



# Orion Versa Star Pro meter bundles

Total meter solutions to assist with digital data reporting



# Precision that's intuitive. Results you can trust.

Document your analysis results seamlessly. Integrating the full spectrum of your process using Thermo Scientific™ Orion™ meters, electrodes, solutions and the new Orion™ Navigator Pro software takes the work—and guesswork—out of digital data reporting. The Orion™ family of products offers trusted technology with peace of mind designed to provide consistent accuracy and integrity of your records.

Create a highly trusted lab workflow by choosing the packaged bundle for your applications available exclusively through VWR.

**Pharmaceutical**



**Biotechnology**



**Food and beverage**



# Versatile, high-performance lab measurement systems

## Orion Versa Star Pro benchtop meters with Navigator Pro computer software

The Thermo Scientific™ Orion™ Versa Star Pro™ premium electrochemistry meter is your meter as you need it—now and in the future.

Orion Versa Star Pro benchtop meters are designed to meet your most challenging applications with ease. Delivering rich features and functionality, you can optimally configure your meter system to meet your changing needs using interchangeable measurement modules to customize four channels.

Easily view your measurements on a large color display with adjustable text sizes. Take the guesswork out of meter calibration and setup with onscreen instructions available in a variety of languages. Enjoy quick and simple data entry using the numeric keypad.

- Pharmaceutical
- Biotechnology
- Food and beverage



- Select modules to measure pH, ion concentration, conductivity, dissolved oxygen and LogR™ temperature
- Onscreen measurement stability indicator shows when readings are ready
- View active calibration log while taking measurements to help ensure data integrity
- Audible alarms notify offset value, high/low limit, and calibration time limit
- Mix samples using meter-controlled stirrer probes that can be easily rinsed
- Collect up to 2,000 data sets with time/date stamp and optional electrode, sample and account identification
- Calibration log stores 30 calibrations per parameter
- Nonvolatile memory preserves data and settings, even in event of power loss
- Transfer data to computer or printer via USB or RS-232

## System Access Feature

Orion Versa Star Pro meters offer administrative and custom user access levels to various meter functions including date/time settings, meter setup, data log and calibration log. This system access feature can easily be turned on or off as the needs of your lab change, for flexibility in operation and ease of use. Use the new system access feature offered with Orion Versa Star Pro meters to assign administrative and custom user access levels to the following meter functions:

- Cal Log View & Print
- Calibration Log Delete
- Calibration Mode
- Channel Display
- Diagnostics Menu
- Data Log Delete
- Data Log Print
- Data Log View
- Incremental Techniques
- Instrument Settings
- Log/Print (Manual)
- Measure Mode & Settings
- Methods
- Sample ID
- Temperature Settings

Use password protection to secure selected meter functions while leaving others accessible for customized security for your laboratory and data reporting needs.

Create names, passwords and access levels for up to ten users

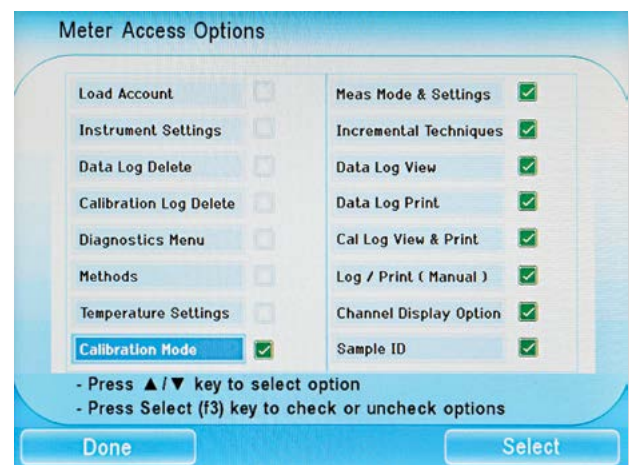


The screenshot shows the 'System Account Setup' screen. It has a title bar 'System Account' and a main title 'System Account Setup'. Below the title is a table with the following fields:

Account Name	ACCT-0001
Password	12345
Access Level	Full Advanced Basic Custom

Below the table, there are instructions: '- Press Select (f3) key to set custom access level', '- Press ◀ or ▶ key to select access level', and '- Press Save (f2) key to save'. At the bottom of the screen are three buttons: 'Esc', 'Save', and 'Select'.

