ProCon® — D500 │ D520 Series
Digital pH/ORP Controller Analyzer

Industrial Analytical Equipment

ICON PROCESS CONTROLS™

Corrosion-Free Instrumentation Equipment

ProCon®

- ✓ **Large color LCD display**
- ✓ **Intelligent menu operation**
- ✓ **Data recording / curve display**
- ✓ **Multiple automatic SimplCal® calibration**
- ✓ **Manual and automatic temperature compensation**
- ✓ **Three (3) relays**
- ✓ **4-20mA & RS485 outputs**
- ✓ **Multi-parameter display — simultaneously shows pH, ORP and temperature**
- ✓ **Password protection**

◄ **D520 Dual Display** ►

SimplConnect™
Cable Grip Connectors

No tools required

Cable Grip Wire Connector Combo
(no internal wiring required)

High Performance Industrial Controller Analyzer

The ProCon® D500/D520 series is an extremely robust industrial pH/ORP controller analyzer.

The modular design is both easy to install and operate providing first measurement values in under one minute.

The D500/D520 is packed with all the extra features included, no need to pay extra for relay, 4-20mA or RS485 outputs.

The SimplCal® feature makes calibrating your sensor easier and quicker than ever before.

The cost-saving quick and simple setup is done through our user-friendly step-by step on-screen menu.

Active display of red alarm alert provides notification of out-of-bounds sensor readings and indication for sensor cleaning/recalibration or replacement.
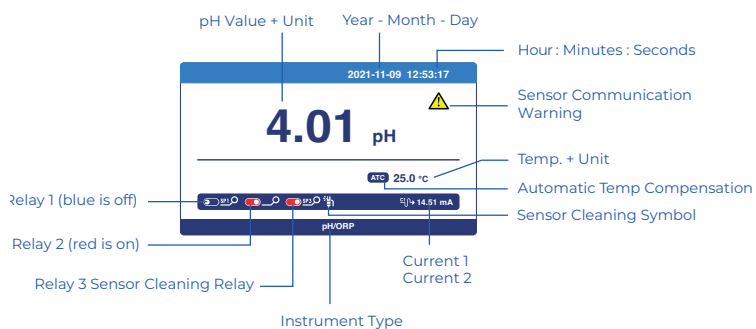
Enclosure

The D500/D520 is packaged in a rugged polycarbonate enclosure making it ideally suited for heavy-duty applications. A mounting kit is included for surface and panel mounting. Pipe mounting kits are available.

pH Value + Unit — Year - Month - Day

2021-11-09 12:53:17

Hour : Minutes : Seconds

Sensor Communication Warning

4.01 pH

Temp. + Unit

ATC 25.0 °c — Automatic Temp Compensation

Relay 1 (blue is off) — Sensor Cleaning Symbol

pH/ORP

Relay 2 (red is on)

Relay 3 Sensor Cleaning Relay

Current 1 Current 2

Instrument Type

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ICON PROCESS CONTROLS™
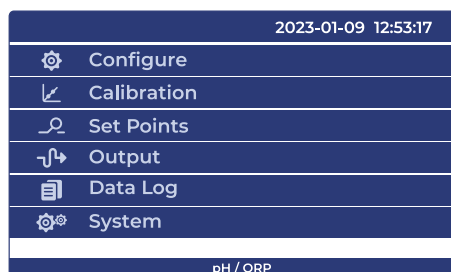
Corrosion-Free Instrumentation Equipment

ProCon®

Display Descriptions

All electrical connections should be checked before use. After the power is switched on, the meter will display as follows.
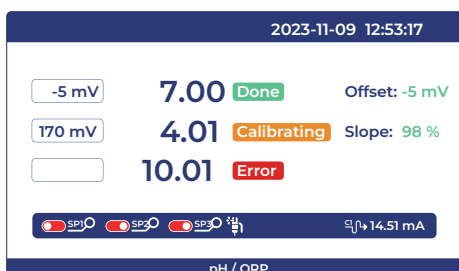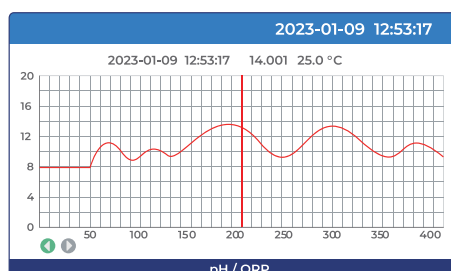
pH Value + Unit

