

Specifications		HI991404	HI991405
	Range	0.0 to 14.0 pH	0.0 to 14.0 pH
рН	Resolution	0.1 pH	0.1 pH
	Accuracy	±0.1 pH	±0.1 pH
	Range	0 to 3999 μS/cm	0.00 to 20.00 mS/cm
EC	Resolution	1μS/cm	0.01 mS/cm
	Accuracy	±2% F.S.	±2% F.S.
	Range	0 to 2000 mg/L (ppm)	0.00 to 10.00 g/L (ppt)
TDS	Resolution	1 mg/L (ppm)	0.01 g/L (ppt)
	Accuracy	±2% F.S.	±2% F.S.
	Range	0.0 to 60.0°C / 32.0 to 122.0°F	0.0 to 60.0°C / 32.0 to 122.0°F
Temperature	Resolution	0.1°C (o 0.1°F)	0.1°C (0.1°F)
	Accuracy	±0.5°C (±1°F)	±0.5°C (±1°F)
N	Temperature Compensation	pH: automatic; EC/TDS: au 0.0 to 2.4%/°C	tomatic with β adjustable fron
7	pH Calibration	pH: automatic, one or two- recognition	-point with auto-buffer
7.	EC/TDS Calibration	automatic, one-point at 1413 µS/cm or 1382 ppm	automatic, one-point at 12.88 mS/cm or 6.44 g/L (p
Additional	pHElectrode	HI1293 PEI body, pre-ampli 1/2" NPT pipe thread, DIN o (included);	ified pH electrode with connector and 2 m (6.6') cable
Specifications	EC/TDS Probe	HI7630 conductivity probe 2 m (6.6′) cable(fixed)	e with 1/2" NPT pipe thread and
	TDS Conversion Factor	adjustable from 0.45 to 1.0	00
	Environment	0 to 50°C (32 to 122°F); RF	max 95% non-condensing
	Input Impedance	10 ¹² Ohm	
	Power Supply	12 VDC adapter (included)	
	Dimensions / Weight (meter only)	160 x 105 x 31 mm (6.2 x 4.	1 x 1.2) / 190 g (6.7 oz.)
Ordering	supplied with H1293D pH solution sachet, H170007 solution sachet, 12 VDC ac	•	xed), HI70004 pH 4.01 buffer HI70031 1413 µS/cm calibration
Ordering Information		lapter and instructions. o'Chek) (115V) and HI991405 -	02 (Combo (

is supplied with HI1293D pH electrode, HI7630 EC probe (fixed), HI70004 pH 4.01 buffer solution sachet, HI70007 pH 7.01 buffer solution sachet, HI70030 1288 mS/cm

calibration solution sachet, 12 VDC adapter and instructions.

HI991404 · HI991405

pH/EC/TDS and Temperature Monitors

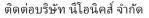
- HOLD button to freeze readings on the display
- Waterproof
- Automatic temperature compensation (ATC)

These monitors continuously monitor the three most crucial nutrient parameters in hydroponic, greenhouse and horticultural applications: pH, EC/TDS and temperature.

At startup, these indicators perform a selfcheck to assure proper working condition. The stability indicator and HOLD function lets the user know when to take readings and freezes the reading on display for easy and accurate recording.

These instruments are supplied with a non-clogging double junction pH electrode, as well as a rugged conductivity probe that will withstand even the most aggressive environments. The 12 VDC adapter makes these instruments ideal for all continuous monitoring applications.





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HI981504/5 · HI981504/7

pH/TDS and Temperature Monitor

- Backlit, graphic LCD display
- Automatic temperature compensation (ATC)

Set-up for the HI981504 is simple; install the HI981504 near the sample to be tested, plug the indicator in, and immerse the probes. pH, TDS and temperature measurements will be simultaneously displayed on three backlit LCDs.

Users can easily select the temperature unit (°C or °F) on the back panel.

The HI1286 gel-filled pH electrode is provided with a waterproof sleeve to protect the BNC connector. The unique design of the electrode provides longer life in aggressive solutions. The HI7634 TDS probe is easy to clean and requires little maintenance. Measurements are accurate and the meter can be calibrated at one or two points for pH and at a single point for TDS. Temperature is factory-calibrated.



