

Analytical Electrochemistry Price List



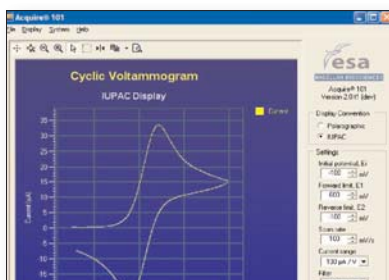
EI-400 Bipotentiostat, pg 3.



Omni 101, pg 3.



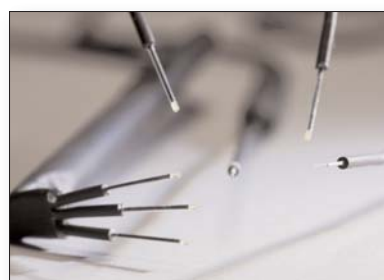
CS-1200, pg 3.



Data Acquisition, pg 3.



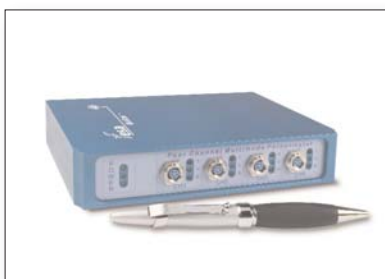
FCV System, pg 6.



Nitric Oxide Probes, pg 6.



Electrodes, pg 7 - 16.



BioStat System, pg 3.



FCV Software, pg 4.

Potentiostats	Computer-Controlled Potentiostat	66-CS1200	\$ 12,000.00
	<i>Includes:</i> Potentiostat, Computer with 66-CS1200 software installed, interface card, cell cable, power supply and manual. Computer Specs*: 2.4 GHz, 256 MB RAM, CDROM, floppy disk, network card, 80 GB hard disk, 15" monitor, Windows XP operating system, keyboard and mouse.		
	▶ <i>Note: Computer specifications subject to change without notice</i>		
	Microprocessor controlled Analog Potentiostat	66-OMNI101B	4,290.00
	Designed for external high speed data collection <i>Includes:</i> Potentiostat, Acquire 101 software, RS-232 cable, cell cable and manual		
	EI-400 Bipotentiostat with two Standard Preamps	66-EI400	8,530.00
	<i>Includes:</i> Potentiostat, cell cables, two standard preamps (100 nA/V to 100 pA/V) and manual. Customer may substitute a set of low sensitivity preamps (1 mA/V to 1 uA/V) or a set of High Sensitivity preamps (10 nA/V to 10 pA/V) for no additional cost at the time of order		
	BioStat™ System	67-0001	7,999.00
	<i>The BioStat System is a state-of-the-art multi-mode potentiostat designed to be used with a wide range of electrochemical sensors and electrodes</i> <i>Includes:</i> Multi-channel potentiostat, cables, connectors, installation software CD, drivers and instruction manual		

DATA ACQUISITION	Acquire-101 Data Acquisition Software for Omni-101	66-ACQUIRE101	\$ 270.00
	<i>Includes:</i> Acquire 101 software and RS-232 cable		
	▶ <i>Note: This software is included with the OMNI-101 Analog PStat.</i>		

FCV SOFTWARE

TH-1 Electroanalysis Software

The TH-1 electroanalysis software is the first applications software developed specifically for fast cyclic voltammetry (FCV). It is designed around the National Instruments and LabView platforms. The software creates the applied waveform, controls peripheral devices such as stimulators, collects and processes the data and displays it in a unique 3D format. It is designed to control and accept data from the EI-400 bipotentiostat. However, it is very flexible and can be used with other systems.

TH-1 Software with Interface Box

67-0035 \$ 6,500.00

Includes: complete software, interface box and manual

Note: It is ready for installation on your computer* equipped with two National Instruments NI PCI-6221 (NI Catalog 779066-1) and two cables (NI Cat 192061-02).

