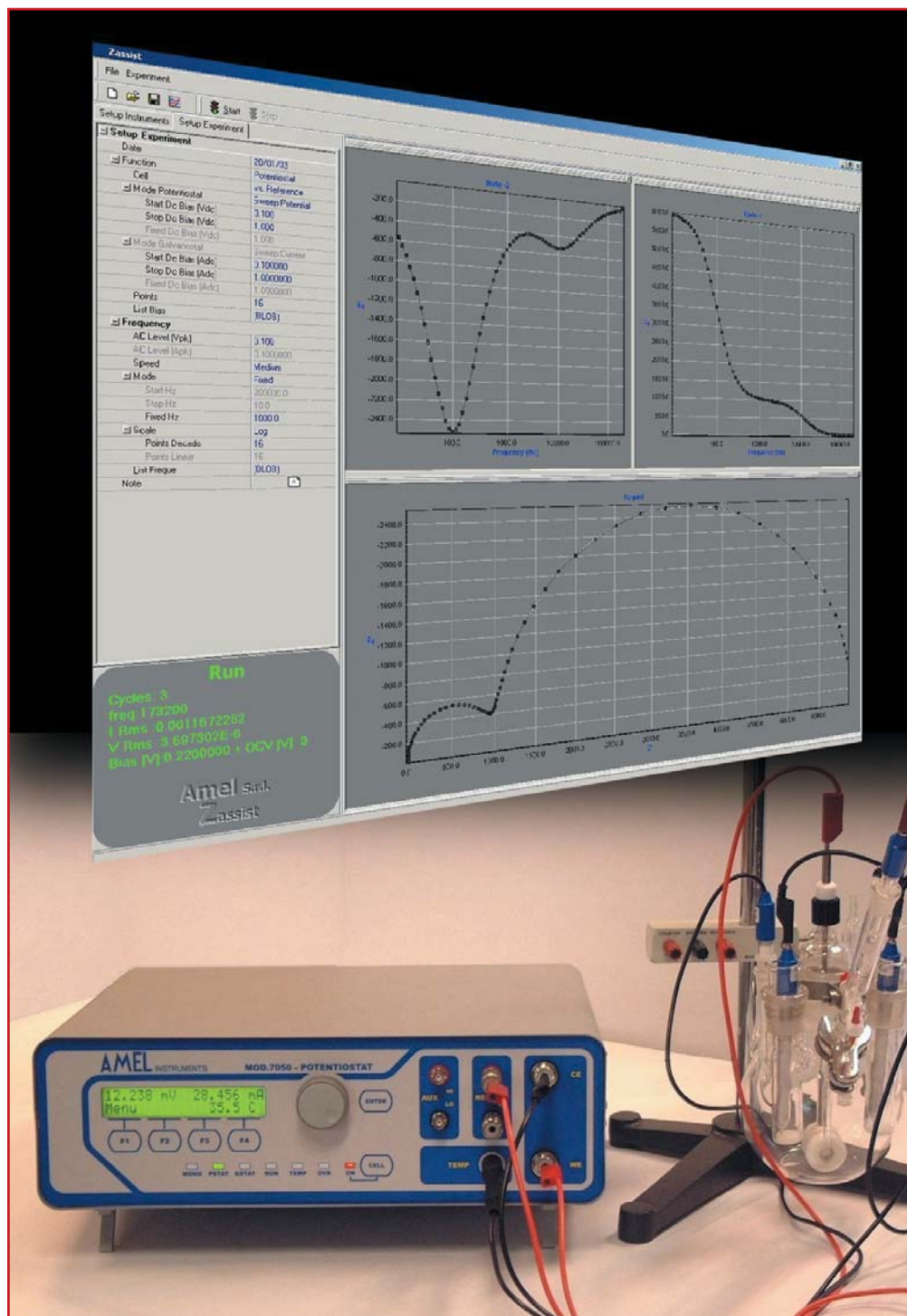


Model 7050

AMEL
INSTRUMENTS

potentiostat - galvanostat



A new standard for performances and flexibility

When designing a new instrument, it is important to have a high level of knowledge and creativity to be able to significantly increase performance, as well as a great deal of experience with scientist to be able to offer user friendly operation.

