

User Manual

Release 1.0

PAT-Controller-8

Control box for up to 8 PAT-Channel-1



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.

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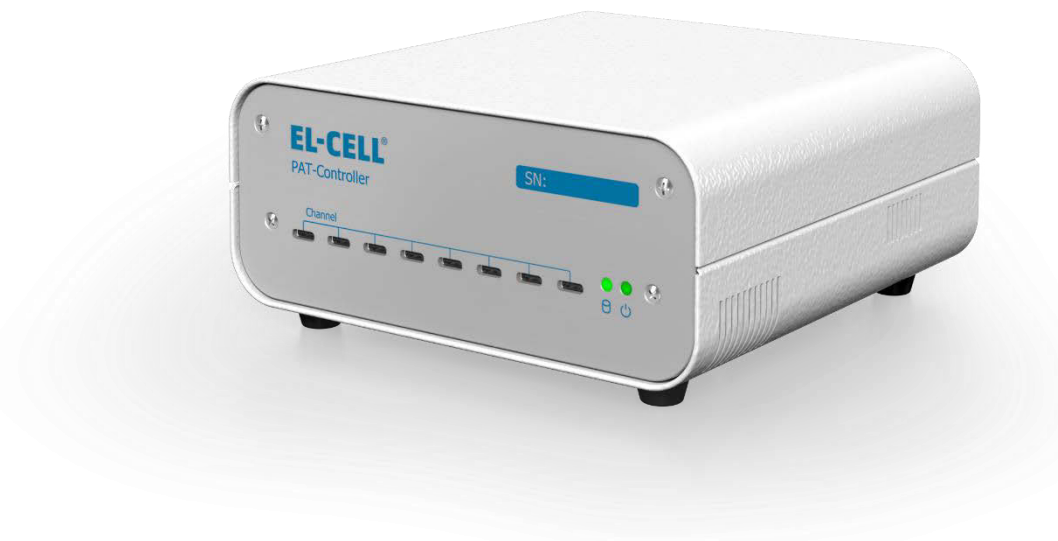
Content

1 Product description	4
2 Features.....	5
3 Technical data	5
4 Connections and display	6
5 Safety precautions.....	7
6 Installation.....	8
7 Cleaning	9
8 Unpacking.....	9
9 EC declaration of conformity	10
10 Technical support.....	13
11 Warranty	13

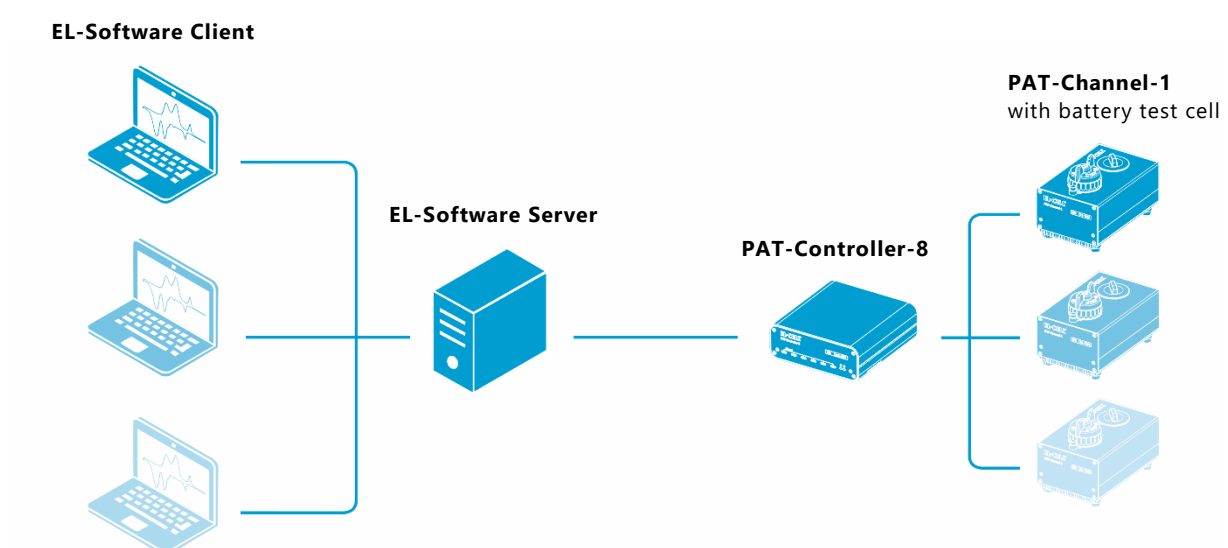
1 Product description

The PAT-Controller-8 is a core component of each PAT-Tester-x. It serves as the pivotal control, storage and security point. Any number of users can access the channels connected to the controller via LAN. The Controller guarantees that measurements continue to run even if network or software components fail.