TH-1 Software with Interface Box

67-0044 8,400.00

Includes: complete software, interface box, two National Instrument cards, cables and manual

TH-1 Software with Interface Box

67-0046 11,400.00

Includes: complete software, interface box, two National Instrument cards, cables, compatible computer and manual

* All computer workstations intended for use with the TH-1 software must meet or exceed the following requirements:

- CPU: Intel Pentium® 2.0 GHz to 2.32 GHz
- Hardware: 256K cache, integrated graphics video capable of 1024x768 high color, 16 bit
- 256 MB SDRAM
- 40 GB hard disk drive (HDD)
- 104-key keyboard
- Operational at 100-240 VAC, 50/60 Hz
- Two open PCI slots on motherboard
- Display: 17" LCD flat panel monitor, CE certified
- Software: Microsoft® Windows® XP Professional

Accessories for Potentiostats

Flow Injection Module (Pump & Injection Valve)	66-FIA003	\$ 4,160.00
This module is designed for flow experiments using the CL010 Cell. <i>Includes:</i> Peristaltic pump, sample injection valve with 100 μ L loop. A pulse damper (66-PD011) can be ordered separately, see below.		

Preamplifiers

Preamp, Standard, for EI-400	66-400B	490.00
Preamp, High Sensitivity, for EI-400	66-400BH	490.00
Preamp, Low Sensitivity for EI-400	66-400BL	490.00

Replacement Parts for Potentiostats

Replacement Cell Cable for CS1090 or CS1200	66-CS1200CC	170.00
Replacement Cell Cable for OMNI-101	66-OMNI101CC	54.00
Replacement Cell Cable for OMNI-90	66-OMNI90CC	CALL
Replacement Power Supply for CS-1090 or CS-1200	66-CS1200PS	170.00

Reaction Cells and Accessories

Standard Reaction Cell for EE Series Electrodes (2-3 ml)	66-CL008	41.00
A glass, conical bottom reaction cell with stir bar. Total capacity of 2-3 ml for analysis of solution volumes as low as 100 μ l. Outside dimensions: 5cm H x 2cm O.D. <i>Includes:</i> Cell, cell cover, 66-CL005, and a spin bar, 66-CL002		
Flow-through Reaction Cell for EE Series PEEK Electrodes	66-CL010	810.00
A flow-through reaction cell designed for rapid interchange of EE Series PEEK electrodes. Can be operated in radial flow, wall-jet or laminar flow (flow-by) modes. Constructed of Kynar® and PEEK®. Dimensions: 2.54cm H x 4.5cm O.D. <i>Includes:</i> Cell body, two styles of gaskets (one each), counter electrode, a "no leak" reference electrode, 66-EE009, and a choice of PEEK working electrode (choose from EE040, EE041, or EE046 electrodes, PEEK tubing and instruction manual.		
Replacement Stir Bar for CL008	66-CL002	17.00
Replacement Cell Cover for CL008	66-CL005	18.00
Cell Holder for CL008	66-CL007	65.00
Companion Cell for AE Series electrodes, 20mL with 5 Ground Glass Joints	66-ACL011	160.00
This 20mL reaction cell has five (5) tapered ground glass joints on top for fitting three AE series electrodes, a bubbler, etc. The ground glass joints can provide an airtight seal.		
Gas Bubbler for AE Series Cell	66-AB150	81.00
Pulse Damper for Flow Injection Module	66-PD011	330.00
Faraday Cage	66-FR001	540.00
<i>Includes:</i> Faraday cage and grounding cable		

SYSTEMS

BioStat Nitric Oxide System 67-0012 \$ 8,650.00

Includes: multi-channel potentiostat, cables, connectors, installation software CD, drivers, vertical stand, nitric oxide sensor with 600 micron tip, 3.5 mm stereo triad adapter and instruction manual

Fast Cyclic Voltammetry Systems

Now for the first time software and potentiostat are brought together for a complete system for Fast Cyclic Voltammetry (FCV). This system is available with all the software options of the TH-1 electroanalysis software, along with the EI-400 bipotentiostat with standard preamps.

