Modern design, advanced performance

Thermo Scientific Orion Pro Star EC212 Conductivity Bench Meter

Benefits

- Large 7-inch, high-resolution color display

- Responsive capacitive touchscreen operable with gloves

- Angled display to help ensure ergonomic viewing

- Streamlined, easy to operate user interface

- Vertical meter orientation helps optimize bench space

- Supports GLP compliance

- Stores 20 calibration logs per parameter with date and time

- Stores 10,000 data log sets with date and time

- Outputs to a printer, computer, or USB flash drive for long-term data retention

- Inputs sample ID with optional USB barcode scanner, USB keyboard, or USB mouse

- Optional meter-controlled and meter-powered stirrer probe

Discover the Thermo Scientific™ Orion™ Pro Star EC212 conductivity bench meter. Designed to help provide accurate, reliable electrochemistry testing, the Orion Pro Star EC212 is well suited for laboratories that require trustworthy measurement capabilities. Featuring an intuitive interface, enhanced data reporting and robust functionality, the Orion Pro Star EC212 delivers advanced performance in a modern and simplified package. The Orion Pro Star EC212 measurement parameter capabilities include:
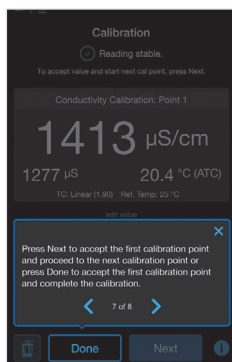
- Conductivity, TDS, salinity or resistivity with temperature

Easily control the expansive 7-inch color touchscreen display. The Orion Pro Star EC212 presents a thoughtfully designed interface to give you everything you need at your fingertips. Seamlessly navigate to view measurements, complete calibrations, export data, and more on the crystal clear, high-resolution screen. Equipped with an ergonomic angled display, users can view key details clearly and comfortably. A responsive touchscreen helps ensure optimal usability in a variety of environments, even when a gloved hand is required.
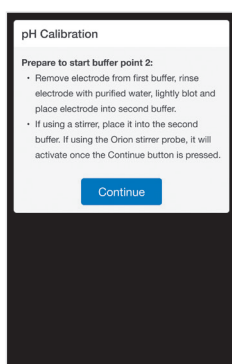
Built to help meet the needs of your testing preferences, the Orion Pro Star EC212 empowers flexibility. Measurements can be viewed in a basic, advanced or customized format. The basic format provides a streamlined look at measurements, whereas the advanced layout provides a more detailed view. Alternatively, users can opt to display or hide elements to their liking via a customized layout. Individual measurements can also be viewed in a graph with temperature for measurement versus time studies.

Enhance convenience and efficiency with the assistance of optional meter accessories. While conducting measurements, easily input sample identification details using a USB barcode scanner, USB keyboard, or USB mouse. Eliminate the need for magnetic stir plates and bars by adding a meter-controlled stirrer probe to help achieve uniform sample stirring.
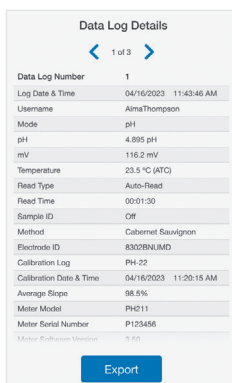
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Features designed with you in mind
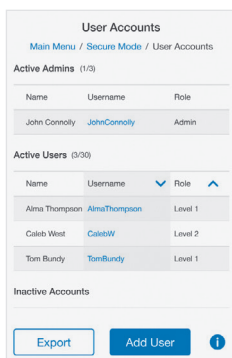

Calibration tour and guide

Guided calibration instructions

Detailed data log view

Secure mode user accounts

Seamless setup

First-time meter startup is made easy with the Orion Pro Star. The onscreen setup wizard guides users through important meter and measurement settings, providing onscreen meter tours and guides for calibration, measurements, meter connections, and electrode stand assembly.

Confident calibrations

Guided calibrations offer step-by-step instructions to assist users with performing calibrations correctly, helping to ensure accurate, reliable and reportable measurements. The meter's calibration log saves, displays and exports up to 20 calibrations per parameter with date and time stamps. Calibration logs are filterable by user and exportable by date range, or all at once.

