

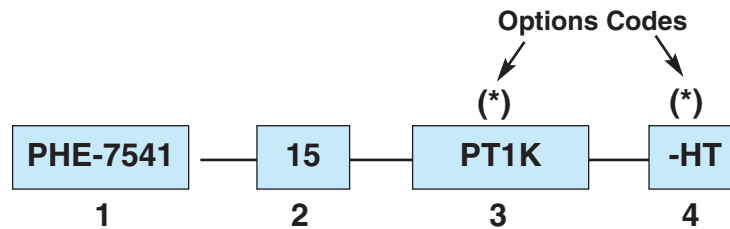


## pH Electrode Ordering Guide

The following information is needed when selecting electrodes for industrial applications:

- **Type of Liquid to be Measured**
- **Concentration of Identified Chemicals**
- **Temperature—High and Low of Process to be Measured**
- **Mounting: Pipe/Tank, Thread Size—Be specific**
- **Pressure—Total Pressure to Which Sensor Will Be Subjected**
- **Cable Length—Optimize for Your Mounting Needs**

For clarity and convenience, follow the ordering example provided below.



For example: PHE-7541-15-(\*) = PHE-7541-15-PT1K-HT

- [1] **Electrode part number**
- [2] **Cable length:** Standard cable length in feet is shown in part number; -10 (10 ft.), -15 (15 ft. most popular), and -20 (20 ft.)  
For non-standard length, specify total length in feet and add \$1 per foot. Maximum 50 feet.
- [3] **Option Code:** -PT1K indicates Automatic Temperature Compensation (1000 ohm RTD). Must be compatible with meter. Contact engineering as needed.
- [4] **Additional Option:** -HT indicates High Temperature Reference Cell.  
*Note: See Application Guide on next page for option compatibility.*

## Option Code\*\*

Suffix	Description	Price
-AMP	Battery powered amplifier	\$100
-HT	High temperature reference cell	35
-HPH	High pH glass	30
-NA	Na/Sodium ion selective electrode	125
-HF	HF/Fluoride resistant	50
-ORP	Redox measurement (platinum)	40
-PT100	100 ohm Platinum RTD	25 to 50
-PT1K	1000 ohm Platinum RTD	25 to 50
-SG	Solution ground	45
-TJ	Triple junction reference cell	45
-ULT	Combines: ATC, triple junction, high temp, and solution ground	125

Recommended Reference Book:  
Practical Grounding, Bonding, Shielding,  
and Surge Protection, **FW-319, \$65.**  
See Section Y for Additional Books.

\*\* Option Codes for pages D-48 to D-68 only.