FCV System with TH-1 Software only 66-0225 13,530.00

FCV System with TH-1 Software and National Instrument Cards 66-0226 15,430.00

FCV System with TH-1 Software and National Instrument Cards and Computer 66-0227 18,030.00

SENSORS

Nitric Oxide Probes for the BioStat System

AmiNO-700/600 Nitric Oxide Probe, 600 micron tip, 2/pkg. 67-0024 480.00
Requires adapter 67-0008

AmiNO-100 Nitric Oxide Probe, 100 micron tip, 2/pkg. 67-0026 373.00
Requires adapter 67-0008

AmiNO-30 Nitric Oxide Probe, 30 micron tip, 2/pkg. 67-0029 320.0
Requires adapter 67-00080

AmiNO-7 Nitric Oxide Probe, 7 micron tip, 2/pkg. 67-0030 320.00
Requires adapter 67-0008

AmiNO-2000 Nitric Oxide Probe, 2000 micron tip 67-0028 480.00
Requires adapter 67-0008

AmiNO-Flat Nitric Oxide Probe 67-0027 587.00
Requires adapter 67-0008

AmiNO-IV Nitric Oxide Probe 67-0025 453.00
Requires adapter 67-0008

Other Probes for the BioStat System

Oxy-2 Oxygen Probe 67-0031 400.00

pH Electrode 67-0050 390.00

Glutamate Biosensor 67-0038 205.00
Requires cable 67-0039

Carbon Filter Electrodes

CF-E5, Plain Carbon Fiber Electrode for EI-400, 5 μ , 5/pkg. 67-0033 78.00

EE Series Mini- and Micro- Working Electrodes

EE Series Electrodes

EE Series electrodes are designed to work with the CL008 Standard cell and CL010 All-purpose cell. EE series working electrodes are available in Gold, Platinum and Glassy Carbon and sealed in either glass (for aqueous) or PEEK (for non-aqueous environments). PEEK is recommended for use with organic solvents.

	Barrel	Part No.	Price
Mini-Electrodes (7cm in length)			
Gold, Working Electrode, 1mm ID x 3mm OD	Glass	66-EE006	\$ 170.00
Platinum, Working Electrode, 1mm ID x 3mm OD	Glass	66-EE007	170.00
Platinum Counter Electrode (Auxiliary)		66-EE011	81.00
<i>This Auxiliary electrode contains a Platinum element.</i>			
Glassy Carbon, 1mm ID x 3mm OD	PEEK	66-EE040	220.00
Platinum, Working Electrode, 1mm ID x 3mm OD	PEEK	66-EE041	170.00
Gold, Working electrode, 1mm ID x 3mm OD	PEEK	66-EE046	170.00
Glassy Carbon, Working Electrode, 3mm ID x 6mm OD	Glass	66-EE047	220.00
Micro-Electrodes (7cm in length)			
Gold, Working Electrode, 10 µm ID x 3mm OD	Glass	66-EE015	190.00
Gold, Working Electrode, 100 µm ID x 3mm OD	Glass	66-0087	330.00
Platinum, Working Electrode, 10 µm ID x 3mm OD	Glass	66-EE016	190.00
Glassy Carbon, Working Electrode, 10 µm ID x 3mm OD	Glass	66-EE017	190.00
EE Series Reference Electrodes			
Ag/AgCl, Reference Electrode, Mini, The barrel is made of clear Teflon®, to easily view the level of the internal filling solution. The white opaque Teflon cap can be unscrewed to fill the barrel. The barrel can be filled with your non-aqueous solvent and used as a non-aqueous reference. This design works seamlessly with our mini-cell CL008 and mini-electrodes.	Teflon	66-EE008	170.00
Reference Electrode with Fiber Junction Barrel, Mini		66-EE008FJ	170.00

EE Series *continued.*

	Barrel	Part No.	Price
Ag/AgCl "No leak" Reference, Micro With the "no-leak" reference there is no need to worry about silver or chloride contamination. This electrode has a unique "no-leak" junction and has a barrel made of premium quality PEEK® for superior chemical resistance and leakage prevention and has been tested for use with organic solvents	PEEK	66-EE009	\$ 210.00
Ag/AgCl "No leak" Reference Electrode 47mm x 2mm OD	PEEK	66-0059	295.00
Ag/AgCl "No leak" Reference Electrode 120mm x 2mm OD	PEEK	66-0063	290.00
Ag/AgCl "No leak" Reference Electrode 240mm x 2mm OD	PEEK	66-0065	290.00
Ag/AgCl "No leak" Reference Electrode 67mm x 1/16 inch OD	PEEK	66-EE009FC	Call

