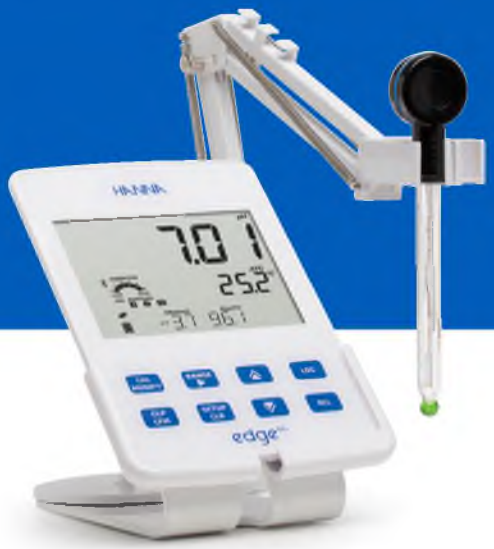
edge® blu

pH Meter and HALO™ Electrode with Bluetooth® Smart Technology



HANNA® instruments

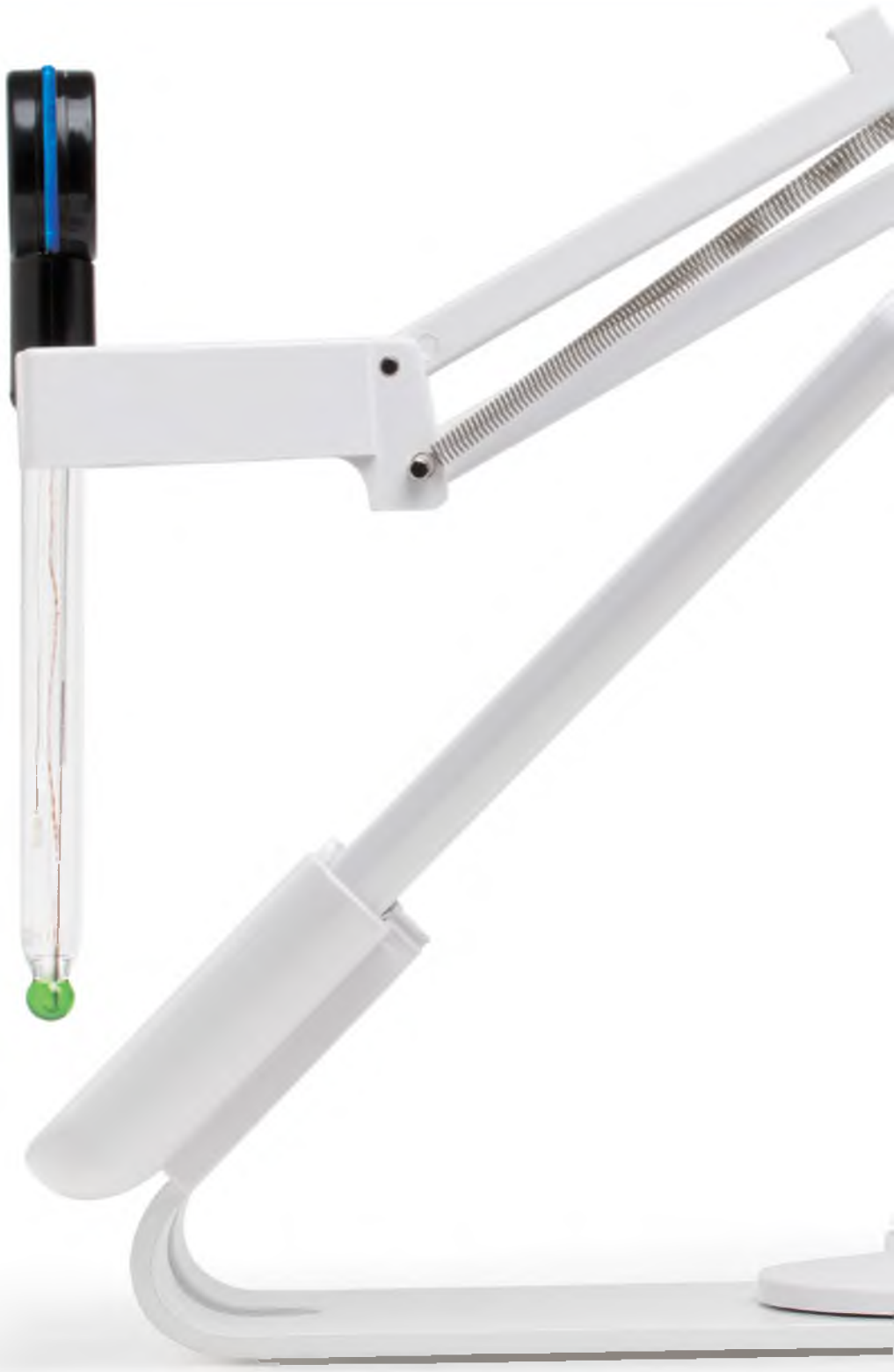
pH electrode with Bluetooth® Smart technology

