

**Thermo Scientific Orion
VERSA STAR advanced
electrochemistry meter is
your meter as you need it
– for now and later.**

Thermo Scientific Orion VERSA STAR™ Advanced Electrochemistry Meter



This versatile meter has a large, color graphic LCD display. The informative display shows readings, connections, time, date, sample ID, user ID and calibration information.

Features and Benefits

- Select from five modules to customize the 4 channels as you need it – it's versatile for you to configure how you need it for now or for later
- Anyone can use this meter with its plain language screen prompts, soft keys that update for easy selection and a multilanguage interface that supports English, Spanish, French, Italian, German and Chinese
- Non-volatile memory holds up to 2000 data points with time and date stamp
- Data transfer and updating meter software is easy with two USB and RS232 ports
- Includes data analysis software for transferring stored results or displaying readings in real-time
- Mix samples without a stir plate with direct control for two Orion Star stirrer probes (096019, sold separately)
- Included electrode arm and newly-designed probe holder make it easier to maintain and place probes into samples
- Works with almost every AC power source with the included universal power adapter
- IP54-rated housing handles splashes
- 3 year meter replacement warranty

A variety of modules that you can place in any of the four channels.

- **pH/Temperature module allows:**
 - up to 5 point pH calibration with automatic recognition for USA/ NIST and DIN buffers
 - fixing of calibration errors without a complete recalibration with calibration editing
- **Use with the pH/ISE/Temperature module for:**
 - all the benefits of the pH module
 - fixing pH/ISE calibration errors without a complete recalibration with calibration editing
 - advanced ISE benefits such as auto-blank, timed end point, linear point-to-point, non-linear selectable auto-blank, low-concentration range stability, ISE ID and incremental techniques
- **Conductivity/Temperature module offers:**
 - conductivity, TDS, salinity or resistivity capabilities
 - selectable reading reference temperatures of 5, 10, 15, 20 or 25 °C with linear, non-linear, nLFu or EP curve options for conductivity
 - choice of practical salinity or natural sea water curves for salinity readings
- **Dissolved Oxygen/RDO/Temperature module:**
 - Takes the worry out of DO probe compatibility – the meter accepts and automatically recognizes Orion polarographic and RDO optical/luminescence-based probes
 - Compensates automatically for temperature, salinity with manual input and barometric pressure (automatic or manual)
 - Allows for calibration using water-saturated air, air-saturated water, a Winkler titration or zero point
- **Module featuring LogR technology:**
 - includes all of the features of the pH module with the added benefits of:
 - the most advanced electrode diagnostics
 - no temperature sensor needed to get temperature-compensated pH readings

Description



No need to turn off your meter to switch modules – meter automatically recognizes module changes.

This meter is the complete package – up to four channels to mix and match with easy-to-use key layouts and graphics.

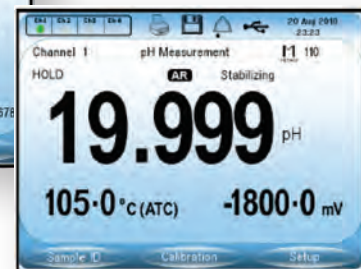
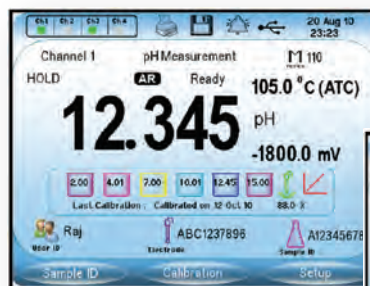
Specifications



| pH Module (VSTAR-PH) Specifications | | |
|-------------------------------------|---|--|
| pH | Range | -2.000 to 20.000 |
| | Resolution | 0.1, 0.01, 0.001 |
| | Relative Accuracy | ±0.002 |
| | Calibration Points | Up to 6 |
| | Calibration Editing | Yes |
| | Adjustable ISO Point | Yes |
| mV/RmV | Range | ±2000.0 mV |
| | Resolution | 0.1 |
| | Relative Accuracy | ±0.2 mV or ±0.05 % of reading whichever is greater |
| | E_H ORP Mode | Yes |
| Temperature | Range | -5 to 105 °C, 23 to 221 °F |
| | Resolution | 0.1 |
| | Relative Accuracy | ±0.1 |
| | Offset Calibration | 1 point |
| Inputs | pH: BNC, reference pin ATC: 8-pin mini-DIN | |

