PalmSens
Compact Electrochemical Interfaces

Catalog

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Compact Electrochemical Interfaces

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*Multi*Em-Stat*3*

| 4 channel multipotentiostat with EmStat3 modules | **Page 8:** **MES3-04CH** |

*Multi*Em-Stat*3* and *3+*

| 4[1], 8 or 12 channel multipotentiostat with EmStat3 or EmStat3+ modules | **Page 8:** **MES3-08CH** **MES3-12CH** **MES3P-04CH** **MES3P-08CH** **MES3P-12CH** |

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| Polypotentiostat for use with up to 4 working electrodes | **Page 9:** **ES3-04WE** |

PalmSens accessories

Multiplexer with 8 or 16 channels. See page 5 for connection options.	**Page 9:** **MUX08-5T** **MUX08-4L** **MUX08-5L** **MUX16-4L** **MUX16-5L**
Mobile expansion pack, including: ▪ PalmSens Bluetooth extension ▪ Samsung Galaxy tab A 7.0 (black)	**Page 10:** **BT-PS2** **BT-PS3** **TABLET**
Stirrer including switchbox for automatic stirrer control.	**Page 15:** **STIRRER-DIN** **STIRRER-D15**
Switchbox for automatic stirrer control or other external device.	**Page 15:** **SWITCH-DIN** **SWITCH-D15**

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[1] 4 channel MultiEmStat3+ comes in same housing as 8 or 12 channel MultiEmStat.

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Pt1000 temperature sensor	**Page 15:** **PT1000-DIN** **PT1000-D15**

Differential Electrometer Amplifier	**Page 11:** **DEA-5T-001** **DEA-4L-001** **DEA-5L-001**

Only available for PalmSens3:

BiPot module (installed in-factory)	**Page 11:** **BIPOT-PS3**

EmStat accessories

EmStat accessories can only be used with the EmStat Blue series.

Multiplexer with 8 or 16 channels. See page 5 for connection options.	**Page 9:** **MUX08-4L** **MUX08-5L** **MUX16-4L** **MUX16-5L**

Mobile expansion pack, including: ▪ Samsung Galaxy tab 4 7.0 (black)	**Page 10:** **TABLET**

Stirrer including switchbox for automatic stirrer control.	**Page 15:** **STIRRER-D15**

Switchbox for automatic stirrer control or other external device.	**Page 15:** **SWITCH-D15**

Pt1000 temperature sensor	**Page 15:** **PT1000-D15**

Differential Electrometer Amplifier	**Page 11:** **DEA-4L-001** **DEA-5L-001**

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Multiplexer accessories

Option A: High density cable with stripped leads

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CBL-HD-MUX08
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Multiplexer (PalmSens or EmStat)

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MUX08-5L
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Option B: Connection Terminal with screw terminals in housing

