

Thermo Scientific Orion VERSA STAR

Premium modular electrochemistry meter

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



This versatile meter has a large, color customizable graphic LCD display. The informative display shows one, two, three or all four measurement channels with temperature. The displayed channels are selectable to show only what you need or all measurements at once. Each channel is configurable using one of the five VERSA STAR modules.

Features and Benefits

- Versatility to build the meter you need now and change it later—select from five modules for pH, pH/ISE, conductivity, dissolved oxygen and pH/LogR
- Easy meter operation assured with on-screen text prompts, menu-specific function keys and a multi-language interface for 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 one RS232 ports
- Complimentary Orion Star Com computer software for transferring stored results or displaying readings in real-time
- Stir samples with ease using the meter-controlled Orion Star stirrer probe (Cat. No. 096019)
- Included electrode arm and 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 and is wall-mountable to save space
- 3 year meter replacement warranty



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

- VERSA STAR pH Module, VSTAR-PH:**
 - Measures pH, mV, relative mV (RmV) or ORP with temperature
 - Up to 6 point pH calibration with automatic buffer recognition or custom buffer option for unique buffer values
 - Calibration editing to fix individual points without a full recalibration
- VERSA STAR pH/ISE Module, VSTAR-ISE:**
 - Measures pH, concentration using ISE, mV, relative mV (RmV) or ORP with temperature
 - Up to 6 point pH and ISE calibrations with editing to fix individual points without a full recalibration
 - Advanced ISE features include incremental techniques, point to point slope, non-linear selectable auto-blank, low-concentration range stability and ion selective electrode ID
- VERSA STAR Conductivity Module, VSTAR-CND:**
 - Measures conductivity, TDS, salinity or resistivity with temperature
 - Selectable conductivity reference temperatures of 5, 10, 15, 20 or 25 °C with linear, non-linear nLFn, non-linear nLFu, and EP curve options
 - Auto-ranging conductivity measurements for high accuracy across all conductivity ranges
- VERSA STAR Dissolved Oxygen/RDO Module, VSTAR-RD:**
 - Measures dissolved oxygen as percent saturation or concentration with temperature
 - Flexibility to use Orion polarographic and RDO optical dissolved oxygen probes
 - Calibration options for water-saturated air, air-saturated water, custom value using a Winkler titration or zero point
- Compensates measurements for temperature, barometric pressure and salinity
- VERSA STAR pH/LogR Module, VSTAR-LR:**
 - Measures pH, mV, relative mV (RmV) or ORP with temperature using LogR technology, ATC probe or manual input
 - No temperature sensor required for temperature-compensated pH readings
 - The most advanced electrode diagnostics using pH bulb resistance

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.

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 mV 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 °C, 0.1 °F Relative Accuracy: ±0.1 °C, ±0.1 °F Offset Calibration: 1 point |
| Inputs | pH: BNC, reference pin ATC: 8-pin mini-DIN |

RDO/DO Module (VSTAR-RD) Specifications

| | |
|-------------------------|---|
| Dissolved Oxygen | Polarographic Range: 0 to 600 % saturation; 0 to 90 mg/L Resolution: 0.1, 1 % sat.; 0.01, 0.1 mg/L Relative Accuracy: ±2 % sat.; ±0.2 mg/L RDO Range: 0 to 500 % saturation; 0 to 50 mg/L Resolution: 0.1, 1 % sat.; 0.01, 0.1 mg/L Relative Accuracy: ±2 % sat.; ±0.1 mg/L up to 8 mg/L, ±0.2 mg/L from 8 to 20 mg/L, 10 % of reading from 20 to 50 mg/L Barometric Pressure Correction: 450.0 to 850.0 mm Hg Salinity Factor Correction: 0 to 45 ppt Calibration Features: Water saturated air, air saturated water, manual (Winkler) and zero point Sensor Type: Polarographic or RDO |
| Temperature | Range: 0 to 50 °C, 32 to 122 °F Resolution: 0.1 °C, 0.1 °F Relative Accuracy: ±0.1 °C, ±0.1 °F Offset Calibration: 1 point |
| Input | 9-pin mini-DIN |

