



## Thermo Scientific Orion Star A321 & Star A221 pH Portable Meters

### Orion Star A321

The Thermo Scientific Orion Star A321 pH Portable Meter is the top choice for advanced pH measurements on location. Get the information you need quickly and easily from the large, backlit graphic LCD display. Informative display shows pH/mV/RmV and temperature along with 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 errors without a complete recalibration with calibration editing
- Non-volatile memory holds up to 5000 data points with time and date stamp
- User and sample ID fields for additional data accuracy
- Stores up to 10 methods allow for customized procedures to differentiate between tests and/or users
- 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



### Orion Star A221

Get the readings that you need where you need them with the Thermo Scientific Orion Star A221 pH Portable Meter. The large, backlit graphic LCD display shows pH/mV/RmV and temperature along with electrode status, time, date and calibration points.

#### 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 and ready indicator alerts when readings are stable
- Up to 5 point pH calibration with automatic recognition for USA/NIST and DIN buffers
- Non-volatile memory holds up to 1000 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



### Product Specifications (Orion Star A321 & Star A221)

CE   TUV   FCC		
pH	Range	-2.000 to 20.000
	Resolution	0.1, 0.01, 0.001
	Relative Accuracy	±0.002
	Calibration Points	Up to 5
	Calibration Editing	Orion Star A321: Yes Orion Star A221: No
mV/Rel mV/ ORP	Range	±2000.0 mV
	Resolution	0.1
	Relative Accuracy	±0.2 mV or ±0.05 % of reading whichever is greater
	E <sub>r</sub> ORP Mode	Yes
Temperature	Range	-5 to 105 °C, 23 to 221 °F
	Resolution	0.1
	Relative Accuracy	±0.1
	Offset Calibration	1 point
Datalogging	Number of Datalogs	Orion Star A321: 5000 with time and date stamp Orion Star A221: 1000 with time and date stamp
	Log Function	Orion Star A321: Manual, ready (includes AUTO-READ™), timed Orion Star A221: Manual, Automatic with AUTO-READ™
Inputs	pH Electrode	BNC, reference pin
	ATC Probe	8-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

Cat. No.	Description
STARA3210	<b>Orion Star A321 pH Portable Meter</b> - Four AA batteries (installed)
STARA3215	<b>Orion Star A321 pH Portable Meter Kit</b> - 8107UWMMD Orion ROSS Triode 3-in-1 pH/ATC probe - 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 - 911110 rinse solution, 10 pouches - Protective armor with electrode holder - Hard carrying case - Four AA batteries (installed)
STARA2210	<b>Orion Star A221 pH Portable Meter</b> - Four AA batteries (installed)
STARA2215	<b>Orion Star A221 pH Portable Meter Kit</b> - 8107UWMMD Orion ROSS Triode 3-in-1 pH/ATC probe - 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 - 911110 rinse solution, 10 pouches - Protective armor with electrode holder - Hard carrying case - Four AA batteries (installed)

### Accessories

Cat. No.	Description
STARA-CS	Hard carrying case for Orion Star A-series portable meters
STARA-AR	Armor for Orion Star A-series portable meters, includes electrode holders for pH, conductivity and DO probes
STARA-ESPH	pH electrode holder for Orion Star A-series armor
STARA-ESCD	Conductivity and DO probe holder for Orion Star A-series armor
8107UWMMD	Orion ROSS Triode 3-in-1 pH/ATC probe, gel-filled, 3m cable
1010003	Optional universal power adapter, 100-240 V, 50/60 Hz
910410	Orion pH 4.01 buffer pouches, 10/pk
910710	Orion pH 7.00 buffer pouches, 10/pk
911010	Orion pH 10.01 buffer pouches, 10/pk
911110	Orion pH rinse solution pouches, 10/pk

We told you we've expanded the line. The new Orion Star A series line still has more options on the following pages.

- pH ■
- ISE ■
- ORP ■
- Cond ■
- RDO ■
- DO ■
- Temp ■