Dependable data

Measurements can easily be saved to the data log for long-term data retention with the Orion Pro Star. The data log saves, displays and exports up to 10,000 data sets with date and time stamps. Individual data log sets offer extensive measurement information organized into an easy-to-read onscreen list format. Data log sets are filterable by user, date and time, or log number, and exportable by date and time range, log number range, or all at once.

Meaningful methods

Methods offer the option to save measurement settings to standardize your analyses and SOPs on the Orion Pro Star. Up to 10 methods can be saved per channel and methods can be imported and exported to and from other Orion Pro Star bench meters.

Reliable records

The secure mode feature included on the Orion Pro Star allows up to three administrators and 30 users individual account logins with password protection. Administrators can select from pre-defined user access levels to meter functions. Control access to date and time settings, instrument settings, data logs, and calibration logs, or customize each user's access level from full access to basic data collection only. Administrators can also export the user list and audit trail to help ensure digital data integrity.

Organized output

Output data logs, calibration logs and methods to a printer, computer, or USB flash drive for long-term data retention on the Orion Pro Star. Data can be saved as report files for easy viewing or comma separated value (CSV) files for import into programs like Microsoft Excel. Exported files can be customized to include all data, advanced data, intermediate data or basic data only, allowing each user to obtain the exact information they need. The Orion Pro Star also offers bidirectional communication with remote commands for meters interfacing with computer programs, including LIMS, HyperTerminal, PuTTY, and additional data collection software.

Custom calibrations

For conductivity calibrations, the Orion Pro Star provides the option to perform flexible one- to five-point calibrations or set a required number of calibration points from one to four. Users may also input custom conductivity standard values or utilize the Orion 100 µS/cm, 1413 µS/cm, 12.9 mS/cm and 111.9 mS/cm conductivity standards for automatic recognition during calibrations.

Hassle-free holder

The electrode stand included with the Orion Pro Star facilitates secure, smooth movement of electrodes into and out of solutions. A weighted base provides flexible placement of the stand in proximity to the meter. Numerous electrode holder options secure a wide range of electrode types. Built-in side channels allow electrode cables to be neatly organized inside of the stand.

Key features

Freestanding electrode holder

Organized cable management

Optional stirrer probe

Reduced bench footprint

Robust data and calibration log storage

Measurement channel inputs

7-inch high-resolution color display with responsive, anti-glare touchscreen

Measurement stability indicator

Administrator and user profiles

Splash- and dust-resistant housing (IP-54 rated)

Ergonomic design

2 USB ports

748.2 µS/cm

22.4 °C (ATC)

Measurement

Reading Stable.

To save displayed value, press Log/Export.

Mode: Conductivity

Read Type: Continuous

Calibrate

Log Export

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Orion Pro Star

Product specifications

Conductivity	
Range	0.010 µS/cm to 3000 mS/cm
Resolution	0.001 µS/cm minimum, auto-ranging, up to 4 digits
Relative accuracy	±0.5% reading
Calibration points	1 to 5 points
Calibration method	Automatic standard recognition, manual entry option
Calibration standards	100.0 µS/cm, 1413 µS/cm, 12.88 mS/cm, 111.9 mS/cm or up to 4 custom standards
Nominal cell constant	0.100 cm^{-1}, 0.475 cm^{-1}, 0.550 cm^{-1}, 1.000 cm^{-1}, 10.00 cm^{-1} or user-defined from 0.001 to 199.9 cm^{-1}
Temperature compensation	Linear (0.00 to 10.00 %/°C), nLFn (non-linear natural water), nLFu (non-linear ultra-pure water), EP/USP or off
Reference temperature	5, 10, 15, 20, 25 or 30°C
TDS	
Range	0.010 ppm to 500.0 ppt (TDS factor of 1.00); or 0.010 mg/L to 500.0 g/L (TDS factor of 1.00)
Resolution	0.001 ppm or mg/L minimum, auto-ranging, up to 4 digits
Relative accuracy	±0.5% reading
Units	ppm to ppt; or mg/L to g/L
Calibration point	1 to 5 points
TDS factor	Linear (0.01 to 10.00), ISO/EN 27888, 442, NaCl