Specifications

HI981504/5 · HI981504/7

	Range	0.0 to 14.0	
рН	Resolution	0.1	
	Accuracy	±0.2	
	Range	0 to 1990 ppm	
TDS	Resolution	10 ppm	
	Accuracy	±2% F.S	
	Range	-10.0 to 60.0°C or -14.0 to 140.0°F	
Temperature	Resolution	0,1°C or 0.1°F	
	Accuracy	±0.3°C or ±0.5°F	
	pH Calibration	manual, two-point through trimmers	
	TDS Calibration	manual, one-point through trimmer	
	TDS Factor	HI981504/5: 0.5; HI981504/7: 0.7	
Additional Specifications	Probes	pH: HI1286 PEI body pH electrode with 2 m (6.6′) cable (included); TDS: HI7634 TDS probe (fixed); temperature: stainless steel with 2 m cable (fixed)	
Specifications	Temperature Compensation	automatic from 5 to 50°C (41 to 122°F), for TDS readings only	
	Power Supply	12 VDC adapter (included)	
	Environment	0 to 50°C (32 to 122°F); 95% RH	
	Dimensions/Weight	160 x 110 x 35 mm (6.3 x 4.3 x 1.4")/560 g (1.2 lbs.)	
	HIQ81504/5-1 (1151/) and HIQ81504/5-2 (2301/) are supplied with HI1286 nH		

Ordering Information $\label{eq:highest} \textbf{HI981504/5-1} \ (115V) \ \text{and} \ \textbf{HI981504/5-2} \ (230V) \ \text{are supplied with HI1286 pH} \\ \text{electrode, HI7634 TDS probe} \ (\text{fixed}), \ \text{temperature probe} \ (\text{fixed}), \ \text{HI70004 pH 4.01 buffer} \\ \text{solution sachet, HI70007 pH 7.01 buffer solution sachet, HI70032 1382 ppm calibration} \\ \text{solution sachet, HI700661 electrode cleaning solution sachet} \ (2), \ \text{screwdriver, 12 VDC} \\ \text{adapter and instructions}.$

HI981504/7-1 (115V) and **HI981504/7-2** (230V) are supplied with HI1286 pH electrode, HI7634 TDS probe (fixed), temperature probe (fixed), HI70004 pH 4.01 buffer solution sachet, HI70007 pH 7.01 buffer solution sachet, HI70442 1500 ppm calibration solution sachet, HI700661 electrode cleaning solution sachet (2), screwdriver, 12 VDC adapter and instructions.

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Specifications		HI981404N	HI981405N
	Range	0.0 to 14.0 pH	0.0 to 14.0 pH
рН	Resolution	0.1 pH	0.1 pH
F	Accuracy (@25°C/77°F)	±0.2 pH	±0.2 pH
	Range	-	0.00 to 9.99 mS/cm
EC	Resolution	-	0.01 mS/cm
	Accuracy (@25°C/77°F)	-	±2% F.S.
	Range	0 to 1990 mg/L (ppm)	-
TDS	Resolution	10 mg/L (ppm)	-
N	Accuracy (@25°C/77°F)	±2% F.S.	-
Calibration	Calibration	manual, one or two-point (pH); manual, one-point (TDS)	manual, one or two-point (pH); manual, one-point (EC)
Temperature Compensation	Temperature Compensation	automatic from 5 to 50°C (41 to 122°F) (TDS only)	automatic from 5 to 50°C (41 to 122°F) (EC only)
TDS Conversion Factor	TDS Conversion Factor	0.7 ppm = 1 μS/cm	
Probes	Probes	HI1286 interchangeable pH electrode (included), HI7634 TDS probe (fixed), HI1283 grounding bar with 2 m (6.6') cable (included)	Hl1286 interchangeable pH electrode (included), Hl7632 EC probe (fixed), Hl1283 grounding barwith 2 m (6.6') cable (included)
Power Supply	Power Supply	12 VDC adapter (included)	
Environment	Environment	0 to 50°C (32 to 122°F), RH 95%	
Dimensions	Dimensions	160 x 110 x 35 mm (6.5 x 4.3 x 1.4")	
Weight	Weight	300 g (10.6 oz.)	
Ordering	are supplied comp	Gro'Chek Combo) (115 V) and H198140 lete with H1286 pH electrode, H1763 ins, screwdriver for calibration, 12 VDC	4 TDS probe, HI1283 grounding bar,
Information	are supplied comp	Gro'Chek Combo) (115V) and H198140 Ilete with Hl1286 pH electrode, Hl763 Ins, screwdriver for calibration, 12 VDC	2 EC probe, HI1283 grounding bar,

