

User Manual

Release 1.4

PAT-Stand-4

Docking station



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The information provided in this documentation includes general descriptions and/or technical characteristics regarding the performance of the equipment described herein. This documentation cannot serve as a proper evaluation of the suitability or reliability of the equipment for any specific application by any user and should not be relied upon as a substitute for such evaluation. It is the responsibility of each such user or installer to conduct an appropriate and complete risk assessment, evaluation and testing of the equipment with respect to their specific application. EL-Cell GmbH cannot be held responsible or liable for any misuse of the information contained herein.

All relevant state, regional and local safety regulations must always be complied with when installing and using this device. For safety reasons and to ensure compliance with the documented system data, only the manufacturer is authorized to perform repairs on components.

Disregarding this information may result in injury or damage to the equipment.

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Please always quote the serial number on the nameplate when making customer service inquiries.

Shipping address for repairs

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Please be sure to contact our customer service department before making a return. We will not open or process shipments without a completed decontamination report or RMA.

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1 Preamble

1.1 Purpose and target audience

This manual covers the structure, function, operation and maintenance of the device described. It is intended for the end users of the device. An end user can be described as any person who interacts directly with the device described. The term "end user" usually includes laboratory personnel who have been specifically trained to operate this instrument and are familiar with all the precautions required to work in the laboratory.

Only an authorized and properly qualified and experienced person 18 years of age or older may use the device described, who:

- has read and understood these installation and operating instructions
- is familiar with the installation and operation of this or a similar device
- is aware of all possible dangers and acts accordingly

1.2 Storage instructions

Make sure you have read and understood the complete instructions and all safety information before using this product. Failure to follow these instructions may result in minor or serious injury.

Follow all instructions. This will prevent accidents that could result in property damage or injury. Keep all safety information and instructions for future reference and pass them on to subsequent users of the product.

The manufacturer is not liable for property damage or injuries resulting from incorrect handling or failure to comply with the safety instructions. In such cases, the warranty becomes void.

1.3 Obtaining documents and information

A current version of the documentation is available on the following website:

<https://el-cell.com/support/manuals/>

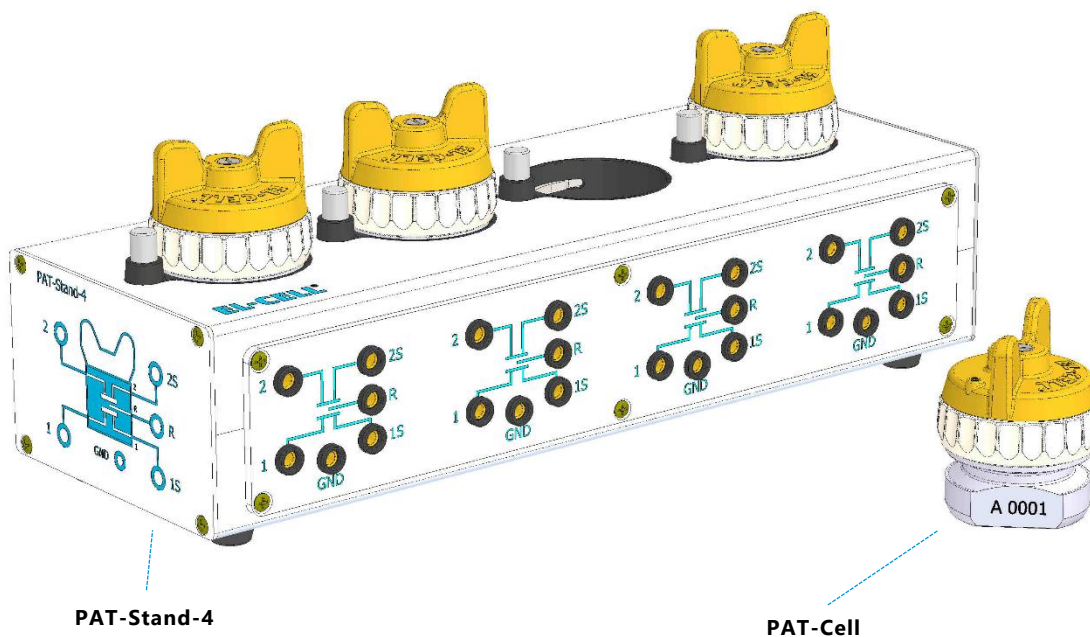
Alternatively, you can scan this QR code,
to access the website:



2 Product Description

The PAT-Stand-4 is a docking station for the parallel use of up to four PAT-Cells. When docked into the PAT-Stand-4, the PAT-Cells may be tested by any potentiostat or battery tester.