| RDO/DO Module (VSTAR-RD) Specifications | | | |
|---|---|---|--------------------------|
| Dissolved Oxygen | Concentration - Polarographic | | |
| | Range | 0 to 90 mg/L | |
| | Resolution | 0.01, 0.1 | |
| | Relative Accuracy | ±0.2 | |
| | % Saturation - Polarographic | | |
| | Range | 0 to 600 | |
| | Resolution | 0.1, 1 | |
| | Relative Accuracy | ±2 % | |
| | Concentration - RDO | | |
| | Range | 0 to 50 mg/L | |
| | Resolution | 0.01, 0.1 | |
| | Relative Accuracy | ±0.1 mg/L up to 8 mg/L; ±0.2 mg/L from 8 to 20 mg/L; 10 % of reading, 20 to 50 mg/L | |
| % Saturation - RDO | Range | 0 to 500 | |
| | Resolution | 0.1, 1 | |
| | Relative Accuracy | ±2 % | |
| | Automatic Barometric Pressure Correction | 450.0 to 850.0 mm Hg | |
| | Salinity Factor Correction | Automatic when used with conductivity module and probe or manual; 0 to 45 ppt | |
| | Calibration Features | Water saturated air, air saturated water, manual (Winkler) and zero point | |
| | Probe Type | Polarographic or RDO | |
| | Temperature | Range | 0 to 50 °C, 32 to 122 °F |
| | | Resolution | 0.1 |
| | | Relative Accuracy | ±0.1 |
| | | Offset Calibration | 1 point |
| | Input | 9-pin mini-DIN | |

| pH/ISE Module (VSTAR-ISE) Specifications | | |
|--|---|---|
| pH | Range | -2.000 to 20.000 |
| | Resolution | 0.1, 0.01, 0.001 |
| | Relative Accuracy | ±0.002 |
| | Calibration Points | Up to 6 |
| | Calibration Editing | Yes |
| | Adjustable ISO Point | Yes |
| mV/RmV | Range | ±2000.0 mV |
| | Resolution | 0.1 |
| | Relative Accuracy | ±0.2 mV or ±0.05 % of reading whichever is greater |
| | E_H ORP Mode | Yes |
| ISE | Range | 0 to 19999 |
| | Resolution | Up to 4 significant digits |
| | Relative Accuracy | ±0.2 mV or ±0.05 % of reading whichever is greater |
| | Units | ppm, M, mg/L, %, ppb, none |
| | Calibration Points | Up to 6 |
| | Calibration Editing | Yes |
| | Adjustable ISO Point | Yes |
| | Calibration Features | Timed end point, linear point to point, non-linear selectable auto-blank, low concentration range stability |
| | Incremental Techniques | Single known addition & subtraction, double known addition & subtraction, single analyte addition & subtraction |
| | Advanced Features | Displays electrode type, temperature compensation |
| Temperature | Range | -5 to 105 °C, 23 to 221 °F |
| | Resolution | 0.1 |
| | Relative Accuracy | ±0.1 |
| | Offset Calibration | 1 point |
| Inputs | pH/ISE: BNC, reference pin ATC: 8-pin mini-DIN | |



Orion VERSA STAR meters can be customized to display only the information that you need.