Year - Month - Day

Hour : Minutes : Seconds

Sensor Communication Warning

2021-11-09 12:53:17

4.01 pH

ATC 25.0 °C

Temp. + Unit

Automatic Temp Compensation

Relay 1 (blue is off)

SP1 SP3

14.51 mA

Sensor Cleaning Symbol

pH/ORP

Relay 2 (red is on)

Current 1
Current 2

Relay 3 Sensor Cleaning Relay

Instrument Type

Measurement Mode

2023-01-09 12:53:17

235 mV

ATC 25.0 °C

SP1 SP2 SP3

14.51 mA

pH / ORP

Programming Menu

2023-01-09 12:53:17

⚙ Configure
⬚ Calibration
⬚ Set Points
⬚ Output
⬚ Data Log
⚙ System

pH / ORP

Calibration Mode

2023-11-09 12:53:17

-5 mV   7.00 Done   Offset: -5 mV
170 mV   4.01 Calibrating   Slope: 98 %
         10.01 Error

SP1 SP2 SP3

14.51 mA

pH / ORP

Trend Chart Data Logging Display

2023-01-09 12:53:17

2023-01-09 12:53:17   14.001 25.0 °C

20
16
12
8
4
0

50 100 150 200 250 300 350 400

pH / ORP

SimplCal® Calibration

2023-11-09 12:53:17

-5 mV   7.00 Done   Offset: -5 mV
170 mV   4.01 Calibrating   Slope: 98 %
         10.01 Error

SP1 SP2 SP3

14.51 mA

pH / ORP

pH Calibration

2023-11-09 12:53:17

228 mV   235 Done   Slope: 98 %

SP1 SP2 SP3

14.51 mA

pH / ORP

ORP Calibration

Technical Specifications

ProCon®

Measuring Range	pH: -2 – 16pH	ORP: -2000 – +2000mV
Unit	pH	mV
Resolution	pH: 0.001pH	ORP: 1mV
Basic Error	pH: 0.001pH	ORP: 1mV
Temperature Range	14 – 302°F	-10 – 150°C (Sensor Selection Dependant)
Temperature Resolution	0.18°F	0.1°C
Temperature Accuracy	±0.54°F	±0.3°C
Temperature Compensation	Manual or Automatic
Stability	pH: 0.01pH/24h	ORP: 1mV/24h
Outputs	Two (2) 4–20mA	20–4mA	0–20mA
Communication	RS485 MODBUS RTU
Relay Control Contact	5A 240VAC	5A – 28VDC
Power Supply	9 – 36VDC (std)	85 – 265VAC	Power Consumption 3W
Working Temperature	14 – 140°F	-10 – 60°C
Relative Humidity	≤ 90%
Enclosure Rating	IP65
Weight	0.7kg
Dimensions	144 × 144 × 118mm
Installation Opening Size	138 × 138mm
Installation methods	Panel	Pipe	Wall
Other functions	Data record & Curve display

NO PREAMP REQUIRED
Direct Sensor to Controller

PREEMPT THE PREAMP

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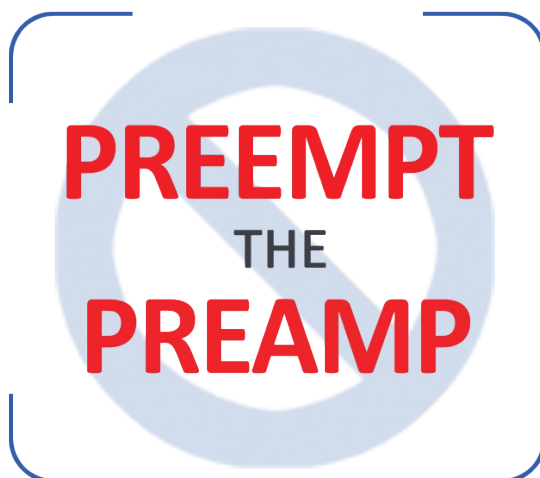
Keypad Descriptions

