

# Thermo Scientific Orion Star A329

Premium pH/ISE/conductivity/RDO/dissolved oxygen portable meter

The Thermo Scientific™ Orion™ Star A329 pH/ISE/Conductivity/RDO/Dissolved Oxygen Portable Meter is the top choice for complete sample testing anywhere. It is rugged and dependable, making it ideal for every sample, every day, everywhere.



The Thermo Scientific Orion Star A329 pH/ISE/Conductivity/RDO/Dissolved Oxygen Portable Meter is the top choice for advanced multiparameter measurements on location. Get the information you need quickly and easily from the large, backlit graphic LCD display.

Informative display shows one, two or all three measurement channels with temperature. The displayed measurement channels are selectable to show only the measurement channels you need or all measurement channels at once.

- Measure pH, concentration (ISE), mV or ORP on channel one
- Measure conductivity, TDS, salinity or resistivity on channel two
- Measure dissolved oxygen in percent saturation or concentration on channel three

Helpful measurement display icons include electrode status, time, date, sample ID, user ID and calibration information.

Advanced features allow for laboratory accuracy everywhere you need it.

A comprehensive keypad allows navigation to the setup, calibration and data log modes with ease directly from the measurement mode.



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## Features and Benefits

- 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
- Don't miss a reading—AUTO-READ™ locks in the stable reading on your screen, ready indicator alerts when readings are stable and timed reading gathers data in specific time intervals
- Up to 5 point pH calibration with automatic recognition for USA/NIST and DIN buffers or manual option for custom buffer values and calibration editing to fix individual points without a complete recalibration
- Whether you use ISE infrequently or have multiple samples every day—up to 5 point ISE calibration with optional non-linear selectable auto-blank and low-concentration range stability
- Automatic or manual conductivity calibration
- Auto-ranging conductivity measurements for high accuracy across all conductivity ranges
- Selectable reference temperatures of 5, 10, 15, 20 or 25 °C with linear, non-linear or EP curve options for temperature compensated conductivity readings
- Choice of practical salinity or natural sea water curves for salinity readings
- No need to worry about DO probe compatibility—the meter accepts and automatically recognizes Orion polarographic and RDO optical probes
- It's easy to get accurate DO results with automatic temperature, automatic/manual barometric pressure and manual or automatic salinity compensation when used with simultaneously with a conductivity probe
- Calibrate for DO using water-saturated air, air-saturated water, custom value using a Winkler titration or zero point calibration
- Non-volatile memory holds up to 5000 data points with time and date stamp
- Easily transfer data and keep meter software up-to-date with the USB and RS232 ports and complimentary Star Com computer software
- Four AA batteries (included) provide over 800 hours of operation or purchase the universal power adapter (sold separately)
- Perfectly portable, waterproof and protected to take anywhere with a IP67-rated housing
- 3 year meter replacement warranty

## Description



Keep the Orion Star A329 multiparameter meter where you need it. The kit (cat. no. STARA3295) includes armor for a non-slip grip and pH, conductivity and DO probe holders to keep your probes in place and ready to use.

For hands-free use, the armor (included in the kit or available separately) includes a stand for flat surfaces and strap to wrap around a belt or fixture.