Conductivity Module (VSTAR-CND) Specifications

| | | |
|--------------------------|----------------------------------|---|
| Conductivity | Range | 0.001 μ S to 3000 mS |
| | Resolution | 0.001 μ S minimum; 4 significant figures minimum |
| | Relative Accuracy | 0.5 % reading \pm 1 digit |
| | Reference Temperature | 5, 10, 15, 20, 25 $^{\circ}$ C |
| | Temperature Compensation | Linear (0 to 10.0 %/ $^{\circ}$ C), nLn, nLFu, EP |
| | Compatible Cell Constants | 0.001 to 199.9 |
| | Calibration Points | Up to 6 points |
| | Calibration Editing | Yes |
| | Resistivity | Range |
| Resolution | | 2 ohms-cm |
| Relative Accuracy | | 0.5 % reading \pm 1 digit |
| Salinity | Type | Practical salinity or natural sea water |
| | Range | 0.01 to 80.0 ppt NaCl equivalent; 0.01 to 42 ppt practical salinity |
| | Resolution | 0.01 |
| | Relative Accuracy | \pm 0.1 |
| TDS | Range | 0 to 200 ppt |
| | Resolution | 4 significant digits |
| | Relative Accuracy | \pm 0.5 % reading \pm 1 digit |
| | TDS Factor Range | Linear 0.01 to 10.00 |
| Temperature | Range | -5 to 105 $^{\circ}$ C, 23 to 221 $^{\circ}$ F |
| | Resolution | 0.1 |
| | Relative Accuracy | \pm 0.1 |
| | Offset Calibration | 1 point |
| Input | 8-pin mini-DIN | |

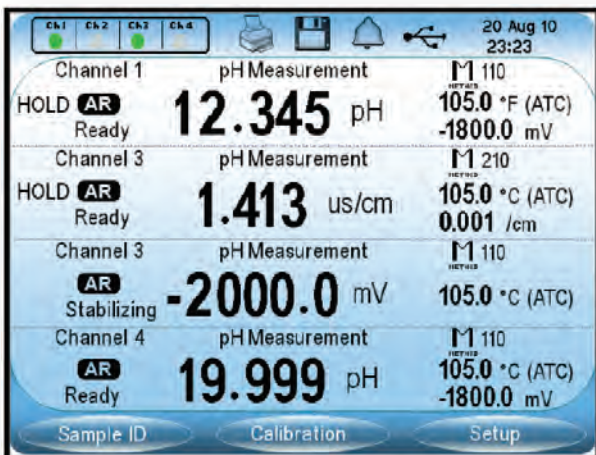
pH/LogR Module (VSTAR-LR) Specifications

| | | |
|--|---|--|
| pH | Range | -2.000 to 20.000 |
| | Resolution | 0.1, 0.01, 0.001 |
| | Relative Accuracy | \pm 0.002 |
| | Calibration Points | Up to 6 |
| | Calibration Editing | Yes |
| | Adjustable ISO Point | Yes |
| mV/RmV | Range | \pm 2000.0 mV |
| | Resolution | 0.1 |
| | Relative Accuracy | \pm 0.2 mV or \pm 0.05 % of reading whichever is greater |
| | E_H ORP Mode | Yes |
| LogR Temperature | Range | 0 to 100 $^{\circ}$ C, 32 to 212 $^{\circ}$ F |
| | Resolution | 0.1 |
| | Relative Accuracy | \pm 0.5 |
| | Resistance Range | 0 to 6000 M Ω |
| | Resistance Resolution | 0.1 M Ω up to 1999.9 M Ω , 1 M Ω above 1999.9 M Ω |
| | Offset Calibration | 1 point |
| Calibration Options | ATC probe, NIST reference | |
| Temperature Measurement without LogR In-Use | Range | -5 to 105 $^{\circ}$ C, 23 to 221 $^{\circ}$ F |
| | Resolution | 0.1 |
| | Relative Accuracy | \pm 0.1 |
| Offset Calibration | 1 point | |
| Inputs | pH: BNC, reference pin ATC: 8-pin mini-DIN | |

Orion VERSA STAR Meter Specifications

| | | |
|---------------------------------------|--|---|
| Maximum number of modules | 4 | |
| Methods | Up to 10 | |
| Datalogging | Number of Points | 2000 with time and date stamp |
| | Log Function | Manual, AUTO-READ™, timed interval, one timed reading |
| | Log Edit | Delete individual points, group of points or all |
| Communication Ports | One RS232, two USB ports (one client, one host) | |
| Orion Star Stirrer Probe Ports | 2 | |
| BOD Calculations | BOD, DOUR & SOUR with PC software | |
| Power | Universal, AC power adapter, 90-260 VAC, 50-60 Hz | |

Meter display can show all four channels simultaneously or select the format of channels you wish to display.