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CTMUX08-ST
CTMUX16-ST

Option C: Connection Terminal with sensor cables

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CTMUX08-EXT
CTMUX16-EXT
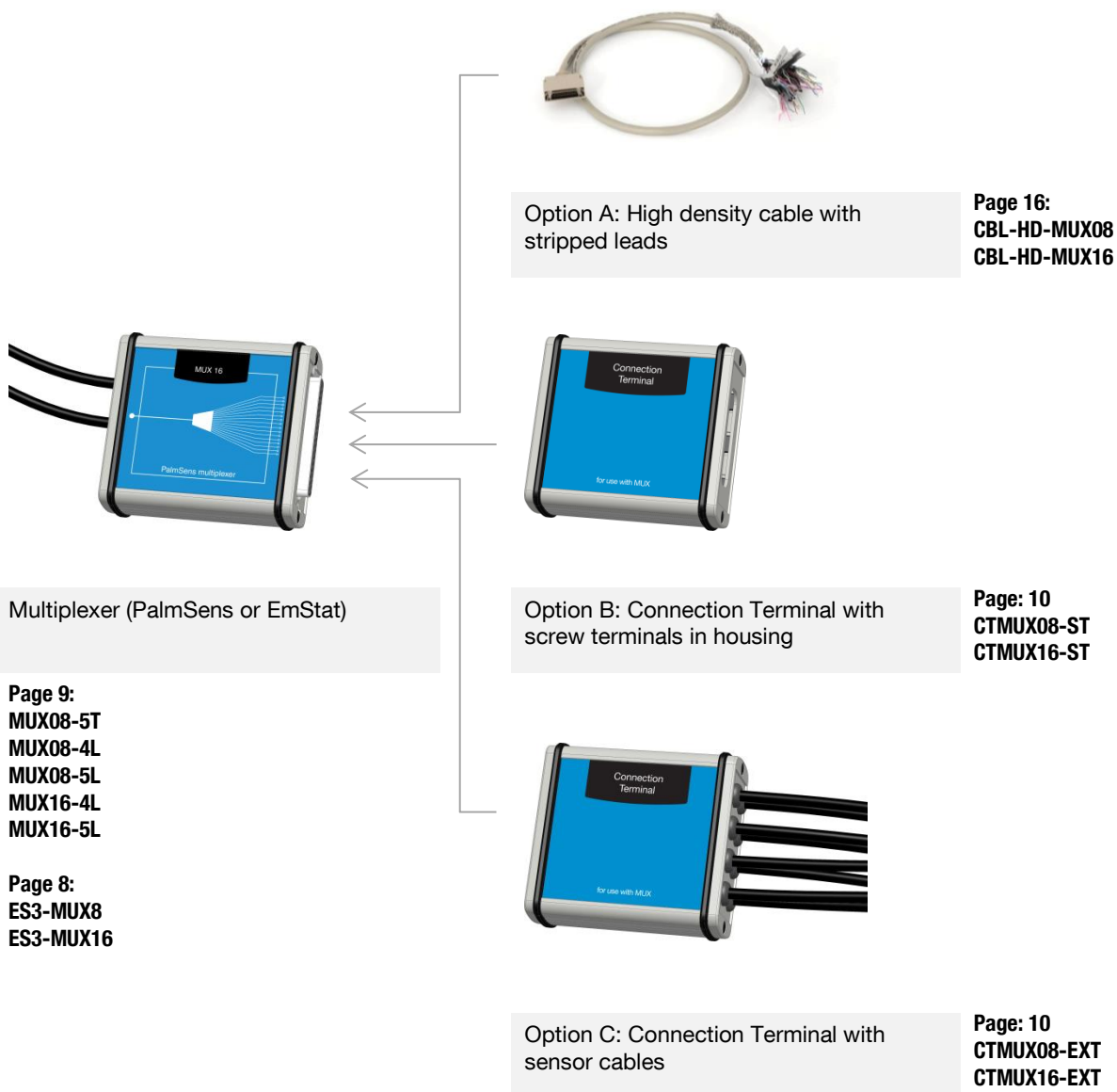
Example of option C with 8 channel Multiplexer [MUX08-4L]

Standard configurations

PalmSens4™
+ PSTrace software and accessories

Includes:
- PalmSens4 potentiostat/galvanostat (PS4) with optional impedance analyser
- PSTrace for Windows
- Integrated Bluetooth, 4GB SD-Card
- USB cable
- Sensor cable and PS Dummy Cell
- Rugged rubber sleeve and plastic case
- Manual and CD-ROM
- Three year warranty

Configurations:
- DC-potential range ±5 V or ±10 V
- Max. frequency for FRA/EIS 100 kHz or 1 MHz

Example order code: PS4.F1.05

Order Code:	PS4.F#.##		
Price:		±5V [05]	±10V [10]
	NO EIS [F0]	*PalmSens3*	EUR 3.500
	100 kHz [F1]	EUR 3.750	EUR 4.000
	1 MHz [F2]	EUR 4.000	EUR 4.250