The PAT-Controller features a built-in hard disk, a network port for server communication and USB ports for connection to up to 8 PAT-Channel-1.



Hardware setup example

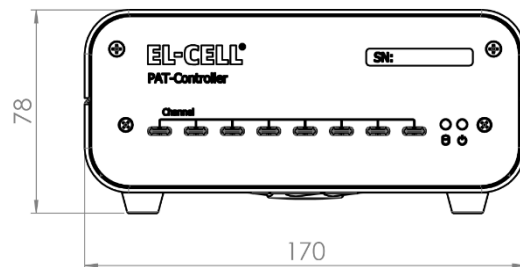
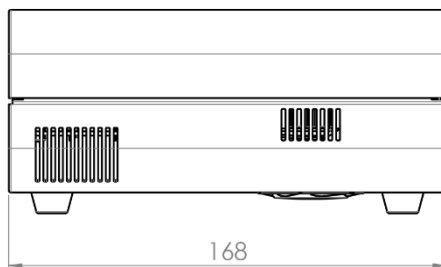


2 Features

- Internal 256 GB Solid State Disc for storing measurement data
- LAN Port (RJ45) for server connectivity
- 8 USB 2.0 Hi-Speed, type C ports for connecting PAT-Channel-1

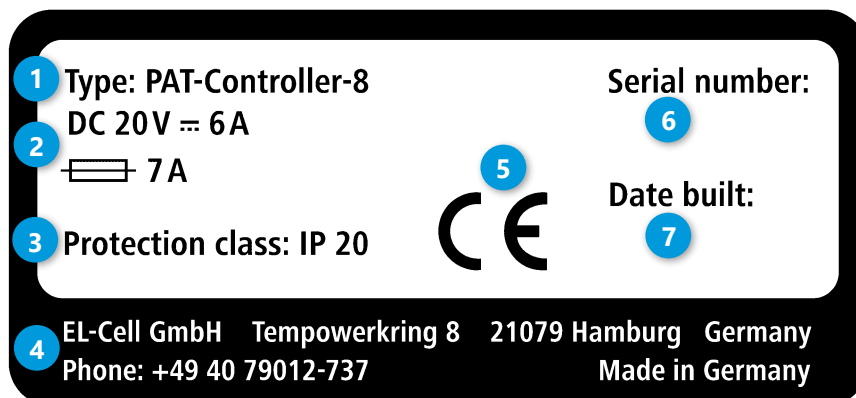
3 Technical data

- Height: 78 mm
- Length: 168 mm
- Width: 170 mm
- Weight: 1.7 kg
- Temperature operation range 0 to +40 °C
- Humidity: non-condensing



3.1 Designation (nameplate)

The nameplate provides information about the appliance model, manufacturer and technical data. It is attached to the back of the appliance.



- 1 Type designation
- 2 Operating voltage, Connection / power ratings
- 3 Protection class
- 4 Address of manufacturer
- 5 CE conformity
- 6 Serial number
- 7 Date built

4 Connections and display

Front:



- 1** USB 2.0 Hi-Speed, type C ports for PAT-Channel-1 connection
- 2** HDD activity
- 3** Power indicator

Back:



- 1** LAN Port
- 2** HDMI Port (for maintenance only)
- 3** Power Input

5 Safety precautions



WARNING: A WARNING indicates a potential for property damage, personal injury, or death.



Do not operate the device with any cover removed.



Do not use the device in a wet environment. Protect equipment from liquid intrusion.



Do not push any objects into the air vents or openings of the device. Doing so can cause fire.



Do not operate the device beyond the allowed temperature range stated in the chapter Technical Data.



Do not attempt to service your equipment yourself. In case of technical failure contact our technical support as stated at the end of this manual.



Risk of fire or electric shock when using a mains plug adapter that is not specified. Use only the EL-Cell provided power supply approved for use with this device.

6 Installation

Note: To operate the PAT-Controller-8 you need access to an Ethernet Local Area Network (LAN). EL-Software Server (the server application of EL software) must be installed on the LAN server and EL-Software Client (the client component of EL software) on at least one client PC. The installation instructions for EL-Software can be found in the corresponding manual.