edge®blu is supplied with a professional pH probe with Bluetooth® Smart technology (Bluetooth® 4.0).

Bluetooth® Smart technology is energy efficient, allowing for low power consumption to maximize the battery life of the replaceable battery used in the pH electrode.

The HI11102 HALO™ is a high quality, double junction, gel filled, glass pH probe with a built-in temperature sensor that can be used virtually anywhere: in the field, laboratory, or classroom. Its flexibility and ease of use will revolutionize the way pH is measured.

This pH electrode is compatible with edge®blu or Hanna Lab App[1].



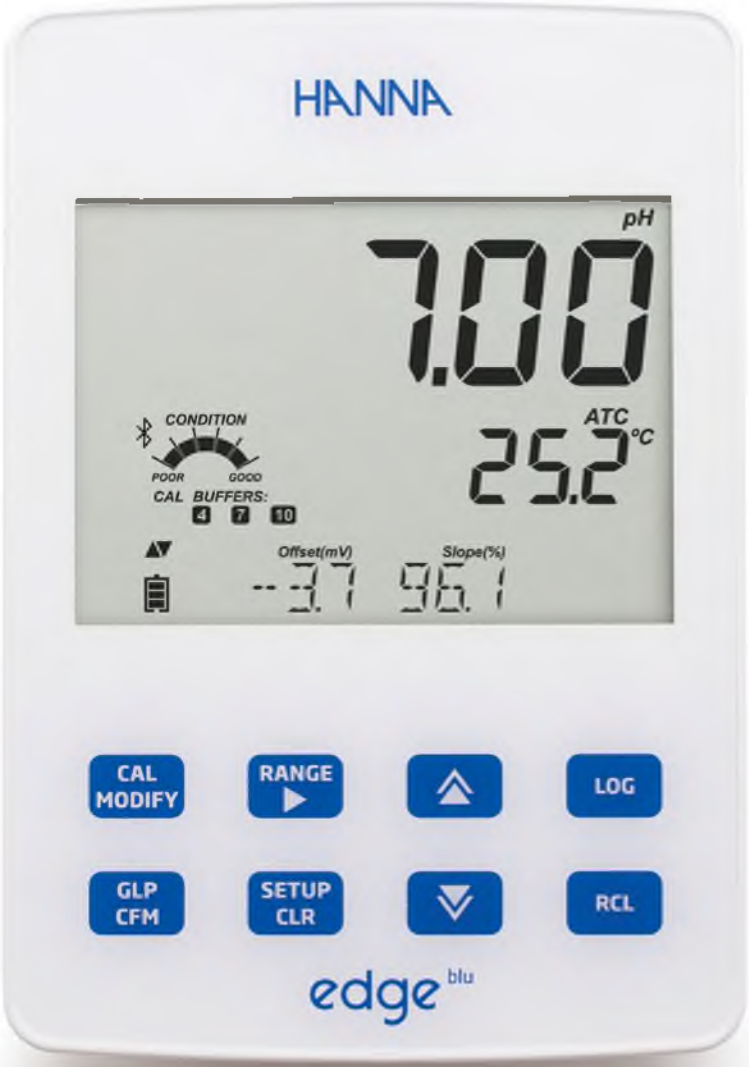
[1] HALO™ electrodes can only be used with one compatible device at a time.

