# C500 | C520 Series Controller
## Conductivity, TDS, Resistivity, Salinity

**ICON** PROCESS CONTROLS — Corrosion-Free Instrumentation Equipment

Industrial Analytical Equipment

ProCon®

**C520 Dual Display ▶**

**SimplConnect™**
Cable Grip Connectors

**No tools required**

## Cable Grip Wire Connector Combo
(no internal wiring required)

- ✓ 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 conductivity and temperature
- ✓ Password protection

### High Performance Industrial Controller Analyzer

The ProCon® C500/C520 series is an extremely robust industrial conductivity controller analyzer.

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

The C500/C520 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.
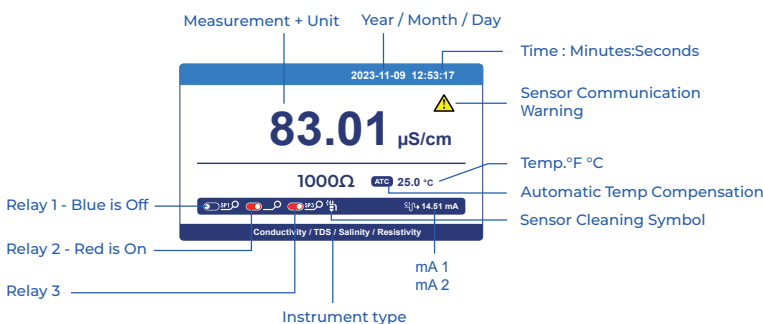
### Enclosure

The C500/C520 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.

**Display diagram labels:**
- Measurement + Unit
- Year / Month / Day
- Time : Minutes:Seconds
- Sensor Communication Warning
- Temp.°F °C
- Automatic Temp Compensation
- Sensor Cleaning Symbol
- Relay 1 - Blue is Off
- Relay 2 - Red is On
- Relay 3
- Instrument type
- mA 1
- mA 2

2023-11-09 12:53:17
83.01 µS/cm
1000Ω  ATC 25.0 °C
14.51 mA
Conductivity / TDS / Salinity / Resistivity

## Display Descriptions

ProCon®

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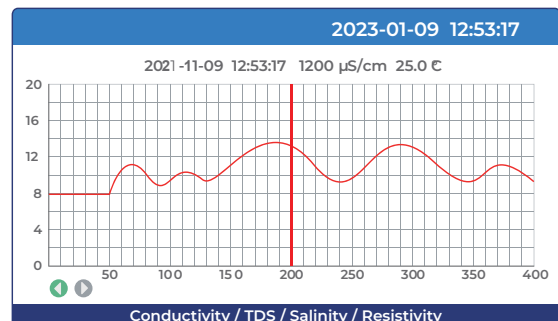
**Measurement + Unit**

**Year / Month / Day**

**Time : Minutes:Seconds**

2023-11-09  12:53:17

## 83.01 µS/cm

**Sensor Communication Warning**

1000Ω   ATC 25.0 °C

**Temp.°F °C**

**Automatic Temp Compensation**

**Relay 1 - Blue is Off**

SP1   SP3   14.51 mA

**Sensor Cleaning Symbol**

Conductivity / TDS / Salinity / Resistivity

**Relay 2 - Red is On**

**mA 1**
**mA 2**

**Relay 3**

**Instrument type**

### Measurement Mode

2023-01-09  12:53:17

## 83.01 µS/cm

ATC 25.0 °C

SP1   SP3   14.51 mA

Conductivity / TDS / Salinity / Resistivity

### Programming Mode

2023-01-09  12:53:17

- Configure
- Calibration
- Set points
- Output
- History
- System

Conductivity / TDS / Salinity / Resistivity

### Calibration Mode
*Note: New Sensors are Factory Calibrated*

2023-01-09  12:53:17

Point 2

Voltage:-5 mV

## 1413 µS/cm  Calibrating

Conductivity / TDS / Salinity / Resistivity

### Data Logging Trend Chart

2023-01-09  12:53:17

2021 -11-09  12:53:17  1200 µS/cm  25.0 ℃

20
16
12
8
4
0

50  100  150  200  250  300  350  400

Conductivity / TDS / Salinity / Resistivity

# C500 | C520 Series Controller
## Conductivity, TDS, Resistivity, Salinity

ICON™ PROCESS CONTROLS

Corrosion-Free
Instrumentation Equipment

Industrial Analytical Equipment

## Technical Specifications

ProCon®

| | |
|---|---|
| Measuring Range | 0 – 500mS/cm |
| Resolution | 0.1µS/cm \| 0.01mS/cm |
| Intrinsic Error | ±0.5% F.S |
| Resistivity | 0 – 18.25MΩ/cm |
| Resolution | 0.01KΩ/cm \| 0.01MΩ/cm |
| TDS | 0 – 250g/L |
| Resolution | 0.01mg/L \| 0.01g/L |
| Salinity | 0 – 700ppt |
| Resolution | 0.01ppm \| 0.01ppt |
| Working Temperature | 32 – 302°F \| 0 – 150°C |
| Temperature Compensation | Automatic or Manual |
| 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 |
| Environmental 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 |



