



Thermo Scientific Orion STAR A321 pH & STAR A324 pH/ISE/ORP Portable Meters

- Laboratory accuracy everywhere you need it
- Onscreen prompts for quick, easy setup
- Waterproof IP67-rated housing

Choose the STAR A321 to measure pH and mV, or the STAR A324 to also perform ISE measurements. High-end features such as stability and averaging ensure accurate readings.

Backlit display lets you view parameter and temperature, plus electrode status, time, date, sample ID, sample date and calibration points. Simple button layout and onscreen messages allow quick meter calibration and set up. Screen prompts are available in six languages.



Program meter for your measurement style

Choose from three measuring modes: Continuous mode, AUTO-READ™ mode that locks in the stable reading on your screen, or Timed mode that displays a measurement at timed intervals. Calibrate pH using 1 to 5 buffers with NIST and DIN buffer recognition. The Calibration Edit feature lets you fix pH or ISE calibration errors without a complete recalibration.

Log up to 5000 data points including time and date stamp. Easily transfer data or update software using RS-232 or USB connection and the included data analysis software. Adjustable alarms remind you to calibrate your meter after a set time period, or alert you to measurements outside your set points.

Meters include: four AA batteries, manual, CD with user reference guide and data analysis software. Order your choice of probes separately.

Meter kits also include: Orion ROSS Triode; 10 each of pH 4.01, 7.00 and 10.01 and rinse pouches; ROSS storage solution; protective armor with electrode holder and hard carrying case. 3-year meter warranty.

EcoSense® pH100A & pH100M Portable pH/ORP Meters

- Submersible electrode with 12'L cable is available for field applications
- IP67 waterproof housing

Get accurate, reliable pH readings at a great price! Internal buffer recognition, 2-point calibration, and auto or manual temperature compensation ensure accurate readings every time. Meters feature a watertight housing with a dual LCD for simultaneous monitoring of pH and temperature.

Use the auto lock or hold mode to freeze a stabilized reading on the display. Electrode efficiency icon helps you assess your probe's condition. Choose the economical pH100A for a 50-point memory, or upgrade to the pH100M for a 250-point memory with time/date stamp and data output.

Electrodes (required) are sold separately. Submersible electrodes feature built-in temperature sensors and are available with a 3'L or 12'L cable. Use the double-junction non-ATC flushable electrode (stock # 86296) with the ATC probe (stock # 40634) for measuring wastewater samples in the lab.

Includes: 9V battery and instructions. **pH100M also includes:** USB cable. Electrode is not included; order separately. 1-year meter warranty on both meters and electrodes.



pH

- Range:** -2.00 to 16.00 pH
- Resolution:** 0.01 pH
- Accuracy:** ±0.1% ±2 digits
- Calibration points:** up to 2
- Auto buffer recognition:** 4.01, 6.86, 7.00, 9.18, 10.01

mV/Relative mV

- Range:** -1500 to 1200 mV
- Resolution:** 1 mV
- Accuracy:** ±0.1% ±1 digit

Temperature

- Range:** -5.0 to 125.0°C
- Resolution:** 0.1°C
- Accuracy:** ±0.4°C

Ready indicator:

yes

Slope calculation & display:

no

Hold function:

yes

Memory function:

pH100A: 50 data points;

pH100M: 250 data points

Data output:

pH100A: no;

pH100M: micro USB



40632



pH

- Range:** -2.000 to 20.000 pH
- Resolution:** 0.1, 0.01, 0.001 pH
- Accuracy:** ±0.002 pH

mV

- Range:** ±2000.0 mV
- Resolution:** 0.1
- Accuracy:** ±0.2 mV or ±0.05% of rdg, whichever is greater

Concentration (STAR A324 only)

- Range:** 0 to 19999 ppm, M, mg/L, %, ppb or none
- Resolution:** up to 3 significant digits
- Accuracy:** ±0.2 mV or ±0.05% of rdg, whichever is greater
- Calibration points:** up to 5

Temperature

- Range:** -5 to 105°C
- Resolution:** 0.1
- Accuracy:** ±0.1

Temperature comp:

automatic

Memory function:

5000 data sets (w/ sample ID, user ID and time/date)

Data output:

USB and RS-232

MFR #	DESCRIPTION	STOCK #	EACH
STARA3210	pH Portable Meter	45011	\$
STARA3240	pH/ISE Portable Meter	45027	
STARA3215	pH Portable Meter Kit	45021	
STARA3245	pH/ISE Portable Meter Kit	45029	

REPLACEMENT ITEMS & ACCESSORIES

8107UWMD	ROSS Ultra pH Triode, Gel-Filled, 10'L Cable	36992	\$
—	USABlueBook pH/ATC Electrode, Gel-Filled, 10'L Cable	86304	
STARA-CS	Hard Carrying Case	44891	
STARA-AR	Armor for STAR A Series Portable Meters	44943	
1010003	Universal Power Adapter for Portable Meters	44889	

See pages 826-828 for pH buffers. See page 837 for ISE electrodes.

MFR #	DESCRIPTION	STOCK #	EACH
606075	pH100A Meter Only	22111	\$
601031	pH100M Meter Only	87506	

ELECTRODES (ONE REQUIRED)

605377	Submersible Electrode with ATC, 3'L Cable	40632	\$
605378	Submersible Electrode with ATC, 12'L Cable	40633	
—	USABlueBook Flushable Electrode (No ATC)	86296	
605375	ATC Probe (For Use With 86296 Electrode)	40634	

REPLACEMENT ITEMS

—	Fill Solution for 36802 Electrode, 500 mL	29732	\$
—	Rayovac® Ultra Pro Alkaline Batteries, 9V, Pack of 12	12803	

OPTIONAL ACCESSORIES

—	Waterproof Case	42701	\$
—	USABlueBook pH Buffer Pack (One Pint Each of pH 4, 7, 10 and Storage Solution)	40435	