PalmSens3
+ PSTrace software and accessories

Includes:
- PalmSens3 potentiostat/Galvanostat [PS3] with optional impedance analyser [PS3-EIS]
- PSTrace for Windows
- Mini USB cable
- Sensor cable and PS Dummy Cell
- Rugged plastic case
- Manual and CD-ROM
- Three year warranty

While stock lasts

Order code:	PS3	PS3-EIS
Price:	EUR 3.250	EUR 3.750

EmStat3™
+ PSTrace software

Includes:
- EmStat3 or EmStat3+ potentiostat
- PSTrace for Windows
- Mini USB cable
- Sensor cable and test sensor
- Rugged plastic case
- Manual and CD-ROM
- Three year warranty

Order code:	ES3-USB
Price:	EUR 1.490

EmStat3+™
+ PSTrace software

Includes:
- EmStat3+ potentiostat
- PSTrace for Windows
- Mini USB cable
- Sensor cable and test sensor
- Rugged plastic case
- Manual and CD-ROM
- Three year warranty

Order code:	ES3P-USB
Price:	EUR 1.890

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EmStat³ *blue*

+ PSTrace software

Includes:
- EmStat3 Blue potentiostat
- PSTrace for Windows
- USB charger and mini USB cable
- Sensor cable and test sensor
- Rugged plastic case
- Manual and CD-ROM
- Three year warranty

Order code:	ES3-BLUE
Price:	EUR 1.850

EmStat³⁺ *blue*

+ PSTrace software

Includes:
- EmStat3+ Blue potentiostat
- PSTrace for Windows
- USB charger and mini USB cable
- Sensor cable and test sensor
- Rugged plastic case
- Manual and CD-ROM
- Three year warranty

Order code:	ES3P-BLUE
Price:	EUR 2.250

EmStat prices for multiple units

	EmStat3 price per unit	EmStat3+ price per unit	EmStat3 Blue price per unit	EmStat3+ Blue price per unit
1 unit	EUR 1.490	EUR 1.890	EUR 1.850	EUR 2.250
2 units	EUR 1.340	EUR 1.700	EUR 1.665	EUR 2.025
3 units	EUR 1.270	EUR 1.610	EUR 1.575	EUR 1.910
4 units	EUR 1.225	EUR 1.560	EUR 1.525	EUR 1.855
5 – 7 units	EUR 1.190	EUR 1.510	EUR 1.480	EUR 1.800
≥ 8 units	EUR 1.120	EUR 1.420	EUR 1.390	EUR 1.690

PalmSens
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Multi EmStat3 and 3+
+ MultiTrace software

Multipotentiostat with 4, 8 or 12 independent EmStat3 or EmStat3+ potentiostats.
Includes:
- MultiTrace for Windows
- USB cable
- Sensor cables with croc clips and a test sensor
- AC adapter
- Manual and CD-ROM
- Three year warranty

o Galvanic isolated system: add EUR 300
o Individual galvanic isolation:
  add EUR 160/channel

The MES3/4CH is delivered in the small housing, as shown in the photo. The other versions are delivered in the large housing.
More channels on request.

Order code:	MES3-04CH	MES3P-04CH
Price:	EUR 4.900	EUR 6.250
Order code:	MES3-08CH	MES3P-08CH
Price:	~~EUR 8.900~~	~~EUR 11.500~~
PROMOTION PRICE:	EUR 8.010*	EUR 10.350*
Order code:	MES3-12CH	MES3P-12CH
Price:	~~EUR 11.500~~	~~EUR 14.500~~
PROMOTION PRICE:	EUR 10.350*	EUR 13.050*

EmStat3 MUX8
+ PSTrace software

EmStat3 with integrated 8 channel multiplexer.
Includes:
- PSTrace for Windows
- USB cable
- Sensor cable and test sensor
- D-Sub connector for sensor array with 8xWE, 8xCE and 8xRE (comes standard with D-Sub cable and labelled leads).
- Manual and CD-ROM
- Three year warranty

o Optional Connection Terminal for MUX8:
  see page 5 and page 8

Order code:	ES3-MUX8
Price	EUR 2.690

EmStat3 MUX16
+ PSTrace software

EmStat3 with integrated 16 channel multiplexer.
Includes:
- PSTrace for Windows
- USB cable
- Sensor cable and test sensor
- D-Sub connector for sensor array with 16xWE, 1xCE and 1xRE (comes standard with D-Sub cable and labelled leads).
- Manual and CD-ROM
- Three year warranty

o Optional Connection Terminal for MUX16:
  see page 5 and 8

Order code:	ES3-MUX16
Price:	EUR 2.690

* Temporary promotion, ask PalmSens for the terms and conditions. Promotion will end without further notice.

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EmStat³4WE
+ MultiTrace software

EmStat3 polypotentiostat with three integrated 'BiPot' modules for extra working electrodes.
Includes:

- MultiTrace for Windows
- USB cable
- Sensor cables and test sensor
- Manual and CD-ROM
- Three year warranty

Order code:	ES3-4WE
Price:	EUR 4.900

Warranty extension

The standard warranty on parts and labour of three years on all PalmSens instruments can be extended to five years (add 10% of the instrument price).

5 years warranty

Order code:	WARREXT
Price:	10% of instrument price

Accessories

Multiplexer MUX8

PalmSens2, 3, 4 and the EmStat3 blue can be extended with the optional MUX8 multiplexer. This device is used with sensor arrays with up to 8 sensors.

- D-Sub connector for sensor array with 8xWE, 8xCE and 8xRE (comes standard with D-Sub cable and labelled leads).

- Optional Connection Terminal:
  see page 5 and page 8

Order code:	MUX08-5T	MUX08-4L	MUX08-5L
Price:	EUR 1.080	EUR 1.080	EUR 1.080

Multiplexer MUX16

PalmSens2, 3, 4 and the EmStat3 blue can be extended with the optional MUX16. This is a 16 channel multiplexer in aluminium housing and with PSTrace software for desktop PC or (mini-) laptop.
Includes:

- D-Sub connector for sensor array with 16xWE, 1xCE and 1x RE (comes standard with D-Sub cable and labelled leads).

o Optional Connection Terminal:
  see page 5 and page 8

Order code:	MUX16-5T	MUX16-4L	MUX16-5L
Price:	EUR 1.080	EUR 1.080	EUR 1.080

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Connection Terminal

Connection Terminal specifically designed for MUX8 and MUX16 multiplexers. The Connection Terminal can be directly joined together via their D-Sub connectors.

Order code:	CTMUX08-ST	CTMUX16-ST
Price:	EUR 250	EUR 250

Connection Terminal pre-equipped with cables

Connection Terminal for MUX8 or MUX16 multiplexer. CTMUX08-EXT comes with 8 shielded individual cables equipped with 2 mm banana connectors for connection to 8 electrochemical cells each with a working, counter and reference electrode (or on request different connectors).

CTMUX16-EXT comes with 5 shielded individual cables equipped with 2 mm banana connectors. 4 cables with 4x WE leads and 1 cable with 1x RE-direct, 1x CE-direct and 1x ground lead.

Picture represents CTMUX08-EXT.