CANCEL THE CONDUCTIVITY MODULE

# C500 | C520 Series Controller
## Conductivity, TDS, Resistivity, Salinity

Industrial Analytical Equipment

ICON PROCESS CONTROLS™

Corrosion-Free
Instrumentation Equipment
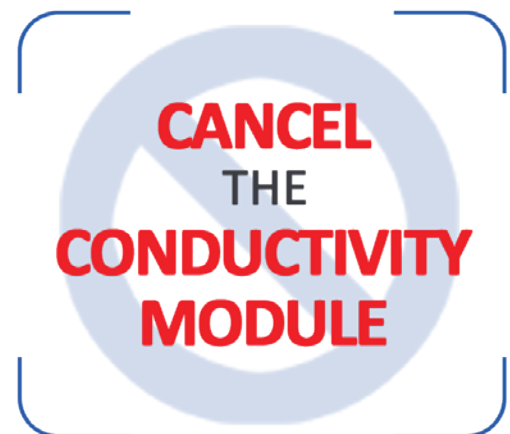
## Keypad Descriptions

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1. Enter Calibration Mode
2. Check Calibration Status

Cursor Down / Info

Confirm Selections

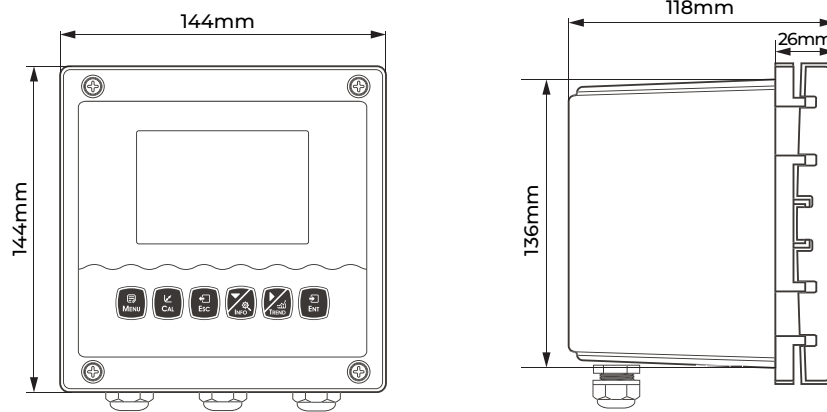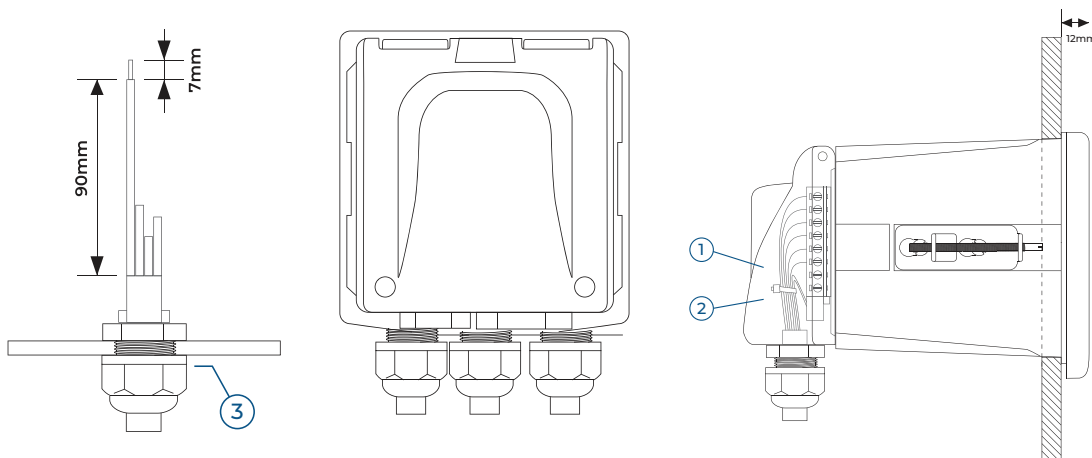| MENU | CAL | ESC | INFO | TREND | ENT |

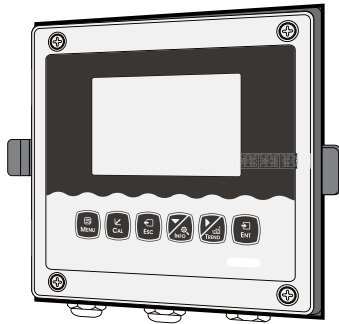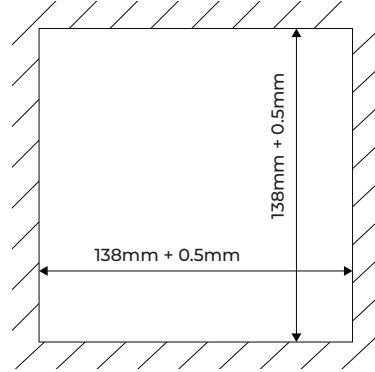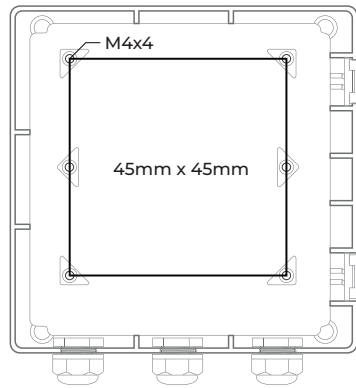Main Menu        Return to Previous Menu        Cursor Right / Display Trend Chart