Ordering Information

| Cat. No. | Description |
|-----------|--|
| VSTAR00 | Orion VERSA STAR Benchtop Meter - Electrode arm with redesigned holder - Universal power adapter |
| VSTAR10 | Orion VERSA STAR pH Benchtop Meter Set - Orion VERSA STAR meter with pH/temperature module - Electrode arm with redesigned holder - Universal power adapter |
| VSTAR12 | Orion VERSA STAR pH Benchtop Meter Kit - Orion VERSA STAR meter with pH/temperature module - 8302BNUMD Orion ROSS Triode pH/ATC probe - 096019 Orion Star stirrer probe - 810199 ROSS solution kit (475 mL each of pH 4, 7 and 10 buffers; storage solution; cleaning solution; and pH electrode storage bottle) - Electrode arm with redesigned holder - Universal power adapter |
| VSTAR20 | Orion VERSA STAR Conductivity Benchtop Meter Set - Orion VERSA STAR meter - Orion VERSA STAR conductivity/temperature module - Electrode arm with redesigned holder - Universal power adapter |
| VSTAR22 | Orion VERSA STAR Conductivity Benchtop Meter Kit - Orion VERSA STAR meter - Orion VERSA STAR conductivity/temperature module - 013005MD Orion DuraProbe conductivity cell, K=0.475 - 011007 conductivity standard, 1413 μ S, 5x60 mL - Electrode arm with redesigned holder - Universal power adapter |
| VSTAR30 | Orion VERSA STAR RDO/Dissolved Oxygen Benchtop Meter Set - Orion VERSA STAR meter - Orion VERSA STAR dissolved oxygen/temperature module - Electrode arm with redesigned holder - Universal power adapter |
| VSTAR32 | Orion VERSA STAR RDO/Dissolved Oxygen Benchtop Meter Kit - Orion VERSA STAR meter - Orion VERSA STAR dissolved oxygen/temperature module - 083005MD Orion polarographic DO probe - 080017 calibration sleeve for DO probe - 080513 DO probe maintenance kit - 970802 BOD funnel/stirrer - 080360 BOD adapter - Electrode arm with redesigned holder - Universal power adapter |
| VSTAR40A | Orion VERSA STAR pH/ISE Benchtop Meter Set - Orion VERSA STAR meter - Orion VERSA STAR pH/ISE/temperature module - Electrode arm with redesigned holder - Universal power adapter |
| VSTAR40A2 | Orion VERSA STAR pH/ISE Benchtop Meter Kit - Orion VERSA STAR meter - Orion VERSA STAR pH/ISE/temperature module - 8102BNUMD Orion ROSS Ultra pH electrode - 096019 Orion Star stirrer probe - 927007MD ATC probe, stainless steel - ROSS solution kit (475 mL each of pH 4, 7 and 10 buffers; storage solution; cleaning solution; and pH electrode storage bottle) - Electrode arm with redesigned holder - Universal power adapter |