EE Series Electrode Kits

Mini-Electrode Kit in Glass <i>Includes:</i> Series EE electrodes (66-EE040, 66-EE006, 66-EE007, 66-EE008, 66-EE011, 66-CL007) and 2 each 66-CL008 cells		66-EE012	810.00
Micro-Electrode Kit in Glass <i>Includes:</i> Series EE electrodes (66-EE015, 66-EE016, 66-EE017, 66-EE008, 66-EE011, 66-CL007) and 2 each 66-CL008 cells		66-EE013	920.00
Mini-Electrode Kit in PEEK <i>Includes:</i> Series EE electrodes (66-EE040, 66-EE041, 66-EE046, 66-EE008, 66-EE011, 66-CL007) and 2 each 66-CL008 cells		66-EE014	810.00

Accessories and Replacement Parts for EE Electrodes

Electrode Maintenance Kit <i>Includes:</i> 66-PL008MC, 66-PL009 and glass polishing plate.		66-PL010	54.00
Electrode Polishing Kit <i>Includes:</i> 66-PL008NY, 66-PL008MC, 66-PL009, 66-PL012, 66-PL013 and glass plate		66-PL008	210.00
Alumina Slurry, 0.05µm, for 66-PL008		66-PL009	27.00
Nylon Polishing Pads, 5/pkg		66-PL008NY	39.00
Microcloth Polishing Pads, 5/pkg		66-PL008MC	44.00
Diamond Paste, 1µm, 5 g tube		66-PL012	81.00
Diamond Paste, 0.25µm, 5 g tube		66-PL013	81.00
Barrel, Replacement, Fiber, for EE008		66-EE008A	39.00
Barrel, Replacement, Ceramic, for EE008		66-EE008B	39.00
Barrel, Replacement, Glass with Ceramic Junction, for EE008		66-EE008C	29.00
Ceramic Frits, 5/pkg.		66-EE008D	48.00

AE Series Working Electrodes

AE Series Micro- Working Electrodes - Glassy Carbon, Gold and Platinum

AE Series electrodes are available in Gold, Platinum and Glassy Carbon and are encased in glass. These electrodes are available in fixed or adjustable length and are designed to work with the 5-neck ACL011 Reaction Cell with tapered ground glass joints. The standard fixed length is 11.5cm and the adjustable length is 11.5cm \pm 14 mm.

The AE series electrodes are fitted with a tapered joint to fit the 5-neck Companion Cell ACL011.

Fixed Length AE Series Electrodes

Type	Barrel (cm)	Diameter (μ m)	Part No.	Price
Platinum	11.5	0.6	66-AE051	\$ 650.00
Platinum	11.5	1	66-AE052	580.00
Platinum	11.5	2	66-AE053	440.00
Platinum	11.5	10	66-AE054	320.00
Platinum	11.5	25	66-AE055	310.00
Platinum	11.5	50	66-AE056	310.00
Platinum	11.5	100	66-AE057	310.00
Platinum	11.5	250	66-AE058	310.00
Platinum	11.5	500	66-AE059	310.00
Gold	11.5	5	66-AE061	420.00
Gold	11.5	10	66-AE062	390.00
Gold	11.5	60	66-AE063	330.00
Gold	11.5	125	66-AE064	320.00
Glassy Carbon	11.5	5	66-AE071	470.00
Glassy Carbon	11.5	7	66-AE072	420.00
Glassy Carbon	11.5	11	66-AE073	370.00

Adjustable Length AE Series Electrodes

Type	Barrel (mm)	Diameter (μ m)	Part No.	Price
Platinum	11.5cm \pm 14	0.6	66-AE101	700.00
Platinum	11.5cm \pm 14	1	66-AE102	650.00
Platinum	11.5cm \pm 14	2	66-AE103	490.00
Platinum	11.5cm \pm 14	10	66-AE104	380.00
Platinum	11.5cm \pm 14	25	66-AE105	370.00
Platinum	11.5cm \pm 14	50	66-AE106	370.00
Platinum	11.5cm \pm 14	100	66-AE107	350.00
Platinum	11.5cm \pm 14	250	66-AE108	350.00
Platinum	11.5cm \pm 14	500	66-AE109	350.00
Gold	11.5cm \pm 14	5	66-AE111	480.00
Gold	11.5cm \pm 14	10	66-AE112	410.00
Gold	11.5cm \pm 14	60	66-AE113	380.00
Gold	11.5cm \pm 14	125	66-AE114	370.00
Glassy carbon	11.5cm \pm 14	5	66-AE121	530.00
Glassy carbon	11.5cm \pm 14	7	66-AE122	490.00
Glassy carbon	11.5cm \pm 14	11	66-AE123	440.00