Secure your preferred meter functions using the custom access level



The screenshot shows the 'Meter Access Options' screen. It has a title bar 'Meter Access Options' and a main title 'Meter Access Options'. Below the title is a list of meter functions with checkboxes:

Load Account	<input type="checkbox"/>	Meas Mode & Settings	<input checked="" type="checkbox"/>
Instrument Settings	<input type="checkbox"/>	Incremental Techniques	<input checked="" type="checkbox"/>
Data Log Delete	<input type="checkbox"/>	Data Log View	<input checked="" type="checkbox"/>
Calibration Log Delete	<input type="checkbox"/>	Data Log Print	<input checked="" type="checkbox"/>
Diagnostics Menu	<input type="checkbox"/>	Cal Log View & Print	<input checked="" type="checkbox"/>
Methods	<input type="checkbox"/>	Log / Print ( Manual )	<input checked="" type="checkbox"/>
Temperature Settings	<input type="checkbox"/>	Channel Display Option	<input checked="" type="checkbox"/>
Calibration Mode	<input checked="" type="checkbox"/>	Sample ID	<input checked="" type="checkbox"/>

Below the list, there are instructions: '- Press ▲ / ▼ key to select option' and '- Press Select (f3) key to check or uncheck options'. At the bottom of the screen are two buttons: 'Done' and 'Select'.

# Enable digital data integrity with password protection, electronic records and audit trails

Measure pH, ion concentration, conductivity, dissolved oxygen and temperature with full computer control of Versa Star Pro meters using Navigator Pro 2.0 computer software.

Thermo Scientific™ Orion™ Navigator Pro™ 2.0 computer software and Orion Versa Star Pro meters are designed to offer a computer-driven measurement system for generating electronic measurements, calibration data and audit trails.

Orion Navigator Pro software offers multilevel system access for an administrator and up to 100 users. The system administrator can customize each user's access level, from basic data collection to full system access. The Navigator Pro software controls all meter functions including meter settings, calibration, measurement and reporting to help ensure data integrity.

Orion Navigator Pro software is designed to create electronic data records and audit trails with password protection, which can be used to assist with digital data reporting requirements when paired with each laboratory's proper IT protocols, SOPs and training records.\*

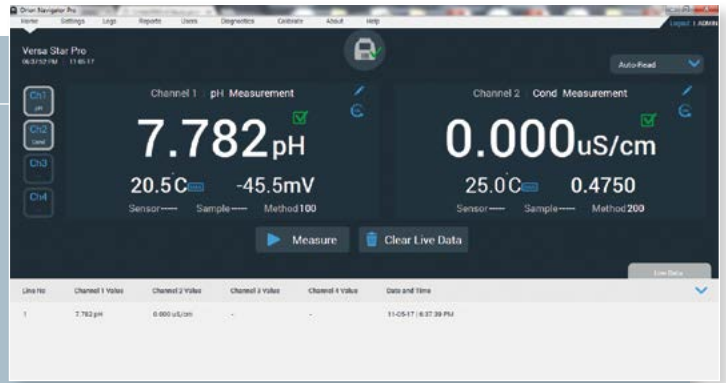
\* It is the responsibility of each laboratory to validate the Navigator Pro computer software for its intended use, including all regulatory requirements, and create protocols, procedures and trainings that address compliance requirements outside of the Navigator Pro functions.

- Generation of electronic records and signatures
- Creation of audit trail report for electronic records
- Access is limited to authorized individuals
- Password protection for system administrator and up to 100 users
- Fully control meter functions including setup, calibration, and measurement through your computer
- Paperless record-keeping system



### Measure Screen Example

Easily view and collect measurement data from your computer, including the ability to display up to four measurement channels on each Orion Versa Star Pro meter.