ProCon®

1. Enter Calibration Mode
2. Check Calibration Status

Cursor Down / Info

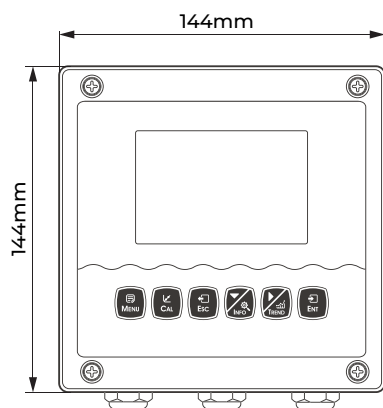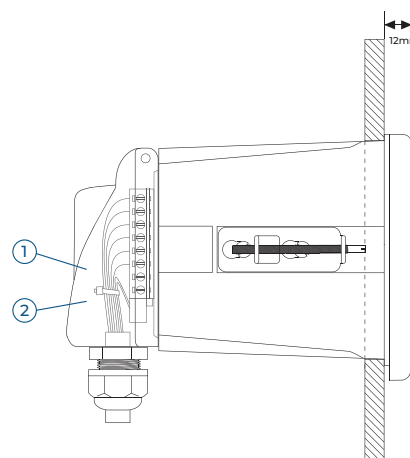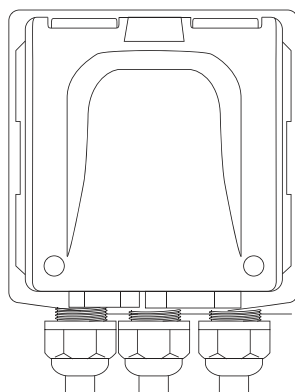Confirm Selections

MENU CAL ESC INFO TREND ENT

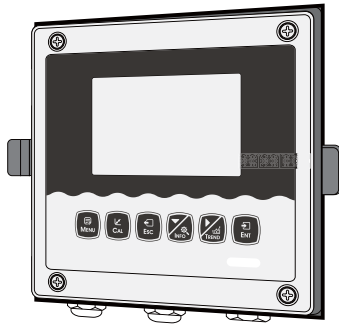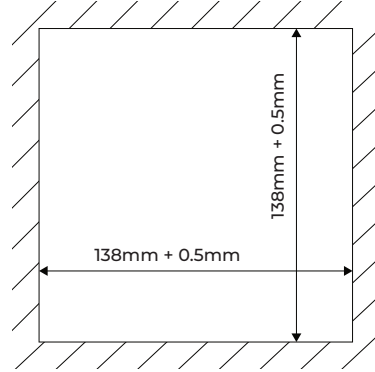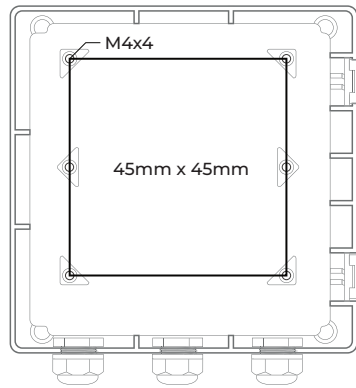Main Menu   Return to Previous Menu   Cursor Right / Display Trend Chart

