

# Conductivity Cells Instruction Sheet

## Orion 011010, 011010A, 011020, 011020A, 011050, and 011050A

Conductivity Cells 011010, 011020, 011010A, and 011020A are platinum/glass and are intended for general laboratory use when testing solutions for conductivity. Conductivity Cells 011050 and 011050A are platinum/epoxy and are intended for general laboratory and field use. These platinum/glass and platinum/epoxy cells should be stored wet to ensure proper storage and operation.

### Calibration

Periodic calibration in an Orion Conductivity/TDS Standard is recommended. Choose the standard, which is closest to the expected sample value. Calibration frequency depends on sample and measurement conditions. Platinum conductivity cells can be replatinized with Orion platinization kit number 0105PK. Replatinization is recommended if conductivity readings begin to drift or become unstable and cleaning does not improve results.

### Probe Specifications, Service and Use

Specifications are for cell only. See your meter instruction manual for additional service and use instructions.

	Orion 011010	Orion 011020	Orion 011050
Body Material	Glass	Glass	Epoxy
Electrode Material	Platinum, Platinized	Platinum, Platinized	Platinum, Platinized
Cell Constant (cm-1)	1.0 ± 10%	0.1 ± 10%	1.0 ± 10%
Connector	8 pin DIN (male)	8 pin DIN (male)	8 pin DIN (male)
Conductivity Range	1 µS/cm to 200 mS/cm	0.1 µS/cm to 100 µS/cm	1 µS/cm to 20 mS/cm
Minimum Immersion	25 mm	25 mm	25 mm
Integral Temp. Sensor	Yes	Yes	Yes
Temperature Range	0 to 80 °C	0 to 80 °C	0 to 80 °C
Application	General lab use	Low Conductivity and Pure or natural water	General lab or field use

  

	Orion 011010A	Orion 011020A	Orion 011050A
Body Material	Glass	Glass	Epoxy
Electrode Material	Platinum, Platinized	Platinum, Platinized	Platinum, Platinized
Cell Constant (cm-1)	1.0 ± 10%	0.1 ± 10%	1.0 ± 10%
Connector	8 pin waterproof DIN	8 pin waterproof DIN	8 pin waterproof DIN
Conductivity Range	1 µS/cm to 200 mS/cm	0.1 µS/cm to 100 µS/cm	1 µS/cm to 20 mS/cm
Minimum Immersion	25 mm	25 mm	25 mm
Integral Temp. Sensor	Yes	Yes	Yes
Temperature Range	0 to 80 °C	0 to 80 °C	0 to 80 °C
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### Cleaning

Contaminant	Cleaning Solution	Recommended time
• Water soluble Contaminants	• Rinse with DI water	No Limit
• Lubricants, oil	• Warm water and liquid household detergent	10 to 30 minutes
	• Ethanol or acetone (glass cells only)	10 to 30 minutes
• Lime or hydroxide coating	• 10% Acetic or Hydrochloric acid	10 to 30 minutes

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Rinse off any cleaning agents from cells with copious amounts of water. If contaminants cannot be removed by the above cleaning methods, concentrated acid (such as nitric or acetic) may be used with sparingly, and for limited amounts of time. Cleaning the cell may slightly shift the cell constant. It is recommended that the cell be recalibrated after cleaning.

## Storage

For overnight or longer, conductivity cells should be stored wet.

## Replatinization

Platinized electrodes are covered with platinum black to create a more effective surface area for conductivity measurements. The platinum deposit is quite durable and usually resistant to contamination and removal. However, replatinization of the cell may be required when measurements become slow, erratic or inconsistent, or when the cell constant has shifted beyond the stated specification. Platinizing the cell produces a complete, fresh layer of platinum black to be deposited on the plate surface, which restores performance and reliability. See instructions for the platinizing kit, 0105PK.

## Conductivity Probe, Meter and Accessory Ordering Information

Orion No.	Description
011006	Conductivity Standard 12.9 mS, five 60 mL bottles
011007	Conductivity Standard 1413 $\mu$ S, five 60 mL bottles
011008	Conductivity Standard 100 $\mu$ S, five 60 mL bottles
0105PK	Platinizing kit, containing fixture, vessel and solution (60 mL)
0162A0	Orion 162A Advanced Benchtop Meter, and Cell
0162A2	Orion 162A Advanced Benchtop Meter Only
015002	Orion 150 Handheld Conductivity Meter Only
012502	Orion 125 Handheld Conductivity Meter Only
011502	Orion 115 Handheld Conductivity Meter Only
010502	Orion 105 Basic Handheld Conductivity Meter Only
011010	2-Cell Pt/glass, K=1.0, 1M cable, 8 pin DIN
011010A	2-Cell Pt/glass, K=1.0, 1M cable, 8 pin WP (waterproof) DIN
011020	2-Cell Pt/glass, K=0.1, 1M cable, 8 pin DIN
011020A	2-Cell Pt/glass, K=0.1, 1M cable, 8 pin WP (waterproof) DIN
011050	2-Cell Pt/epoxy, K=1.0, 1M cable, 8 pin DIN
011050A	2-Cell Pt/epoxy, K=1.0, 1M cable, 8 pin WP (waterproof) DIN
011510	2-Cell epoxy/graphite, K=1.0, 3M cable, 8 pin DIN
011510A	2-Cell epoxy/graphite, K=1.0, 3M cable, 8 pin WP (waterproof) DIN
013005A	Duraprobe 4 Electrode Cond. Cell, Epoxy/Graphite, 1.5 M Cable, 8 pin WP DIN
013005D	Duraprobe 4 Electrode Cond. Cell, Epoxy/Graphite, 1.5 M Cable, 8 pin DIN
013010A	Duraprobe 4 Electrode Cond. Cell, Epoxy/Graphite, 3 M Cable, 8 pin WP DIN
013010D	Duraprobe 4 Electrode Cond. Cell, Epoxy/Graphite, 3 M Cable, 8 pin DIN
013030A	Duraprobe 4 Electrode Cond. Cell, Epoxy/Graphite, 10 M Cable, 8 pin WP DIN
013030D	Duraprobe 4 Electrode Cond. Cell, Epoxy/Graphite, 10 M Cable, 8 pin DIN
013016A	2-Cell Stainless Steel for ultrapure water, K=0.1, 1M cable, 8 pin WP DIN
013016D	2-Cell Stainless Steel for ultrapure water, K=0.1, 1M cable, 8 pin DIN
011220	NIST Traceable Calibration Resistors with 8 pin DIN connectors
011221	NIST Traceable Calibration Resistors with 8 pin waterproof DIN connectors
018020A	Conductivity Cell for conc. samples, K=10, Pt/Glass 1 M Cable, 8 pin WP DIN
018020D	Conductivity Cell for conc. samples, K=10, Pt/Glass 1 M Cable, 8 pin DIN
011212	Adapter 8 pin waterproof DIN to 8 pin (male) DIN for use with A series cells in conjunction with platinizing fixture

For additional product information, see the latest version of the Orion Laboratory Products Catalog.

### Environmental Instruments

Water Analysis

For updated contact information,  
visit [www.thermo.com](http://www.thermo.com)

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