## Applications

Pure water application such as DM, RO, RI, WFI

Power plant applications

Waste water applications

All types of in-house applications and OEM jobs



## Aqua 2000Pro Series Specifications

### General Specifications

#### Display

2-line dot-matrix 10 characters per line LCD display

#### Keypad

3 buttons keypad for user friendly menu interface

#### Current output

Galvanically isolated 4-20 mA DC, with accuracy better than 0.3% of full scale

#### Connection terminal

2 pin, 6 pin terminal blocks

#### Calibration

Single point calibration

Error message for calibration related error

#### Input

12 – 36 VDC with maximum load 600Ω at 24 VDC

#### Power consumption

Less than < 42mW

#### Housing material

Sheet metal enclosure

#### Weight

750 gms (approximate)

#### Mounting type

Panel mount

#### Protection class

IP 54 (front), IP 20 (housing)

#### Mechanical dimensions (WxHxD) mm

96x96x80 (D=100 with connector plugs)

#### Electromagnetic Compliance as per EMC Directive (2004/108/EEC)

Emitted interference

Generic Emission & Immunity Standards

IEC 61000 – 6 – 2 & IEC 61000 – 6 – 4

#### Immunity to radiated interference

As per IEC 61000 – 4 – 3 Compliant to Level 3, 80% Modulation, 1KHz modulating signal

Electrical fast transient or burst Immunity

As per IEC 61000 – 4 – 4 Compliant to Level 3

Surge immunity

As per IEC 61000 – 4 – 5 Compliant to Level 2

Radio frequency conducted susceptibility

As per IEC 61000 – 4 – 6 Compliant to Level 3, 80% Modulation, 1KHz modulating signal

Immunity to electrostatic discharge

As per IEC 61000 - 4 - 2 Compliant to +/- 4KV Contact and +/- 8KV air discharge

#### Environmental Conditions

Ambient temperature operating range

-20 to +70° C

Maximum relative humidity

Non-condensating 90%

### Common Technical Specifications

#### Temperature

Range: -20° C to +200° C

Resolution: 0.01° C

Accuracy: better than 0.5 % of FS

Sensor: PT 100 or PT 1000 (factory set hard link)

Compensation: automatic or manual

#### Output

Proportional to measured pH/Redox/

Conductivity/Resistivity/TDS value.

Galvanically isolated from the sensor.

With accuracy less than 0.3% of full scale.

#### Error Messages

pH/Redox sensor open and short

Temperature sensor open and short

pH/Redox over range

pH/Redox under range

pH/Redox out of range



## Technical Specifications

### Conductivity/Resistivity/TDS Transmitters

#### AquaCon 2000Pro

##### Conductivity

Range	Cell Constant K	Resolution
0 to 10 $\mu$ S/cm	0.01	0.01
0 to 100 $\mu$ S/cm	0.01	0.1
0 to 1000 $\mu$ S/cm	0.1	0.1
0 to 10 mS/cm	1	0.01
0 to 100 mS/cm	10	0.01

##### Resistivity

Range	Cell Constant K	Resolution
100 M $\Omega$ .cm to 10 K $\Omega$ .cm	0.01	0.01
10 M $\Omega$ .cm to 1 K $\Omega$ .cm	0.1	0.01
1 M $\Omega$ .cm to 0.1 K $\Omega$ .cm	1.00	0.01
0.1 M $\Omega$ .cm to 0.01K $\Omega$ .cm	10.0	0.01

Resolution: menu selectable

Accuracy: better than 0.5% of FS of range

Sensor calibration: Single point calibration

##### Ordering Information:

Model	Aquacon 2000Pro
Description	Conductivity transmitter
Part Number	AQUACON 2000PRO

Note: TDS calculation = Conductivity x TDS Factor\*  
\*\* TDS Factor can be programed from 0.5 to 1.0

### pH/Redox Transmitters

#### AquaMon 2000Pro

##### pH

pHRange:	0 -14pH
Resolution:	0.01pH
Accuracy:	$\pm$ 0.01pH
Span:	Minimum 2pH to maximum 14pH (programmable)

##### mV(ORP)

Range:	$\pm$ 2000mV
Resolution:	1mV
Span:	minimum 200mV to maximum 4000mV (programmable)
Accuracy:	$\pm$ 1mV

Sensor calibration: Dual point calibration

##### Ordering Information:

Model	Aquamon 2000Pro
Description	pH/Redox transmitters with inbuilt buffer amplifier
Part Number	AQUAMON 2000PRO

Model	Aquamon 2000Pro
Description	pH/Redox transmitters with external amplifier (for cable length above 10 mtr)
Part Number	AQUAMON 2000PRO-XT

##### Cables for Aquamon 2000Pro-XT model

Description	20 mtr Cable with external buffer amplifier
Part Number	M4E-BCAB20M-8966P
Description	10 mtr cable with external buffer amplifier
Part Number	M4E-BCAB10M-8966P