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| VSTAR40B | Orion VERSA STAR Benchtop Meter with Two pH/ISE Modules - Orion VERSA STAR meter - Two Orion VERSA STAR pH/ISE/temperature modules - Electrode arm with redesigned holder - Universal power adapter |
| VSTAR40B2 | Orion VERSA STAR Benchtop Meter with Two pH/ISE Modules Kit - Orion VERSA STAR meter - Two Orion VERSA STAR pH/ISE/temperature modules - 8102BNUMD Orion ROSS Ultra pH electrode - 096019 Orion Star stirrer probe - 927007MD ATC probe, stainless steel - ROSS solution kit (475 mL each of pH 4, 7 and 10 buffers; storage solution; cleaning solution; and pH electrode storage bottle) - Two electrode arms with redesigned holders - Universal power adapter |
| VSTAR50 | Orion VERSA STAR pH/Conductivity Benchtop Meter Set - Orion VERSA STAR meter - Orion VERSA STAR pH/temperature module - Orion VERSA STAR conductivity/temperature module - Electrode arm with redesigned holder - Universal power adapter |
| VSTAR52 | Orion VERSA STAR pH/Conductivity Benchtop Meter Kit - Orion VERSA STAR meter with pH/temperature module - Orion VERSA STAR conductivity/temperature module - 8157BNUMD Orion ROSS Ultra Triode pH/ATC probe - 013005MD Orion DuraProbe conductivity cell, K=0.475 - 810199 ROSS solution kit (475 mL each of pH 4, 7 and 10 buffers; storage solution; cleaning solution; and pH electrode storage bottle) - 011007 conductivity standard, 1413 μ S, 5x60 mL - Electrode arm with redesigned holder - Universal power adapter |
| VSTAR80 | Orion VERSA STAR pH with LogR Benchtop Meter Set - Orion VERSA STAR meter - Orion VERSA STAR pH/temperature with LogR technology module - Electrode arm with redesigned holder - Universal power adapter |
| VSTAR82 | Orion VERSA STAR pH Benchtop Meter Kit - Orion VERSA STAR meter - Orion VERSA STAR pH/temperature with LogR technology module - 8172BNX Orion ROSS Sure-Flow pH electrode - 927007MD ATC probe, stainless steel - ROSS solution kit (475 mL each of pH 4, 7 and 10 buffers; storage solution; cleaning solution; and pH electrode storage bottle) - 810007 ROSS fill solution, 5x60 mL - Electrode arm with redesigned holder - Universal power adapter |
| VSTAR90 | Orion VERSA STAR pH/ISE/Conductivity/RDO/Dissolved Oxygen Benchtop Multiparameter Meter Set - Orion VERSA STAR meter - Orion VERSA STAR pH/ISE/temperature module - Orion VERSA STAR conductivity/temperature module - Orion VERSA STAR dissolved oxygen/temperature module - Electrode arm with redesigned holder - Universal power adapter |

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| VSTAR91 | <p>Orion VERSA STAR pH/ISE/Conductivity/RDO/ Dissolved Oxygen Benchtop Multiparameter Meter Set</p> <ul style="list-style-type: none"> - Orion VERSA STAR meter - Two Orion VERSA STAR pH/ISE/temperature modules - Orion VERSA STAR conductivity/temperature module - Orion VERSA STAR dissolved oxygen/temperature module - Two 096019 Orion Star stirrer probes - Two electrode arms with redesigned holders - Universal power adapter |
| VSTAR92 | <p>Orion VERSA STAR pH/ISE/Conductivity/RDO/ Dissolved Oxygen Benchtop Multiparameter Meter Set</p> <ul style="list-style-type: none"> - Orion VERSA STAR meter - Orion VERSA STAR pH/ISE/temperature module - Orion VERSA STAR conductivity/temperature module - Orion VERSA STAR dissolved oxygen/temperature module - 8157BNUMD Orion ROSS Ultra Triode pH/ATC probe - 013005MD Orion DuraProbe conductivity cell, K=0.475 - 083005MD Orion polarographic DO probe - 080017 calibration sleeve for DO probe - 080513 DO probe maintenance kit - 970802 BOD funnel/stirrer - 080360 BOD adapter - 810199 ROSS solution kit (475 mL each of pH 4, 7 and 10 buffers; storage solution; cleaning solution; and pH electrode storage bottle) - 011007 conductivity standard, 1413 μS, 5x60 mL - Electrode arm with redesigned holder - Universal power adapter |
| VSTAR93 | <p>Orion VERSA STAR pH/ISE/Conductivity/RDO/ Dissolved Oxygen Ultimate Benchtop Multiparameter Meter Set</p> <ul style="list-style-type: none"> - Orion VERSA STAR meter - Orion VERSA STAR pH/ISE/temperature module - Orion VERSA STAR conductivity/temperature module - Orion VERSA STAR dissolved oxygen/temperature module - 8157BNUMD Orion ROSS Ultra Triode pH/ATC probe - 013005MD Orion DuraProbe conductivity cell, K=0.475 - 083005MD Orion polarographic DO probe - Two 096019 Orion Star stirrer probes - 080017 calibration sleeve for DO probe - 080513 DO probe maintenance kit - 970802 BOD funnel/stirrer - 080360 BOD adapter - 810199 ROSS solution kit (475 mL each of pH 4, 7 and 10 buffers; storage solution; cleaning solution; and pH electrode storage bottle) - 011007 conductivity standard, 1413 μS, 5x60 mL - Two electrode arms with redesigned holders - Universal power adapter |
| Accessories | |
| VSTAR-PH | Orion VERSA STAR pH/temperature module |
| VSTAR-ISE | Orion VERSA STAR pH/ISE/temperature module |
| VSTAR-CND | Orion VERSA STAR conductivity/temperature module |
| VSTAR-RD | Orion VERSA STAR RDO/DO/temperature module |
| VSTAR-LR | Orion VERSA STAR pH/temperature with LogR technology module |

