

# ProCon® — C250 Series Conductivity Sensor Transmitter



ICON<sup>™</sup> Corrosion-Free  
PROCESS CONTROLS Instrumentation Equipment<sup>™</sup>

madshear



- ✓ **Ultrapure H<sub>2</sub>O Range down to 2µS**
- ✓ **Eliminate Costly Conductivity Module**
- ✓ **Direct 4-20mA & RS485 Outputs**
- ✓ **Temperature Compensated**
- ✓ **High Accuracy**
- ✓ **Factory Calibrated**
- ✓ **2-Electrodes**
- ✓ **Conductivity | TDS | Salinity | Resistivity**
- ✓ **Optional Local Display c/w High/Low Alarm Set-points**

## Tough but sensitive — High performance with industrial strength titanium electrode

The ProCon® C250 series double electrode conductivity sensor transmitter has been proven to operate seamlessly in industrial ultra-high purity H<sub>2</sub>O applications.

Industrial environments can be harsh, featuring corrosive substances and fluctuating temperatures. The ProCon® C250 series conductivity sensor transmitter is built with durability in mind. Constructed from rugged materials such as titanium, corrosion-resistant plastics and double shielded cable, this robust build ensures longevity and reliability. Pair it with a ProCon® conductivity controller (featuring SimplCal®) for a truly seamless experience.

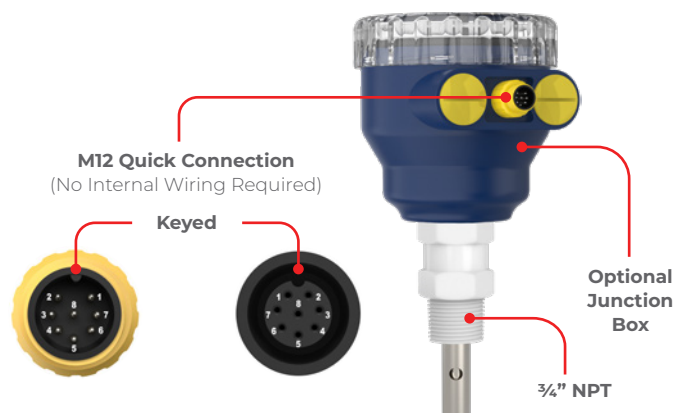
The ProCon® line of analytical sensor transmitters have been designed for difficult industrial applications and to outperform even in extreme conditions.

The 2-wire 4-20mA, 4-wire or 4-20mA + RS485 output options simplify calibration and communication with remote displays and controllers.

Always ask for **ProCon® C250** by name to be sure you are getting a genuine **Icon Process Controls** product.

## Specifications

Power Supply	9 – 36VDC
Sensor Electrode Material	Titanium Alloy
Housing Material	PP
IP Rating	IP68
Measurement Range	0 – 2µS   0 – 10µS
Accuracy	±1% of Reading
Pressure Resistance	150 Psi
Temperature Compensation	PT1000 (Std)
Temperature Range	32 – 176°F   0 – 80°C
Calibration	Factory Calibrated
Connection Methods	<ul style="list-style-type: none"> <li>• 4-20mA 2 wire</li> <li>• 4-wire (direct to ProCon® controller)</li> <li>• 4-20mA + RS485</li> </ul>
Cable Length (w/o J-Box)	M12: 5m cable can be extended to 100m
Installation Thread	NPT 3/4"



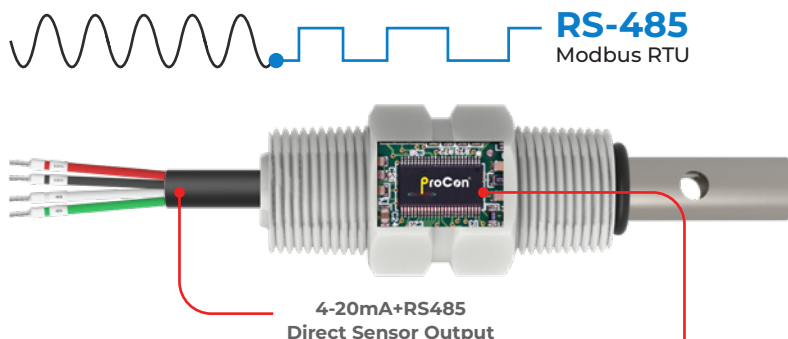
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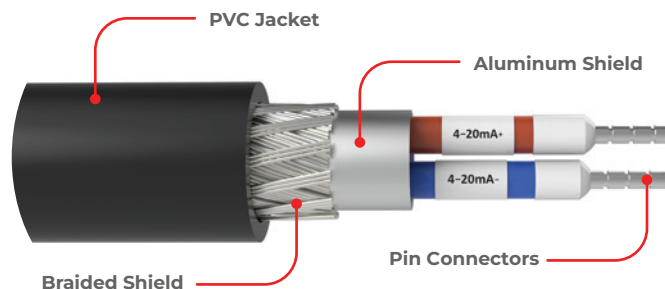
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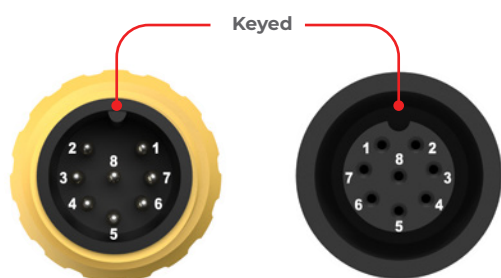
## Wiring