## Application Guide

<i>Electrode</i>	<i>Application</i>	<i>Options</i>	<i>Electrode</i>	<i>Application</i>	<i>Options</i>
<b>Steam Sterilizable</b> PHE-5432-10 ORE-5432-10  Page D-56	<ul style="list-style-type: none"> <li>• Harsh Conditions</li> <li>• ORP</li> <li>• High Pressure</li> <li>• Continuous Processing</li> </ul>	-PT100 <sup>†</sup> -PT1K <sup>†</sup> -HPH	<b>pHACT™</b> <b>Preamplified with ATC</b> PHE-9153-15 PHE-9151-15 PHE-9152-15 PHE-9150-15 Page D-62	<ul style="list-style-type: none"> <li>• Self Cleaning Option</li> <li>• Long Insertion</li> <li>• High Temperature</li> <li>• Hydrofluoric</li> <li>• ORP</li> <li>• Low Maintenance</li> </ul>	-HF -HT -ORP -HPH
<b>Triple Junction</b> PHE-5433-10  Page D-53	<ul style="list-style-type: none"> <li>• Chemical Resistant Body</li> <li>• Steam Sterilization</li> <li>• Harsh Conditions</li> <li>• Continuous Processing</li> <li>• Extended pH</li> </ul>	-ORP -HPH	<b>General Purpose</b> PHE-7357-10 PHE-5551-10 ORE-7357-10 ORE-5551-10 Page D-67	<ul style="list-style-type: none"> <li>• Potable Water Supply</li> <li>• Cooling Tower</li> <li>• Fresh and Salt Water</li> <li>• Secondary Treated Waste Water</li> <li>• ½" MNPT</li> </ul>	-PT100 <sup>†</sup> -PT1K <sup>†</sup> -HF -HT -HPH
<b>High Temperature</b> PHE-5431-10 PHE-5431-10-T DOE-5431-10 DOE-5431-10-T  Page D-55	<ul style="list-style-type: none"> <li>• Easy Installation</li> <li>• Steam Sterilization</li> <li>• Harsh Conditions</li> <li>• Continuous Processing</li> <li>• High Pressure</li> <li>• Dissolved Oxygen</li> </ul>	-PT100 <sup>†</sup> -PT1K <sup>†</sup> -ORP -HPH	<b>Bayonet Twist Lock</b> PHE-5555-10 PHEH-55/-56 (Adaptor)  Page D-79	<ul style="list-style-type: none"> <li>• Petrochemical</li> <li>• Severe conditions</li> </ul>	-PT100 <sup>†</sup> -PT1K <sup>†</sup> -HF
<b>Eurostandard PG13.5</b> PHE-5432-10-PG PHE-5433-10-PG PHE-5431-T-PG DOE-5431-PG DOE-5431-T-PG Page D-57	<ul style="list-style-type: none"> <li>• Steam Sterilization</li> <li>• Harsh Conditions</li> <li>• Continuous Processing</li> <li>• High Pressure</li> </ul>	-HF -HT (std) -ORP -HPH	<b>Ground Loop Protection</b> PHE-5580-20 (Self Powered Amplifier) PHE-5590-20 (Solution Ground Contact)  Page D-71	<ul style="list-style-type: none"> <li>• General Industrial</li> <li>• Chemical Production</li> <li>• Electro-Plating Baths</li> <li>• Waste Treatment Processing</li> </ul>	-ORP -HF -HPH -PT100 <sup>†</sup> -PT1K <sup>†</sup>
<b>Viscous Liquids</b> PHE-7451-15 PHE-7354-15  Page D-63	<ul style="list-style-type: none"> <li>• Continuous and Batching</li> <li>• Pulp and Paper</li> <li>• Petrochemical</li> <li>• 0.5 to 2.3" Insertion</li> </ul>	-PT100 <sup>†</sup> -PT1K <sup>†</sup> -HPH -AMP -HT	<b>Valve Insertion</b> PHE-5570-10  Page D-73	<ul style="list-style-type: none"> <li>• Tank Installation</li> <li>• None Process Shutdown</li> <li>• Petrochemical Severe Conditions</li> </ul>	-PT100 <sup>†</sup> -PT1K <sup>†</sup> -ORP -HPH -SG
<b>Heavy Duty</b> PHE-7352-15 PHE-7353-15  Page D-64	<ul style="list-style-type: none"> <li>• Severe Conditions</li> <li>• Large Diameter Pipe</li> <li>• Waste Water</li> <li>• 0.9 to 2.3" Insertion</li> </ul>	-PT100 <sup>†</sup> -PT1K <sup>†</sup> -HPH -ORP -AMP -HT			

<sup>†</sup> PT100 and PT1K options are available for pH electrodes only.



#### UNITED STATES

[www.omega.com](http://www.omega.com)  
1-800-TC-OMEGA  
Stamford, CT.

#### CANADA

[www.omega.ca](http://www.omega.ca)  
Laval(Quebec)  
1-800-TC-OMEGA

#### GERMANY

[www.omega.de](http://www.omega.de)  
Deckenpfronn, Germany  
0800-8266342

#### UNITED KINGDOM

[www.omega.co.uk](http://www.omega.co.uk)  
Manchester, England  
0800-488-488

#### FRANCE

[www.omega.fr](http://www.omega.fr)  
Guyancourt, France  
088-466-342

#### CZECH REPUBLIC

[www.omegaeng.cz](http://www.omegaeng.cz)  
Karviná, Czech Republic  
596-311-899

#### BENELUX

[www.omega.nl](http://www.omega.nl)  
Amstelveen, NL  
0800-099-33-44



## More than 100,000 Products Available!

### • Temperature

Calibrators, Connectors, General Test and Measurement Instruments, Glass Bulb Thermometers, Handheld Instruments for Temperature Measurement, Ice Point References, Indicating Labels, Crayons, Cements and Lacquers, Infrared Temperature Measurement Instruments, Recorders Relative Humidity Measurement Instruments, RTD Probes, Elements and Assemblies, Temperature & Process Meters, Timers and Counters, Temperature and Process Controllers and Power Switching Devices, Thermistor Elements, Probes and Assemblies, Thermocouples Thermowells and Head and Well Assemblies, Transmitters, Wire

### • Flow and Level

Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

### • pH and Conductivity

Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

### • Data Acquisition

Auto-Dialers and Alarm Monitoring Systems, Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485 and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

### • Pressure, Strain and Force

Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Strain Gages, Torque Transducers, Valves

### • Heaters

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters