



edge®pH—Innovation in a Single Parameter

edge®pH is thin and lightweight, measuring just 1/2" (12 mm) thick and weighing less than 9 ounces (250 g). edge® has an incredibly wide viewing angle, 5.5" (14 cm) LCD and a sensitive capacitive touch keypad.

edge®pH measures pH through its unique digital pH electrodes. These digital pH electrodes are auto-recognized, providing sensor type, calibration data and a serial number when connected to edge®pH by an easy to plug-in 3.5 mm connector. The versatile design of edge®pH enables it to be used as a handheld, benchtop or wall-mounted meter. edge® simplifies measurement, configuration, calibration, diagnostics, logging and transferring data directly to a computer or USB drive.

edge®pH 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 added Sensor Check™ for pH sensors with a matching pin. Our Sensor Check™ feature warns you if the pH bulb is cracked and/or the junction of the electrode is compromised.



edge®pH Technical Features



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



- **Clear, full text readout**
edge®pH 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.



- **Data logging**
edge®pH 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 electrode's offset, slope, date, time and buffer/standards. When a compatible pH sensor is connected to edge®pH, GLP data is automatically transferred.



- **Basic mode**
You can use edge®pH in Basic Mode—ideal for routine measurements for a simplified screen and features.



- **CAL Check™**
edge®pH 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.

Accepts edge®pH compatible
pH probes

edge®pH Design Features



- **Cradle and electrode holder**
edge®pH is supplied with a benchtop cradle with an adjustable swivel electrode holder to charge and hold edge®pH securely in place at the optimum viewing angle.



- **Capacitive touch keypad**
edge®pH 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. For faster scrolling, simply hold down the arrow keys.



- **Easy to read LCD**
edge®pH 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 LCD's in the industry.



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



- **3.5 mm probe input**
Plugging an electrode in has never been simpler; no alignments or broken pins, just connect the 3.5 mm plug and begin. Digital SMART electrodes are automatically recognized.



- **Sleek design**
Incredibly thin and lightweight, edge®pH measures just 1/2" (12 mm) thick and weighs just 8.8 ounces (250 g).



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edge®pH Parameter and CAL Check™ Features

pH

- 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 ($^{\circ}\text{C}$ or $^{\circ}\text{F}$)
- Automatic Temperature Compensation (ATC)
- CAL Check™ Indicators:
 - Probe condition
 - Response time
 - Check buffer
 - Clean electrode
- Sensor Check™ Indicators:
 - Broken electrode
 - Clogged junction
- GLP data
 - Records date, time, offset, slope and buffers used during calibration
- Five-point calibration
 - A choice of seven pre-programmed buffers plus two selectable custom buffers
- Calibration tag on screen
 - Identifies buffers used for current calibration
- Calibration expiration warning



CAL Check™

The edge® includes powerful algorithms to alert the user of potential problems during the pH calibration process. These indicators include when to clean the electrode, check the buffer, the response time, and the overall condition of the electrode.

WRONG BUFFER—Displayed when the difference between the pH reading and the value of the selected buffer is too great.

WRONG OLD POINTS INCONSISTENCY—Displayed if the new calibration differs significantly from the last value of that sensor in that buffer.

CLEAN ELECTRODE—This message indicates poor electrode performance (offset out of accepted window, or slope under the accepted lower limit).

CHECK ELECTRODE CHECK BUFFER—Displayed when electrode slope exceeds the highest accepted slope limit.

BAD ELECTRODE—Displayed if the cleaning procedure performed as a result of the previous two messages is unsuccessful.

WRONG BUFFER TEMPERATURE—Displayed if the temperature of the buffer is outside the defined buffer temperature range.

CONTAMINATED BUFFER—Displayed when the buffer could be contaminated.

Broken Temperature Sensor—If the temperature sensor should malfunction or break at any time, a temperature of “25.0 $^{\circ}\text{C}$ ” will blink on the second LCD line and the message **BROKEN TEMPERATURE SENSOR** will appear after leaving calibration.

Response and condition gauges appear on the display for 24 hours after an electrode calibration. These five segment displays provide a visual image of the overall condition of the pH probe based on offset and slope characteristics and speed of response based upon how long it took to stabilize in buffers during calibration.



Digital SMART Electrodes

The electrodes used with edge®pH are nearly as advanced as the edge® itself. They feature a built-in microchip that stores sensor type, ID, and calibration information that is automatically retrieved by edge®pH once the electrode is plugged in.

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 pins.

pH Electrodes

See edge®pH compatible pH electrodes on page 3.16 and starting on page 3.91.

ORP Probes



HI36180

Single ceramic, double junction, glass body, refillable ORP probe with temperature sensor
Recommended for laboratory and general purpose



HI36200

Single ceramic, single junction, gel filled, PEI body, ORP probe with temperature sensor
Recommended for field applications



• Portable field unit

- edge®pH is ideal for field use due to its light weight, large screen and thin design. It can be slipped into a backpack or messenger bag. Up to 8 hours of battery life when used as a portable device.



• Wall mount cradle

- The included wall mount cradle makes it easy to conserve space on the benchtop and can charge edge®pH with the AC adapter. 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®pH securely in place at the optimum viewing angle.

Specifications

edge® pH

| | | |
|---------------------------|---|--|
| pH | Range* | -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 three points (five points†) calibration, 5 standard (7 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* | automatic, -5.0 to 100.0°C (23.0 to 212.0°F) (using integral temperature sensor) |
| mV pH | Electrode Diagnostics | standard mode: probe condition, response time and out of calibration range |
| | Range | ±1000 mV |
| | Resolution | 0.1 mV |
| ORP | Accuracy (@25°C/77°F) | ±0.2 mV |
| | Range | ±2000 mV |
| | Resolution | 0.1 mV |
| | Accuracy (@25°C/77°F) | ±0.2 mV (±999.9 mV); ±1 mV (±2000 mV) |
| Temperature | Calibration | one-point calibration |
| | Range* | -20.0 to 120.0°C; -4.0 to 248.0°F |
| | Resolution | 0.1°C; 0.1°F |
| Additional Specifications | Accuracy | ±0.5°C; ±0.9°F |
| | 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 |
| | Electrode | HI11310 digital glass body pH electrode with 1/8" (3.5 mm) connector and 1 m (3.3') cable |
| | 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.) | |
| Ordering Information | HI2002-01 (115V) and HI2002-02 (230V) edge®pH includes: HI11310 pH electrode, pH 4 buffer solution sachets (2), pH 7 buffer solution sachets (2), pH 10 buffer solution sachets (2), electrode cleaning solution sachets (2), benchtop docking station with electrode holder, wall-mount cradle, USB cable 5 VDC power adapter, quality certificate and instruction manual. | |

edge®pH compatible electrodes begin on page 3.91; solutions begin on page 3.100

* pH and temperature will be reduced to actual probe limits
† standard mode only



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