

Docking Station for ECC, ECC-REF and ECC-AQU **ECC-STAND**



User Manual

Release: 1.3

2010-03-02

The information in this manual has been carefully checked and believed to be accurate; however, no responsibility is assumed for inaccuracies.

EL-Cell GmbH maintains the right to make changes without further notice to products described in this manual to improve reliability, function, or design. EL-Cell GmbH does not assume any liability arising from the use or application of this product.

Contents

1. Product Description	3
2. Features.....	4
3. Unpacking.....	8
4. ECC-STAND Operation	8
5. Maintenance.....	8
6. Technical Support	9
7. Warranty.....	10

EL-Cell GmbH

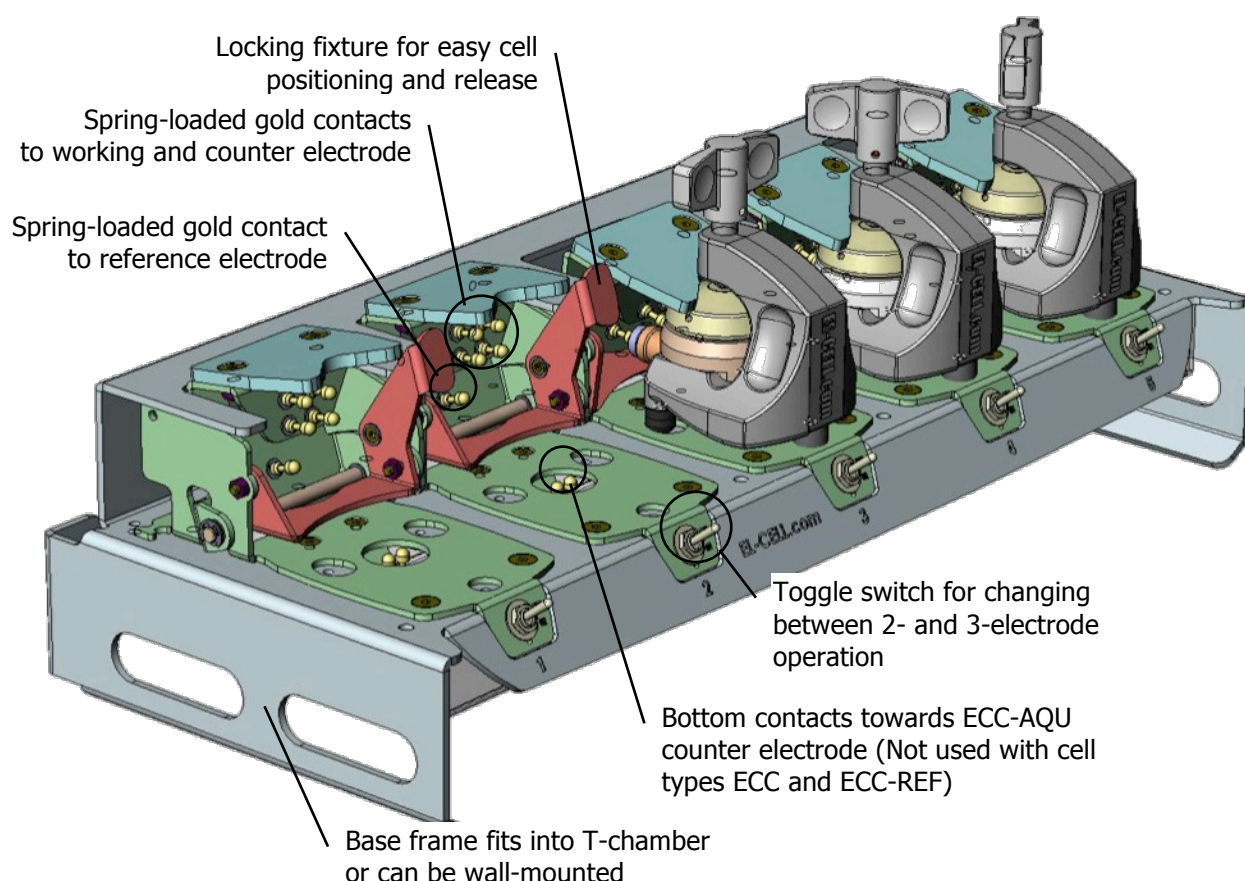
Tempowerkring 7
D-21079 Hamburg
phone: +49 (0)40 790 12 733
fax: +49 (0)40 790 12 736
Email : info@el-cell.com
Web : www.el-cell.com

1. Product Description

The ECC-STAND is a docking station for up to 5 test cells of the ECC series. Each cell is locked to the stand by a single movement of your hand, and is thereby connected to your multi-channel potentiostat or battery tester. For 3-electrode cells (ECC-REF or ECC-AQU), a toggle switch serves to change between cell voltage control and WE potential control against the reference.