Dimensions

144mm
144mm
118mm
26mm
136mm
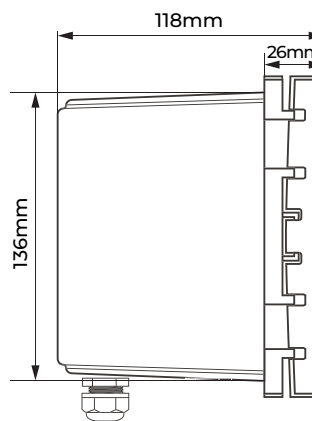
Instrument Installation
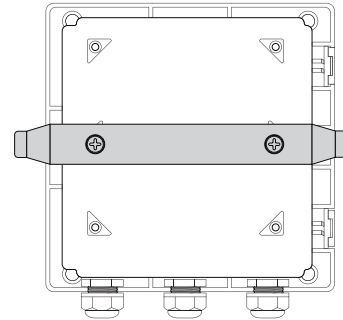

7mm
90mm
12mm
①
②
③
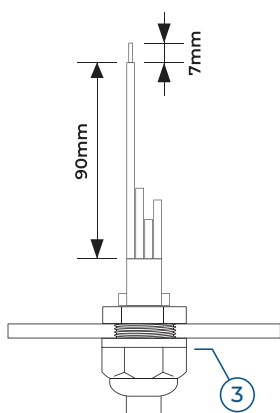
1. Cable (Recommended stripping length for cables is at least 90mm)
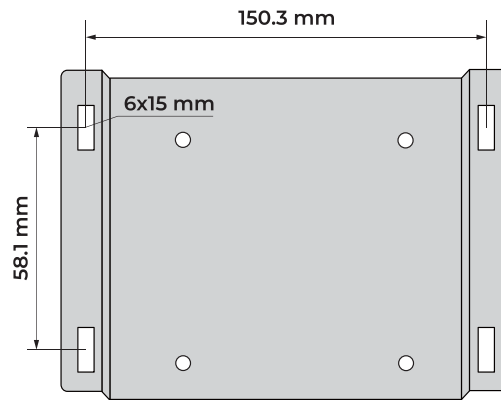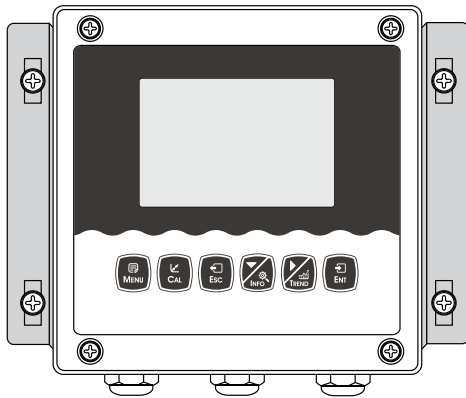2. Cable ties
3. Waterproof cable glands

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M4x4

45mm x 45mm

138mm + 0.5mm

138mm + 0.5mm

Install fixing bracket for instrument
Insert into the cut-out hole

Slim Line Wall Mount Bracket

Installation Full Bracket

150.3 mm

6x15 mm

58.1 mm

Install fixed bracket top view
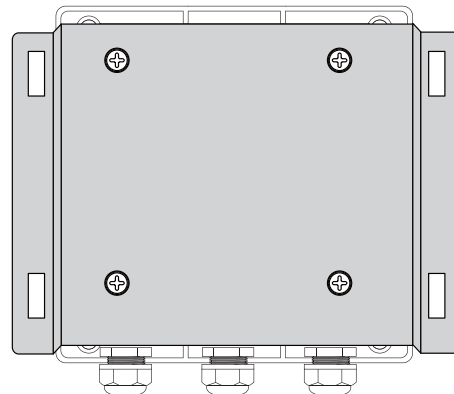
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Typical Application

