## Conductivity

## Dissolved Oxygen

- Covers all ranges from 0.00 µS/cm to 500 mS/cm (absolute EC)
- $\pm$  1% of the reading  $\pm$  (0.05  $\mu$ S/cm or 1 digit, whichever is greater)
- Offset (0 μS/cm) and cell factor calibration
- Choice of 5 standards

- NoTC (absolute)

- Records date, time, offset, and cell constant

- 0.00 45.00 mg/L (ppm)

- altitude value and salinity value

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# Ordering Information

## Electrodes



Hanna Instruments Ltd Eden Way, Pages Industrial Park Leighton Buzzard, Bedfordshire LU7 4AD Tel: 01525 850 855 www.hannainst.co.uk

HannaNorden AB Energigatan 15 B, 434 37 KUNGSBACKA Sverige / Sweden Tel: +46 300 404018 www.hannanorden.com





- Clogged junction

pH • EC • DO

- Records date, time, offset, slope and buffers
- A choice of 7 pre-programmed buffers plus 2 selectable custom buffers
- Identifies buffers used for current calibration



# edge<sup>™</sup> pH • EC • DO

Hanna Instruments is proud to introduce the world's most innovative pH meter... **edge**™.

**edge** is thin and lightweight, measuring just 12.7 mm and weighing 250 grams. **edge** also has an incredibly wide viewing angle, a 140 mm LCD and a sensitive capacitive touch keypad.

edge measures pH, conductivity and dissolved oxygen through its unique digital electrodes. These digital electrodes are autorecognised. Providing sensor type, calibration data and a serial number, they connect to edge using an easy plug-in 3.5mm connector. edge's versatile design is equally at home in your hand, on a lab bench or mounted on a wall. edge simplifies measurement, configuration, calibration, diagnostics, logging and transferring data to a computer or a USB drive.

edge features Hanna's exclusive CAL-CHECK® to warn you if the electrode you are using is not clean or if your buffers are contaminated during calibration. We have also added to CAL-CHECK for sensors with matching pin: now it warns you if the pH bulb is cracked and if the junction of the electrode is compromised.

**edge** is the culmination of Hanna's vision, design capabilities, integrated production facilities, and world class R&D teams. With **edge**, Hanna has set the new standard!



edge



#### Two USB Ports

edge includes one standard USB for exporting data with a flash drive. edge also includes one micro USB port for you to connect to a computer for file export and for charging your edge when the cradle is not available.



#### Large, Easy to Read LCD

edge features a 140 mm LCD display that you can clearly view from over 5 metres. The large display and its wide 150° viewing angle provide one of the easiest to read LCD's in the industry.

ANNAH



#### Clear, Full Text Readout

edge features clear, full text guides displayed on the bottom of the screen. There is no need to decipher scrambled abbreviations or symbols; these helpful messages guide you through every process quickly and easily.



#### Treat Design

edge is incredibly thin and lightweight, measuring just 12.7 mm thick and weighing just 250 grams.



#### Capacitive Touch Buttons

edge features a capacitive touch keypad that gives a distinctive, modern look. Since the keypad is part of the screen, your buttons can never get clogged with sample residue. The up and down keys move faster when continuously held (ideal for scrolling through numerous logs).



#### Cradle and Electrode Holder

edge is equipped with a benchtop cradle with an adjustable swivel electrode holder to charge and hold the edge securely in place at the optimium viewing angle.



You can use **edge** in Basic Mode: ideal for routine measurements, it offers a simplified screen and features.



Data from the last calibration you perform is stored in the sensor: electrode's offset, slope, date, time and buffer/standards. When any sensor (pH, EC, or DO) is connected to the **edge**, GLP data is automatically transferred.

#### CAL-CHECK®

edge features Hanna's exclusive CAL-CHECK to warn you if the bulb of the electrode is not clean or if the buffers are contaminated during calibration.



#### Zero Footprint

Using the wall mount cradle (included), edge can be placed on a wall, leaving zero footprint on the benchtop space. The cradle has a built in connector to power edge and charge its batteries. edge's zero footprint is designed to save you valuable benchtop space.



#### Data Logging

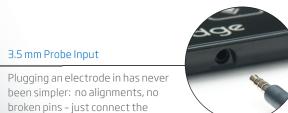
edge allows you to store up to 1000 log records of data. Data sets include readings, GLP data, date and time.



#### Sensor Check (only HI-12301 and HI-11311)

When used with Hanna's electrodes equipped with a matching pin, edge constantly checks the impedance of the pH measuring electrode to notify you in real time in the event of glass breakage. During calibration, Sensor Check checks the state of the junction. The reference junction is also evaluated and reported on the display.

3.5 mm plug and get started.



## Digital Smart Electrodes

The electrodes used with **edge** are nearly as advanced as the **edge** itself. Each electrode features a built-in microchip that stores sensor type, ID and calibration information all of which is automatically retrieved by **edge** once the electrode is plugged in.

time, altitude and salinity correction.

Stored pH calibration information includes: calibrated buffers, date, time, offset and slope characteristics of the electrode. Conductivity calibration information includes: calibrated conductivity standards, date, time, and cell constant of the sensor. Dissolved oxygen calibration information includes: standards used for calibration, date,

These digital electrodes also feature an easy to plug in 3.5 mm connector so you never have to worry about the right angle or aligning pin settings.



# Technical Specifications

рН	Range	basic mode: -2.00 to 16.00 pH, -2.000 to 16.000 pH; standard mode: ±1000.0 mV for pH		
	Resolution	0.01 pH; 0.001 pH; 0.1 mV		
	Accuracy (@25°C/77°F)	±0.01 pH; ±0.002 pH; ±0.2 mV		
	Calibration Points	5 in standard mode; 3 in basic mode		
	Calibration Buffers	standard mode: 1.68, 4.01, 6.86, 7.01, 9.18, 10.01, 12.45 and two custom buffers basic mode: 4.01, 6.86, 7.01, 9.18, 10.01		
	Temperature Compensation	ATC (-20.0 to 120.0°C; -4.0 to 248.0°F)*		
	pH Electrode (included)	HI-11310 glass body pH electrode with 1/8"(3.5mm) connector and 1 m (3.3') cable		
	Electrode Diagnostics	standard mode: probe condition, response time and out of calibration range		
EC	Range	EC	TDS	Salinity
		0.00 to 29.99 μS/cm; 30.0 to 299.9 μS/cm; 300 to 2999 μS/cm; 30.0 to 200.0 mS/cm; up to 500.0 mS/cm (absolute EC)**	0.00 to 14.99 mg/L (ppm); 15.0 to 149.9 mg/L (ppm); 150 to 1499 mg/L (ppm); 1.50 to 14.99 g/L; 15.0 to 100.0 g/L; up to 400.0 g/L (absolute TDS)**, with 0.80 conversion factor	0.0 to 400.0 % NaCl; 0.01 to 42.00 PSU 0.0 to 80.0 g/L
	Resolution	0.01 μS/cm; 0.1 μS/cm; 1 μS/cm; 0.01 mS/cm; 0.1 mS/cm	0.01 ppm; 0.1 ppm; 1 ppm; 0.01 g/L; 0.1 g/L (0.8 TDS factor)	0.1 % NaCl; 0.01 PSU; .01 g/L
	Accuracy (@25°C/77°F)	$\pm 1\%$ of reading $\pm (0.5\mu\text{S}\text{or}1\text{digit},$ whichever is greater)	$\pm 1\%$ of reading $\pm (0.03$ ppm or $1$ digit, whichever is greater)	±1% of reading
	Calibration	1 point offset calibration (0.00 μS/cm in air); 1 point slope calibration in EC standard 84 μS/cm, 1413 μS/cm, 5.00 mS/cm, 12.88 mS/cm, 80.0 mS/cm and 118.8 mS/cm	through EC calibration	1 point with HI-7037L 100% NaCI sea water standard (other scales through EC calibration)
	Temperature Compensation	noTC, ATC (-20.0 to 120.0°C; 32.0 to 122.0 °F)		
	TDS Factor	0.40 to 0.80		
	EC Electrode (included)	HI-763100 digital conductivity platinum 4 ring electrode with 1m cable and 3.5mm plug		
DO	Range	0.00 to 45.00 ppm; 0.0 to to 300.0 % saturation		
	Resolution	0.01 ppm; 0.1 % saturation		
	Accuracy	± 1.5% of reading ±1 digit		
	Calibration Points	one or two points at 0% (HI-7040 solution) and 100% (in air)		
	Temperature Compensation	ATC (0 to 50°C; 32.0 to 122.0 °F)*		
	Salinity Compensation	0 to 40 g/L (with 1 g/L resolution)		
	Altitude Compensation	-500 to 4000 m (with 100 m resolution)		
	DO Electrode (included)	HI-764080 digital dissolved oxygen polarographic electrode with 1m cable and 3.5mm plug		
Temperature	Range	-20.0 to 120.0°C; -4.0 to 248.0°F		
	Resolution	0.1°C; 0.1°F		
	Accuracy	±0.2°C; ±0.4 °F		
Additional Specifications	Logging	stores up to 1000 records: 200 records (log-on-demand and stability logging); 600 records interval logging		
	Connectivity	1 USB port for storage; 1 micro USB port for charging and PC connectivity		
	Environment	0 to 50°C (32 to 122°F); RH max 95% non-condensing		
	Power Supply	5 VDC adapter (included)		
	Dimensions	202 x 140 x 12.7mm (8" x 5.5" x 0.5")		
	Weight	250 g (8.82 oz.)		

\* temperature limits will be reduced to actual probe/sensor limits

\*\* with temperature compensation function disabled



### **Wolf Laboratories Limited**

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