The PAT-Cell and the PAT-Core concept are covered in detail by other manuals (<http://el-cell.com/downloads/downloads-manuals>).

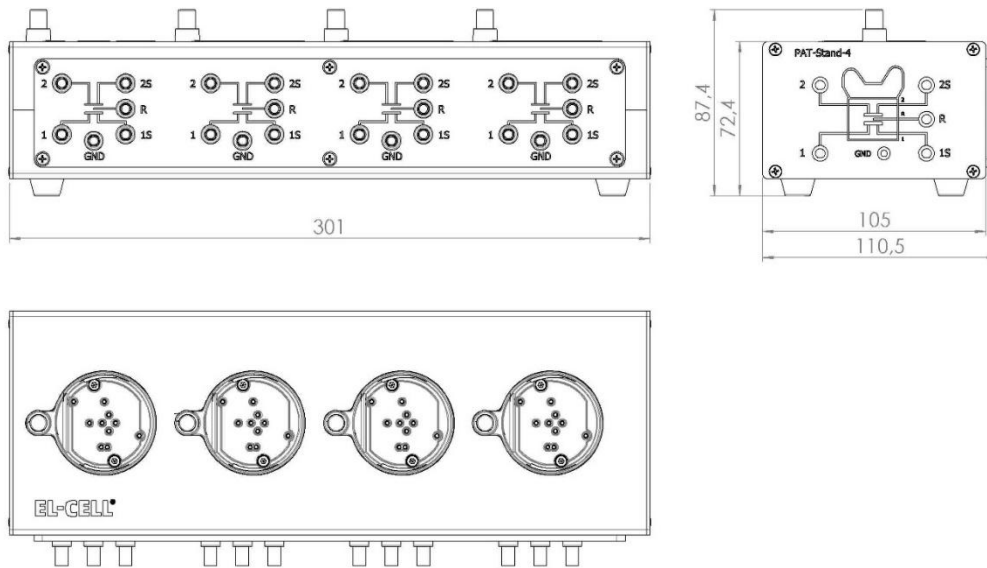


2.1 Features

- Docking station for up to four PAT series test cells, ready for connection to a potentiostat or battery tester channel.
- Charge/Discharge/EIS compatible with any PAT series test cell*
- Compatible with all of today's potentiostats and battery testers.
- No wiring effort, less errors, increased testing productivity.

**EIS measurements require a potentiostat or battery tester with analog data input.*

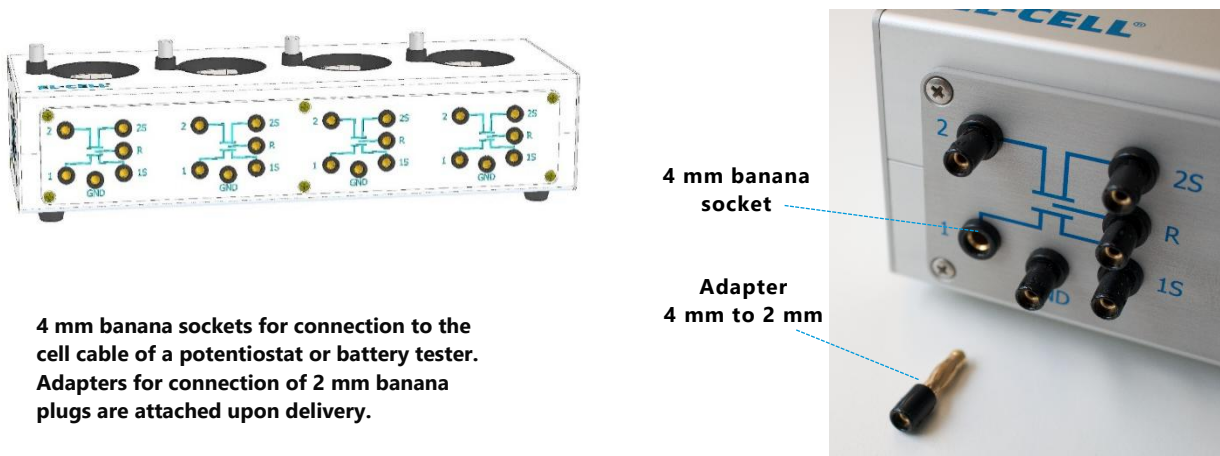
3 Technical Data



- Dimensions: 119 mm (width) x 301 mm (depth) x 84/114 mm (height without/ with PAT-Cells)
- Operating temperature: -20 to +70°C
- Humidity: non condensing
- Weight: 0.67/3.00 kg (without/with PAT-Cells)
- **IP-Protection Class:** EN 60529 IP20

4 Installation

The PAT-Stand-4 should be placed on a flat, dry and clean surface, for example on a bench top, inside a temperature chamber or a glove box.