AMEL combined its 40 years of experience in Potentiostat design with the latest electronic technology to produce a Potentiostat-galvanostat that expands the standard measuring limits and simplifies the researcher's task.

With a unique blend of power (up to 45V and 4A) and sensitivity (200 fA maximum resolution) the Model 7050 potentiostat-galvanostat accomplishes the most difficult tasks in electrochemistry today.

All of the desired measuring techniques (cyclic voltammetry with current interrupt IR-compensation, and electrochemical impedance spectroscopy with an optional frequency response analyser) are available at your fingertips. Additional features include two full input range electrometers and temperature probe input, to allow the exploration of internal interfaces, electrode double layers, and thermoelectric potentials.

The instrument has an easy to operate front panel and full computer control through either an RS232 or USB interface. The Model 7050 is compatible with the new AMEL windows-based software **Master Assist** able to manage multiple runs and complex experimental sequences. Take advantage of these new developments today!



Model 7050

Technical specifications

Counter electrode

Voltage output	2 ranges : +/- 45 +/-16 Volt (user selectable) Positive only output (mono position) for full current span on batteries
Current output	+/- 1.5 A max (45 V range) +/- 4 A max (16 V range)
Slew rate	> 10 V / μ S
Protection	full thermal, overload and short-circuit protected

Working electrode

Current measure	5A-5nA Full Scale in 10 ranges
Current resolution	From 200 μ A at 5 A F.S. to 200 fA at 5 nA F.S.
Measuring accuracy	0.2 % +/- 0.1% f.s.

Reference electrodes

Input impedance	> 1 T Ω m
Input capacitance	< 20 pF (with 1 m cable and guard enabled)
Biassing current	< 10 pA @ 25 C $^{\circ}$
Common mode rejection	> 50 dB full frequency response
Common mode voltage range	+/- 45 V
Input BNC	Outer contact grounded or guarded

Polarisation capabilities

voltage	+/- 45 or +/-5 V
current	+/-1.5 A at +/- 45 V compliance +/-4.0 A at +/- 16 V compliance
voltage resolution	2 mV - 200 μ V
max current resolution	200 fA
accuracy	+/- (0.2% +0.1% F.S.) worst case

Electrochemical techniques

polarisation sweep	Ramp, staircase, triangle, square wave
real part managing	IR compensation or current interruption technique
limits of IR compensation	0-400 % of the R _s
current interruption capabilities	100 μ S-5 mS time 1-255 on/off ratio

Frequency Response

Potentiostatic bandwidth (max)	1 MHz (-3dB) resistive load (100 Ω m)
Galvanostatic bandwidth (max)	100 KHz (-3dB) resistive load (100 Ω m)
Frequency bands	1 MHz (Potentiostatic only) , 100 KHz, 20 KHz , 5 KHz

Meters and interfaces

Voltmeters & Ampere meters	+/- 25000 counts 20% overload allowed
Temperature meter	-200 + 500 C $^{\infty}$ with PT100 probes 0.1C $^{\circ}$ resolution 0.2C $^{\infty}$ accuracy
Sampling rate	50 readout / sec (included data transmission)
Sampling techniques	Synchronous sampling on current interrupt and on pulse voltammetry
Digital interface	USB and RS 232 with full instrument control

Power supply and size

Voltage mains	115 / 230 V ranges (+/- 10%)
Power consumption	90 VA max
Size & weight	400 x 430 x 135 mm (L x W x H) Kg 12 (rackmount brackets excluded)

Operating mode

Potentiostatic - Galvanostatic

Cell connections

1,2,3,4 electrodes with guard

Ancillary units and accessories

FRA Model 7200

- 100 μ Hz / 1MHz freq. Range
- Fully computer controlled
- Zassist software for EIS

Polarisation Cells for corrosion testing Model 596/597/599

- ASTM std. Compliant
- Stirred/heated/gas bubbling

High-temperature sample holder Model 696

- -150 + 1200 C $^{\circ}$ range
- controlled atmosphere
- thermocouple well

High-temperature oven Model 697

- 20 - 1200 C $^{\circ}$
- continuous use
- computer programmable
- Zassist, Master Assist i/f

In addition to these specific accessories, a complete range of standard and selective electrodes is available from AMEL. Please request the brochure or visit the web site