HI981404N · HI981405N

pH/TDS or pH/EC Continuous Indicators

- Two parameters with a single instrument
- Advanced electrode technology
- Simple operation and maintenance
- Supplied complete and ready to use

The HI981404N and HI981405N are ideal for agricultural, horticultural and hydroponics applications where pH and TDS (HI981404N) or pH and EC (HI981405N) levels need to be monitored for optimal plant growth. These instruments continuously monitor and display the values of a solution on an easy-to-read set of LCDs.

The HI1286 gel filled pH electrode is replaceable and the BNC connector is protected behind a waterproof sleeve. The unique design of the electrode guarantees greater clogging resistance in fertilizer solutions with high concentrations of nutrients. TDS measurements are performed using the 4-4-2 conversion factor of 0.7 so you do not need to convert the readings.

Both models are equipped with a grounding bar to ensure highly accurate pH readings and longer electrode life.

The HI981404N and HI981405N are compact and easy to install, making them ideal for all continuous monitoring applications.

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HI991401 (pH Gro'Chek)

pH and **Temperature Monitor**

- Automatic Temperature Compensation (ATC)
- HOLD button to freeze readings on the display
- Waterproof
- Backlit, graphic LCD display

This monitor from Hanna has a large backlit LCD to give users instantaneous readings of both pH and temperature that can be easily read in dim light. The HI991401 provides automatic calibration, automatic buffer selection and automatic temperature compensation.

The HI991401's waterproof housing has been designed to meet the grower's need for a monitor that is well-suited to the environments found in agricultural and hydroponics applications. Measurements are highly accurate and can be verified with one-or two-point calibrations. With a 12 VDC power supply included with the meter, low battery failures are never an issue.

The HI1293 pH electrode has been specially designed to address the needs of growers. Its design guarantees greater clogging resistance in fertilizer solutions with high concentrations of nutrients to ensure longer electrode life.



Specifications

HI991401 (nH Gro'Chek)

Specifications		HI991401 (pH Gro Chek)	
рН	Range	0.0 to 14.0 pH	
	Resolution	0.1 pH	
	Accuracy	±0.1 pH	
	Range	0.0 to 60.0°C (32.0 to 140.0°F)	
Temperature	Resolution	0.1°C (0.1°F)	
	Accuracy	±0.5°C (±1°F)	
N	Probes	HI1293 PEI body, pre-amplified pH electrode with 1/2" NPT pipe thread, DIN connector and 2 m (6.6') cable (included); HI1294 temperature probe with 1.2" NPT pipe thread and 2 m (6.6') cable (fixed)	
Additional	pH Calibration	automatic, one or two points with two sets of memorized buffers (pH 4.01/7.01/10.01 or pH 4.01/6.86/9.18)	
Specifications	Input Impedance	10 ¹² Ohm	
	Power Supply	12 VDC adapter (included)	
7	Environment	0 to 50°C (32 to 122°F); RH max 95%	
	Dimensions	160 x 105 x 31 mm (6.2 x 4.1 x 1.2")	
	Weight	190 g (6.7 oz.) - meter only	
Ordering supplied with HI1293D pH electrode, HI1294 t		nek) (115V) and HI991401-02 (pH Gro'Chek) (230V) are H electrode, HI1294 temperature probe (fixed), HI70004 achet, HI70007 pH 7.01 buffer solution sachet, 12 VDC ictions.	





HI981401N (Gro'Chek pH)

pH Monitor

- Water resistant housing
 - The meter housing is rated IP54 meaning it has a high level of protection against particles and a fair amount of protection against water
- One-point calibration
 - Calibrate to pH 7.01 and pH 4.01 solutions using a screwdriver

Engineered to withstand the aggressive environments in agricultural and hydroponic application, the HI981401N is a simple way to measure pH. You can simply hang the meter right above the sample to be tested for continuous measurement and the unit will run without interruption on 12 VDC power supply or take it with you for spot checks. The meter housing is rated IP54 meaning they have a high level of protection against particles and a fair amount of protection against water. The integrated large LCD allows for an easy reading from a distance.

