

# Star Series Specifications



## Orion 4-Star pH/Conductivity

Benchtop Meter (Cat. No. 1117000)  
Benchtop Meter Kit (Cat. No. 1117001)

- Easy-to-use meter provides reliable, accurate pH, conductivity, resistivity, salinity, TDS and temperature measurements for soil and water analysis applications.
- SMART STABILITY™ and SMART AVERAGING™ functions for automatically optimized accuracy, precision and response time
- Storage of up to 10 password protected methods for easy retrieval of operation procedures
- Accepts ISFET (Ion Selective Field Effect Transistor) electrodes
- Convenient, built-in Quick-Start Guide
- Meets all U.S. Pharmacopeia (USP) requirements
- Simultaneous display of pH, Conductivity and temperature measurements
- Auto stirrer control

Specifications	
<b>pH</b>	
Readout Range / Resolution	-2.000 to 19.999 or 0 to 14 in aqueous solutions / 0.1,0.01,0.001
Relative Accuracy	± 0.002
SMART STABILITY™ and SMART AVERAGING™	Resolution dependent / automatic
AUTO-CAL™ and/or Manual Calibration	1 to 5 points; US/NIST, DIN, and custom buffers recognized
<b>mV</b>	
Range – mV / RmV	± 1999.9
ORP	E <sub>H</sub> autocalibration to standard hydrogen electrode
Resolution	0.1
Relative Accuracy	± 0.2 mV or 0.05%, whichever is greater
<b>Conductivity</b>	
Range	0.000 to 3000 mS/cm, auto resolution with cell constant dependence
Resolution	4 significant digits down to 0.001 µS/cm, cell constant dependent
Relative Accuracy	0.5% ± 1 digit or 0.01 µS/cm, whichever is greater
Cell Constant	0.001 to 199.9
Cell Compatibility	2 Cell, 4 Cell, Planar Cell
SMART STABILITY™ and SMART AVERAGING™	Resolution dependent / automatic
DirectCal™ / AUTO-CAL™	1 to 5 points / 1 to 3 points
<b>Resistivity</b>	
Range / Resolution	0.0001 to 100 Megohm / Auto resolution
Relative Accuracy	0.5 % ± 1 digit
<b>Salinity</b>	
Range / Resolution	0.01 to 80.0 ppt NaCl equivalent, 0.01 to 42ppt practical salinity / 0.01
Relative Accuracy	± 0.1 ± 1 digit
<b>TDS</b>	
Range / Resolution	0 to 19999 / 1 mg/L
Relative Accuracy	± 0.5 % ± 1 digit
Adjustable TDS Factor	0.00 to 10.00
<b>Temperature</b>	
Range / Resolution	-5 to 105 °C / 0.1 up to 99.9 °C, 1.0 over 99.9 °C
Relative Accuracy	± 0.1 °C
Temperature Compensation	Cond (nLF, linear 0.0 to 10.0% / °C); pH (auto/manual)
<b>Display</b>	
Custom backlit LCD, for easy viewing	
<b>Inputs/Outputs</b>	
Sensor Inputs	Conductivity-miniDIN - Locking; ATC-miniDIN-Locking; pH - BNC; Reference-Pin tip; Stirrer-Phono-jack
Solid State pH Sensor	ISFET
Communications	Bi-directional RS232 - Stereo jack, optional USB interface Cable
<b>Special GLP Software Features</b>	
# Of Data Logging Points	200 points by time, stability or manual read with time/date stamp
Calibration Log	Last 10 Calibrations
User Method Storage	10 Saved
Advanced Self-test and Diagnostics	YES
GLP Electrode Verification	YES
Password Protection	YES
Internet Software Updates / Downloadable Methods	YES
21 CFR Part 11 Software Package	Optional
<b>Power</b>	
Universal power adapter and battery power 4 x AA batteries	

Above data generated under optimal/controlled circumstances.

## Specifications

<b>Regulatory and Safety</b>	CE, CSA, UL, TÜV, FCC Class A limits
<b>Environmental Operating Conditions</b>	
Ambient Operating Temperature	5 to 45 °C
Relative Humidity	5 to 85% Non-Condensing
IP Rating	IP54, splashproof and dustproof
<b>Warranty</b>	36 months (from date of purchase)

Above data generated under optimal/controlled circumstances.

## pH/Conductivity Benchtop Meter Kit (1117001) Includes:

Cat. No.	Description
1117000	4-Star pH/Conductivity benchtop meter
9157BNMD	Triode™, pH/ATC combination electrode
013005MD	Conductivity cell, 1.5m cable
011007	Conductivity/TDS standard 1413 µS/cm, 5x60 mL
910001	pH electrode storage solution, 475 mL
910104	pH 4.01 buffer, 475 mL
910107	pH 7.00 buffer, 475 mL
910110	pH 10.01 buffer, 475 mL

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