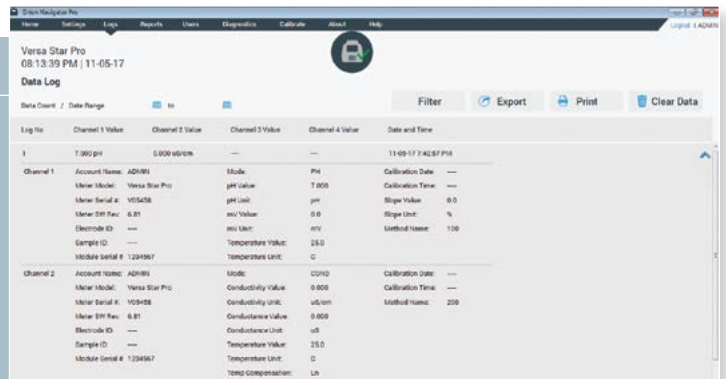
### Setup Menu Example

Simplified setup menu allows instrument and measurement parameters to be set quickly and easily using your computer as the primary interface. Utilize your computer's keyboard to enter sample IDs to help improve sample throughput.



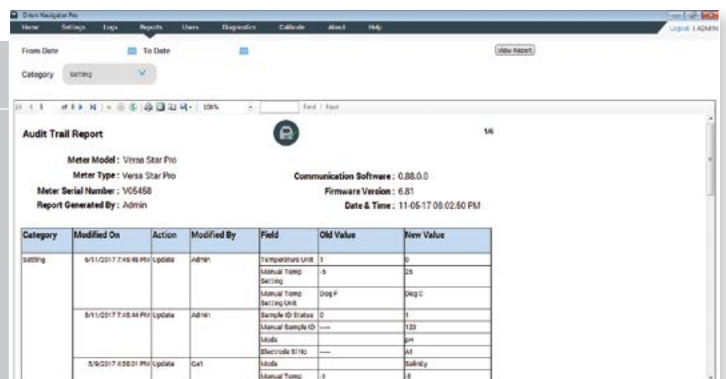
### Data Log Screen Example

Easy-to-view data records can be exported as a PDF file or sent to a network printer. PDF files can be used for electronic records submissions and paperless record keeping. Optional administrator-only configurable data output allows data records to be exported as PDF, CSV, or Microsoft™ Word™ or Excel™ files.



### Audit Trail Report Screen Example

All changes are tracked in the audit trail and can be saved as a PDF file for electronic records submissions and paperless record keeping.



## Product Specifications

### Computer System Requirements

Operating System	Microsoft™ Windows™ 10 (desktop OS) Microsoft Windows 8.1 Microsoft Windows 7
CPU Type	1 gigahertz (GHz) or faster 32-bit (x86) or 64-bit (x64) processor
Memory	<b>For 32-bit and 64-bit CPUs:</b> 2 GB (minimum 300 MB availability required for the targeted application usage)
Display Resolution	1366 x 768 with true color
Disk Space for Software Installation	100 MB
Disk Space for Application Data	1 GB free hard disk, subject to change based on application data growth
Communication Port	One available USB 2.0, USB 3.0, or RS-232
.NET Framework	Microsoft™ .NET Framework Version 4.5
Visual Reports	Adobe™ Reader™ or equivalent PDF reader
Meter Interface	Connects with one Orion Versa Star Pro meter at a time

### Meter Requirements

Compatible Meters	Orion Versa Star Pro meters with serial number V10000 or higher and software revision 10.0 or higher (software is user-upgradable)
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# pH Measurement

## Versa Star Pro 10 pH Meter

- Measure pH, mV, relative mV or oxidation reduction potential (ORP) with temperature
- Perform up to a six-point pH calibration with automatic buffer recognition of NIST, DIN or user-defined buffer groups
- Use the calibration editing function to fix individual points without a full recalibration
- Onscreen calibration graph for multipoint pH calibrations
- Customize readings to show calibration history and pH electrode status or simplify to show extra-large pH reading