Order code:	CTMUX08-EXT	CTMUX16-EXT
Price:	EUR 460	EUR 460

with optional croc clips:

Optional extra croc clips for CTMUX08-EXT:
- CROC08: 8x 4 croc clips: black, blue, red and green

Optional extra croc clips for CTMUX16-EXT
- CROC16: 16x red, 1x black, blue and green

Order code:	CROC-SET08	CROC-SET16
Price:	EUR 60	EUR 40

PalmSens Bluetooth extension

Upgrade to enable wireless control of PalmSens2 or PalmSens3 for PC, (mini-) laptop, netbook and in combination with PStouch (Android App) for tablets and smart phones. For PalmSens2 users it is required to return the PalmSens for hardware modifications.
Includes:
- Wireless dongle for PalmSens
- Dongle + hardware modification for PalmSens2

Order code:	BT-PS2	BT-PS3
Price:	EUR 250	EUR 150

Tablet (7 inch)

Control your instrument with the Android app PStouch. Perfect in combination with your PalmSens with Bluetooth extension or EmStat Blue.

Samsung Galaxy tab A 7.0 (black) or equivalent.

Order code:	TABLET
Price:	EUR 200

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PalmSens BiPot module

The BiPot module is an optional extension for the PalmSens3 and is for applications requiring control of two independent working electrodes. The module fits inside the PalmSens instrument. The PSTrace software supports this module for linear sweep, cyclic voltammetry and amperometric detection with two working electrodes.

Order code:	BIPOT-PS3
Price:	EUR 900

Differential Electrometer Amplifier

The PalmSens Differential Electrometer Amplifier (DEA) is a general purpose input amplifier. It can be used as a floating voltage amplifier with differential input and single output to the auxiliary port of PalmSens2 or PalmSens3 and EmStat Blue.

Default range is -5V to 5V (1x gain). Possible gains are: 2x, 5x, 10x, 20x, 50x, 100x, etc.

|	
Order code:	DEA-5T-001
	DEA-4L-001
	DEA-5L-001
Price:	EUR 350

PalmSens
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Software

PSTrace

Comes standard with the PalmSens, Emstat, EmStat Blue and EmstatMUX.
PSTrace provides support for all techniques and device functionalities. With a smooth simple interface, showing only the applicable controls, PSTrace is suitable for all levels of user experience.

PSTrace can be used with the free software "EIS Spectrum Analyser" for equivalent circuit fitting. ZView can be used alternatively for this function.
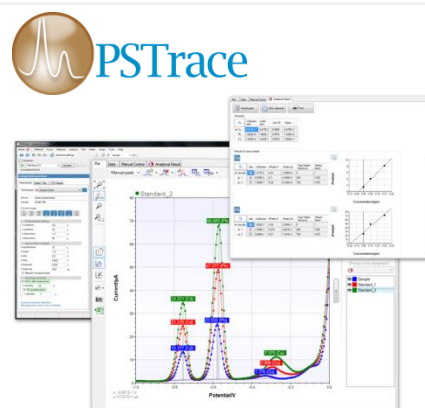
Order code:	PSTRACE
Price:	Free

PStouch

PStouch is an app for Android devices that can be used with all PalmSens and EmStat potentiostats. PStouch communicates with your potentiostat directly via USB or wirelessly using the PalmSens Bluetooth dongle. A Bluetooth dongle is available for your older and your newest PalmSens.
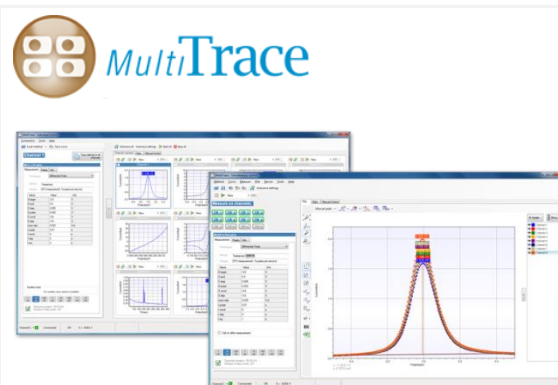
Order code:	PSTOUCH
Price:	Free (Google Play Store)

MultiTrace

The MultiTrace software is used with multichannel instruments.
Channels can be controlled individually or be used in simultaneous mode, having all channels running the same method.

