



ORP Electrode with Clogging Prevention System (CPS) and BNC Connector – HI3148B

Description

Hanna Instruments offers a wide variety of ORP electrodes that are designed for many different applications. The type of material used for the sensing pin, type of glass used for body material, type of junction, type of reference and electrolyte used are just some of the design considerations.

The HI3148B uses a platinum ring, glass body, open junction with CPS technology and is refillable with 3.5M KCl.

Platinum Sensor

The HI3148 ORP sensor is made with platinum. An ORP sensor must be chemically inert; it cannot be oxidized or reduced itself. It must also have the proper surface characteristics to promote rapid electron exchange, a property known as high exchange current density. Two noble metals have proven to work well for this purpose: pure platinum and pure gold are both used in the construction of ORP sensors. The platinum sensor is often preferred because it is mechanically simpler and safer to produce. Platinum can be welded to glass and has the same thermal coefficient.

CPS??Sleeve Junction

Clogging Prevention System (CPS?) technology is an innovation in electrode technology. Conventional ORP electrodes use ceramic junctions that clog quickly when used in wine. When the junction is clogged, the electrode does not function. CPS technology utilizes the porousness of ground glass coupled with a PTFE sleeve to prevent clogging of the junction. The ground glass allows proper flow of the liquid, while the PTFE sleeve repels dirt. As a result, ORP electrodes with CPS stay fresh up to 20 times longer than conventional electrodes.

Glass Body

The glass body is ideal for laboratory use. The glass is resistant to many harsh chemicals and is easily cleaned. The glass body also allows for a fast transfer of heat to the internal reference electrolyte. The mV generated by the reference cell is temperature dependent. The faster the electrode reaches equilibrium, the steadier the reference potential.

Double Junction Reference

A double junction electrode has an internal compartment surrounding the reference wire. Silver ions are present in the electrolyte of the internal compartment, which houses the Ag/AgCl reference wire; the electrolyte outside this compartment is silver free. The double junction design means that virtually no silver from the electrode enters the sample. This design allows measurement in applications where silver ions in the sample are undesirable or silver precipitates on the junction are likely to form.

Refillable

The HI3148B is a refillable probe. Since it is a single junction ORP electrode the fill solution is the HI7082 3.5M KCl. If using a refillable ORP electrode, the fill cap should be removed prior to measurement. Removing the cap creates positive head pressure in the reference cell allowing for higher flow rate of electrolyte through the outer junction. A higher flow rate will result in a faster and more stable reading.

BNC Connector

The HI3148B uses a BNC connector. This type of connector is universal in that it can be used on any pH/mV meter that has the female BNC probe input. Other type of connectors include DIN, screw type, T-type, and 3.5mm to name a few. These types of connectors tend to be proprietary for a particular type of meter and are not interchangeable.

Especificaciones

Intervalo	mV
Cuerpo	vidrio
Referencia	doble Ag/AgCl
Unión	CPS con manga móvil
Electrolito	KCl 3.5M o a preferencia del usuario
Presión máx.	0.1 bar
Tipo de punta	cilíndrica (dia. 3.5mm)
Temperatura de funcionamiento recomendada	0 a 60°C (32 a 140°F)
Cable	coaxial; 1m (3.3')
Aplicaciones	titulación de haluros, titulación argentométrica