The ECC-STAND docking station can either be wall-mounted, placed on the lab bench, or placed inside a temperature controlled chamber. Mounting kits for special environments are available on request.

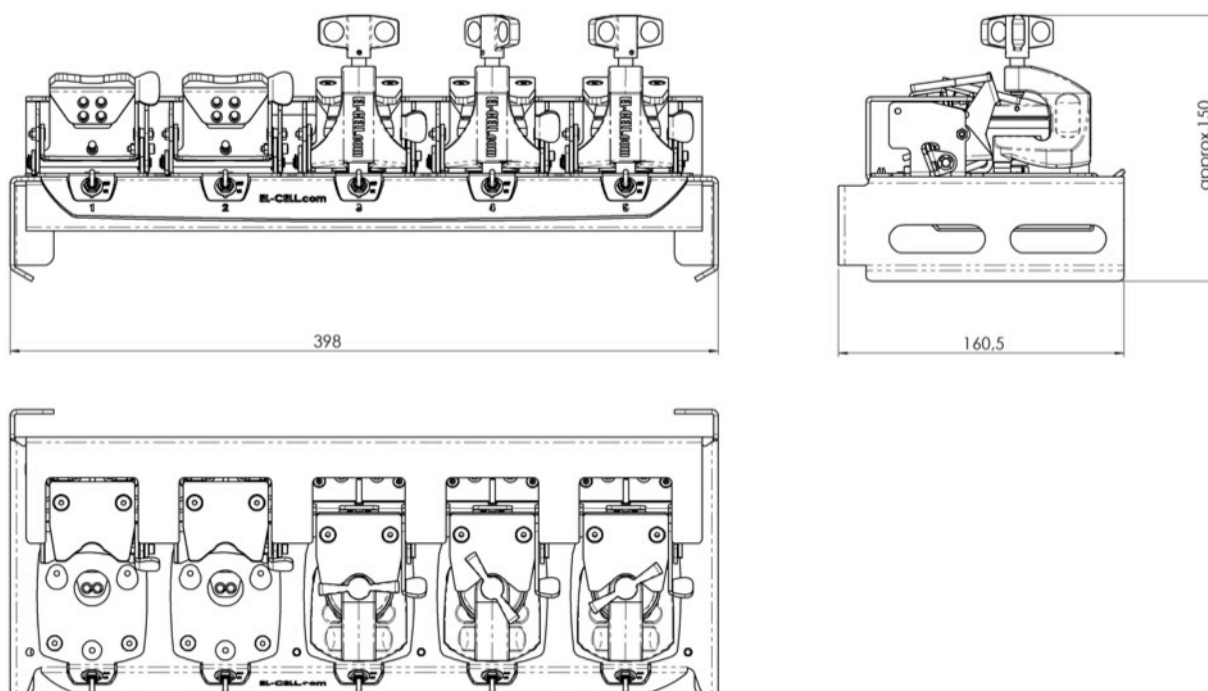
The ECC STAND provides 5 spring loaded contacts to each cell: current and sense lines for both the working and the counter electrode, and a connection to an optional reference electrode. All cell signals are fed to a terminal board, through which they are to be connected to the battery tester/ potentiostat, and optionally to a data logger. Adaptation of the wiring to your special needs is possible on request.