## 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

M4x4

45mm x 45mm

138mm + 0.5mm

138mm + 0.5mm

ProCon®
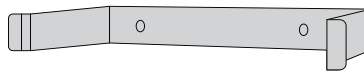
Install fixing bracket for instrument
Insert into the cut-out hole
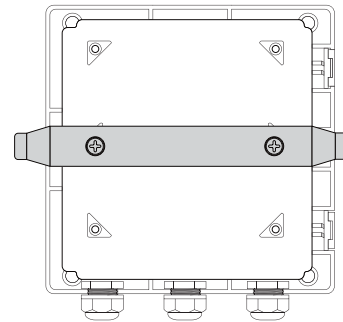
## Slim Line Wall Mount Bracket



150.3 mm

6x15 mm

58.1 mm
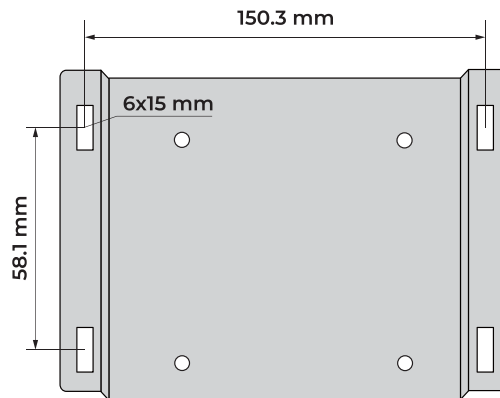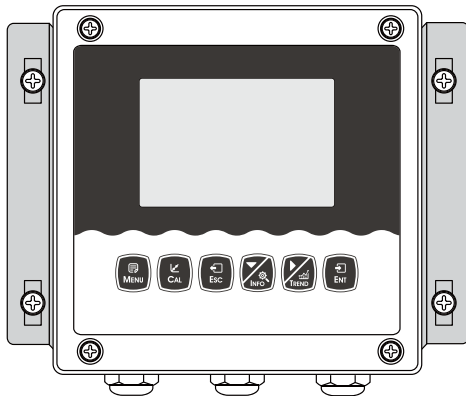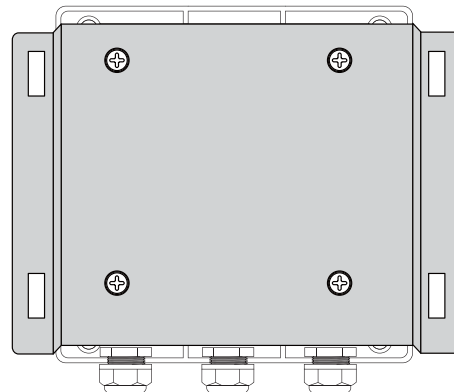
### Installation Full Bracket

### Install fixed bracket top view

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## Typical Application

ProCon



No Conductivity Module Required

4 wire

4-20mA

Relay Alarm/Cleaning

Relay 2 Pump/Valve

Relay 1 Pump/Valve

Conductivity Sensor 1

No Conductivity Module Required

4 wire

4-20mA

Relay Alarm/Cleaning

Relay 2 Pump/Valve

Relay 1 Pump/Valve

Conductivity Sensor 1   Conductivity Sensor 2

## Model Selection

| C500 — Conductivity Controller (Single Data Trending) | | | | | |
|---|---|---|---|---|---|
| Part Number | Power | Output | Power Cord | Display 1 | Display 2 |
| C500-4-D-N-C-0 | 24VDC | 4-20mA + 3 Relays | No | Conductivity | Single Display |
| C500-4-D-Y-C-0 | 24VDC | 4-20mA + 3 Relays | Yes | Conductivity | Single Display |

Communication: RS-485 RTU Modbus

| C520 — Conductivity Controller (Dual Data Trending) | | | | | |
|---|---|---|---|---|---|
| Part Number | Power | Output | Power Cord | Display 1 | Display 2 |
| C520-4-D-N-C-P | 24VDC | 4-20mA + 3 Relays | No | Conductivity | pH/ORP |
| C520-4-D-Y-C-P | 24VDC | 4-20mA + 3 Relays | Yes | Conductivity | pH/ORP |
| C520-4-D-N-C-C | 24VDC | 4-20mA + 3 Relays | No | Conductivity | Conductivity |
| C520-4-D-Y-C-C | 24VDC | 4-20mA + 3 Relays | Yes | Conductivity | Conductivity |

Communication: RS-485 RTU Modbus