

# ProCon® — C450 Series Conductivity Sensor Transmitter



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



- ✓ Eliminate Costly Conductivity Module
- ✓ Direct 4-20mA & RS485 Outputs
- ✓ High Accuracy  $\pm 0.5\%$
- ✓ Quick Response Time
- ✓  $\frac{3}{4}$ " NPT Connection
- ✓ Factory Calibrated
- ✓ 2-Electrodes
- ✓ Conductivity | TDS | Salinity | Resistivity

## This rugged titanium workhorse is available in 4 different cell classes for a truly versatile sensor

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

The sensor transmitters come pre-calibrated and can be configured with or without a junction box. The C450 also features the convenience and safety of the M12 quick connection with no additional conductivity module required.

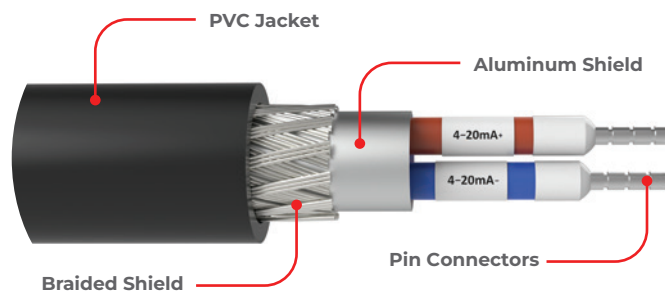
The ProCon® C450 series double electrode conductivity sensor transmitter has been proven to operate seamlessly in industrial applications up to 200,000 $\mu$ S/cm.

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

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.

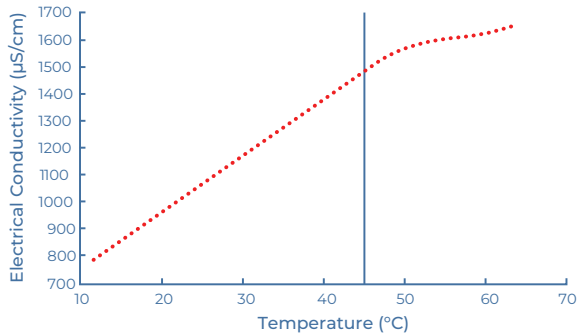
## Specifications

Power Supply	9 – 36VDC
Sensor Electrode Material	Titanium Alloy
Housing Material	PP
IP Rating	IP68
Measurement Range	0 – 100 $\mu$ S   0 – 1,000 $\mu$ S 0 – 10,000 $\mu$ S   0 – 200,000 $\mu$ S
Accuracy	$\pm 0.5\%$ of Reading
Pressure Rating	150 Psi
Temperature Compensation	PT1000 (Std)
Temperature Range	14 – 176°F   -10 – 80°C
Calibration	Factory Calibrated
Connection Methods	• 4-20mA 2 wire • 4-Wire (direct to ProCon® controller) • 4-20mA + RS485
Cable Length	M12: 5m cable can be extended to 100m
Installation Thread	NPT $\frac{3}{4}$ "