Description	Cat. No.
<b>Orion Versa Star Pro pH Benchtop Meter Kit with ROSS Triode</b> <ul style="list-style-type: none"> <li>• Versa Star Pro meter with pH module (Cat. No. VSTAR-PH)</li> <li>• Navigator Pro computer software</li> <li>• ROSS Ultra Triode glass-body pH/ATC electrode (Cat. No. 8302BNUMD)</li> <li>• Orion Star series meter-powered stirrer probe (Cat. No. 096019)</li> <li>• ROSS pH buffer and solution kit (Cat. No. 810199)</li> <li>• Electrode stand, universal power adapter, USB cable and literature</li> </ul>	<b>76074-214</b>
<b>Orion Versa Star Pro pH Benchtop Meter Difficult Sample Kit with ROSS Sure-Flow</b> <ul style="list-style-type: none"> <li>• Versa Star Pro meter with pH module (Cat. No. VSTAR-PH)</li> <li>• Navigator Pro computer software</li> <li>• ROSS Sure-Flow glass-body pH electrode (Cat. No. 8172BNWP)</li> <li>• Orion stainless steel ATC temperature probe (Cat. No. 927007MD)</li> <li>• Orion Star series meter-powered stirrer probe (Cat. No. 096019)</li> <li>• ROSS pH buffer and solution kit (Cat. No. 810199)</li> <li>• Electrode stand, universal power adapter, USB cable and literature</li> </ul>	<b>76074-206</b>

## Versa Star Pro 80 pH/LogR Meter

- LogR technology uses the glass bulb of most pH electrodes to measure both pH and temperature at the same location, ideal for small sample volumes and samples that are difficult to clean
- Measure pH, mV, relative mV or ORP with temperature
- Select automatic, manual or LogR temperature functions
- Perform up to a six-point pH calibration with automatic buffer recognition of NIST, DIN or user-defined buffer groups



Description	Cat. No.
<b>Orion Versa Star Pro pH/LogR Benchtop Meter Kit with ROSS Micro</b> <ul style="list-style-type: none"> <li>• Versa Star Pro meter with pH/LogR module (Cat. No. VSTAR-LR)</li> <li>• Navigator Pro computer software</li> <li>• ROSS Micro glass-body pH electrode (Cat. No. 8220BNWP)</li> <li>• Orion stainless steel ATC temperature probe (Cat. No. 927007MD)</li> <li>• ROSS pH buffer and solution kit (Cat. No. 810199)</li> <li>• Electrode stand, universal power adapter, USB cable and literature</li> </ul>	<b>76074-210</b>



# Conductivity Measurement

## Versa Star Pro 20 Conductivity Meter

- Measure conductivity, TDS, salinity or resistivity with temperature
- Perform up to a six-point conductivity calibration
- Auto-ranging conductivity values eliminate the need to manually switch conductivity measurement ranges
- Temperature compensation settings include linear, non-linear, EP (USP) or off with a 5, 10, 15, 20 or 25°C reference



### Description

### Cat. No.

#### Orion Versa Star Pro Pure Water Conductivity Benchtop Meter Kit

- Versa Star Pro meter with conductivity module (Cat. No. VSTAR-CND)
- Navigator Pro computer software
- Orion 2-cell (K=0.1) conductivity probe (Cat. No. 013016MD)
- Orion 100  $\mu$ S conductivity standard (Cat. No. 011008)
- Electrode stand, universal power adapter, USB cable and literature

76074-208

# pH and Conductivity Measurement

## Versa Star Pro 50 pH and Conductivity Meter

- Includes all the benefits of a pH and conductivity meter in one convenient system
- Measure pH, mV, relative mV or ORP with temperature on one channel
- Measure conductivity, total dissolved solids (TDS), salinity or resistivity with temperature on a second channel
- View each measurement separately on a full screen display or toggle to a split-screen display to view both measurement channels simultaneously



### Description

### Cat. No.

#### Orion Versa Star Pro pH/Conductivity Benchtop Meter Kit

- Versa Star Pro meter with pH module and conductivity module (Cat. No. VSTAR-PH and VSTAR-CND)
- Navigator Pro computer software
- ROSS Ultra Triode epoxy-body pH/ATC electrode (Cat. No. 8157BNUMD)
- Orion 4-cell (K=0.475) conductivity probe (Cat. No. 013005MD)
- ROSS pH buffer and storage solution kit (Cat. No. 810199)
- Orion 1413  $\mu$ S conductivity standard (Cat. No. 011007)
- Electrode stand, universal power adapter, USB cable and literature

