ProCon® — C550 Series
Conductivity Sensor Transmitter

Industrial Analytical Equipment

ICON PROCESS CONTROLS — Corrosion-Free Instrumentation Equipment

M12 Quick Connection

Direct 4-Wire

¾" NPT Connection

Graphite + PPMA Electrode

- ✓ **Eliminate Costly Conductivity Module**
- ✓ **Direct 4-20mA & RS485 Outputs**
- ✓ **Temperature Compensated**
- ✓ **High Accuracy**
- ✓ **Quick Response Time**
- ✓ **¾" NPT Connection**
- ✓ **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 graphite + PPMA electrode

The ProCon® C550 series double electrode conductivity sensor transmitter has been proven to operate seamlessly in industrial applications up to 200,000μS/cm.

Industrial environments can be harsh, featuring corrosive substances and fluctuating temperatures. The ProCon® C550 series conductivity sensor transmitter is built with durability in mind. Constructed from rugged materials such as graphite, PPMA, 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® C550** by name to be sure you are getting a genuine **Icon Process Controls** product.

Specifications

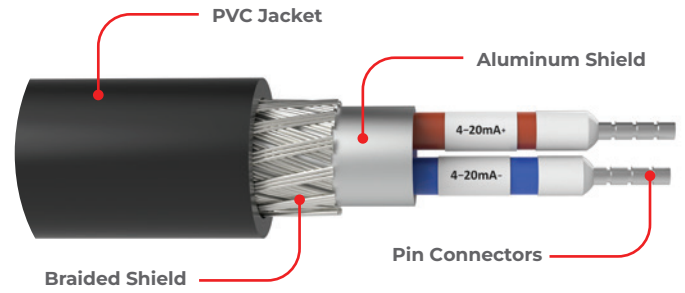|	
Power Supply	9 – 36VDC
Sensor Electrode Material	Graphite + PPMA
Housing Material	PP
IP Rating	IP68
Measurement Range	0 – 10,000μS
Accuracy	±1% of Reading
Pressure Resistance	100 Psi
Temperature Compensation	PT1000 (Std)
Temperature Range	14 – 176°F | -10 – 80°C
Calibration	Factory Calibrated
Connection Methods	• 4-20mA 2 wire • 4-wire (direct to ProCon® controller) • 4-20mA + RS485
Cable Length (w/o J-Box)	M12: 5m cable can be extended to 100m
Installation Thread	NPT ¾"

M12 Quick Connection (No Internal Wiring Required)