2. Features

Stand

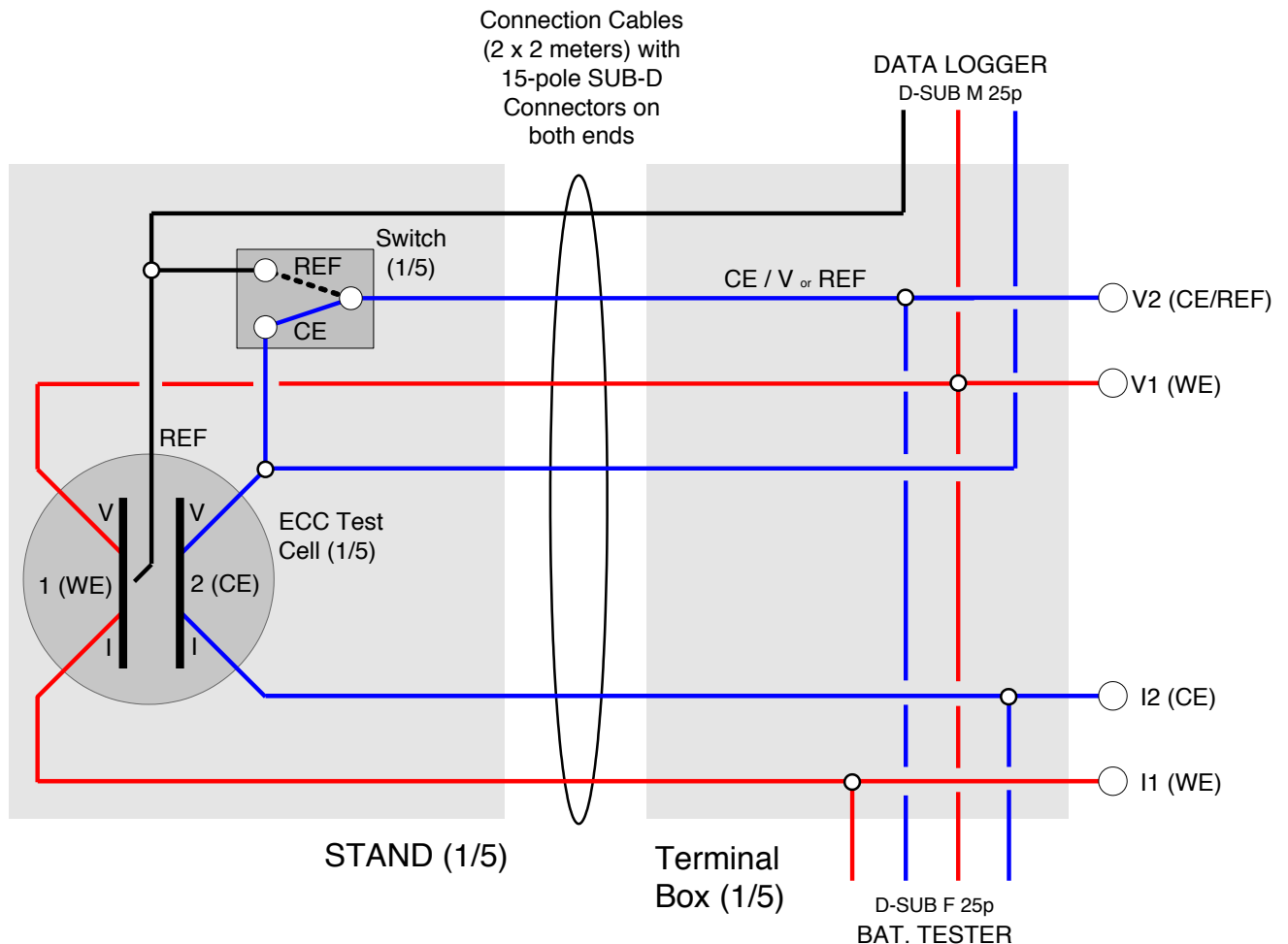
- Accommodates up to 5 cells of type ECC, ECC-REF or ECC-AQU
- Stand can either be wall-mounted, placed on the bench, or inside a temperature chamber. Up to 4 stands (20 cells) can be placed inside any temperature chamber of the 53 liters Binder series (e.g., Binder BG53). Adaptation to many other environments is possible on request.
- Each cell position is equipped with a toggle switch to change between cell voltage and electrode potential control
- Operating conditions: Temperature -20 to +70 °C, humidity non-condensing
- Two 15-pole SUB-D connectors for connection towards Terminal Box
- Shielded connection cables with pair-wise twisted sense and current lines for low parasitic impedance
- Weight ca. 3.8 kg
- Dimensions see drawing



Terminal Box

- Two 15-pole SUB-D connectors for connection towards Stand
- Array of 4 mm banana jacks for cell connection towards battery tester/ potentiostat
- 25-pole SUB-D connector for cell connection towards battery tester/ potentiostat (in parallel to banana jacks)
- 25-pole SUB-D connector for routing the cell signals towards an optional data logger
- Box can either be placed on the bench, or wall mounted
- Operating conditions: Temperature 0 to +40 °C, humidity non-condensing
- Dimensions 50 x 120 x 120 mm (Height x Width x Depth)

