



pH & ISE isoPod™ (Model EP353)



- Software controlled
- Plug and play installation
- Range up to ± 2 V
- High resolution (< 0.1 mV, < 0.001 pH)
- Isolation ensures minimal crosstalk

Description

A compact signal conditioner for use with **e-corder** units, the pH & ISE isoPod can be used to monitor most pH, ion selective and oxidation/reduction potentiometric (ORP) electrodes.

Compatibility

The pH & ISE isoPod is suitable for operation with combination potentiometric electrodes, including:

- ET042 Double Junction pH Electrode
- ET5733 Tuff Tip pH Electrode
- ET060 Redox (ORP) Electrode

Half cell electrodes require the use of a separate reference electrode which can be connected to the shell of the input BNC connector.

Use with Chart software version 5.5.6, or later, on Windows XP or later computers.

Applications

The EP353 pH & ISE isoPod can be used for real-time monitoring and analysis of pH, redox potential, or specific ion concentra-

tions (using a suitable ion selective electrode), during bench top experiments. Other applications include potentiometric titrations and the determination of the Nernstian response for a particular electrode or sensor.

Most dissolved CO_2 , and galvanic oxygen electrodes can also be used with this isoPod.

Calibration

The isoPod produces a raw millivolt output. Use the pH Calibration or Multipoint Calibration extensions of the Chart software to calibrate the signal, see:

- http://www.edaq.com/chart_extns_list.html

Theory of Operation

The pH & ISE isoPod consists of an electrometer grade amplifier configured as a unity gain, high input impedance buffer. As pH, and other concentration, measurements tend to change relatively slowly, low pass filters can be applied to reduce high frequency noise.

Electrical isolation ensures minimal interference from other sensors, e.g. from Clark-type polarographic oxygen electrodes.

Specifications

Input impedance:	$> 10^{13} \Omega \parallel 4 \text{ pF}$
Input leakage current:	$< 30 \text{ fA}$
Input ranges:	$\pm 100 \text{ mV}$, 5.3 – 8.7 pH $\pm 200 \text{ mV}$, 3.6 – 10.4 pH $\pm 500 \text{ mV}$, 0 – 14 pH $\pm 1 \text{ V}$, $\pm 2 \text{ V}$
Resolution:	16 bits, $< 0.1 \text{ mV}$, $< 0.001 \text{ pH}$
DC drift:	$< \pm 3 \mu\text{V}/^\circ\text{C}$
Frequency response:	DC – 1000 Hz
Low-pass filter ranges:	1 to 1000 Hz (in 1:2:5 steps)

DC offset error (maximum):	$< 1 \text{ mV}$
Amplifier noise:	$< 16 \mu\text{V rms}$
Input connector:	BNC
Gain error:	$< 0.1\%$ (2 V range), $< 0.5\%$ (200 mV range)
Linearity error:	$< 0.05\%$
Isolation:	$> 250 \text{ V rms}$
Dimensions (l x w x h):	108 x 58 x 35 mm (4.25" x 2.28" x 1.38")
Weight:	$\sim 200 \text{ g}$ (7 oz)
eDAQ Pty Ltd reserves the right to alter these specifications at any time.	

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