Order code:	MULTITRACE
Price:	Free (included with multichannel instruments)

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PalmSens SDK (for non-Embedded/OEM clients)

The Software Development Kit for .NET allows users to develop their own Windows software for PalmSens and EmStat. The SDK is free of charge with OEM modules.
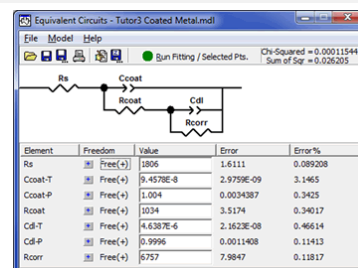

Order code:	SDK
Price:	EUR 450

ZVIEW®

ZView software from Scribner Associates is compatible with PSTrace.
Note that from PSTrace version 5.0 circuit fitting software is standard integrated (free of charge) in PSTrace.

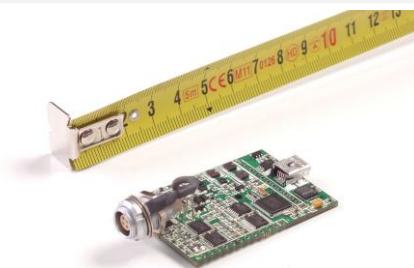|		
Order code:	ZVIEW-USB	ZVIEW-SOLO
Price:	On inquiry	On inquiry

Printed circuit boards (OEM)

EmStat³ and 3+
printed circuit board as OEM product

Embedded potentiostat modules, EmStat3 and EmStat3+.

For new customers we have a special starter kit and development board to reduce development time.

Contact us for prices

EmStat³MUX8
printed circuit boards as OEM product

Embedded potentiostat module with 8 channel multiplexer.

Contact us for prices

EmStat³MUX16
printed circuit boards as OEM product

Embedded potentiostat module with 16 channel multiplexer.

Contact us for prices

Contact us for special requests or customisation.

PalmSens
Compact Electrochemical Interfaces

Parts and accessories

Automatic Stirrer
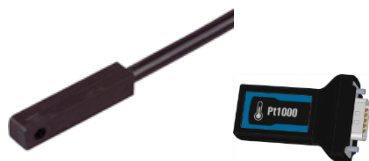
Automatic stirrer controlled by PalmSens or EmStat Blue using the included Switchbox.

Order code:	STIRRER-DIN	STIRRER-D15
Price:	EUR 250	EUR 250

Switchbox

Switchbox with relay controlled by PalmSens or EmStat Blue.

Order code:	SWITCH-DIN	SWITCH-D15
Price:	EUR 120	EUR 120

Incl. Pt1000 dongle for PalmSens3 (not to scale)

PT1000

Pt1000 temperature sensor for PalmSens or EmStat Blue. Comes with dongle for connection to I/O port.

| Order code:	PT1000-DIN	PT1000-D15
Price:	EUR 380	EUR 380

Type TRIAD (left in picture) or LEMO (right in picture)*

Sensor Cables

Standard sensor cable with 2 mm banana connectors for WE, CE, RE and ground. EmStat3(+) (Blue), PalmSens3: [CBL-SNS-4L-4]
PalmSens4: [CBL-SNS-5L-4]

	Type TRIAD*	Type Lemo*	Type Lemo* for ES3+
Order code:	CBL-SNS-5T-4	CBL-SNS-4L-4	CBL-SNS-4L-5S
		CBL-SNS-5L-4	
Price:	EUR 100	EUR 100	EUR 100
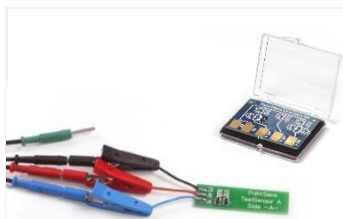
Dummy Cell, Test Sensor and Croc Clips

Dummy Cell or Test Sensor, used to test PalmSens and EmStat
Set of croc clips (4 units) for standard sensor cable

Order code:	DUMMYCELL	TESTSENSOR	CROC-SET01
Price:	EUR 20	EUR 12	EUR 10

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* The PalmSens2 and EmStat2 have a five pin connector (TRIAD),
The PalmSens3, PalmSens3EIS, EmStat3 and EmStat3+ have a four pin connector (Lemo).
The PalmSens4 has a five pin connector (Lemo).