The meters are supplied with a HI1286 pH probe with a PEI body and BNC connector. This double junction, gel-filled combination pH electrode has a unique PTFE sleeve to prevent particulates within a sample from clogging the junction. In addition to the specialized junction, the polyethylenimine (PEI) protective body protects against most aggressive chemicals as seen in fertilizer solutions with high concentrations of phosphate and nitrate.

Specifications	HI981401N	
Range	0.0 to 14.0 pH	
Resolution	0.1 pH	
Accuracy (@25°C/77°F) ±0.2 pH		
Calibration	manual, two-point, at pH 4 and 7	
pH Electrode	HI1286 PEI body pH electrode with 2 m (6.6°) cable (included);	
ph Electrode	HI1283 stainless steel grounding bar with 2 m (6.6') cable (included)	
Input Impedance 10 ¹² Ohm		
Power Supply 12 VDC power adapter (included)		
Environment	0 to 50°C; RH max 100%	
Dimensions 86 x 110 x 43 mm (3.4 x 4.3 x 1.7 ") Weight 150 g (5.3 oz.)		
		Ordering Information

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HI981402 (Pronto pH)

pH Monitor

- Waterproof
- LED indicators

The HI981402 is a water-resistant pH meter with a built-in digital LCD. The meter is supplied with the HI1286 double junction, plastic bodied, gel-filled combination pH electrode with a flexible 2 m (6.6') cable. The electrode also has a unique clog-resistant PTFE junction that enhances both probe life and accuracy. The BNC connector is protected by a waterproof sleeve.

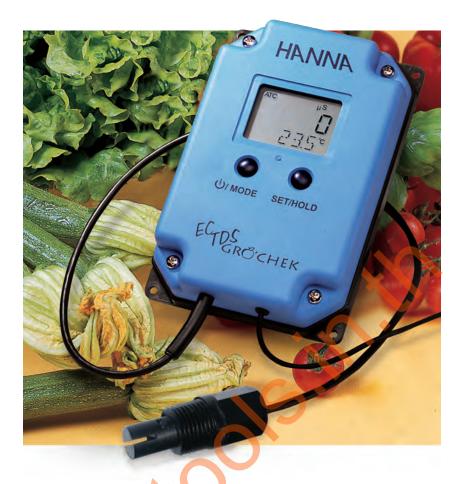
The alarm set point can be selected anywhere in the 3 to 11 pH range. A red LED warns the user in the event the reading is outside the setpoint by more than ± 0.5 pH. Calibration can be manually performed at two points through two easily accessible trimmers on the front of the unit.

The HI981402 is suited for outdoor installations and highly humid conditions. The molded eye allows the meter to be installed close to the sample and the 12 VDC power supply is ideal for continuous monitoring for extended periods of time.



Specifications HI981402 (Pronto pH)		
Range 0.0 to 14.0 pH		
Resolution 0.1 pH		
Accuracy (@25°C/77°F) ±0.2 pH		
Calibration	manual, one or two-point	
Setpoint	adjustable from 3.0 to 11.0 pH	
Alarm	red LED (blinks when pH reading differs from the setpoint more than ±0.5 pH)	
pH Electrode HI1286 PEI body pH electrode with 2 m (6.6′) cable (included)		
Input Impedance	10 ¹² Ohm	
Power Supply	12 VDC adapter (included)	
Environment	0 to 50°C (32 to 122°F); RH max 100%	
Dimensions	86 x 110 x 43 mm (3.4 x 4.3 x 1.7")	
Weight	150 g (5.3 oz.)	
Ordering Information	HI981402-01 (Pronto pH) (115V) and HI981402-02 (Pronto pH) (230V) is supplied with HI1286 pH electrode, calibration screwdriver, 12 VDC power adapter and instructions.	