edge blu

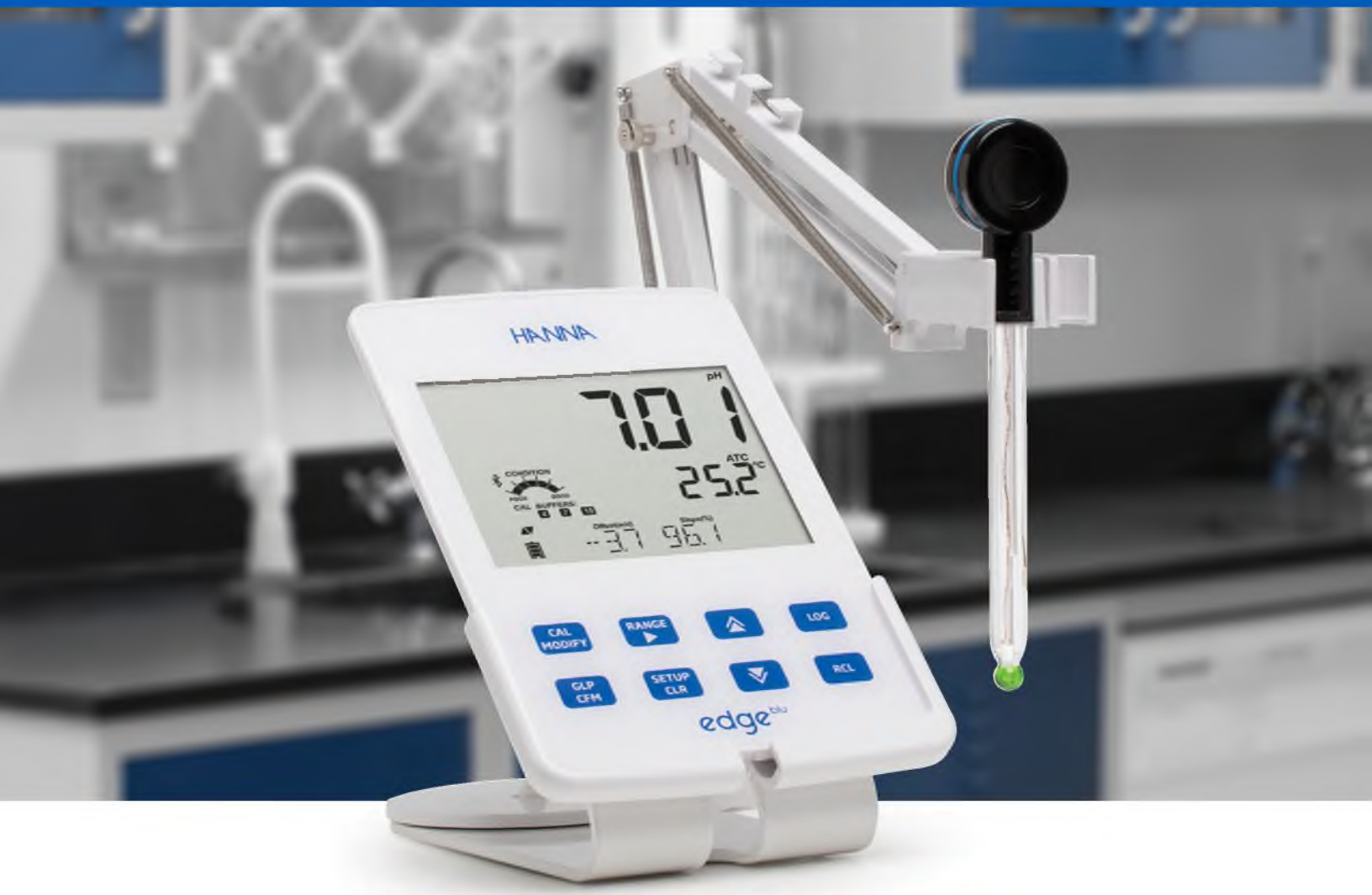
First pH meter in the world with a Bluetooth® Smart pH electrode

edge®blu utilizes Bluetooth® Smart technology (low energy) for outstanding battery life and can operate up to 10 m (33') from the compatible HI11102 HALO™ pH electrode for versatile measurement in the lab or field.

edge®blu is thin and lightweight, measuring just 0.5" (12 mm) thick and weighing less than 9 ounces (250 g). edge®blu has an incredibly wide viewing angle, 5.5" (14 cm) LCD and a sensitive capacitive touch keypad.

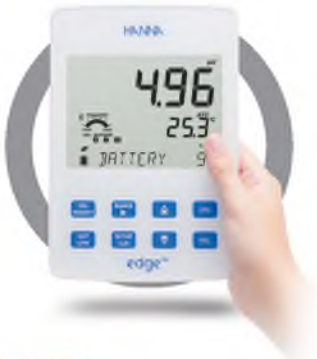


4.0	0	0.5	8.8	8	5.5	2
Bluetooth® Smart	footprint	inch thick (12.7 mm)	oz. weight (250 g)	hours battery life	inch display (14 cm)	USB ports



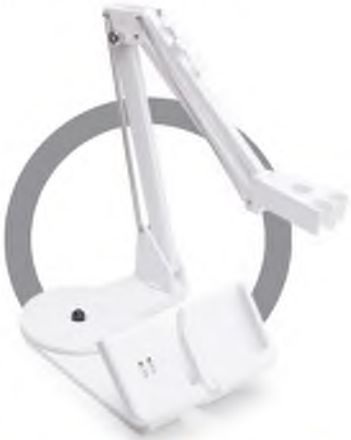
A hybrid meter that can be used in portable, wall-mount, and benchtop configurations

The versatile design of edge®blu enables it to be used as a portable, wall-mount, or benchtop meter. edge®blu simplifies measurement, wirelessly using the compatible HI11102 HALO™ pH electrode with Bluetooth® Smart technology.



- Portable field unit
  - edge®blu is ideal for field use due to its light weight, large screen, and thin design. It can easily be slipped into a backpack or messenger bag. The battery life lasts up to 8 hours when used as a portable device.

- Wall-mount cradle
  - The included wall-mount cradle makes it easy to conserve space on the benchtop while also charging edge®blu with the AC adapter. The cradle is ideal for continuous monitoring applications.



- Electrode holder with built-in cradle
  - The electrode holder features a swivel, adjustable arm with a built-in cradle to hold edge®blu securely in place at the optimum viewing angle.

edge®blu technical features

- Two USB ports

edge®blu includes one standard USB for exporting data to a flash drive. edge®blu also includes one micro USB port for exporting files to your computer as well as for charging when the cradle is not available.

- Data logging

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

- GLP

Data of the last calibration you perform is stored in the sensor including the date, time, and buffers used. When the sensor is connected to edge®blu, GLP data is automatically transferred.

- CAL Check™

edge®blu features Hanna's exclusive CAL Check™ technology to warn you if the electrode bulb is not clean or if the buffers are contaminated during calibration.

edge®blu design features

- Capacitive touch keypad

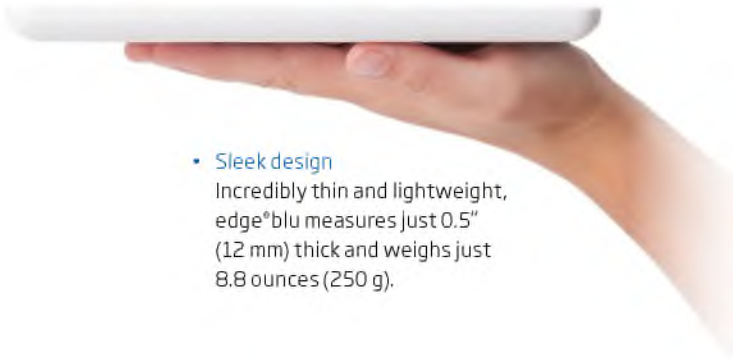
edge®blu features a capacitive touch keypad that gives a distinctive, modern look. Since the keypad is part of the screen, your buttons can never get clogged with sample residue.

- Easy to read LCD

edge®blu features a 5.5" (14 cm) LCD display that you can clearly view from over 5 m (16.4'). The large display, with its wide 150° viewing angle, provides one of the easiest to read LCDs in the industry.

- Zero footprint

Using the wall mount cradle (included), edge®blu can be placed on a wall, leaving zero footprint on the benchtop space. The cradle has a built-in connector to power and charge the batteries.

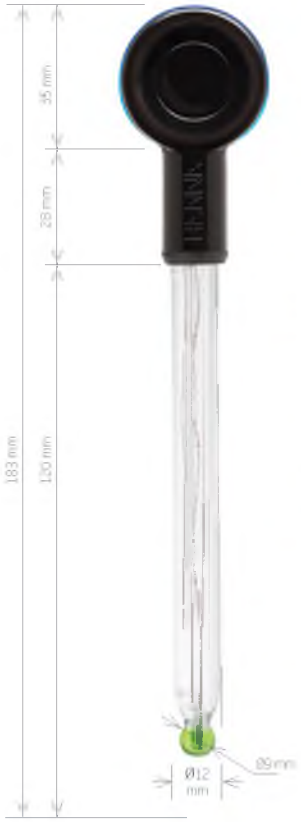


- Sleek design

Incredibly thin and lightweight, edge®blu measures just 0.5" (12 mm) thick and weighs just 8.8 ounces (250 g).