**Thermo Scientific Orion Star A329 pH/ISE/  
Conductivity/RDO/Dissolved Oxygen Portable Meter**

Specifications	
<b>pH</b>	<b>Range:</b> -2.000 to 20.000 <b>Resolution:</b> 0.1, 0.01, 0.001 <b>Relative Accuracy:</b> ±0.002 <b>Calibration Points:</b> Up to 5 <b>Calibration Editing:</b> Yes
<b>mV/RmV</b>	<b>Range:</b> ±2000.0 mV <b>Resolution:</b> 0.1 mV <b>Relative Accuracy:</b> ±0.2 mV or ±0.05 % of reading whichever is greater <b>E<sub>H</sub> ORP Mode:</b> Yes
<b>ISE</b>	<b>Range:</b> 0.0001 to 19900 <b>Resolution:</b> 0.0001 minimum, auto ranging, up to 3 significant digits (user selectable) <b>Relative Accuracy:</b> ±0.2 mV or ±0.05 % of reading whichever is greater <b>Units:</b> ppm, M, mg/L, %, ppb, none <b>Calibration Points:</b> Up to 5 <b>Calibration Editing:</b> Yes <b>Calibration Features:</b> Linear point to point, non-linear selectable auto-blank, low concentration range stability
<b>Conductivity</b>	<b>Range:</b> 0.001 µS to 3000 mS <b>Resolution:</b> 0.001 µS minimum, auto ranging, up to 4 significant digits <b>Relative Accuracy:</b> ±0.5 % of reading ±1 digit for conductivity > 3 µS ±0.5 % of reading ±0.01 µS for conductivity ≤ 3 µS <b>Reference Temperature:</b> 5, 10, 15, 20, 25 °C <b>Temperature Compensation:</b> Linear (0 to 10.0 %/°C), nonlinear nLFn & nLFu, EP (USP), off <b>Compatible Cell Constants:</b> 0.001 to 199.9 <b>Calibration Points:</b> Up to 5 points <b>Calibration Editing:</b> Yes
<b>Resistivity</b>	<b>Range:</b> 2 ohm to 100 meg-ohm <b>Resolution:</b> 1 ohm or 0.1 meg-ohm, auto-ranging <b>Relative Accuracy:</b> 0.5 % reading ±1 digit
<b>Salinity</b>	<b>Type:</b> Practical salinity or natural sea water <b>Range:</b> 0.06 to 80.00 psu, 0.05 to 42.00 ppt <b>Resolution:</b> 0.01 psu, 0.01 ppt <b>Relative Accuracy:</b> 0.5 % reading ±1 digit
<b>TDS</b>	<b>Range:</b> 0.001 to 200.0 ppt <b>Resolution:</b> 0.001 ppt minimum, auto ranging, up to 4 significant digits <b>Relative Accuracy:</b> ±0.5 % reading ±1 digit <b>TDS Factor Range:</b> Linear 0.02 to 9.99

**Dissolved Oxygen**

**Concentration—Polarographic**

**Range:** 0 to 90 mg/L  
**Resolution:** 0.01, 0.1 mg/L  
**Relative Accuracy:** ±0.2 mg/L or ±2 % of reading, whichever is greater

**% Saturation—Polarographic**

**Range:** 0 to 600 % saturation  
**Resolution:** 0.1, 1 % saturation  
**Relative Accuracy:** ±2 % saturation or ±2 % of reading, whichever is greater

**Concentration—RDO**

**Range:** 0 to 50 mg/L  
**Resolution:** 0.01, 0.1 mg/L  
**Relative Accuracy:** ±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

**% Saturation—RDO**

**Range:** 0 to 500 % saturation  
**Resolution:** 0.1, 1 % saturation  
**Relative Accuracy:** ±2 % sat. ≤ 200 % sat., ±10 % sat. > 200 % sat.