No Pre-Amp Required

4-wire

4-20mA

Relay Alarm/Cleaning

Relay 2 Pump/Valve

Relay 1 Pump/Valve

pH/ORP Sensor

No Pre-Amp Required

4-wire

4-20mA

Relay Alarm/Cleaning

Relay 2 Pump/Valve

Relay 1 Pump/Valve

pH/ORP Sensor 1   pH/ORP Sensor 2
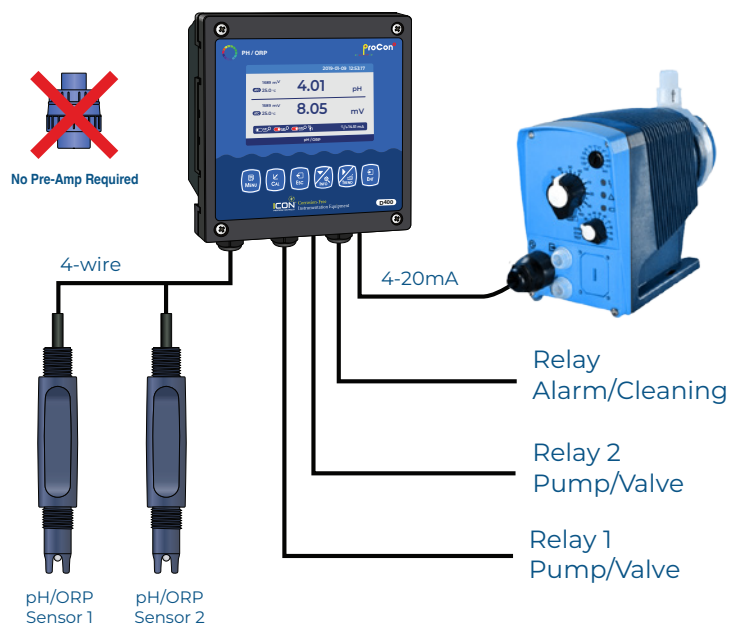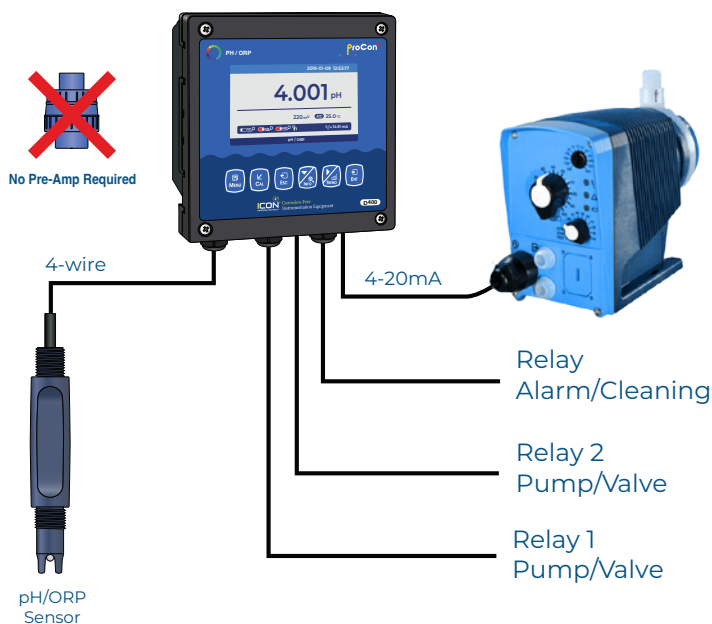
Model Selection

D500 — pH/ORP Controller (Single Data Trending)					
Part Number	Power	Output	Power Cord	Display 1	Display 2
D500-4-D-N-P-0	24VDC	4-20mA + 3 Relays	No	pH/ORP	Single Display
D500-4-D-Y-P-0	24VDC	4-20mA + 3 Relays	Yes	pH/ORP	Single Display

Communication: RS-485 RTU Modbus

D520 — pH/ORP Controller (Dual Data Trending)					
Part Number	Power	Output	Power Cord	Display 1	Display 2
D520-4-D-N-P-P	24VDC	4-20mA + 3 Relays	No	pH/ORP	pH/ORP
D520-4-D-Y-P-P	24VDC	4-20mA + 3 Relays	Yes	pH/ORP	pH/ORP
D520-4-D-N-P-C	24VDC	4-20mA + 3 Relays	No	pH/ORP	Conductivity
D520-4-D-Y-P-C	24VDC	4-20mA + 3 Relays	Yes	pH/ORP	Conductivity

Communication: RS-485 RTU Modbus