edge®blu additional features

- Utilizes Bluetooth® Smart technology
- Resolution selectable from 0.01 and 0.001 pH
- Range -2.000 to 16.000 pH
- Accuracy ±0.002 pH for 0.001 pH resolution; ±0.01 for 0.01 resolution
- Data logging
  - Manual log-on-demand
  - Manual log-on-stability
  - Interval logging
- Temperature readout (°C or °F)
- Automatic Temperature Compensation (ATC)
- CAL Check™ Indicators:
  - Probe condition
  - Response time
  - Check buffer
  - Clean electrode
- GLP data
  - Records date, time, offset, slope, and buffers used during calibration
- Five-point calibration
  - A choice of seven pre-programmed buffers plus two custom buffers
- Calibration tag on screen
  - Identifies buffers used for current calibration
- Calibration expiration warning
- Basic mode
  - You can use edge®blu Basic Mode–ideal for routine measurements by displaying a simplified screen and features



HALO™ pH electrode with Bluetooth® Smart technology

edge®blu is supplied with the HI11102 HALO™ professional pH probe with Bluetooth® Smart technology (Bluetooth® 4.0). This probe is compatible with the edge®blu and the Hanna Lab App[1].

- Gel-filled glass pH electrode
- Double junction reference design
- Integrated temperature sensor
  - Ensures the calibration and measurement is automatically temperature compensated, thus eliminating error
- Wide pH (0 to 12) and temperature (-5 to 80°C) range
- Clear the clutter
  - Data is wirelessly transmitted to the edge®blu or an iPad® running the Hanna Lab App via Bluetooth® Smart technology[1]. HI11102 HALO™ provides up to 500 hours of battery life
- Calibration is stored
  - HI11102 HALO™ stores calibration information; no additional calibration is needed when switching to another edge®blu or iPad®
- Battery condition
  - The measurement screen of the edge®blu and Hanna Lab App displays the name, battery life and condition of the HI11102 HALO™ probe

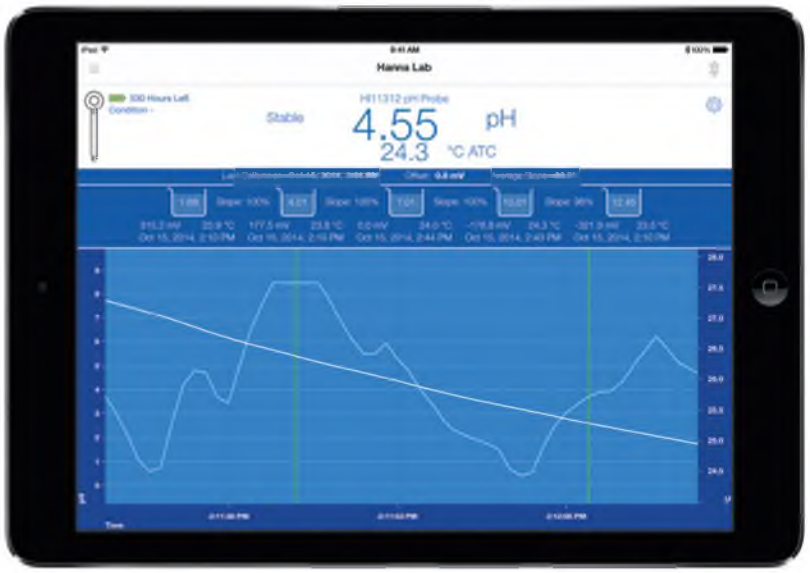
One press connect

Easily connect to the edge®blu or Hanna Lab App at the press of a button via Bluetooth® wireless technology[1] (10 m range (33')).

Hanna Lab App

pH Meter Application for use with Hanna pH electrode with Bluetooth® Smart technology

The Hanna Lab App turns an iPad® into a full-featured pH meter when used with the Hanna HI11102 pH electrode with Bluetooth® Smart technology. Functions include calibration, measurement, data logging, graphing and data sharing. Measurement and logging of pH and temperature at one second intervals start as soon as the probe is connected. Measurements can be displayed alone on the display, with tabulated data or as a graph. The graph can be panned and zoomed with the iPad's pinch-to-zoom technology for enhanced viewing.