**Barometric Pressure Correction:**

400 to 850 mmHg, automatic or manual

**Salinity Factor Correction:**

Automatic with separate conductivity probe or manual; 0 to 45 ppt

**Calibration Features:** Water saturated air, air saturated water, manual (Winkler) and zero point

**Sensor Type:** Polarographic or RDO

**Temperature**

**Range:** -5 to 105 °C, 23 to 221 °F (RDO/DO: 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

**Datalogging**

**Memory:** 5000 with time and date stamp

**Log Function:** Manual, ready (includes AUTO-READ), timed

**Inputs**

**pH Electrode or ISE:** BNC, reference pin

**Conductivity or ATC Probe:** 8-pin mini-DIN

**DO Probe:** 9-pin mini-DIN

**Output**

RS232, USB

**Power**

**AC Adapter:** Optional—universal, 100-240 VAC

**Battery Power:** Included—4 AAs

**Battery Life:** 800 hrs



## Meter Ordering Information

Part No.	Description
<b>STARA3290</b>	<b>Orion Star A329 pH/ISE/Conductivity/Dissolved Oxygen Portable Meter</b> - Four AA batteries (installed) - Printed quick start guide and literature CD - USB computer cable
<b>STARA3295</b>	<b>Orion Star A329 pH/ISE/Conductivity/Dissolved Oxygen Portable Meter Kit</b> - 8107UWMMMD Orion ROSS Triode 3-in-1 pH/ATC probe, 3 m cable - 013010MD Orion DuraProbe conductivity probe, 3 m cable - 087010MD Orion RDO optical DO probe with 3 m cable, stainless steel guard, calibration sleeve and optical cap - 910410 Orion pH 4.01 buffer, 10 pouches - 910710 Orion pH 7.00 buffer, 10 pouches - 911010 Orion pH 10.01 buffer, 10 pouches - 810001 Orion ROSS electrode storage solution, 475 mL - 01100710 Orion 1413 $\mu$ S conductivity standard, 10 pouches - 911110 rinse solution, 10 pouches - Protective armor with probe holders - Hard carrying case - Four AA batteries (installed) - Printed quick start guide and literature CD - USB computer cable

## Accessories Ordering Information

Part No.	Description
<b>STARA-CS</b>	Orion Star A series portable meter hard-sided field case
<b>1210005</b>	Orion Star A series portable meter soft-sided field case
<b>STARA-AR</b>	Orion Star A series portable meter armor with pH electrode holder, conductivity and DO probe holder, stand and adjustable hand-strap
<b>STARA-ESPH</b>	Orion pH electrode holder for portable Star A series meter armor
<b>810017</b>	Orion pH electrode storage sleeve for pH electrode holder
<b>STARA-ESCD</b>	Orion conductivity and DO probe holder for portable Star A series meter armor

<b>1010003</b>	Universal power adapter, 100-240 V, 50/60 Hz
<b>8107BNUMD</b>	Orion ROSS Ultra Triode, 1.5 m cable
<b>8107UWMMD</b>	Orion ROSS Ultra Triode, 3 m cable
<b>910410-WA</b>	Orion pH 4.01 buffer pouches, 10 pack
<b>910710</b>	Orion pH 7.00 buffer pouches, 10 pack
<b>911010</b>	Orion pH 10.01 buffer pouches, 10 pack
<b>911110</b>	Orion rinse solution pouches, 10 pack
<b>013005MD</b>	Orion DuraProbe conductivity probe with 1.5 m cable, 4-cell, K=0.475
<b>013010MD</b>	Orion DuraProbe conductivity probe with 3 m cable, 4-cell, K=0.475
<b>013020MD</b>	Orion DuraProbe conductivity probe with 6 m cable, 4-cell, K=0.475
<b>013025MD</b>	Orion DuraProbe conductivity probe with 10 m cable, 4-cell, K=0.475
<b>011008</b>	Orion 100 $\mu$ S conductivity standard, 5 x 60 mL
<b>01100710</b>	Orion 1413 $\mu$ S conductivity standard, 10 pack
<b>01100610</b>	Orion 12.9 mS conductivity standard, 10 pack
<b>1010001</b>	Orion conductivity calibration resistor kit
<b>087010MD</b>	Orion RDO optical DO probe, 3 m cable with stainless steel guard and calibration sleeve
<b>087020MD</b>	Orion RDO optical DO probe, 6 m cable with stainless steel guard and calibration sleeve
<b>087030MD</b>	Orion RDO optical DO probe, 10 m cable with stainless steel guard and calibration sleeve
<b>083005MD</b>	Orion polarographic DO probe, 1.5 m cable
<b>080513</b>	Orion polarographic DO probe maintenance kit
<b>087001</b>	Replacement optical cap for Orion RDO probes
<b>9512HPBNWP</b>	Orion high-performance ammonia ISE
<b>9512BNWP</b>	Orion standard ammonia ISE
<b>951007</b>	Ammonia standard, 1000 ppm, 475 mL
<b>951210</b>	Low-level ammonia ISA, 475 mL
<b>951211</b>	Ammonia ISA, 475 mL
<b>951213</b>	Ammonia ISE storage solution, 475 mL
<b>9609BNWP</b>	Orion fluoride combination ISE
<b>040906</b>	Fluoride standard, 1 ppm with TISAB II, 475 mL
<b>040907</b>	Fluoride standard, 2 ppm with TISAB II, 475 mL
<b>040908</b>	Fluoride standard, 10 ppm with TISAB II, 475 mL
<b>940909</b>	TISAB II, 1 gallon
<b>8611BNWP</b>	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](http://www.thermoscientific.com/water).



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