pH/ISE Module (VSTAR-ISE) Specifications

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|--------------------|--|
| 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 mV Relative Accuracy: ±0.2 mV or ±0.05 % of reading whichever is greater E_H ORP Mode: Yes |
| ISE | Range: 0.0001 to 19990 Resolution: 0.0001 minimum, auto ranging, up to 4 significant digits (user selectable) 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 Advanced Features: Point to point slope, non-linear selectable auto-blank, low concentration range stability, electrode type display, temperature compensation Incremental Techniques: Single known addition & subtraction, double known addition & subtraction, single analyte addition & subtraction |
| Temperature | Range: -5 to 105 °C, 23 to 221 °F Resolution: 0.1 °C, 0.1 °F Relative Accuracy: ±0.1 °C, ±0.1 °F Offset Calibration: 1 point |
| Inputs | pH/ISE: BNC, reference pin ATC: 8-pin mini-DIN |

Conductivity Module (VSTAR-CND) Specifications

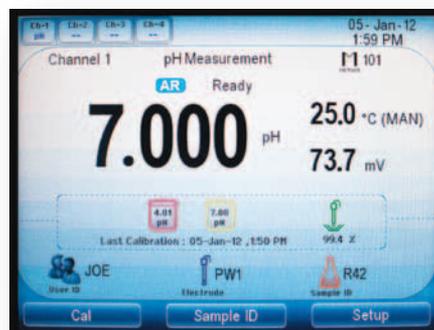
| | |
|---------------------|---|
| Conductivity | Range: 0.001 µS to 3000 mS Resolution: 0.001 µS minimum, auto ranging, up to 4 significant digits Relative Accuracy: 0.5 % of reading ±1 digit > 3 µS, 0.5 % of reading ±0.01 µS ≤ 3 µS Reference Temperature: 5, 10, 15, 20, 25 °C Temperature Compensation: Linear (0 to 10.0 %/°C), nonlinear nLFn, nonlinear nLFu, EP (USP), off Compatible Cell Constants: 0.001 to 199.9 Calibration Points: Up to 6 points Calibration Editing: Yes |
| Resistivity | Range: 2 ohm to 100 meg-ohm Resolution: 1 ohm or 0.1 meg-ohm, auto ranging Relative Accuracy: 0.5 % reading ±1 digit |
| Salinity | Type: Practical salinity or natural sea water Range: 0.06 to 80.00 psu, 0.05 to 42.00 ppt Resolution: psu, 0.01 ppt Relative Accuracy: 0.5 % reading ±1 digit |
| TDS | Range: 0.001 to 200.0 ppt Resolution: 0.001 ppt minimum, auto ranging, up to 4 significant digits Relative Accuracy: ±0.5 % reading ±1 digit TDS Factor Range: Linear 0.02 to 9.99 |
| Temperature | Range: -5 to 105 °C, 23 to 221 °F Resolution: 0.1 °C, 0.1 °F Relative Accuracy: ±0.1 °C, ±0.1 °F 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: ± 0.002 Calibration Points: Up to 6 Calibration Editing: Yes Adjustable ISO Point: Yes |
| mV/RmV | Range: ± 2000.0 mV Resolution: 0.1 mV Relative Accuracy: ± 0.2 mV or ± 0.05 % of reading whichever is greater E_H ORP Mode: Yes |
| LogR Temperature | Range: 0 to 100 °C, 32 to 212 °F Resolution: 0.1 °C, ± 0.1 °F Relative Accuracy: ± 0.5 °C, ± 0.5 °F Resistance Range: 0 to 6000 M Ω Resistance Resolution: 0.1 M Ω up to 99.9 M Ω , 1 M Ω above 100 M Ω Offset Calibration: 1 point Calibration Options: ATC probe, NIST reference |
| Temperature Measurement without LogR In-Use | Range: -5 to 105 °C, 23 to 221 °F Resolution: 0.1 °C, 0.1 °F Relative Accuracy: ± 0.1 °C, ± 0.1 °F Offset Calibration: 1 point |
| Inputs | pH: BNC, reference pin ATC: 8-pin mini-DIN |