Connection Diagram



Connector Pinouts and Cable Colors

D-Sub Connection Box – Stand

Pin #	Stand-I	Stand-V	Cable Color
	D-SUB F15	D-SUB M15	
1	1I1	5V1	violet
2	2I1	4V2	pink
3	2I2	4V1	grey
4	3I1	3V2	brown
5	3I2	3V1	white
6	4I1	2V2	yellow
7	4I2	2V1	green
8	5I1	1V2	red
9	1I1	5V2	black
10	1REF	1CE	green/brown
11	2REF	2CE	green/white
12	3REF	3CE	blue/red
13	4REF	4CE	grey/pink
14	5REF	5CE	brown/yellow
15	5I2	1V1	blue

Twisted pairs:

1+9	1I1+1I2	5V1+5V2	violet+black
2+3	2I1+2I2	4V2+4V1	pink+grey
4+5	3I1+3I2	3V2+3V1	brown+white
6+7	4I1+4I2	2V2+2V1	yellow+green
8+15	5I1+5I2	1V2+1V1	red+blue

D-SUB Connection Box - Data Logger and Box - Tester

Pin #	Tester	Logger	Cable Color
	D-SUB M25	D-SUB F25	
1	NC(SHD)	1V1	
2	NC	2V1	
3	NC	3V1	
4	1I1	4V1	
5	1I2	5V1	
6	2I1	NC	
7	2I2	NC	
8	3I1	NC	
9	3I2	5REF	
10	4I1	4REF	
11	4I2	3REF	
12	5I1	2REF	
13	5I2	1REF	
14	1V1	5CE	
15	1V2	4CE	
16	2V1	3CE	
17	2V2	2CE	
18	3V1	1CE	
19	3V2	NC	
20	4V1	NC	
21	4V2	NC	
22	5V1	NC	
23	5V2	NC	
24	NC	NC	
25	NC	NC(SHD)	

Twisted pairs:

4+5	1I1+1I2		
6+7	2I1+2I2		
8+9	3I1+3I2		
10+11	4I1+4I2		
12+13	5I1+5I2		
14+15	1V1+1V2		
16+17	2V1+2V2		
18+19	3V1+3V2		
20+21	4V1+4V2		
22+23	5V1+5V2		

3. Unpacking

Check the contents of the packages against the list given below to verify that you have received all of the components. Contact the factory if anything is missing or damaged. **NOTE:** Damaged shipments must remain with the original packaging for freight company inspection.

List of Components

1. Docking station
2. Terminal box
3. Two cables (2 x 2 meters) terminated with 15-pole D-SUB connectors for the connection between docking station and terminal box.

4. ECC-STAND Operation

- Place the ECC-STAND either on the lab bench, inside a temperature chamber, or mount it to the wall. For special mounting situations, refer to the separate instructions coming with the respective mounting kit.
- Place the terminal box either on the bench, or mount it to the wall.
- Connect the stand with the terminal box by means of the two cables terminated on both ends with 15-pole D-SUB connectors. The maximum distance between stand and terminal box is 2 meters.
- Connect the 4 mm jacks of the terminal box to the respective lines of the battery tester/ potentiostat. Optionally, use a customized cable to connect your battery tester to the box via the 25-pole D-SUB connector.
- Optionally, connect the cell signals WE/V, CE/V and REF towards a data logger via the second 25-pole D-SUB connector on the terminal board.
- Before starting a measurement, make sure that the respective toggle switch on the stand is in the right position (cell voltage or WE potential control).

5. Maintenance

The cell stand is maintenance-free. However, contact with any kind of chemistry is to be avoided. In case of accidental contact, purge the stand with water, then with ethanol, and let it dry at ambient air.

6. Technical Support

Technical support for this product is exclusively handled by EL-Cell GmbH. The following procedure must be followed when the ECC test cell or any part of it is returned to EL-Cell GmbH for repair:

1. Send an e-mail to info@el-cell.com to obtain a return authorization number.
2. Describe in detail what is wrong.
3. Include a contact name, address, telephone number, and email address.
4. Return the equipment to

EL-Cell GmbH

Tempowerkring 7

D-21079 Hamburg

Germany

Email info@el-cell.com

Web www.el-cell.com

7. Warranty

For a period of one year from the date of shipment, EL-Cell GmbH (hereinafter Seller) warrants the goods to be free from defect 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 labour, or, at the Seller's option, demand return of the goods and tender repayment of the price. Buyer's exclusive remedy is repair or replacement of defective and nonconforming goods, or, at Seller's option, the repayment of the price.

Seller excludes and disclaims any liability for lost profits, personal injury, interruption of service, or for 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 centre. At 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, 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.