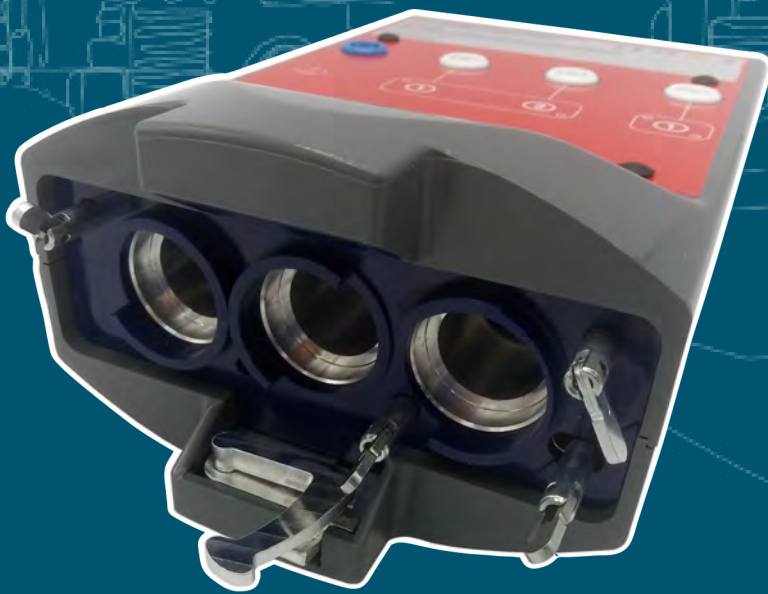


VOLKSWAGEN

AKTIENGESELLSCHAFT



Operating manual

High-voltage test box VAS 6558A/26



Revision	Date	Reason
V00	09.09.2020	First edition
V01	08.02.2022	Transfer to Stodia
V02	09.01.2024	Updating of certificates: China RoHS, UL

Legal notice

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Symbols for warnings, prohibitions, mandatory actions and standards are taken from publicly accessible sources, such as the Internet. CAD product images and product photos are provided by the manufacturer. Images showing the product in use are provided with a reference to the source.

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Preliminary information

Read through this operating manual carefully before using the product.

The product is delivered with a USB stick containing the operating manual in various languages. You can find the current version and additional languages on our homepage.



There is a QR code on the product. You can scan this QR code with a device that is connected to the internet to go directly to the download area for your product.

The operating manual is an essential part of the product and must be kept together with the product. If you sell or transfer ownership of the product, the operating manual must be handed over to the new operator.

In addition to this operating manual, you must observe all relevant regulations for diagnostics or fault finding of intrinsically safe high-voltage systems in road vehicles. This includes but is not limited to: instructions for the vehicle manufacturer's diagnostics systems, company-specific safety requirements and the state of the art for working with high-voltage systems.

Validity of the declaration of conformity

The declaration of conformity applies to the product described in the operating manual. Any changes, modifications or extensions shall void the declaration of conformity and the risk assessment.

Manufacturer specifications

Since its founding, our company has focused on groundbreaking solutions for electromobility. STODIA GmbH develops and produces custom solutions for the automotive industry, the energy storage sector, repair shops and special vehicle fleets.

Our core products are innovative energy storage systems, both stationary and mobile, which are essential technologies for advancing the energy revolution and energy autonomy. STODIA's portfolio also includes smart charging and battery technology, diagnostic systems, battery and cell management, and vehicle-wide measurement and diagnostic technology.

With experience in both software and hardware development, STODIA GmbH is your dependable partner at every production stage, from prototyping to series production.

This safety chapter provides information about the following:

- The warning levels contained in this operating manual
- Important safety instructions for the product
- Intended use of the product
- Requirements for the target group
- Duties of the operator

This operating manual is only valid for the following product:

Item number 22101692

Designation High-voltage test box VAS 6558A/26

Warning levels

This chapter provides information about the warning levels used in this operating manual.

