

## Thermo Scientific Orion Star A329 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 can show each parameter with temperature individually or

all three with temperature on one screen. Additional helpful icons include electrode status, time, date, sample ID, user ID and calibration points. Advanced features such as stability and averaging options provide additional options allowing for laboratory accuracy everywhere you need it.

### Features and Benefits

- 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
- 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
- Fix pH and ISE calibration errors without a complete recalibration with calibration editing
- No need to worry about DO probe compatibility – the meter accepts and automatically recognizes Orion polarographic and RDO optical/luminescence-based probes
- It's easy to get accurate DO results with automatic temperature, automatic/manual barometric pressure and automatic salinity compensation when used with simultaneously with conductivity
- Calibrate for DO using water-saturated air, air-saturated water, a Winkler titration or zero point calibration
- Selectable cell constant allows for use with 2- or 4-cell conductivity cells
- For advanced accuracy in conductivity readings, selectable reading reference temperatures of 5, 10, 15, 20 or 25 °C with linear, non-linear, nLFu or EP curve options
- Choice of practical salinity or natural sea water curves for salinity readings
- Linear or ISO/EN 27888 curves for TDS
- Whether you use ISE infrequently or have multiple samples every day – up to 5 point ISE calibration with advanced features such as timed end point, linear point-to-point, non-linear selectable auto-blank and low-concentration range stability
- 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 data analysis software
- Four AA batteries (included) provide over 800 hours of operation or purchase the universal power adapter (sold separately) to use AC power
- 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 probe holders to keep your probes in place and ready to use when not in use.



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





## 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
	<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 to 19999
	<b>Resolution</b>	Up to 3 significant digits
	<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>	Timed end point, 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; 4 significant figures minimum
	<b>Relative Accuracy</b>	0.5 % reading ±1 digit
	<b>Reference Temperature</b>	5, 10, 15, 20, 25 °C (default)
	<b>Temperature Compensation</b>	Linear (0 to 10.0 %/°C), nLn, nLFu, EP
	<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>	2 ohms-cm
	<b>Relative Accuracy</b>	0.5 % reading ±1 digit
<b>Salinity</b>	<b>Type</b>	Practical salinity or natural sea water
	<b>Range</b>	0.01 to 80.0 ppt NaCl equivalent; 0.01 to 42 ppt practical salinity
	<b>Resolution</b>	0.01
	<b>Relative Accuracy</b>	±0.1
<b>TDS</b>	<b>Range</b>	0 to 200 ppt
	<b>Resolution</b>	4 significant digits
	<b>Relative Accuracy</b>	±0.5 % reading ±1 digit
	<b>TDS Factor Range</b>	Linear 0.01 to 10.00, default 0.49

## Dissolved Oxygen

### Concentration - Polarographic

<b>Range</b>	0 to 90 mg/L
<b>Resolution</b>	0.01, 0.1
<b>Relative Accuracy</b>	±0.2

### % Saturation - Polarographic

<b>Range</b>	0 to 600
<b>Resolution</b>	0.1, 1
<b>Relative Accuracy</b>	±2 %

### Concentration - RDO

<b>Range</b>	0 to 50 mg/L
<b>Resolution</b>	0.01, 0.1
<b>Relative Accuracy</b>	±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

<b>Range</b>	0 to 500
<b>Resolution</b>	0.1, 1
<b>Relative Accuracy</b>	±2 %
<b>Automatic Barometric Pressure Correction</b>	450.0 to 850.0 mm Hg
<b>Salinity Factor Correction</b>	Automatic with separate conductivity probe or manual; 0 to 45 ppt
<b>Calibration Features</b>	Water saturated air, air saturated water, manual (Winkler) and zero point
<b>Probe Characteristics</b>	Polarographic or RDO

## Temperature

<b>Range</b>	-5 to 105 °C, 23 to 221 °F (0 to 50 °C, 32 to 122 °F with RDO)
<b>Resolution</b>	0.1
<b>Relative Accuracy</b>	±0.1
<b>Offset Calibration</b>	1 point

## Datalogging

<b>Memory</b>	5000 with time and date stamp
<b>Log Function</b>	Manual, ready (includes AUTO-READ™), timed
<b>Log Edit</b>	Delete individual points, group of points or all