76074-212

# Orion Versa Star Pro Meter Specifications



Measurement Channels	4, customizable with measurement modules
Display	Color graphic LCD with adjustable measurement text size
Onscreen Text Prompts	Step-by-step calibration and guided setup instructions
View Options	View 1 to 4 measurement channels simultaneously
Keypad	Numeric with menu-specific function keys
Measurement Modes	Auto-Read, Timed, Single-Shot, Continuous
Data Log Memory	2,000 data sets with time and date stamp
Data Log Functions	Automatic (Auto-Read, timed, single-shot) or manual (continuous)
Data Log Transfer	Transfer single, range or all data points to printer or computer
Identification Options	Electrode ID, Sample ID, Account ID
Calibration Log	30 calibrations per measurement mode with time and date stamp
Methods	10 per channel
Alarms	Offset, High/Low Limit, Calibration Due
Communication Ports	RS-232, bidirectional USB type B, printer-dedicated USB type AB
Stirrer Probe Ports	2
Power Source	Universal AC power adapter, 90-260 VAC, 50-60 Hz
Certifications	CE, cTUVus, KC, NOM, RCM, Kvalitet, FCC Class A
Enclosure (Designed to Meet)	IP-54
Meter Weight	1.15 kg (2.5 lb); for each module, add 0.15 kg (0.3 lb)
Meter Dimensions (H x W x D)	9.5 cm x 24.0 cm x 28.2 cm (3.75" x 9.45" x 11.1")

## Orion Versa Star Module Specifications

Orion Versa Star pH, pH/ISE and pH/LogR		
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	Input Impedance	>10 <sup>9</sup> ohms
	Range	±2,000.0 mV
	Resolution	0.1 mV
	Relative Accuracy	±0.2 mV or ±0.05% of reading, whichever is greater
Temperature	Relative mV Mode	Yes
	E <sub>H</sub> ORP Mode	Yes
	Range	-5 to 105°C, 22 to 221°F
	Resolution	0.1°C, 0.1°F
	Relative Accuracy	±0.1°C, ±0.1°F
LogR Temperature	Offset Calibration	1 point
	Source Options	Manual or automatic with ATC probe
	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 6,000 MΩ
Inputs	Resistance Resolution	0.1 MΩ up to 1,999.9 MΩ, 1 MΩ above 1,999.9 MΩ
	Offset Calibration	3 points
	Calibration Options	ATC probe, NIST reference
	BNC	pH, ORP, or ion selective electrode (ISE)
ISE (VSTAR-ISE module only)*	Pin Tip	Reference electrode
	8 pin MiniDIN	ATC temperature probe
	Range	0.0001 to 19,990
	Resolution	0.0001 minimum, 1 to 4 significant digits (user selectable)
	Relative Accuracy	±0.2 mV or ±0.05% of reading, whichever is greater
	Units	ppm, molar, mg/L, %, ppb, none
	Calibration Points	Up to 6
	Calibration Editing	Yes
Adjustable ISO Point	Yes	
Advanced Features	Segmented (point-to-point) slope or linear regression, nonlinear selectable auto-blank, low concentration range stability, electrode type display, temperature compensation	
Incremental Techniques	Single known addition & subtraction, double known addition & subtraction, single analyte (sample) addition & subtraction	

\* Sold separately.