Salinity	
Range	0.010 to 80.00 ppt; 0.01 to 42.00 PSU; or 0.01 to 400.0% NaCl
Resolution	0.001 ppt minimum; 0.01 PSU minimum; or 0.01% NaCl minimum, auto-ranging
Relative accuracy	±0.5% reading
Calibration points	1 point % NaCl
Modes	Natural Seawater (ppt), Practical Salinity Units (PSU), or % NaCl

Resistivity	
Range	1.0 Ω to 100.0 MΩ
Resolution	0.1 Ω minimum, auto-ranging
Relative accuracy	±0.5% reading

Temperature	
Range	−30.0 to 130.0ºC, −22.0 to 266.0ºF
Resolution	0.1ºC, 0.1 ºF
Relative accuracy	±0.3ºC, ±0.5ºF
Calibration points	1 or 2 points
Offset adjustment	Up to ±5.0ºC
Temperature source	Automatic with ATC sensor, ambient with built-in meter temperature sensor or manual entry

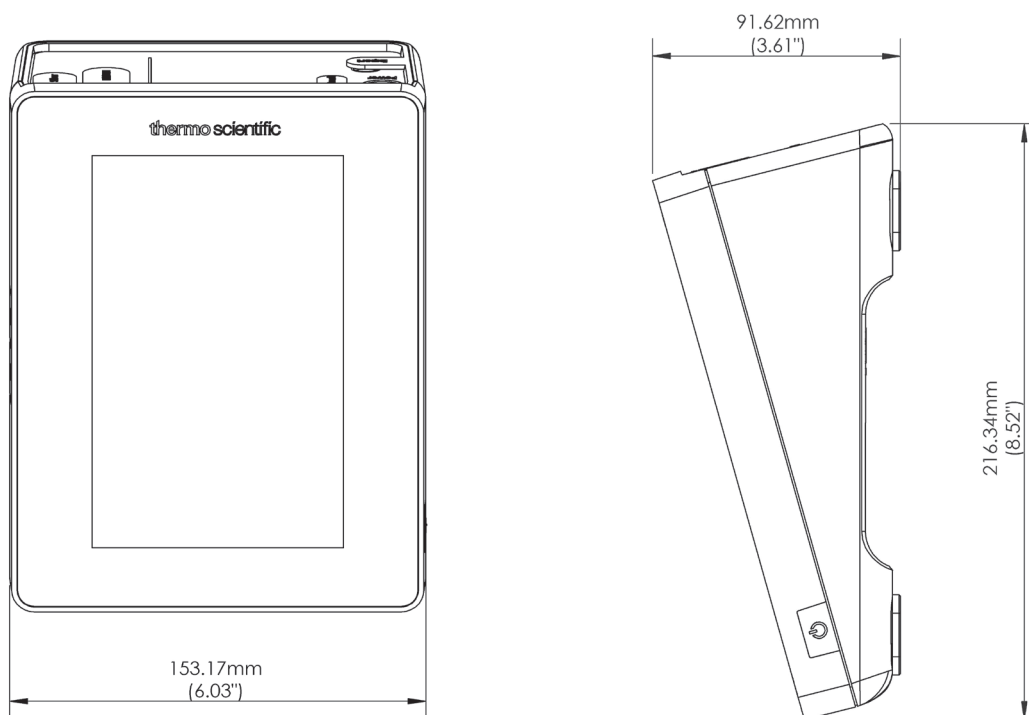| Measurement functions	
Measurement channels	1
Measurement parameters	Conductivity, TDS, salinity or resistivity with temperature
Read types	Continuous, Auto-Read or Timed
Timed reading intervals	3 seconds to 2 hours
Measurement layout	Customizable options for basic, advanced or user-defined
Measurement stability	Automatic, fast, medium or slow
Sample ID	Auto-incremental or manual, up to 25 alphanumeric characters