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Replacement Battery

Batterypack (2700 mAh or more) for PalmSens2
Batterycell for PalmSens3 or PalmSens4

Order code:	BATT-PS2	BATT-PS3	BATT-PS4
Price:	EUR 30	EUR 30	EUR 30

Sensor cable for use with Screen Printed Electrodes

Sensor cable for screen printed electrodes for use with BST, BVT, ItalSens, Rusens, Gwent's GG-Au4, GG-C4 and GG-Pt4 as well as DropSens sensors. PS-CONN (next item) is a more flexible and economical alternative.

	Type TRIAD*	Type LEMO*
Order code:	CBL-SNS-5T-4-SPE	CBL-SNS-4L-4-SPE
		CBL-SNS-5L-4-SPE
Price:	EUR 70	EUR 70

Type TRIAD (left) or LEMO (right).*

Universal sensor connector for Screen Printed Electrodes

Universal sensor connector with 3 banana receptacles and a connection for the screen printed electrodes from BST, BVT, ItalSens, Rusens, Gwent as well as DropSens.

Order code:	PS-CONN
Price:	EUR 20

PalmSens2 Power Adapter

PalmSens2 power adapter (specify for which country)

Order code:	ADAP-PS2
Price:	EUR 60

USB cable for PalmSens2

Opto-isolated) USB cable for PalmSens2

	USB	Opto-isolated USB
Order code:	CBL-USB-PS2	CBL-USB-PS2-GI
Price:	EUR 90	EUR 200

DSub-37 cable with stripped end leads

DSub-37 cable with stripped end leads for all MUX instruments.
Also available with banana connectors on the end of the leads.

Order code:	CBL-HD-MUX08
	CBL-HD-MUX16
Price:	EUR 110

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* The PalmSens2 and EmStat2 have a five pin connector (TRIAD),
The PalmSens3, PalmSens3EIS, EmStat3 and EmStat3+ have a four pin connector (Lemo).
The PalmSens4 has a five pin connector (Lemo).

Sensors and related accessories

PalmSens BV cooperates with a number of sensor producers. The available sensors and their accessories are listed in a **separate pricelist**.

Please contact us for the sensors pricelist.

BST, Germany
BST develops and produces electrochemical sensors and instruments. Thick film sensors and flow cells are available from PalmSens.

BVT , Czech Republic
BVT produces a large range of gold, platinum, silver and graphite sensors and sensor arrays as well as accessories like flow cells.

CHI electrodes and cell, USA
CHI has a range of working, reference and counter electrodes available as well as a proper cell stand.

GWENT Group, UK
The Gwent Group can offer a full screen-printing prototype service for base electrode manufacture in a class 100 clean room. Many customers use this route before purchasing their own screen-printing equipment.

ItalSens, Italy
ItalSens provides screen printed electrodes developed by the University of Florence which are suitable for a range of voltammetric methods and ideal for functionalization as used by many biosensors.

MicruX, Spain
MicruX Technologies is an innovative technology-based company focused on the design, development and manufacture of novel miniaturized analytical systems based on Lab-on-a-Chip (LOC) technologies for research and educational activities in microfluidic and electrochemistry field.

Rusens, Russia
RUSENS develops and produces screen printed sensors. The sensors have a working and a counter electrode of graphite and Ag reference electrode.
Modified sensors are available for hydrogen peroxide, glucose and lactate. A flow cell is available for these electrodes.

Please do not hesitate to contact PalmSens for more details:
info@palmsens.com

PalmSens BV
The Netherlands
www.palmsens.com

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