AE Series Auxiliary (Counter) Electrodes

AE Series Auxiliary Ag/AgCl electrodes are available in Fixed (11.5cm) and Adjustable (11.5cm ± 14mm)

Fixed, 11.5cm	66-AE091	\$ 180.00
Adjustable to 11.5mm ±14mm	66-AE141	220.00

AE Series Reference Electrodes

Ag/AgCl, fixed, 11.5cm	66-AE081	180.00
Ag/AgCl, adjustable to 11.5mm ± 14mm	66-AE131	210.00

Accessories for AE Series Electrodes

Companion Cell for AE Series electrodes, 20mL with 5 ground glass joints This 20 mL reaction cell has five (5) tapered ground glass joints on top for fitting three AE series electrodes, a bubbler, etc. The ground glass joints can provide an airtight seal.	66-ACL011	160.00
Gas Bubbler for AE Series Cell	66-AB150	81.00
Cell Holder for ACL011 5-Neck Cell	66-ACL010	200.00
Polishing Tool for AE Series Electrodes	66-APL010	350.00

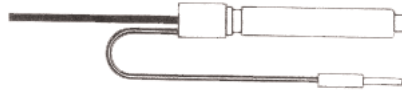
EE Series Auxiliary (Counter) Electrodes

Platinum Counter Electrode, 5cm long, 0.457mm OD	66-EE011	81.00
--	----------	-------

pH Electrode Connectors

SC

U.S. Standard
Combination Plug



BC

BNC Coaxial Plug



MA

Miniature Phone "A"



MB

Miniature Phone "B"



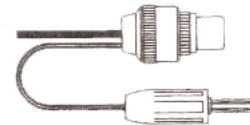
RA

Radiometer (after 1975)



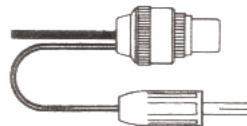
BB

Belling-Lee w/Banana Plug



BP

Belling-Lee w/British Pin



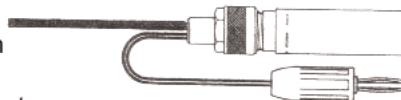
DN

Coaxial Plug for
DIN 19262 socket



DB

Coaxial Plug with
banana plug for
DIN 196262 socket



pH Electrodes

pH Electrodes

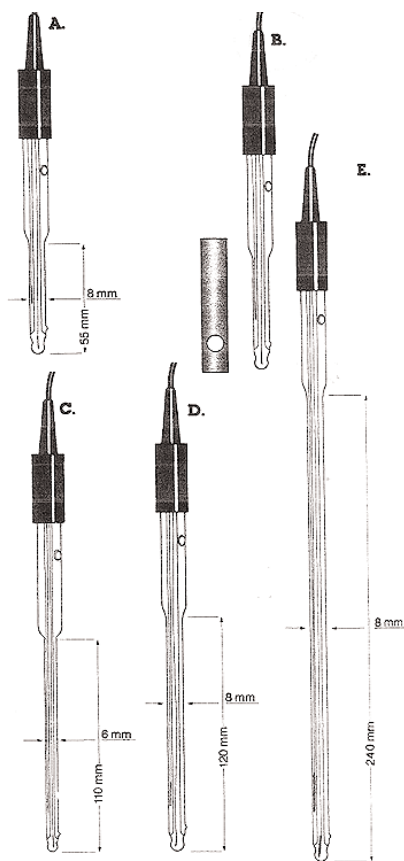
High quality glass and polymer encased pH electrodes with small diameter stems that are particularly useful for electrochemical reaction cell applications.

Combination Electrodes

These Ag/AgCl Combination Electrodes feature narrow insertion stems that allow measurements of small samples inside of test tubes and narrow neck vessels. Available in several different stem lengths.