Advanced electronic circuitry for automatic sensor recognition ensuring trouble-free calibration when connected to the ProCon® controller



## Double Shielded Cable



## M12 Connection

(No Internal Wiring Required)



## IO-Link

(No Internal Wiring Required)

## Cable Options

The ProCon® series offer complete flexibility of cabling options throughout the range. All cables are shielded against spurious EMI and are potted inside the sensor ensuring environmental protection.

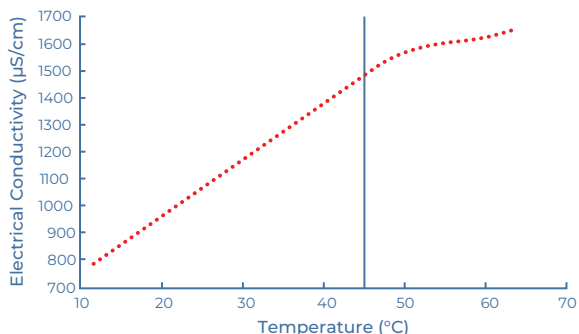
The standard cable length for most sensors is 5m (15 ft). However, cables can be supplied as any continuous size up to 100m.

## Junction Box

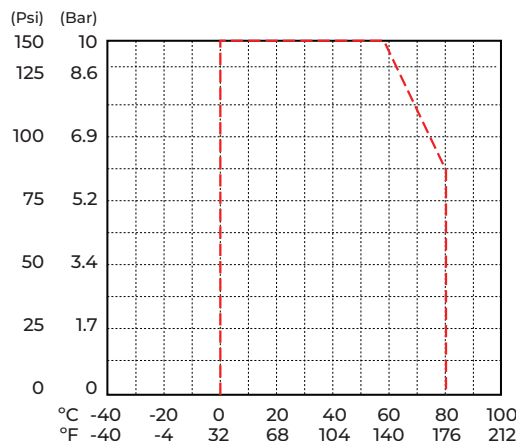
No tools  
required



### Temperature Effects

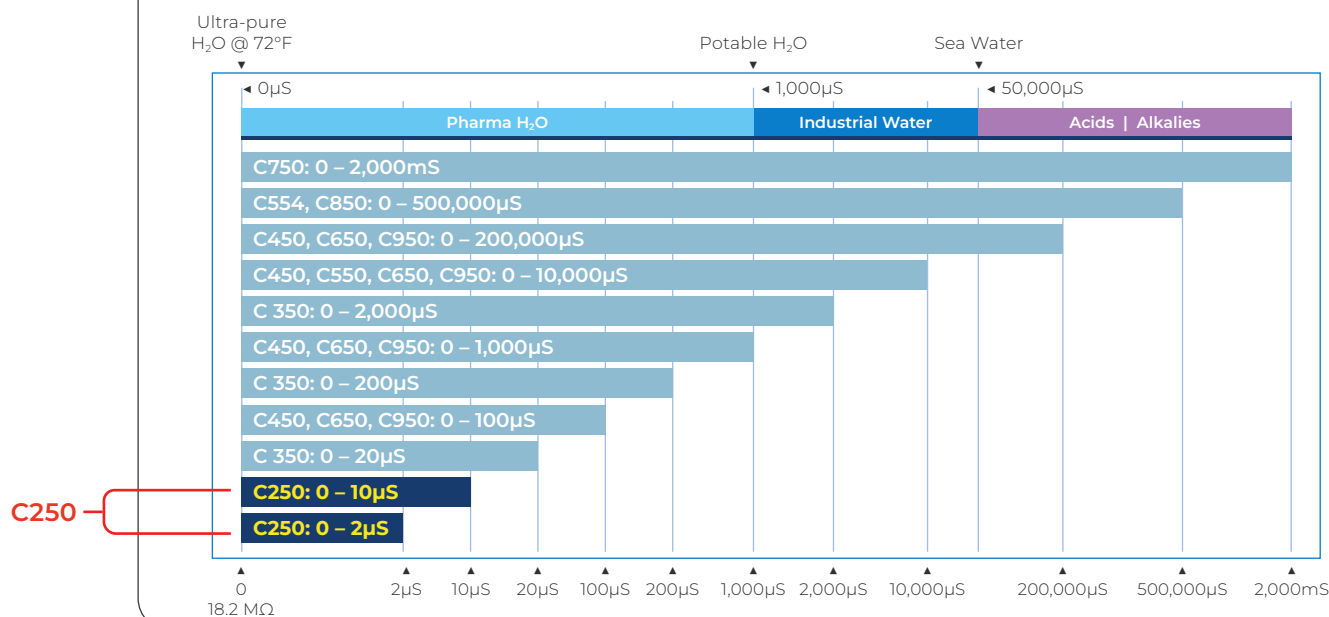


### Temperature vs. Pressure



### Factory Calibrated

ProCon® conductivity sensors come with a factory default that covers the range of the sensor