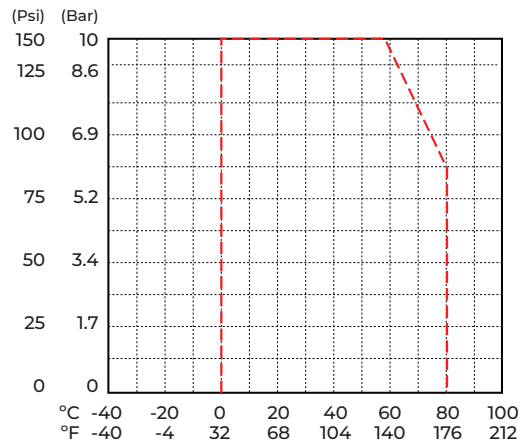


## Double Shielded Cable

## Temperature Effects

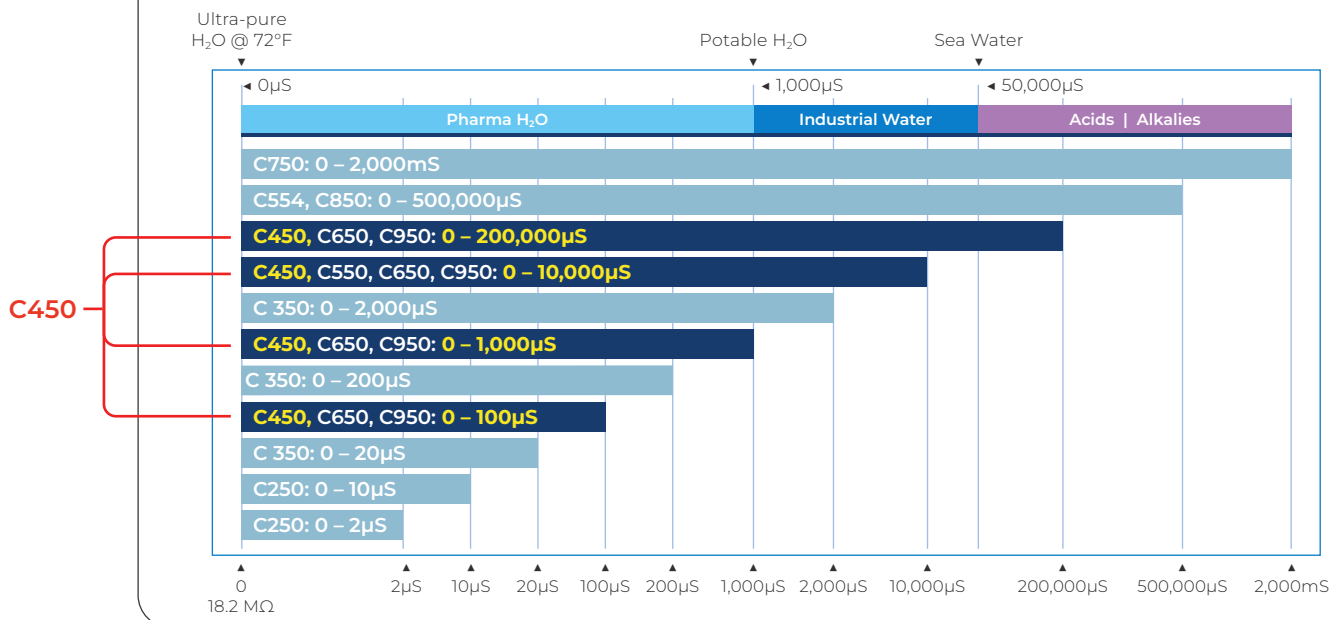


## Temperature vs. Pressure



## Factory Calibrated

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



## Sensor Type

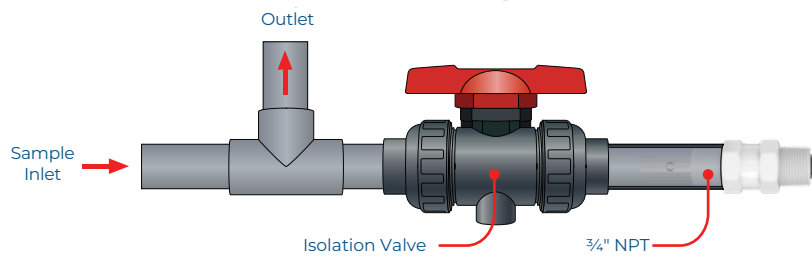
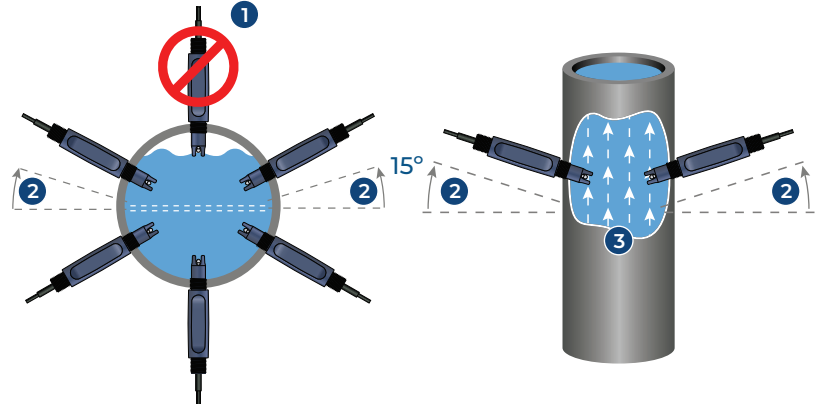
Cell	Models	Range
Cell 0.01	C250	0 – 2µS
Cell 0.01	C250	0 – 10µS
Cell 0.1	C350	0 – 20µS
<b>Cell 0.01</b>	<b>C450, C650, C950</b>	<b>0 – 100µS</b>
Cell 0.1	C350	0 – 200µS
<b>Cell 0.1</b>	<b>C450, C650, C950</b>	<b>0 – 1,000µS</b>
Cell 0.1	C350	0 – 2,000µS
<b>Cell 1.0</b>	<b>C450, C550, C650, C950</b>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

## Typical Applications

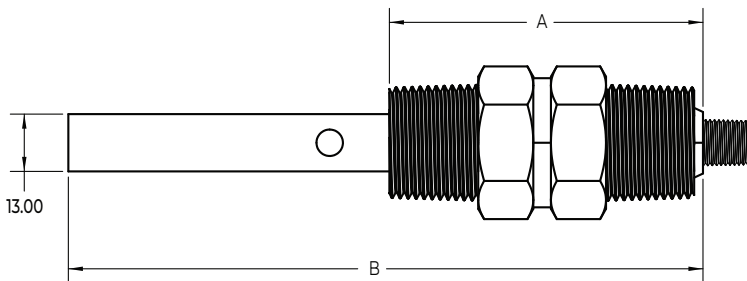
- ✓ High Purity Water
- ✓ Water Treatment
- ✓ Pharmaceutical
- ✓ Food and Beverage
- ✓ Interface Detection
- ✓ Desalination
- ✓ Chemical Plants
- ✓ Aquariums
- ✓ Agricultural Industries

## In-line Mounting

1. If air is present, avoid vertical installation (ensure full pipe).
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)



## Dimensions



Cell Class	M12		Flying Lead	
	A(mm)	B (mm)	A(mm)	B (mm)
Cell 0.01	78	151	67.8	140.8
Cell 0.1	78	113	67.8	102.8
Cell 1.0	78	119	67.8	108.8
Cell 10	78	119	67.8	108.8

## Model Selection

C450 — Complex Conductivity Sensor

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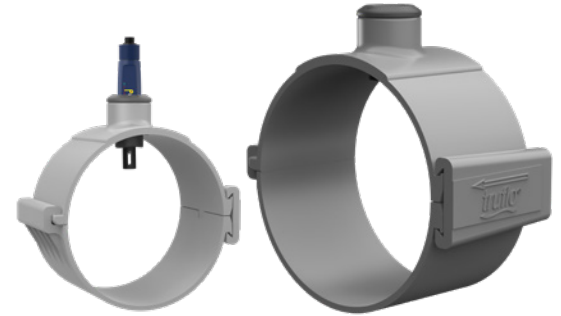


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## Fittings

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



by **ICON**™ Corrosion-Free  
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