► *Note: Please see pg 10 for connector and cable options.*

Ag/AgCl, Standard, 8mm OD x 55mm Long, Figure A	66-C1381A-121	\$ 92.00
Ag/AgCl, Standard, with Removable Guard, 8mm OD, Figure B	66-C1382A-121	92.00
Ag/AgCl, 6mm OD x 110mm Long, Figure C	66-C1361A-121	Call
Ag/AgCl, 8 mm OD x 120mm Long, Figure D	66-C1383A-121	130.00
Ag/AgCl, 8mm OD x 240mm Extra Long, Figure E	66-C1384A-121	Call

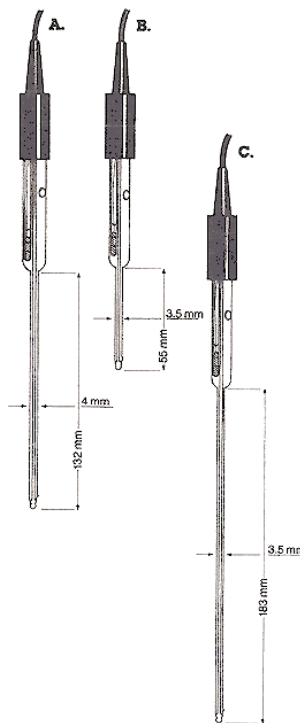


pH Electrodes *continued*

Micro-pH Combination Electrodes

These electrodes feature ultra-thin insertion stems and miniature pH bulbs for measurement of the smallest of samples. Extra long stem lengths are available for access to long stem vessels, such as flow cells or NMR tubes.

► *Note: Please see pg 10 for connector and cable options.*



4 mm OD x 132 mm (Figure A)	with BNC connector	66-0088	\$ 180.00
	with SC connector	66-0089	180.00
	with MA connector	66-0090	180.00
	with MB connector	66-0091	180.00
	with RA connector	66-0092	180.00
	with BB connector	66-0093	180.00
	with BP connector	66-0094	180.00
	with DN connector	66-0095	180.00
	with DB connector	66-0096	180.00
3.5 mm OD x 55 mm (Figure B)	with BNC connector	66-0067	180.00
	with SC connector	66-0097	180.00
	with MA connector	66-0098	180.00
	with MB connector	66-0099	180.00
	with RA connector	66-0100	180.00
	with BB connector	66-0101	180.00
	with BP connector	66-0102	180.00
	with DN connector	66-0103	180.00
	with DB connector	66-0104	180.00
3.5 mm OD x 183 mm (Figure C)	with BNC connector	66-0069	210.00
	with SC connector	66-0105	180.00
	with MA connector	66-0106	180.00
	with MB connector	66-0107	180.00
	with RA connector	66-0108	180.00
	with BB connector	66-0109	180.00
	with BP connector	66-0110	180.00
	with DN connector	66-0111	180.00
	with DB connector	66-0112	180.00

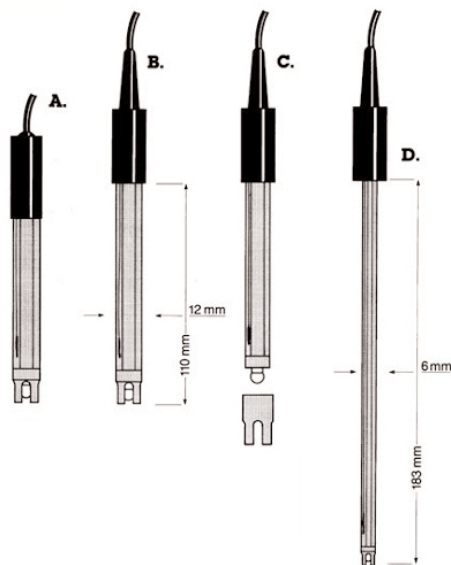
pH Electrodes *continued*

Polymer Bodied pH Combination Electrodes

Designed for applications where rough handling and breakage are major problems, the bodies of these electrodes are made from impact resistant epoxy tubing. Particularly Suited for use with portable pH meters in the field and to make spot check measurements of production processes.

