

New RDO technology combined with Star Plus meter benefits to measure many different water quality parameters all at once

Thermo Scientific Orion

**5-Star pH/RDO®/Conductivity
Portable Meter and Sensors**



Full-featured Portable Multi-parameter System with RDO (Rugged Dissolved Oxygen) Technology

- Simultaneous display of pH, dissolved oxygen, conductivity and temperature on the backlit LCD
- Uses optical DO technology
- No membranes to change – once-a-year cap replacement
- Calibrate for dissolved oxygen using water-saturated air, air-saturated water, zero point or a custom point with Winkler titration
- Built-in barometer for automatic pressure correction for dissolved oxygen readings with option for manual correction
- pH calibration of up to 5 points with calibration alarm and automatic buffer recognition of USA, NIST and DIN buffers
- Temperature calibration capability
- Conductivity / TDS / salinity / resistivity calibration of up to 5 points and reading reference temperatures of 5°C, 10°C, 15°C, 20°C or 25°C
- Automatic salinity correction for dissolved oxygen measurements from the conductivity probe reading
- Data storage for 500 data sets with time and date stamping
- RS232 port for easy data downloading and software updates
- IP67-rated meter housing and IP68-rated RDO sensor
- Four AA batteries provide over 1000 hours of operation in AUTO-READ™ mode
- 3-year warranty on meter and RDO sensor body
- 1-year warranty on optical cap

Thermo Scientific Orion 5-Star pH/RDO/Conductivity Portable Meter

Specifications

DO	Concentration Range	0.00 to 20.0 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
	% Saturation Range	0.0 to 200%
	Resolution	0.1, 1%
	Relative Accuracy	± 2%
	Barometric Pressure Correction	450 to 850 mm Hg, automatic or manual
	Calibration Features	Water saturated air, air saturated water, manual (Winkler) and zero point
	Sensor Type	RDO optical
pH	Range	–2.000 to 19.999
	Resolution	0.1, 0.01, 0.001
	Relative Accuracy	± 0.002
mV, RmV, ORP	Range	± 1999.9 mV
	Resolution	0.1 mV
	Relative Accuracy	± 0.2 mV or 0.05% of rdg, whichever is greater
Conductivity	Range	0.000 to 3000 mS/cm, auto resolution, cell constant dependent
	Resolution	4 significant digits down to 0.001 µS/cm, cell constant dependent
	Relative Accuracy	0.5 % ± 1 digit or 0.01 µS/cm, whichever is greater
	Cell Constants	0.001 to 199.9 cm ⁻¹
Resistivity	Range	0.0001 to 100 Megohm
	Resolution	Automatic
	Relative Accuracy	0.5 % ± 1 digit
Salinity	Range	0.1 to 80 ppt NaCl equivalent, 0.1 to 42 ppt practical salinity
	Resolution	0.1 ppt
	Relative Accuracy	± 0.1 ± 1 digit
TDS	Range	0 to 19999 mg/L
	Resolution	1 mg/L
	Relative Accuracy	± 0.5% ± 1 digit
Temperature (with RDO sensor)	Range	0 to 50 °C
	Resolution	0.1 °C
	Relative Accuracy	± 0.3 °C
Temperature (when RDO sensor is not used)	Range	–5 to 105 °C
	Resolution	0.1 up to 99.9 °C, 1.0 over 99.9 °C
	Relative Accuracy	±0.1 °C

Ordering Information

Portable Meter Only

Cat. No.	Description
1213320	5-Star pH/RDO®/conductivity portable meter only

Portable Meter Kits

Cat. No.	Description
1213321	5-Star pH/RDO/cond portable meter, RDO sensor with 3 meter cable, stainless steel RDO sensor guard, optical cap, calibration sleeve, Thermo Scientific Orion pH/ATC Triode™ with 3 meter cable (9107WMMD), Thermo Scientific Orion DuraProbe™ 4-electrode conductivity cell with 3 meter cable (013010MD), batteries and user guide
1213322	5-Star pH/RDO/cond portable meter, RDO sensor with 6 meter cable, stainless steel RDO sensor guard, optical cap, calibration sleeve, pH/ATC Triode with 6 meter cable (9107WLMD), DuraProbe 4-Electrode conductivity cell with 6 meter cable (013020MD), carrying case, batteries and user guide

Accessories

Cat. No.	Description
087001	Replacement optical cap
087010MD	RDO optical sensor with 3 meter cable, stainless steel guard, calibration sleeve and optical cap
087020MD	RDO optical sensor with 6 meter cable, stainless steel guard, calibration sleeve and optical cap
087030MD	RDO optical sensor with 10 meter cable, stainless steel guard, calibration sleeve and optical cap
087050MD	RDO optical sensor with 15 meter cable, stainless steel guard, calibration sleeve and optical cap
087100MD	RDO optical sensor with 30 meter cable, stainless steel guard, calibration sleeve and optical cap
087002	Replacement stainless steel RDO optical sensor guard
087003	Calibration sleeve for RDO optical sensor
9107WMMD	pH/ATC Triode, 3 meter cable, epoxy body, low-maintenance gel
9107WLMD	pH/ATC Triode, 6 meter cable, epoxy body, low-maintenance gel
013010MD	DuraProbe 4-electrode conductivity cell, 3 meter cable, K = 0.475cm ⁻¹
013020MD	DuraProbe 4-electrode conductivity cell, 6 meter cable, K = 0.475cm ⁻¹

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S-5STRDOPT-E 1108 RevA

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