Specifications		HI993301	HI993302
	Range	0 to 3999 μS/cm	0.00 to 20.00 mS/cm
EC	Resolution	1μS/cm	0.01 mS/cm
	Accuracy	±2% F.S.	±2% F.S.
	Range	0 to 2000 mg/L (ppm)	0.00 to 10.00 g/L (ppt)
TDS	Resolution	1 mg/L (ppm)	0.01 g/L (ppt)
	Accuracy	±2% F.S.	±2% F.S.
	Range	0.0 to 60.0°C /32.0 to 140.0°F	0.0 to 60.0°C / 32.0 to 140.0°F
Temperature	Resolution	0.1 °C (0.1°F)	0.1 °C (0.1°F)
	Accuracy	±0.5°C (±1°F)	±0.5°C (±1°F)
	EC/TDS Calibration	automatic, one point at 1413 μS/cm or 1382 mg/L (ppm)	automatic, one point at 12.88 mS/cm or 6.44 g/L (ppt)
	Probe	HI7630 conductivity probe w sensor, 1/2" NPT pipe thread included)	ith internal temperature
Additional	TDS Conversion Factor	adjustable from 0.45 to 1.00	
Specifications	Temperature Compensation	automatic with β adjustable f	rom 0.0 to 2.4%/°C
	Power Supply	12 VDC adapter (included)	
	Environment	0 to 50°C (32 to 122°F); RH m	ax 95%
	Dimensions	160 x 105 x 31 mm (6.2 x 4.1 x	1.2")
	Weight	190 g (6.7 oz.) - meter only	
Ordering	,	hek) (115V) and HI993301-02 uctivity probe, HI70031 1413 µ astructions.	, , ,
Information	,	hek) (115V) and HI993302-02 uctivity probe, HI70030 12.88 nstructions.	, , ,

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HI993301 · HI993302

EC/TDS and Temperature Monitors

- HOLD button to freeze readings on the display
- Waterproof
- Backlit, graphic LCD display

Waterproof and chemically resistant, the HI993301 and HI993302 monitors have been designed to meet the grower's need for equipment suited to the environments found in agricultural and hydroponics applications. At startup, the HI993301 and HI993302 perform a self-check to ensure proper working condition.

These indicators from Hanna have backlit LCDs and display instantaneous readings of both EC or TDS and temperature.

These instruments feature a stability indicator that prompts the user when to take the reading. For manual recording purposes, readings can be frozen on the LCD display by pressing the HOLD button.

Calibration and temperature compensation are automatic, while the EC/TDS conversion factor and temperature coefficient (β) are user-adjustable for application-specific measurements.



HI983302N (Gro'Chek EC)

EC Meter

Water resistant housing

- The meter housing is rated IP54 meaning it has a high level of protection against particles and a fair amount of protection against water
- One-point calibration
 - Calibrate with 1413 µS/cm EC solutions using a screwdriver
- Automatic Temperature Compensation (ATC)
 - Samples automatically compensated for temperature variations

Engineered to withstand the aggressive environments in agricultural and hydroponic application, the HI983302N is a simple way to measure EC. You can simply hang the meter right above the sample to be tested for continuous measurement and the unit will run without interruption on 12 VDC power supply or take it with you for spot checks. The meter housing is rated IP54 meaning they have a high level of protection against particles and a fair amount of protection against water. The integrated large LCD allows for an easy reading from a distance.

The meters are supplied with a HI7632 probe that automatically compensates for any temperature variation. The HI7632 is a two-pole amperometric EC probe for panel mounted mini controllers that measure in the high range (mS/cm and ppt). This probe has a built-in temperature sensor for Automatic Temperature Compensation and a ½" male NPT threaded connection for insertion mounting. The HI7632 probe provides a rapid response and high accuracy EC measurement.



Specifications	HI983302N (Gro'Chek EC)
Range	0.00 to 9.99 mS/cm
Resolution	0.01 mS/cm
Accuracy (@25°C/7 7° F)	2% F.S.
Calibration	manual, one-point through trimmer
Temperature Compensation	automatic from 5 to 50°C (41 to 122°F)
Probe	HI7632 EC probe with 2 m (6.6') cable (included)
Power supply	12 VDC adapter (included)
Environment	0 to 50°C (32 to 122°F); RH max 100%
Dimensions	86 x 110 x 43 mm (3.4 x 4.3 x 1.7")
Weight	215 g (7.6 oz.)
Ordering Information	HI983302N-01 (Gro'Chek EC) (115V) and HI983302N-02 (Gro'Chek EC) (230V) is supplied with HI7632 probe, 12 VDC adapter, 1413 mS/cm calibration solution (20 mL), calibration screwdriver and instructions.