### Industrial GP Purpose

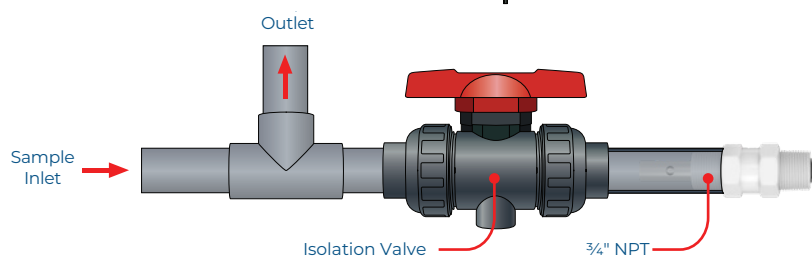
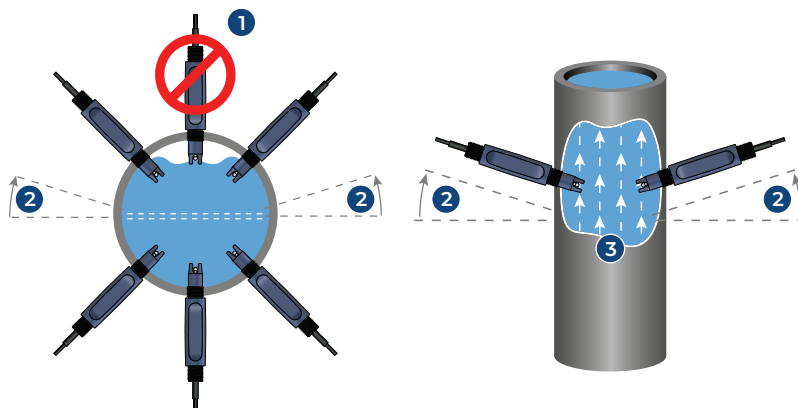
Cell	Models	Range
Cell 0.01	<b>C250</b>	<b>0 - 2µS</b>
Cell 0.01	<b>C250</b>	<b>0 - 10µS</b>
Cell 0.1	C350	0 - 20µS
Cell 0.01	C450, C650, C950	0 - 100µS
Cell 0.1	C350	0 - 200µS
Cell 0.1	C450, C650, C950	0 - 1,000µS
Cell 0.1	C350	0 - 2,000µS
Cell 1.0	C450, C550, C650, C950	0 - 10,000µS
Cell 10	C450, C650, C950	0 - 200,000µS
Cell 0.4	C554, C850	0 - 500,000µS
Toroidal	C750	0 - 2,000mS

### Typical Applications

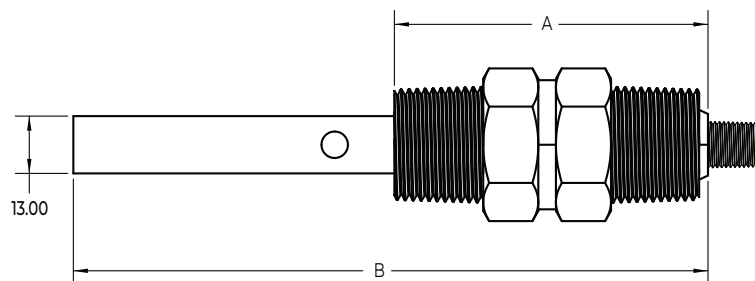
- ✓ High Purity Water
- ✓ Water Treatment
- ✓ Pharmaceutical
- ✓ Food and Beverage
- ✓ Interface Detection
- ✓ Desalination
- ✓ Chemical Plants
- ✓ Aquariums
- ✓ Agricultural Industries

## In-line Mounting

1. If air is present, avoid vertical installation (okay if pipe is full).
2. Optimum installation 15° above horizontal.
3. Process liquid should flow upward. (for downward flow ensure backpressure is present in order to avoid air within pipe)