Orion Versa Star Conductivity		
Conductivity	Range	0.001 $\mu$ S to 3,000 mS
	Resolution	0.001 $\mu$ S minimum, auto-ranging, up to 4 significant digits
	Relative Accuracy	0.5% of reading $\pm$ 1 digit > 3 $\mu$ S; 0.5% of reading $\pm$ 0.01 $\mu$ S $\leq$ 3 $\mu$ S
	Reference Temperature	5°C, 10°C, 15°C, 20°C or 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 $\text{cm}^{-1}$
	Calibration Points	Up to 6
	Calibration Editing	Yes
TDS	Range	0.001 ppm to 200.0 ppt
	Resolution	0.001 ppm minimum, auto-ranging, up to 4 significant digits
	Relative Accuracy	0.5% of reading $\pm$ 1 digit
	TDS Factor	Linear (0.02 to 9.99) or ISO/EN 27888
Salinity	Range	0.06 to 80.00 psu, 0.05 to 42.00 ppt
	Resolution	0.01 psu or ppt minimum, auto-ranging
	Relative Accuracy	0.5% of reading $\pm$ 1 digit
	Type	Practical salinity (psu) or natural sea water (ppt)
Resistivity	Range	2 $\Omega$ to 100 M $\Omega$
	Resolution	1 $\Omega$ or 0.1 M $\Omega$ , auto-ranging
	Relative Accuracy	0.5% of reading $\pm$ 1 digit
Temperature	Range	-5 to 105°C, 22 to 221°F
	Resolution	0.1°C, 0.1°F
	Relative Accuracy	$\pm$ 0.1°C, $\pm$ 0.1°F
	Offset Calibration	1 point
	Source Options	Manual or automatic with built-in temperature sensor
Input	8 pin MiniDIN	Conductivity probe with optional built-in temperature sensor

Orion Versa Star RDO/Dissolved Oxygen*			
Dissolved Oxygen	Polarographic DO	Concentration	% Saturation
	Range	0 to 90 mg/L	0 to 600%
	Resolution	0.01, 0.1 mg/L	0.1, 1%
	Relative Accuracy	$\pm$ 0.2 mg/L	$\pm$ 2%
	RDO Optical DO	Concentration	% Saturation
	Range	0 to 50 mg/L	0 to 500%
	Resolution	0.01, 0.1 mg/L	0.1, 1%
	Relative Accuracy	$\pm$ 0.1 mg/L up to 8 mg/L, $\pm$ 0.2 mg/L from 8 to 20 mg/L, $\pm$ 10% of reading from 20 to 50 mg/L	$\pm$ 2%
	Barometric Pressure Correction	450 to 850 mmHg, automatic using built-in barometer or manual entry	
	Salinity Factor Correction	0 to 45 ppt, automatic using conductivity module and probe or manual entry	
Calibration Types	Water-saturated air, air-saturated water, manual (Winkler), zero point		
Compatible Sensors	Polarographic, RDO optical		
Barometric Pressure	Range	450.0 to 850.0 mmHg	
	Resolution	0.1 mmHg	
	Relative Accuracy	$\pm$ 6 mmHg	
Temperature	Range	0 to 50°C, 32 to 122°F	
	Resolution	0.1°C, 0.1°F	
	Relative Accuracy	$\pm$ 0.1°C, $\pm$ 0.1°F	
	Offset Calibration	1 point	
	Source Option	Automatic with built-in temperature sensor	
Input	9 pin MiniDIN	Dissolved oxygen probe with built-in temperature sensor	

\* The Versa Star RDO/dissolved oxygen module is not part of the packaged bundles. It can be ordered separately. Ask your representative for details.

## Ordering Chart for Additional Modules

### Versa Star Measurement Modules

Select the measurement modules you need to best fit your application requirements

Orion Versa Star Pro meters are available without modules for maximum flexibility in your preferred meter configuration or with modules in preconfigured systems that can be updated at any time by adding or removing modules. Modules are automatically recognized by the meter and the channel measurement capabilities are updated according to the type of module that is installed.




### Ordering information

Description	Cat. No.
Versa Star pH Module to measure pH, mV, relative mV, ORP and temperature	89206-414
Versa Star pH/LogR Module to measure pH, mV, relative mV, ORP and LogR temperature	89206-422
Versa Star pH/ISE Module to measure pH, ion concentration (ISE), mV, relative mV, ORP and temperature	89206-420
Versa Star Conductivity Module to measure conductivity, TDS, salinity, resistivity and temperature	89206-416
Versa Star RDO/DO Module to measure dissolved oxygen and temperature using RDO optical or polarographic DO probe	89206-418
Orion Navigator Pro 2.0 computer software for Orion Versa Star Pro meters, includes one software license on CD and user manual	76085-810
Orion Navigator Pro 2.0 computer software for Orion Versa Star Pro meters, includes one software license on USB flash drive and user manual	76085-812



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