1. Place the PAT-Controller on a flat, dry and clean surface. Make sure that the fans are not covered to avoid overheating. The PAT-Controller-8 should not be operated in a glovebox.
2. Connect the provided power supply (brick) to the AC mains supply. Then plug the DC output of the power supply into the DC input of the PAT-Controller. The instrument will immediately power up once connected.
3. Connect the PAT-Controller to the network via LAN cable.
4. Follow the necessary steps to add the PAT-Controller as a new device in EL-Software (see EL-Software manual for details).
5. You can now connect PAT-Channels by plugging them into the front panel of the PAT-Controller via USB cable.

Note: Please note that the USB ports on the PAT-Controller are only for connection to PAT-Channels. Use only the special USB cables provided with the PAT-Channels.

7 Cleaning

Wipe the PAT-Controller-8 with a moist tissue. Do not use aggressive chemicals for cleaning. Protect the device from dust and moisture.

8 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-Controller-8**, [ECE1-00-0280-A](#)
- **Power supply GST120A20-R78**, [ELT9807](#)
- **Power cord IEC 60320 C14EURO L sw 1.5m**, [ELT9222](#)

9 EC declaration of conformity



electrochemical test equipment

EU Declaration of Conformity

Manufacturer's name and address: EL-Cell GmbH
Tempowerkring 8
21079 Hamburg
Germany

Product: PAT-Controller-8

The designated product is in conformity with the

- Low Voltage Directive (LDV) 2014/35/EU
- Electromagnetic Compatibility Directive (CEM) 2014/30/EU
- Restriction of Hazardous Substance Directive (RoHS) 2011/65/EU

and the following harmonised standards:

- Safety: IEC 61010-1
- EMC: IEC 61326

Emissions

EN 55011: Conducted Class B
EN 55011: Radiated Class A
EN 61000-3-2: Harmonic Current

Immunity

IEC 61000-4-3: EM field
IEC 61000-4-4: Burst
IEC 61000-4-5: Surge
IEC 61000-4-6: Conducted RF
IEC 61000-4-8: Magnetic Field
IEC 61000-4-11: Voltage Dip/Short Interruptions

Hamburg, 17.09.2020

Michael Hahn, CEO

This declaration certifies compliance with the above mentioned directives but does not include a property assurance.
The safety note given in the product documentation which are part of the supply, must be observed.

The products described are in conformity with the following harmonized standards:

EN 61010-1:2010	Sicherheitsbestimmungen für elektrische Mess-, Steuer-, Regel- und Laborgeräte – Teil 1: Allgemeine Anforderungen (DIN EN 61010-1, VDE 0411-1:2011-07)
	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements (IEC 61010-1:2010 + Cor. :2011)
EN 61010-2-201:2014	Sicherheitsbestimmungen für elektrische Mess-, Steuer-, Regel- und Laborgeräte - Teil 2-201: Besondere Anforderungen für Steuer- und Regelgeräte (DIN EN 61010-2-201:2014, VDE 0411-2-201:2014-01)
	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-201: Particular requirements for control equipment (IEC 61010-2-201:2013)
EN 61010-2-010:2015-05	Sicherheitsbestimmungen für elektrische Mess-, Steuer-, Regel- und Laborgeräte - Teil 2-010: Besondere Anforderungen an Laborgeräte für das Erhitzen von Stoffen (DIN EN 61010-2-010:2014; VDE 0411-2-010:2015-05)
	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-201: Particular requirements for control equipment (IEC 61010-2-201:2013)
EN 61326-1:2013	Elektrische Mess-, Steuer-, Regel- und Laborgeräte - EMV-Anforderungen - Teil 1: Allgemeine Anforderungen (DIN EN 61326-1:2013-07, VDE 0843-20-1:2013-07)
	EMC requirements - Part 2-3: Particular requirements - Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning (IEC 61326-2-3:2012)

EN 61326-2-3:2013-07	<p>Elektrische Mess-, Steuer-, Regel- und Laborgeräte - EMV-Anforderungen - Teil 2-3: Besondere Anforderungen - Prüfanordnung, Betriebsbedingungen und Leistungsmerkmale für Messgrößenumformer mit integrierter oder abgesetzter Signalaufbereitung</p> <p>(DIN EN 61326-2-3:2013-07, VDE 0843-20-2-3:2013-07)</p>
	<p>Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-3: Particular requirements - Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning</p> <p>(IEC 61326-2-3:2012)</p>
EN 50581: 2013-02	<p>Technische Dokumentation zur Beurteilung von Elektro- und Elektronikgeräten hinsichtlich der Beschränkung gefährlicher Stoffe</p> <p>(DIN EN 50581; VDE 0042-12:2013-02)</p>
	<p>Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances</p>

10 Technical support

Technical support for this product is exclusively provided by EL-Cell GmbH.

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11 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 labor, 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 center. 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.