Electrode ID	Up to 20 alphanumeric characters
Graph/chart view	Single parameter with temperature
Set value alarm	1 high and 1 low value per parameter
Last calibration details	Calibration summary with date and time
Meter features	
Display	7-inch, high-resolution color graphic LCD
Touchscreen type	Capacitive with lab glove compatibility
Onscreen prompts	On-demand information screens; onscreen user guide and step-by-step calibration guidance
Time and date	Yes
Time format	12 or 24 hour
Date format	Selectable as MM-DD-YYYY, DD-MM-YYYY or DD-MMM-YYYY
Instrument name	Up to 20 alphanumeric characters
Secure mode	3 administrator and 30 user accounts with individual password protection, custom user access permissions and audit trail
Username	Up to 20 alphanumeric characters
Methods	10
Data outputs	USB flash drive, computer or compact ink printer
Data output format	Report, CSV or print
Data log	10,000 data sets with time and date
Data log export	Customizable options for basic (short), intermediate, advanced or all data

Calibration log	20 per parameter with time and date
Calibration log export	Customizable options for basic (short), intermediate, advanced or all data
Calibration reminder	1 alarm per parameter
Calibration alarm interval	1 hour to 30 days or off
Audible signal	User set for notifications and alarms, stable reading
Maintenance reminder	Up to 5 electrode maintenance reminders and up to 5 solution maintenance reminders
Sleep mode	Selectable time interval of 5, 10, 20, 30, 60 minutes or off
Meter tests	Self-test, stability test
Meter tours and guides	Calibration modes, measurement mode, meter connections, electrode stand assembly
Stirrer probe inputs	1
Stirrer probe speeds	5 selectable speeds: from 250 RPM to 3600 RPM
Electrode inputs	8-pin MiniDIN
Data outputs	1 USB-A port for USB flash drive; 1 export port for computer or compact ink printer
Accessory input	1 USB-A port for USB mouse, USB keyboard or USB barcode scanner
Memory	Non-volatile, to preserve data and settings in case of power loss
Display languages	Chinese, English, French, German, Italian, Japanese, Korean, Portuguese or Spanish
Meter warranty	2 years
Certifications	CE, TUV 3-1, FCC Class A
Enclosure	IP-54
Power	100-240 VAC, 50-60Hz, 9 DC adapter, 2.0A
Dimensions (L x W x H)	218.9 x 153.2 x 91.33 mm, 8.52 x 6.03 x 3.60 in.
Weight	1.00 kg, 2.20 lbs.

Specifications subject to change without notice. All relative accuracy values are influenced by the displayed least significant digit and should include ±1 LSD for all relative accuracy calculations.

Meter dimensions

91.62mm (3.61")

216.34mm (8.52")

153.17mm (6.03")

Ordering information

Description	Cat. No.
Orion Pro Star EC212 conductivity bench meter with electrode stand, includes USB flash drive, computer cable, 100-240V 50/60Hz universal power adapter (purchase electrodes separately)	PSTAR2120
Orion Pro Star EC212 conductivity bench meter standard kit, includes meter with stand (PSTAR2120), 4-cell epoxy/graphite-body K=0.475 conductivity/ATC electrode (013005MD), 1413 µS/cm conductivity standard pouches	PSTAR2125
Orion Pro Star EC212 conductivity bench meter pure water kit, includes meter with stand (PSTAR2120), ultra pure water 2-cell K=0.1 conductivity/ATC electrode with flow cell (013016MD), 100 µS/cm conductivity standard bottles	PSTAR2126
Orion bench meter stirrer probe	096019-WA
Orion compact ink printer, includes meter cable, paper, ink ribbon, 100-240V 50/60Hz power adapter	STARA-106
Orion Pro Star series USB flash drive	PSTAR-UFD
Orion Pro Star series USB mouse	PSTAR-UMS
Orion Pro Star series USB keyboard	PSTAR-UKB
Orion Pro Star series USB barcode scanner	PSTAR-UBS
Orion Pro Star series electrode stand with base	PSTAR-ARM
Orion Pro Star series universal power supply, 100-240V, 50/60 Hz	PSTAR-PWR
Orion Pro Star series USB computer cable	PSTAR-USB
Orion Pro Star series standard protective display cover	PSTAR-PCS
Orion Pro Star series rugged protective display cover	PSTAR-PCR

Learn more at **thermofisher.com/prostarec212**