

# XP20 / XP40

## High power potentiostat



### Two configurations:

- XP20:  $\pm 20\text{A} / \pm 20\text{V}$
- XP40:  $\pm 40\text{A} / \pm 10\text{V}$

#### System performance

Current compliance	$\pm 20\text{A}$	$\pm 40\text{A}$
Maximum output voltage	$\pm 20\text{V}$	$\pm 10\text{V}$
Electrode connections	4: WE, CE, RE, S (and GND)	
Potentiostat bandwidth	>500kHz,	
Acquisition	3 stability settings, 5 programmable response filters, dual channel 16bit ADC, 100,000 samples/s	

#### Potentiostat

Applied potential range	$\pm 10\text{V}$ , 0.333mV res.
Applied potential accuracy	0.2%, or 2mV
Current ranges	$\pm 10\text{nA}$ to $\pm 10\text{A}$ in 10 decades
Measured current resolution	0.015% of CR, min. 0.15pA
Measured current accuracy	0.2%

#### Galvanostat

Applied current resolution	0.033% of applied CR
Applied current accuracy	0.2%
Potential ranges	$\pm 1\text{mV}$ , $\pm 10\text{mV}$ , $\pm 100\text{mV}$ , $\pm 1\text{V}$ , $\pm 10\text{V}$
Measured potential resolution	0.003% of E-range, min. 40nV
Measured potential accuracy	0.2% or 2mV

#### Electrometer

Input impedance	$>1000\text{Gohm} // <20\text{pF}$
Input bias current	$<20\text{pA}$
Bandwidth	$>5\text{MHz}$

#### Impedance analyser

Frequency range	10µHz to 500kHz
Amplitude	0.015mV to 1.0V, or 0.03% to 100% of CR
DC offset	16bit DC offset subtraction and 2 DC-decoupling filters

#### Peripheral connections

Temperature input	K-type thermocouple, 0-150degC $\pm 2\text{degC}$
Analog in/out	2/1 ( $\pm 10\text{V}$ , 16bit res.)
Digital in/out	1/3 (0 to +5V)
AC out	$\pm 0.5\text{V}$ sinewave
Channel-X/Channel-Y	to record impedance from peripheral devices

#### Environment

Power requirements	100-240V, 45-65Hz, 20VA
Interfacing	USB
Size (w x d x h)	45 x 37 x 10cm
Weight	16kg
PC requirements	Windows 7/8/10, with free USB port