Keyed

Optional Junction Box

¾" NPT

Wiring

RS-485
Modbus RTU

PVC Jacket

Aluminum Shield

4-20mA+

4-20mA-

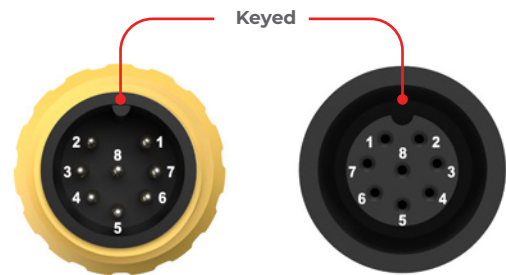Braided Shield

Pin Connectors

Double Shielded Cable

4-20mA+RS485
Direct Sensor Output

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

Keyed

M12 Connection
(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.
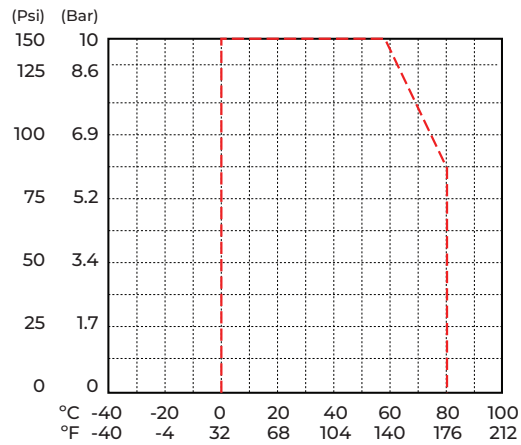
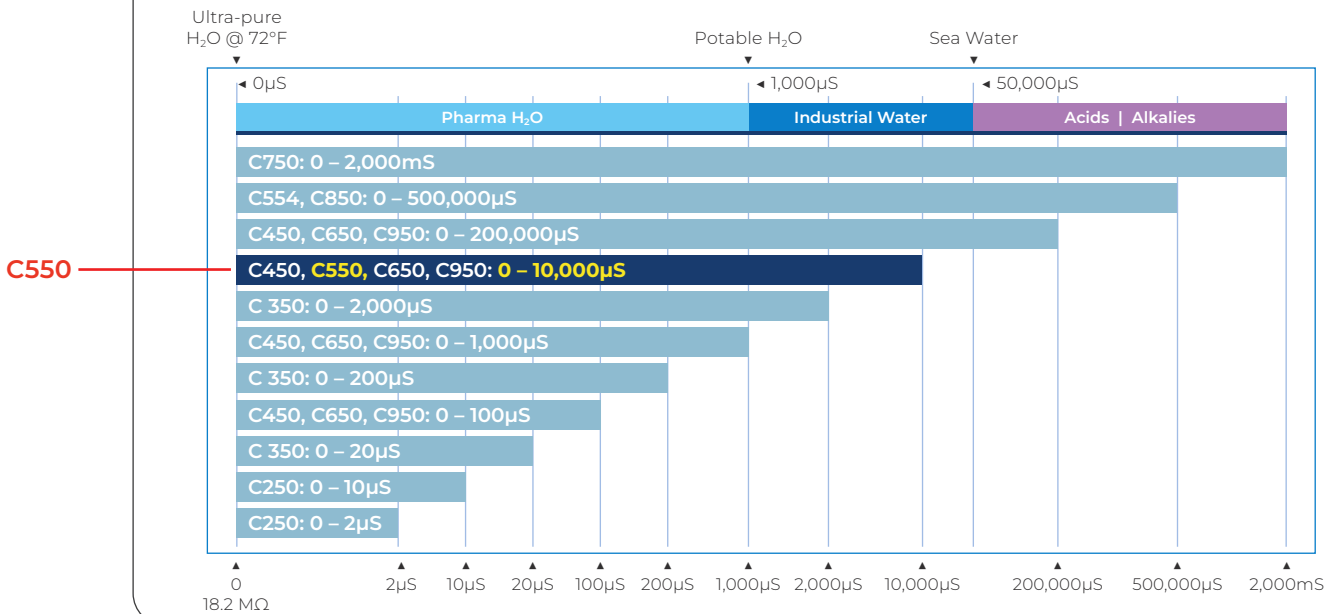**IO-Link**
(No Internal Wiring Required)

Temperature Effects

Electrical Conductivity (µS/cm) vs. Temperature (°C)
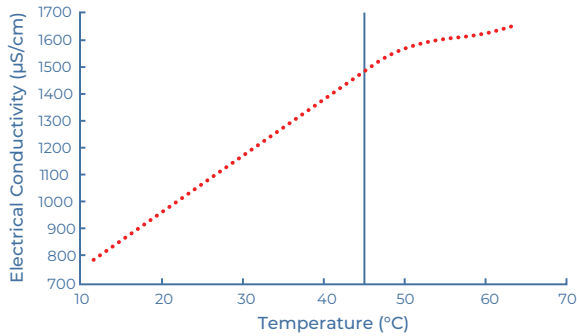
Temperature vs. Pressure

Factory Calibrated

ProCon® conductivity sensors come with a factory default that covers the range of the sensor
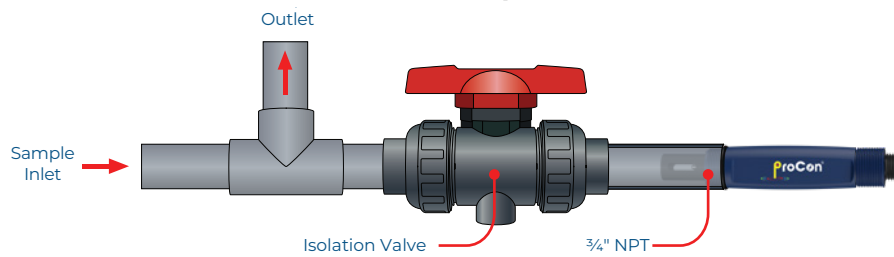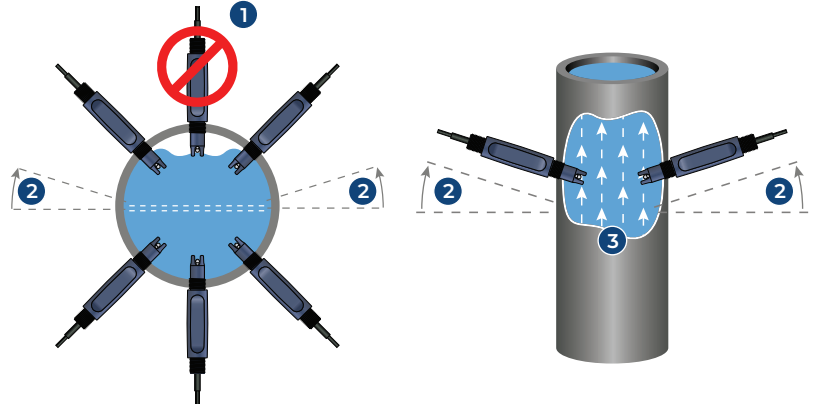
Ultra-pure H₂O @ 72°F

Potable H₂O

Sea Water

◄ 0µS   ◄ 1,000µS   ◄ 50,000µS

| Pharma H₂O | Industrial Water | Acids \| Alkalies |

C750: 0 – 2,000mS
C554, C850: 0 – 500,000µS
C450, C650, C950: 0 – 200,000µS
C450, C550, C650, C950: 0 – 10,000µS
C 350: 0 – 2,000µS
C450, C650, C950: 0 – 1,000µS
C 350: 0 – 200µS
C450, C650, C950: 0 – 100µS
C 350: 0 – 20µS
C250: 0 – 10µS
C250: 0 – 2µS

C550

0
18.2 MΩ   2µS   10µS   20µS   100µS   200µS   1,000µS   2,000µS   10,000µS   200,000µS   500,000µS   2,000mS

Industrial GP Purpose

| Cell	Models	Range
Cell 0.1	C250	0 – 2µS
Cell 0.1	C250	0 – 10µS
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

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Conductivity Sensor Transmitter

Industrial
Analytical
Equipment

ICON™
PROCESS CONTROLS

Corrosion-Free
Instrumentation Equipment

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)