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|-------------------|---|
| STARA-BEA | Benchtop electrode arm for Orion Star A-series meters |
| STARA-HB | Freestanding base for use with Orion Star A-series benchtop electrode arm |
| STARA-PWR | Replacement universal power adapter for Orion VERSA STAR meters |
| 096019 | Orion Star stirrer probe |
| 8102BNUWP | Orion ROSS Ultra pH electrode, refillable, glass body |
| 8172BNWP | Orion ROSS Sure-Flow pH electrode, glass body |
| 8156BNUWP | Orion ROSS Ultra refillable pH electrode, epoxy body |
| 8157BNUMD | Orion ROSS Triode pH/ATC electrode, refillable, epoxy body |
| 8302BNUMD | Orion ROSS Triode pH/ATC electrode, refillable, glass body |
| 8172BNX | Orion ROSS Sure-Flow pH electrode, glass body |
| 8611BNWP | Orion ROSS sodium combination ISE |
| 927007MD | Orion ATC probe, stainless steel body |
| 927005MD | Orion ATC probe, epoxy body |
| 013005MD | Orion DuraProbe conductivity cell, 4-cell, K=0.475 |
| 013016MD | Orion conductivity cell, flow through, K=0.1 |
| 083005MD | Orion dissolved oxygen probe, polarographic |
| 086030MD | Orion auto-stir DO/BOD probe, polarographic |
| 087010MD | Orion RDO optical DO probe, 3 m cable |
| 810199 | Orion ROSS all-in-one pH buffer kit |
| 910104 | Orion pH 4.01 buffer, 475 mL |
| 910107 | Orion pH 7.00 buffer, 475 mL |
| 910110 | Orion pH 4.01 buffer, 475 mL |
| 011008 | Orion conductivity standard, 100 μ S/cm, 5x60 mL bottles |
| 011007 | Orion conductivity standard, 1413 μ S/cm, 5x60 mL bottles |
| 011006 | Orion conductivity standard, 12.9 mS/cm, 5x60 mL bottles |
| 1010001 | Orion conductivity calibration resistor kit |
| 9512HPBNWP | Orion high-performance ammonia ISE |
| 9512BNWP | Orion standard ammonia ISE |
| 951007 | Ammonia standard, 1000 ppm, 475 mL |
| 951210 | Low-level ammonia ISA |
| 951211 | Ammonia ISA, 475 mL |
| 951209 | Fill solution for Orion high-performance ammonia ISE, 60 mL |
| 951202 | Fill solution for standard ammonia ISE, 60 mL |
| 951213 | Ammonia ISE storage solution |
| 9609BNWP | Orion fluoride combination ISE |
| 040906 | Fluoride standard, 1 ppm with TISAB II, 475 mL |
| 040907 | Fluoride standard, 2 ppm with TISAB II, 475 mL |
| 040908 | Fluoride standard, 10 ppm with TISAB II, 475 mL |
| 940909 | TISAB II, 1 gallon |
| 8611BNWP | Orion ROSS sodium combination ISE |

For more information, contact your local Thermo Scientific products dealer or call our customer and technical service experts at 1-800-225-1480 (for the US and Canada) or visit www.thermoscientific.com/water.

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