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HI983307

EC Monitor

- Automatic Temperature Compensation (ATC)
- Water-resistant

This water-resistant EC monitor is the result of customer requests for accurate, affordable process monitoring with low maintenance.

HI983307 is supplied with a direct two-pin probe and 2 m (6.6′) cable with a $\frac{1}{2}$ ″ thread for flow-thru mounting. The probe has a temperature sensor to automatically compensate against temperature changes from 5 to 50°C (41 to 122°F) with a β of 2% per degree.

In the measurement mode, a red LED will warn the user in the event the reading is outside of the alarm interval. A front trimmer allows manual one-point calibration. The electrical circuitry is tightly sealed inside the water-resistant enclosure. This EC monitor can be installed anywhere quickly and easily with the casings molded eye. The 12 VDC power supply allows continuous monitoring over extended periods of time.

Ν		
5	pecifications	HI983307

Specifications		HI983307
	Range	0.00 to 9.99 mS/cm
EC	Resolution	0.01 mS/cm
	Accuracy (@25°C/77°F)	±2% F. S.
	Calibration	manual, one-point, through trimmer
	Calibration Solution	HI70039
	Temperature Compensation	automatic, 5 to 50°C (41 to 122°F) with β = 2%
	Setpoint	0.70 to 3.50 mS/cm
Additional Specifications	Alarm	red LED blinks when measured value differs from set point more than ±0.20 mS/cm
Specifications	Probe (included)	HI7632/2 with 2 m (6.6') cable and ½" thread for in-line installation
	Power supply	12 VDC adapter (included)
	Environment	0 to 50°C (32 to 122°F); RH max 100%
	Dimensions	86 x 110 x 43 mm (3.4 x 4.3 x 1.7")
	Weight	215 g (7.6 oz.)
Ordering Information	HI983307-01 (115V) an 12 VDC adapter and instr	d HI983307-02 (230V) are supplied with HI7632/2 EC/TDS probe, calibration screwdriver, uctions.

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HI983304

Conductivity Meter for Demineralized Water

- Automatic Temperature Compensation (ATC)
- · Water-resistant
- Adjustable setpoint

The HI983304 is specifically designed for use in demineralized and deionized water, as these applications have low conductivity.

When placed at the output of any demineralization system, the visual alarm will be activated once the demineralizing equipment is exhausted. This exclusive feature will ensure maximum system efficiency with minimum investment.

The HI983304 has a built-in LCD display and measures from 0 to 19.99 μ S/cm.

This meter is supplied with an HI7631/2 direct two-pin probe with 2 m (6.6') cable and a $\frac{1}{2}$ " thread for flow-thru mounting. This probe is also equipped with a temperature sensor to automatically compensate measurements against temperature changes from 5 to 50°C (41 to 122°F).

When operating in the measurement mode, the HI983304's red LED will alert the user as soon as the reading is 1 μ S/cm over the setpoint.



Specifications	HI983304	
Range	0.00 to 19.99 µS/cm	
Resolution	0.01 μS/cm	
Accuracy (@25°C/77°F)	±2% F. S.	
Calibration	manual, one point, through trimmer	
Temperature Compensation	automatic, 5 to 50°C (41 to 122°F) with β=2.4%/°C	
Setpoint	1.00 to 5.00 µS/cm	
Alarm	red LED blinks when measured value differs from the setpoint more than 1.00 µS/cm	
Probe (included)	HI7631/2 conductivity probe with 2 m (6.6') cable and 1/2" thread for flow-thru monitoring (included)	
Power supply	12 VDC adapter (included)	
Environment		
Dimensions		
Weight 215 g (7.6 oz.) Ordering HI983304-01 (115V) and HI983304-02 (230V) are supplied with HI7631/2 EC/TDS Information probe, calibration screwdriver, 12 VDC adapter and instructions.		

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