HI11102 continuously logs measurements and lets you retrieve the data you want, when you need it

- Connects via Bluetooth® 4.0
- Up to five-point pH calibration with seven standard pH buffers available
- Probe calibration reminder
- Real-time data
  - Displays pH and temperature updated every second
- Basic GLP
  - Displays date and time of current calibration along with probe offset and average slope
- Full GLP
  - Displays date and time of current calibration, probe offset and average slope along with calibrated buffers, mV values, temperature, and slopes between each buffer
- Measurement alarms
  - Alerts if the measurement threshold is exceeded
- One button sample tagging
- Help and tutorials
- Datalogging with custom annotations
  - Saved log files may be annotated with measurement specific information
  - Data is autosaved every hour
- Four ways to save and share data:
  - All data since last autosave
  - Annotations only
  - All data within a timed interval
  - Annotations only within a timed interval
- Share data via email in CSV format

[1] HALO™ electrodes can only be used with one compatible device at a time.

HALO™

Four HALO™ Models Available

Ideal for food applications

HALO™ Specifications	HI11102 (included)	HI11312	HI12302	FC2022
Reference	double, Ag/AgCl	double, Ag/AgCl	double, Ag/AgCl	double, Ag/AgCl
Junction	ceramic	ceramic	ceramic	open junction
Electrolyte	gel	3.5M KCl	gel	viscolene
Range	0.00 to 12.00 pH ±420 mV -5.0 to 80.0°C (23.0 to 176.0°F)	0.00 to 13.00 pH ±420 mV -5.0 to 80.0°C (23.0 to 176.0°F)	0.00 to 12.00 pH ±420 mV -5.0 to 70.0°C (23.0 to 158.0°F)	0.00 to 12.00 pH ±420 mV 0.0 to 60.0°C (32.0 to 140.0°F)
Bulb Shape	spherical	spherical	dome	conical
Outer Diameter (glass)	12 mm (glass)	12 mm (glass)	12 mm (plastic)	12 mm to 8 mm taper (plastic)
Overall Length	183 mm	195 mm	165 mm	131 mm
Solution Temperature	-5.0 to 80.0°C (23.0 to 176.0°F)	-5.0 to 80.0°C (23.0 to 176.0°F)	-5.0 to 70.0°C (23.0 to 158.0°F)	0.0 to 60.0°C (32.0 to 140.0°F)
Environment	0.0 to 50.0°C (32.0 to 122.0°F), electronic module is not waterproof			
Temperature Sensor	integrated	integrated	integrated	integrated
Body Material	glass	glass	PEI	PVDF
Connection	Bluetooth® Smart (Bluetooth® 4.0), 10 m (33') range			
Battery Type / Life	CR2032 3V lithium ion / approximately 500 hours			

Specifications		edge®blu*
pH	Range[2]	-2.00 to 16.00 pH; -2.000 to 16.000 pH[†]
	Resolution	0.01 pH; 0.001 pH[†]
	Accuracy (@25°C/77°F)	±0.01 pH; ±0.002 pH[†]
	Calibration[†]	automatic, up to five-point calibration with seven standard buffers available (1.68, 4.01 or 3.00, 6.86, 7.01, 9.18, 10.01, 12.45) and two custom buffers
	Temperature Compensation[2]	automatic, -5.0 to 100.0°C (23.0 to 212.0°F) (using integral temperature sensor)
	Electrode Diagnostics	standard mode: probe condition, response time, and out of calibration range
mV pH	Range	±1000 mV
	Resolution	0.1 mV
	Accuracy (@25°C/77°F)	±0.2 mV
Temperature	Range[2]	-20.0 to 120.0°C; -4.0 to 248.0°F
	Resolution	0.1°C; 0 .1°F
	Accuracy	±0.5°C; ±0.9°F
Additional Specifications	Probe	HI11102 HALO™ glass body pH electrode with Bluetooth® Smart technology
	Logging	up to 1000[†] (400 for basic mode) records organized in: manual log-on-demand (max. 200 logs), manual log-on-stability (max. 200 logs), interval logging[†] (max. 600 samples; 100 lots)
	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 mm (7.9" x 5.5" x 0.5")
	Weight	250 g (8.82 oz.)