► *Note: Please see pg 10 for connector and cable options.*

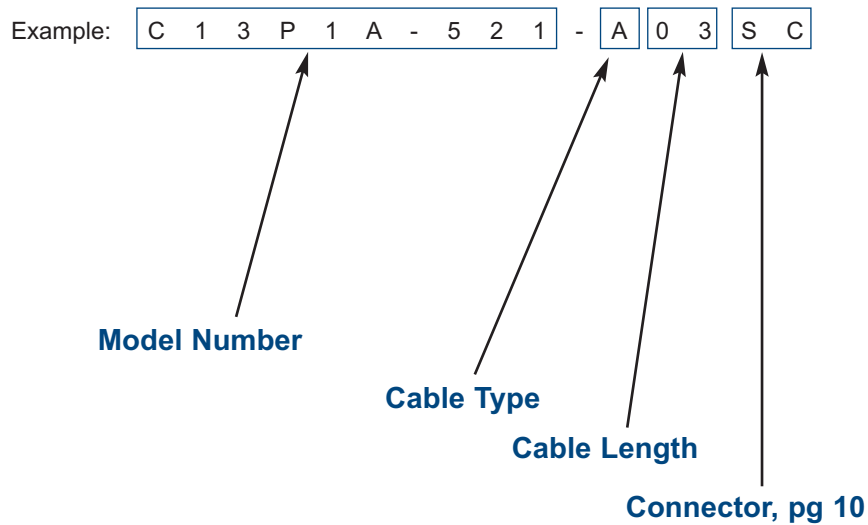
Poly, Ag/AgCl, 12mm OD, Sealed, Figure A	66-C2451C-12A	\$ 65.00
Poly, Ag/AgCl, 12mm OD, Refillable, Figure B	66-C2507A-121	81.00
Poly, Calomel, 12mm OD, Refillable, Figure B	66-C2507A-125	81.00
Poly, Ag/AgCl, 12mm OD, Gel Sealed, Figure B	66-C2507A-12A	81.00
Poly, Calomel, 12mm OD, Gel Sealed, Figure B	66-C2507A-12Y	81.00
Removable Guard, Ag/AgCl, Refill, 12mm OD, Figure C	66-C2506A-121	87.00
Removable Guard, Ag/AgCl, Sealed, 12mm OD, Figure C	66-C2506A-12A	87.00
Long Narrow Stem, 6m OD x 183mm Long, Figure D	66-C2369A-12A	Call



How to Order an Electrode

Please read the following information prior to order placement. There are four parts of information required for each item:

1. Electrode Model Number - Each electrode has a ten character model number.
2. Cable Type - All lab electrodes are equipped with Type A, low noise, 3mm, coaxial cable.
3. Cable Length - The cable length is expressed in feet immediately after the cable type.
Example: "-A03" stands for a three foot cable which is standard for all our electrodes.
Follow model numbers by a "-DK" for a threaded electrode cap.
4. The cable length is followed by a two letter designation for the proper connector.



WARRANTY INFORMATION

There is a one-year manufacturer's warranty if an electrode is defective.

ORDERING INFORMATION

To place an order, please contact us by
Telephone: **(800) 959-5095** or (978) 250-7000
Fax: (978) 250-7090
Email: sales@esainc.com

In order to expedite same day shipments, please call before 3 p.m. Eastern Time.

These prices are valid only in the United States. All prices are subject to change without prior notice.

TERMS OF SALE: F.O.B. Factory. TERMS OF PAYMENT: Net 30 Days.
MINIMUM ORDERS: \$50.00 (Below this minimum, a \$20.00 processing fee will be charged.)

RETURN OF PRODUCTS: All sales are final. Written permission must be obtained from ESA prior to returning any product. A 20% restocking fee will be charged.

For Research Use Only.



ESA Biosciences, Inc.
Chelmsford, MA 01824-4171 USA
(978) 250-7000
Sales (800) 959-5095
Technical Support (800) 235-2436
Fax (978) 250-7090
www.esainc.com
An ISO 9001 and 13485 Certified Company

Specifications subject to change without notice. Cypress Systems and ESA are registered trademarks of ESA Biosciences, Inc. All other trademarks are property of their respective owners. Optimal performance may be affected by variables beyond ESA's control and may only be achieved by careful consideration of all materials, instruments and procedures as recommended by ESA. For additional information please contact ESA Biosciences or its representatives.

70-6241PP
Rev F
08/16/2007