The diagram shows a differential pair circuit. A central gray block represents the differential pair, with two output nodes labeled '1' and '2'. A center tap is connected to the midpoint of the pair, labeled 'R'. The circuit is connected to a common ground 'GND'. The input nodes are labeled '1' and '2' (left) and '1S' and '2S' (right). The output nodes are labeled '1' and '2' (left) and '1S' and '2S' (right).

PAT-Stand-4	1	1S	2	2S	R
Potentiostat	WE	WE-Sense	CE	CE-Sense RE	-

PAT-Stand-4	1	1S	2	2S	R
Potentiostat	WE	WE-Sense	CE	CE-Sense	RE

PAT-Stand-4	1	1S	2	2S	R
Potentiostat	CE	CE-Sense	WE	WE-Sense	RE

The connection namings mentioned in the operation mode tables can differ from the used potentiostat. To view specific naming conventions from selected different manufacturers see the table below.

Important note: The application of our test cells is not limited to the potentiostats listed below. Our test cells can be used with all other potentiostats as well.

Cable colors and naming conventions

Exemplary potentiostat	WE	WE-Sense	CE	CE-Sense	RE
PAT-Tester-x with PAT-Channel-1 and cell cable ECE1-000-0324-A	1F Green cable	1S Red cable	2F Yellow cable	2S Blue cable	R Grey cable
BioLogic (i.e. VSP, VMP3)	WE Red cable	Ref1 Red cable	CE Blue cable	Ref3 Blue cable	Ref2 White cable
Gamry Instruments (i.e. Reference 3000™)	Green cable	Blue cable	Red cable	Orange cable	White cable
Ivium Technologies (i.e. IviumStat)	WE1 Red cable	S White cable	CE Black cable	-	RE Blue cable
Metrohm Autolab (i.e. PGSTAT Series)	WE Red cable	S Red cable	CE Black cable	-	RE Blue cable
Princeton Applied Research (i.e. PARSTAT 2273)	Green cable	Grey cable	Red cable	-	White cable

5 Cleaning

Wipe the PAT-Stand-4 with a moist tissue. Do not use aggressive chemicals for cleaning. Protect the PAT-Stand-4 from dust and moisture.

6 Unpacking

Check the contents of the packages against the list given below to verify that you have received all of the required components. Contact EL-CELL, if anything is missing or damaged.

NOTE: Damaged shipments must remain within the original packaging for freight company inspection.

List of Components

- PAT-Stand-4 (without PAT-Cells) [ECE1-00-00110-A](#)
- 6 x adapter male 4 mm to female 2 mm (attached upon delivery) [ELT9081](#)



7 Spare Parts

- Adapter male 4 mm to female 2 mm [ELT9081](#)

8 Warranty

For a period of one year from the date of shipment, EL-Cell GmbH (hereinafter Seller) warrants the goods to be free from defects in material and workmanship to the original purchaser. During the warranty period, Seller agrees to repair or replace defective and/or nonconforming goods or parts without charge for material or labor, or, at the Seller's option, demand return of the goods and tender repayment of the price. The buyer's exclusive remedy is repair or replacement of defective and nonconforming goods, or, at the Seller's option, the repayment of the price.

Seller excludes and disclaims any liability for lost profits, personal injury, interruption of service, or consequential incidental or special damages arising out of, resulting from, or relating in any manner to these goods.

This Limited Warranty does not cover defects, damage, or nonconformity resulting from abuse, misuse, neglect, lack of reasonable care, modification, or the attachment of improper devices to the goods. This Limited Warranty does not cover expendable items. This warranty is void when repairs are performed by a non-authorized person or service center. At the Seller's option, repairs or replacements will be made on-site or at the factory. If repairs or replacements are to be made at the factory, the Buyer shall return the goods prepaid and bear all the risks of loss until delivered to the factory. If Seller returns the goods, they will be delivered prepaid and Seller will bear all risks of loss until delivery to Buyer. Buyer and Seller agree that this Limited Warranty shall be governed by and construed in accordance with the laws of Germany.

The warranties contained in this agreement are in lieu of all other warranties expressed or implied, including the warranties of merchantability and fitness for a particular purpose.

This Limited Warranty supersedes all prior proposals or representations oral or written and constitutes the entire understanding regarding the warranties made by Seller to Buyer. This Limited Warranty may not be expanded or modified except in writing signed by the parties hereto.