## Dimension



Cell Class	M12		Flying Lead	
	A (mm)	B (mm)	A (mm)	B (mm)
Cell 0.01	78	151	67.8	140.8

## Model Selection

### C250 — High Purity Conductivity Sensor

Part Number	Material	Output	Cell Constant	Range	Connection
C250-A-D-1-M	Titanium Alloy	4-wire (for ProCon® display)	0.01	0-2µS	M12
C250-D-D-1-M	Titanium Alloy	4-wire (for ProCon® display)	0.01	0-10µS	M12
C250-A-M-1-M	Titanium Alloy	2-wire 4-20mA	0.01	0-2µS	M12
C250-D-M-1-M	Titanium Alloy	2-wire 4-20mA	0.01	0-10µS	M12
C250-A-S-1-M	Titanium Alloy	RS485 + 4-20mA	0.01	0-2µS	M12
C250-D-S-1-M	Titanium Alloy	RS485 + 4-20mA	0.01	0-10µS	M12
C450-M-M-1-M	Titanium Alloy	4-20mA (2-wire, std)	1	0-10,000µS	M12
C450-P-M-1-M	Titanium Alloy	4-20mA (2-wire, std)	10	0-200,000µS	M12
C450-G-S-1-M	Titanium Alloy	RS485 + 4-20mA	0.01	0-100µS	M12
C450-J-S-1-M	Titanium Alloy	RS485 + 4-20mA	0.1	0-1,000µS	M12
C450-M-S-1-M	Titanium Alloy	RS485 + 4-20mA	1	0-10,000µS	M12
C450-P-S-1-M	Titanium Alloy	RS485 + 4-20mA	10	0-200,000µS	M12

Last digit: "M" for M12 Connection (std), "F" Flying Lead - consult factory  
Consult factory for custom ranges

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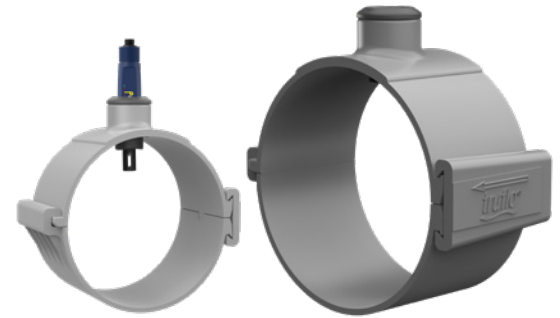
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## Fittings

Easy Install Clamp On Pipe Saddles

Part Number	Material	Size	Seal	Thread	Connection
PSA-2	PVC	2"	FPM	3/4" NPT	PVC
PSA-3	PVC	3"	FPM	3/4" NPT	PVC
PSA-4	PVC	4"	FPM	3/4" NPT	PVC
PSA-6	PVC	6"	FPM	3/4" NPT	PVC
PSA-8	PVC	8"	FPM	3/4" NPT	PVC



True Union Tee Fitting

Part Number	Material	Size	Seal	Thread	Connection
TUPA-PV-5	PVC	1/2"	FPM (std)   EPDM	3/4" NPT	Socket   NPT
TUPA-PP-5	PP	1/2"	FPM (std)   EPDM	3/4" NPT	Butt   NPT
TUPA-PF-5	PVDF	1/2"	FPM (std)   EPDM	3/4" NPT	Butt   NPT
TUPA-PV-7	PVC	3/4"	FPM (std)   EPDM	3/4" NPT	Socket   NPT
TUPA-PP-7	PP	3/4"	FPM (std)   EPDM	3/4" NPT	Butt   NPT
TUPA-PF-7	PVDF	3/4"	FPM (std)   EPDM	3/4" NPT	Butt   NPT
TUPA-PV-1	PVC	1"	FPM (std)   EPDM	3/4" NPT	Socket   NPT
TUPA-PP-1	PP	1"	FPM (std)   EPDM	3/4" NPT	Butt   NPT
TUPA-PF-1	PVDF	1"	FPM (std)   EPDM	3/4" NPT	Butt   NPT
TUPA-PV-15	PVC	1 1/2"	FPM (std)   EPDM	3/4" NPT	Socket   NPT
TUPA-PP-15	PP	1 1/2"	FPM (std)   EPDM	3/4" NPT	Butt   NPT
TUPA-PF-15	PVDF	1 1/2"	FPM (std)   EPDM	3/4" NPT	Butt   NPT
TUPA-PV-2	PVC	2"	FPM (std)   EPDM	3/4" NPT	Socket   NPT
TUPA-PP-2	PP	2"	FPM (std)   EPDM	3/4" NPT	Butt   NPT
TUPA-PF-2	PVDF	2"	FPM (std)   EPDM	3/4" NPT	Butt   NPT



by **ICON™** Corrosion-Free  
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