GAMRY INSTRUMENTS

Redefining Electrochemical Measurement

C3 PROZESS- UND ANALYSENTECHNIK

IMX8™ Electrochemical Multiplexer

The Gamry IMX8™ Electrochemical Multiplexer is designed for electrochemical applications where higher throughput is needed. The IMX8 Multiplexer connects up to eight electrochemical cells to one Gamry Potentiostat/Galvanostat/ZRA. This converts a single Potentiostat into a powerful instrument capable of automated sequential electrochemical experiments. Applications for the IMX8 include corrosion inhibitor testing, EIS evaluation of paints and coatings, monitoring of field probes for corrosion tests, chemical sensor development, specialty battery testing, microbial fuel cells, and many more.

The IMX8 works with Gamry's Reference 600+, Reference 620 and Interface 1000 and 1010 potentiostats. The Software control for the MX8 is integrated into selected Gamry application software packages.

The IMX8 was specifically designed for electrochemical tests. Each channel can be used to perform any number of electrochemical experiments. Additionally, each channel includes the capability to short the working and counter electrodes together even when not connected to the main potentiostat. This allows the channel to maintain a galvanic couple when necessary (such as a noise or galvanic corrosion experiment). Finally, each IMX8 channel has its own independent local potentiostat which can maintain the cell at constant polarization when the channel is off-line. The D/A Converter of the local potentiostat can also be used as a direct analog output, useful for controlling an ancillary apparatus such as a rotator.

Because of the flexibility of the IMX8 Multiplexer, it is possible to generate custom software scripts to employ the multiplexer in unusual applications. For example, different experiments can be run on different channels or a sequence of two LPR curves followed by an EIS curve can be run for a specific number of cycles. There's virtually no limit to the possibilities.

IMX8 stacked on an Interface 1010E

The IMX8 chassis is the same chassis used in our popular Interface potentiostat line. The bezels allow easy stacking of the IMX8 and an Interface potentiostat. The IMX8 will also fit inside of the Interface Power Hub.

IMX8 shown with one cable. The full system comes with eight cables.

*Selected Specifications**

Channel Characteristics	
Description	Value
Number of channels	8
Operational Modes	Active, Off, Local Pstat, Shorted
Channel switching time	<10 ms
Maximum Cell Current	1 A
Current Leakage to active channel pin from any source	< 2 nA
Impedance to chassis ground	>500 MΩ || < 20 pF
Local Potentiostat	
Description	Value
Compliance Current	+/- 30 mA (@500 Ω load)
Compliance Voltage	+/- 11 V (@1 kΩ load)
Applied Voltage Range	+/- 5 V
Resolution (16-bit)	78.125 uV / bit
Reference input current	< 50 pA
Power Input	
Description	Value
Input Voltage	48 V
Input Current	2.1 A

System Information

The IMX8 Multiplexer is protected by a limited 2-year factory-service warranty. Gamry Instruments offers selected multiplexed electrochemical measurement systems for the IMX8. The DC Corrosion and EIS software packages support the IMX8 with built-in multiplexed scripts. Contact Gamry for the custom multiplexed experiments. 1.5, 4.5, and 9 meter cables are available. The IMX8 only interfaces to an Interface 1000, 1010 or Reference 600+ or 620 potentiostat running on a Windows 10 (or newer). Older potentiostats and the high current systems Interface 5000 and Reference 3000 are not supported.

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