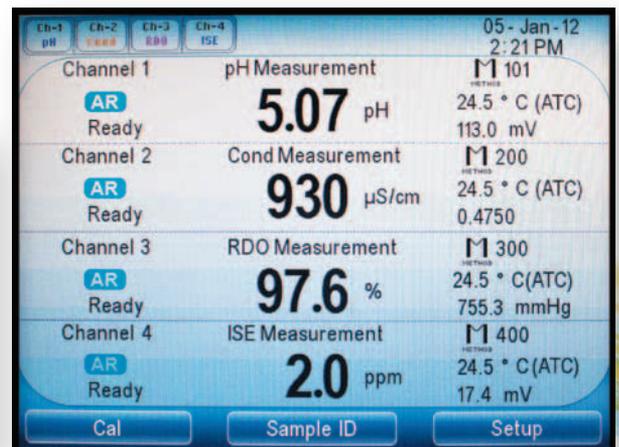
| Orion VERSA STAR Meter Specifications | |
|---------------------------------------|--|
| Maximum Number of Modules | 4 |
| Methods | Up to 10 per channel |
| Datalogging | Memory: 2000 with time and date stamp Log Function: Manual, AUTO-READ, timed interval, single shot reading Log Edit: Delete individual points, group of points or all |
| Communication Ports | One RS232, one bidirectional USB, one printer-dedicated USB |
| Orion Star Stirrer Probe Ports | 2 |
| Power | Universal, AC power adapter, 90-260 VAC, 50-60 Hz |

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



| Meter Ordering Information | |
|----------------------------|---|
| Part No. | Description |
| VSTAR00 | Orion VERSA STAR Benchtop Meter - Attached electrode stand and holder - Universal power adapter - Printed quick start guide and literature CD - USB computer cable |
| VSTAR10 | Orion VERSA STAR pH Meter - Orion VERSA STAR meter with pH module - Attached electrode stand and holder - Universal power adapter - Printed quick start guide and literature CD - USB computer cable |
| VSTAR12 | Orion VERSA STAR pH Meter Kit - Orion VERSA STAR meter with pH module - 8302BNUMD Orion ROSS Triode pH/ATC probe - 096019 Orion Star stirrer probe - 810199 ROSS pH buffer and solution kit - Attached electrode stand and holder - Universal power adapter - Printed quick start guide and literature CD - USB computer cable |
| VSTAR20 | Orion VERSA STAR Conductivity Meter - Orion VERSA STAR meter with conductivity module - Attached electrode stand and holder - Universal power adapter - Printed quick start guide and literature CD - USB computer cable |
| VSTAR22 | Orion VERSA STAR Conductivity Meter Kit - Orion VERSA STAR meter with conductivity module - 013005MD Orion DuraProbe conductivity probe - 011007 Orion 1413 μ S conductivity standard - Attached electrode stand and holder - Universal power adapter - Printed quick start guide and literature CD - USB computer cable |

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



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| VSTAR30 | Orion VERSA STAR RDO/Dissolved Oxygen Meter <ul style="list-style-type: none"> - Orion VERSA STAR meter with RDO/DO module - Attached electrode stand and holder - Universal power adapter - Printed quick start guide and literature CD - USB computer cable | VSTAR50 | Orion VERSA STAR pH and Conductivity Meter <ul style="list-style-type: none"> - Orion VERSA STAR meter with pH and conductivity modules - Attached electrode stand and holder - Universal power adapter - Printed quick start guide and literature CD - USB computer cable |
| VSTAR32 | Orion VERSA STAR RDO/Dissolved Oxygen Meter Kit <ul style="list-style-type: none"> - Orion VERSA STAR meter with RDO/DO module - 083005MD Orion polarographic DO probe with calibration sleeve - 080513 DO probe maintenance kit - BOD adapter, funnel and stirrer - Attached electrode stand and holder - Universal power adapter - Printed quick start guide and literature CD - USB computer cable | VSTAR52 | Orion VERSA STAR pH and Conductivity Meter Kit <ul style="list-style-type: none"> - Orion VERSA STAR meter with pH and conductivity modules - 8157BNUMD Orion ROSS Ultra Triode pH/ATC probe - 013005MD Orion DuraProbe conductivity probe - 810199 ROSS pH buffer and solution kit - 011007 Orion 1413 μS conductivity standard - Attached electrode stand and holder - Universal power adapter - Printed quick start guide and literature CD - USB computer cable |
| VSTAR40A | Orion VERSA STAR pH/ISE Meter <ul style="list-style-type: none"> - Orion VERSA STAR meter with pH/ISE module - Attached electrode stand and holder - Universal power adapter - Printed quick start guide and literature CD - USB computer cable | VSTAR80 | Orion VERSA STAR pH with LogR Meter <ul style="list-style-type: none"> - Orion VERSA STAR meter with pH/LogR module - 927007MD Orion ATC probe - Attached electrode stand and holder - Universal power adapter - Printed quick start guide and literature CD - USB computer cable |
| VSTAR40A2 | Orion VERSA STAR pH/ISE Meter Kit <ul style="list-style-type: none"> - Orion VERSA STAR meter with pH/ISE module - 8102BNUWP Orion ROSS Ultra pH electrode - 096019 Orion Star stirrer probe - 927007MD Orion ATC probe - 810199 ROSS pH buffer and solution kit - Attached electrode stand and holder - Universal power adapter - Printed quick start guide and literature CD - USB computer cable | VSTAR82 | Orion VERSA STAR pH with LogR Meter Kit <ul style="list-style-type: none"> - Orion VERSA STAR meter with pH/LogR module - 8172BNWP Orion ROSS Sure-Flow pH electrode - 927007MD Orion ATC probe - 810199 ROSS pH buffer and solution kit - 810007 ROSS fill solution, 5 x 60 mL - Attached electrode stand and holder - Universal power adapter - Printed quick start guide and literature CD - USB computer cable |
| VSTAR40B | Orion VERSA STAR Dual pH/ISE Meter <ul style="list-style-type: none"> - Orion VERSA STAR meter with two pH/ISE modules - Attached electrode stand and holder - Universal power adapter - Printed quick start guide and literature CD - USB computer cable | VSTAR90 | Orion VERSA STAR pH/ISE, Conductivity and RDO/DO Meter <ul style="list-style-type: none"> - Orion VERSA STAR meter with pH/ISE, conductivity and RDO/DO modules - Attached electrode stand and holder - Universal power adapter - Printed quick start guide and literature CD - USB computer cable |
| VSTAR40B2 | Orion VERSA STAR Dual pH/ISE Meter Kit <ul style="list-style-type: none"> - Orion VERSA STAR meter with two pH/ISE modules - 8102BNUWP Orion ROSS Ultra pH electrode - 096019 Orion Star stirrer probe - 927007MD Orion ATC probe - 810199 ROSS pH buffer and solution kit - Two attached electrode stands and holders - Universal power adapter - Printed quick start guide and literature CD - USB computer cable | VSTAR91 | Orion VERSA STAR Dual pH/ISE, Conductivity and RDO/DO Meter <ul style="list-style-type: none"> - Orion VERSA STAR meter with two pH/ISE, one conductivity and one RDO/DO modules - Attached electrode stand and holder - Universal power adapter - Printed quick start guide and literature CD - USB computer cable |



VSTAR92**Orion VERSA STAR pH/ISE, Conductivity and RDO/DO Meter Kit**

- Orion VERSA STAR meter with pH/ISE, conductivity and RDO/DO modules
- 8157BNUMD Orion ROSS Ultra Triode pH/ATC probe
- 013005MD Orion DuraProbe conductivity probe
- 083005MD Orion polarographic DO probe with calibration sleeve
- 096019 Orion Star stirrer probe
- 080513 DO probe maintenance kit
- BOD adapter, funnel and stirrer
- 810199 ROSS pH buffer and solution kit
- 011007 Orion 1413 μ S conductivity standard
- Attached electrode stand and holder
- Universal power adapter
- Printed quick start guide and literature CD
- USB computer cable

VSTAR93**Orion VERSA STAR Dual pH/ISE, Conductivity and RDO/DO Meter Kit**

- Orion VERSA STAR meter with two pH/ISE, one conductivity and one RDO/DO modules
- 8157BNUMD Orion ROSS Ultra Triode pH/ATC probe
- 013005MD Orion DuraProbe conductivity probe
- 083005MD Orion polarographic DO probe with calibration sleeve
- 096019 Orion Star stirrer probe
- 080513 DO probe maintenance kit
- BOD adapter, funnel and stirrer
- 810199 ROSS pH buffer and solution kit (475 mL each of pH 4, 7 and 10 buffers; storage solution; cleaning solution; and pH electrode storage bottle)
- 011007 Orion 1413 μ S conductivity standard
- Attached electrode stand and holder
- Universal power adapter
- Printed quick start guide and literature CD
- USB computer cable

Accessories Ordering Information

| Part No. | Description |
|-------------------|--|
| VSTAR-PH | Orion VERSA STAR pH module |
| VSTAR-ISE | Orion VERSA STAR pH/ISE module |
| VSTAR-CND | Orion VERSA STAR conductivity module |
| VSTAR-RD | Orion VERSA STAR RDO/DO module |
| VSTAR-LR | Orion VERSA STAR pH with LogR module |
| STARA-BEA | Electrode stand, holder and base plate |
| STARA-HB | Freestanding base for electrode stand |
| STARA-PWR | Universal power adapter for Orion VERSA STAR meters |
| 096019 | Orion Star stirrer probe |
| 8102BNUWP | Orion ROSS Ultra glass refillable pH electrode |
| 8156BNUWP | Orion ROSS Ultra epoxy refillable pH electrode |
| 8172BNWP | Orion ROSS Sure-Flow glass pH electrode |
| 8165BNWP | Orion ROSS Sure-Flow epoxy pH electrode |
| 8302BNUMD | Orion ROSS glass refillable pH/ATC Triode |
| 8157BNUMD | Orion ROSS epoxy refillable pH/ATC Triode |
| 8220BNWP | Orion ROSS glass refillable micro pH electrode |
| 927007MD | Orion stainless steel ATC probe |
| 927005MD | Orion epoxy ATC probe |
| 810199 | ROSS solution kit - 475 mL each pH 4, 7, 10 buffers and ROSS storage solution, 60 mL cleaning solution and pH electrode storage bottle |
| 910104 | Orion pH 4.01 buffer, 475 mL |
| 910107 | Orion pH 7.00 buffer, 475 mL |
| 910110 | Orion pH 10.01 buffer, 475 mL |
| 013005MD | Orion DuraProbe conductivity probe, K=0.475 |
| 013016MD | Orion conductivity probe with flow cell, K=0.1 |
| 011008 | Orion 100 μ S conductivity standard, 5 x 60 mL |
| 011007 | Orion 1413 μ S conductivity standard, 5 x 60 mL |
| 011006 | Orion 12.9 mS conductivity standard, 5 x 60 mL |
| 1010001 | Orion conductivity calibration resistor kit |
| 083005MD | Orion polarographic dissolved oxygen probe |
| 086030MD | Orion polarographic AUTO-STIR BOD probe |
| 087010MD | Orion RDO optical DO probe, 3 m cable |
| 9512HPBNWP | Orion high-performance ammonia ISE |
| 9512BNWP | Orion standard ammonia ISE |
| 951007 | Orion 1000 ppm ammonia standard, 475 mL |
| 951210 | Orion low-level ammonia ISA, 475 mL |
| 951211 | Orion ammonia ISA, 475 mL |
| 9609BNWP | Orion fluoride combination ISE |
| 040906 | Orion 1 ppm w/ TISAB II fluoride standard, 475 mL |
| 040907 | Orion 2 ppm w/ TISAB II fluoride standard, 475 mL |
| 040908 | Orion 10 ppm w/ TISAB II fluoride standard, 475 mL |
| 940909 | Orion TISAB II, 1 gallon |
| 8611BNWP | Orion ROSS sodium combination ISE with solutions |

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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