## Inputs

<b>pH Electrode</b>	BNC, reference pin
<b>Conductivity with Temperature Probe or ATC Probe</b>	8-pin mini-DIN
<b>DO with Temperature Probe</b>	9-pin mini-DIN

## Output

	RS232, USB
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## Power

<b>AC Adapter</b>	Optional – universal, 100-240 VAC
<b>Battery Power</b>	Included – 4 AAs
<b>Battery Life</b>	800 hrs

## Ordering Information

Cat. No.	Description
<b>Meters Only</b>	
<b>STARA3290</b>	<b>Orion STAR A329 pH/ISE/Conductivity/Dissolved Oxygen Portable Multiparameter Meter</b> - Four AA batteries (installed)
<b>STARA3295</b>	<b>Orion STAR A329 pH/ISE/Conductivity/Dissolved Oxygen Portable Multiparameter Meter Kit</b> - 8107UWMMD Orion ROSS Triode 3-in-1 pH/ATC probe, 3m cable - 013010MD Orion DuraProbe conductivity cell, 3m cable - 087010MD Orion RDO optical/luminescence-based probe with 3m cable, stainless steel guard, calibration sleeve and optical/luminescence-based 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)
<b>Accessories</b>	
<b>STARA-CS</b>	Hard carrying case for Orion Star A-series portable meters
<b>1210005</b>	Soft carrying case for Orion Star, Star Plus and Star A-series portable meters
<b>STARA-AR</b>	Armor for Orion Star A-series portable meters, includes electrode holders for pH, conductivity and DO probes
<b>STARA-ESPH</b>	pH electrode holder for Orion Star A-series armor
<b>STARA-ESCD</b>	Conductivity and DO probe holder for Orion Star A-series armor
<b>1010003</b>	Optional universal power adapter, 100-240 V, 50/60 Hz
<b>8107UWMMD</b>	Orion ROSS Triode 3-in-1 pH/ATC probe, gel-filled, 3m cable
<b>910410</b>	Orion pH 4.01 buffer pouches, 10/pk
<b>910710</b>	Orion pH 7.00 buffer pouches, 10/pk
<b>911010</b>	Orion pH 10.01 buffer pouches, 10/pk
<b>911110</b>	Orion pH rinse solution pouches, 10/pk
<b>013005MD</b>	Orion DuraProbe conductivity cell with 1.5m cable, 4-cell, K=0.475
<b>013010MD</b>	Orion DuraProbe conductivity cell with 3m cable, 4-cell, K=0.475
<b>013020MD</b>	Orion DuraProbe conductivity cell with 6m cable, 4-cell, K=0.475
<b>013025MD</b>	Orion DuraProbe conductivity cell with 10m cable, 4-cell, K=0.475
<b>011008</b>	Orion conductivity standard, 100 $\mu$ S/cm, 5x60 mL bottles
<b>01100710</b>	Orion conductivity standard pouches, 1413 $\mu$ S/cm, 10/pk
<b>01100610</b>	Orion conductivity standard pouches, 12.9 mS/cm, 10/pk
<b>1010001</b>	Orion conductivity calibration resistor kit
<b>087010MD</b>	Orion RDO optical DO probe, 3m cable with stainless steel guard and calibration sleeve
<b>087020MD</b>	Orion RDO optical DO probe, 6m cable with stainless steel guard and calibration sleeve
<b>087030MD</b>	Orion RDO optical DO probe, 10m cable with stainless steel guard and calibration sleeve
<b>087050MD</b>	Orion RDO optical DO probe, 15m cable with stainless steel guard and calibration sleeve
<b>087100MD</b>	Orion RDO optical DO probe, 30m cable with stainless steel guard and calibration sleeve
<b>083005MD</b>	Orion polarographic DO probe, 1.5m cable
<b>080513</b>	Orion polarographic DO probe maintenance kit
<b>080514</b>	Orion polarographic DO probe electrolyte solution, 60 mL
<b>080017</b>	Calibration sleeve for Orion polarographic DO probes
<b>087003</b>	Replacement calibration sleeve for Orion RDO optical probes
<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
<b>951211</b>	Ammonia ISA, 475 mL
<b>951209</b>	Fill solution for Orion high-performance ammonia ISE, 60 mL
<b>951202</b>	Fill solution for standard ammonia ISE, 60 mL
<b>951213</b>	Ammonia ISE storage solution
<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

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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