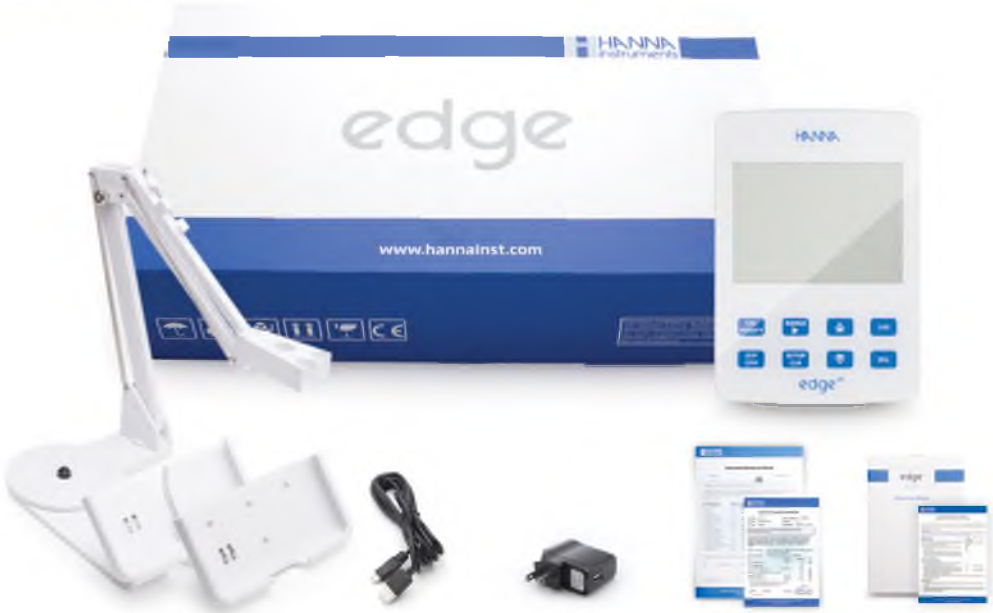
Hanna Lab App Specifications*	
Range[2]	-2.000 to 16.000 pH ±800 mV -20.0 to 120.0°C (-4.0 to 248.0°F)
Resolution	0.1; 0.01; 0.001 pH 1; 0.1 mV 0.1°C (0.1°F)
Accuracy (@25°C/77°F)	±0.005 pH ±0.3 mV ±0.5°C (±1.0°F)
Calibration Points	up to five-point pH calibration with seven standard buffers (1.68, 4.01, 6.86, 7.01, 9.18, 10.01, 12.45 pH)
Temperature Compensation[2]	automatic from -5.0 to 100.0 °C; 23.0 to 212.0 °F
Compatibility/ System Requirements	Hanna Lab App works with iPad® 3rd generation or newer (including iPad® mini, iPad® Air, and iPad® Air 2) with Bluetooth® 4.0 technology and iOS 7.1 or newer
Download Information	Hanna Lab App is free from the App Store℠

[1] HALO™ electrodes can only be used with one compatible device at a time.
[2] Limits will be reduced to actual probe/sensor limits.
* HALO™ required for measurement use.
† Standard mode only

Ordering Information

edge®blu

HI2202 is supplied with:



benchtop docking station with electrode holder

wall-mount cradle

USB cable

5 VDC power adapter

edge®blu and electrode quality certificates

instructions

HI11102 HALO™ pH electrode with Bluetooth® Smart technology

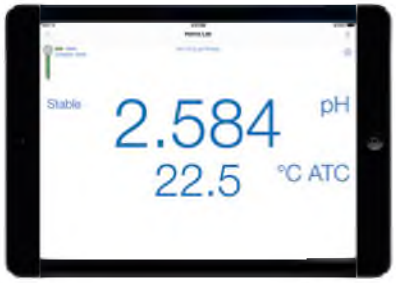
sachets of pH 7 buffer solutions

sachets of pH 4 buffer solutions

sachets of electrode cleaning solutions

battery for HALO™

Hanna Lab App



iPad not included.

Download on the App Store

Optional accessories

HI180-1 black mini stirrer

Electrode cleaning, storage, calibration and filling solutions

HI700601P general purpose cleaning solution, 20 mL sachets (25)

HI70300M electrode storage solution, 230 mL bottle

HI7082 electrolyte refilling solution, 3.5M KCl, 30 mL bottle (4)

HI70004P pH 4.01 calibration solution, 20 mL sachets (25)

HI70007P pH 7.01 calibration solution, 20 mL sachets (25)

HI70010P pH 10.01 calibration solution, 20 mL sachets (25)

edgeblu 2.3 06/15 PRINTED IN USA

HANNA® instruments