Outlet

Sample Inlet

Isolation Valve

¾" NPT

Dimension

129.00

30.60

Ø 17.75

(Dimensions are in mm)
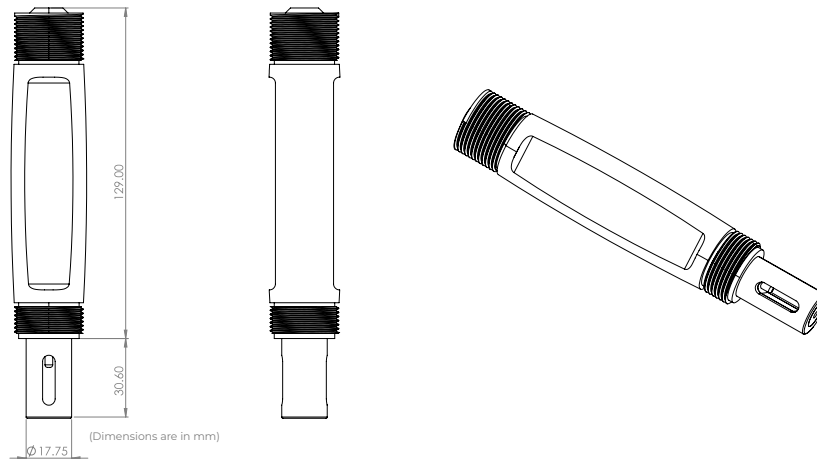
Model Selection

| C550 — 2-Pole Graphite Conductivity Sensor					
Part Number	Material	Output	Cell Constant	Range	Connection
C550-M-D-1-M	Graphite, PPMA	4-wire (for ProCon® Display)	1	0-10,000µS	M12
C550-M-M-1-M	Graphite, PPMA	4-20mA (2-wire, std)	1	0-10,000µS	M12
C550-M-S-1-M	Graphite, PPMA	RS485 + 4-20mA	1	0-10,000µS	M12

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

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Fittings

Easy Install Clamp On Pipe Saddles					
Part Number	Material	Size	Seal	Thread	Connection
PSA-2	PVC	2"	FPM	¾" NPT	PVC
PSA-3	PVC	3"	FPM	¾" NPT	PVC
PSA-4	PVC	4"	FPM	¾" NPT	PVC
PSA-6	PVC	6"	FPM	¾" NPT	PVC
PSA-8	PVC	8"	FPM	¾" NPT	PVC
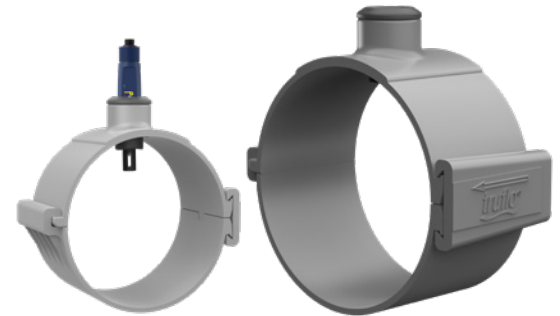
True Union Tee Fitting					
Part Number	Material	Size	Seal	Thread	Connection
TUPA-PV-5	PVC	1/2"	FPM (std) | EPDM	¾" NPT	Socket | NPT
TUPA-PP-5	PP	1/2"	FPM (std) | EPDM	¾" NPT	Butt | NPT
TUPA-PF-5	PVDF	1/2"	FPM (std) | EPDM	¾" NPT	Butt| NPT
TUPA-PV-7	PVC	3/4"	FPM (std) | EPDM	¾" NPT	Socket | NPT
TUPA-PP-7	PP	3/4"	FPM (std) | EPDM	¾" NPT	Butt | NPT
TUPA-PF-7	PVDF	3/4"	FPM (std) | EPDM	¾" NPT	Butt| NPT
TUPA-PV-1	PVC	1"	FPM (std) | EPDM	¾" NPT	Socket | NPT
TUPA-PP-1	PP	1"	FPM (std) | EPDM	¾" NPT	Butt | NPT
TUPA-PF-1	PVDF	1"	FPM (std) | EPDM	¾" NPT	Butt| NPT
TUPA-PV-15	PVC	1 1/2"	FPM (std) | EPDM	¾" NPT	Socket | NPT
TUPA-PP-15	PP	1 1/2"	FPM (std) | EPDM	¾" NPT	Butt | NPT
TUPA-PF-15	PVDF	1 1/2"	FPM (std) | EPDM	¾" NPT	Butt| NPT
TUPA-PV-2	PVC	2"	FPM (std) | EPDM	¾" NPT	Socket | NPT
TUPA-PP-2	PP	2"	FPM (std) | EPDM	¾" NPT	Butt | NPT
TUPA-PF-2	PVDF	2"	FPM (std) | EPDM	¾" NPT	Butt| NPT