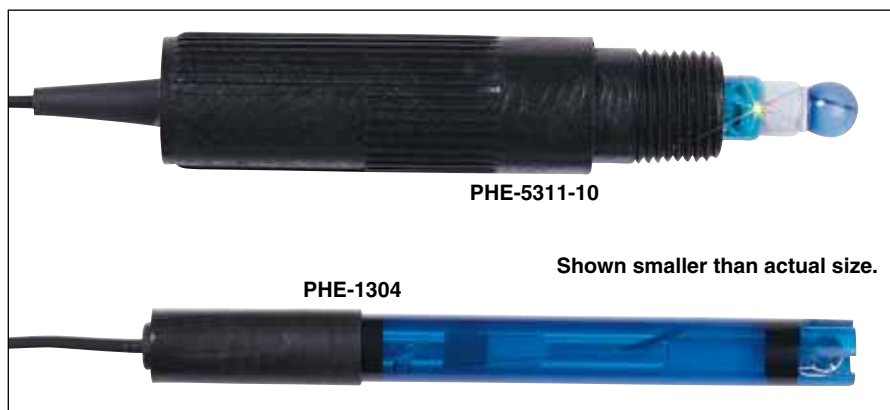




## Preamplified ALpHA® pH Electrodes



- ✓ Interfaces Directly with Most Instrumentation that Accepts mV Input Signal
- ✓ Signal can be Run up to 305 m (1000')
- ✓ Power Supply Available in Three Styles

OMEGA Engineering offers pH electrodes with integral preamplifiers for laboratory or industrial applications. These electrodes can interface directly with equipment that accepts a millivolt input signal with a 10 kΩ or greater input impedance, such as a data

acquisition interface or multimeter. The preamplifier converts the high impedance millivolt signal of the electrode into a low impedance signal, enabling the signal to be run up to 305 m (1000') without signal loss. The electrode is supplied with 1 to 3 m (3 to 10') of coaxial cable, depending on the model. If longer cable lengths are required, simply splice on extension cable. These preamplified electrodes are available in a variety of styles and can interface with any pH meter, controller, transmitter, multimeter or data acquisition system with a one-to-one unity gain.

An accompanying power supply is available in three styles: an encapsulated battery design, an external battery style, and a style for use with an external DC power source.

### Specifications

**Output:** 0 pH = +414.1 mV;  
14 pH = -414.1 mV @ 25°C (77°F)  
**Temperature:** 0 to 100°C (32 to 212°F)  
**Impedance:** 10 kΩ  
**Unity Gain:** 1  
**Power Supply:** ±1.5 Vdc to ±9 Vdc; 0.5 mA current  
**Battery Life:** 1 year

To Order	
Model No.	Description
PHE-1304-(* )	Combination gel-filled, epoxy-bodied, general purpose laboratory pH electrode; pH range 0 to 12, temp 0 to 80°C (32 to 176°F)
PHE-2114-(* )	Combination general purpose, large bulb, refillable glass pH electrode; pH range 0 to 13, temp 0 to 212°C (32 to 100°F)
PHE-5311-10-(* )	Industrial in-line combination, general purpose, gel filled, pH electrode, PVDF housing, ½" MNPT threading, insertion length 1". 10' of cable standard; pH range 0 to 13, temp range 0 to 100°C (32 to 212°F); dimensions: 127 x 25 mm (5 x 1")
PHE-5411-10-(* )	Industrial in-line combination double junction electrode; MNPT threading, insertion length 1"; 10' of cable standard; pH range 0 to 13, temp range 0 to 100°C (32 to 212°F); dimensions: 127 x 25 mm (5 x 1")
PHE-5316-10-(* )	Industrial in-line combination, general purpose, gel-filled, pH electrode, CPCV housing, ¾" MNPT threading, 2" insertion length; 10' cable standard; pH range 0 to 13, temp range -5 to 80°C (23 to 176°F); dimensions: 168 x 25 mm (6.6 x 1")
PHE-6351-10-(* )	Industrial submersible, combination, general purpose, gel-filled, pH electrode; electrode potted in 36" ABS pipe; 10' cable standard; pH range 0 to 13, temp range 0 to 80°C (32 to 176°F); dimensions: 28 x 914 mm (1.1 x 36")
PHE-6451-10-(* )	Industrial submersible, combination, double junction, gel-filled, pH electrode; electrode potted in 36" ABS pipe; 10' cable standard. pH range 0 to 13, temp range 0 to 80°C (32 to 176°F); dimensions: 28 x 914 mm (1.1 x 36")

### Power Options

Suffix*	Description
-EB	Replaceable external battery pack
-PB	Battery encapsulated in the cap of the electrode. Battery life approximately one year; battery cannot be replaced
-NB	Requires external DC power supply of ±1.5 Vdc to ±9 Vdc

Available for additional cost.

### Accessories

Model No.	Description
EB-SPARE	Spare battery pack for -EB option
PHE-DPS	±3 Vdc power supply to operate preamplified electrodes, input 115 Vac

Comes complete with operator's manual.

\* Specify power option, "-EB", "-PB" or "-NB" electrode, for additional cost.

**Ordering Example:** PHE-5411-10-EB, industrial in-line double junction preamplified electrode with external battery.