DANGER

Failure to observe the safety instructions **WILL** result in death or serious injury!

WARNING

Failure to observe with the safety instructions **CAN** result in death or serious injury!

CAUTION

Failure to observe the safety instructions **CAN** result in minor physical injury!

Important safety instructions

This chapter contains the safety instructions that must be observed when handling the product.



DANGER

Danger of fatal electric shock!

The electrical voltage in other systems is lethal and will cause death by electric shock!

- Do not use the product for measurements on utility power circuits!
- Never attempt to power other devices with the product!



WARNING

Danger of fatal electric shock!

The electrical voltage in high-voltage systems is lethal and can cause death by electric shock!

Liquids, condensation and high humidity can cause short circuits!

- Do not let the product come into contact with liquids!
- Use the product only in dry and enclosed spaces!



WARNING

Danger of fatal electric shock!

The electrical voltage in the product is dangerous and can cause serious injury or death from electric shock!

Defective and damaged products cannot guarantee protection against electrical voltage!

- Do not let the product come into contact with chemicals!
- Replace a defective or damaged product immediately!
- Never attempt to repair or tamper with the product!

Intended use

The product is used to adapt a high-voltage measurement module or any other application-appropriate multimeter or insulation resistance tester to the respective plug or screw connection on the vehicle. The product is not used to test that the circuit is de-energized.

The product is suitable for the following measurements:

- Insulation resistance measurement
- Continuity measurement

Use only the plug connections on the vehicle that the manufacturer has specified in the guided fault finding. The product may only be used to adapt IPT screw connectors and HPK plug connectors.

In this operating manual, vehicle manufacturers are exclusively defined as vehicle manufacturers in the Volkswagen Group.

Any use beyond what is listed here is prohibited.

Requirements for the target group

Only qualified personnel may work with this product!

In this operating manual, qualified personnel is defined as personnel meeting all requirements for working on high-voltage systems applicable in the country of operation, as defined by:

- Regulations applicable in the country of operation
- Qualification according to DGUV 200-005 level 2 or higher, or equivalent
- Specifications from the vehicle manufacturer and/or the operator.

At all times while using the product, staff must wear the personal protective equipment prescribed by the vehicle manufacturer for work on high-voltage systems.

Duties of the operator

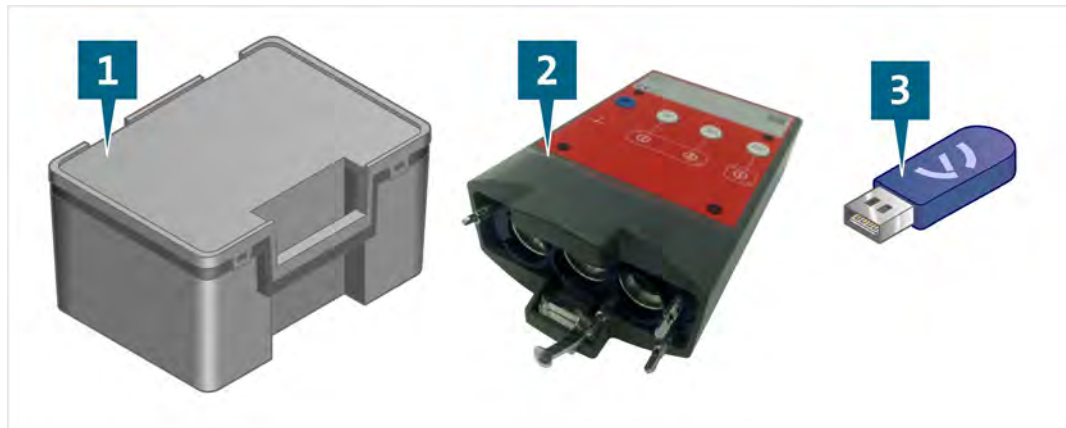
The operator is responsible for ensuring that all persons working on the high-voltage test box fulfill the requirements for the target group.

Furthermore, the operator is responsible for ensuring the following:

- The high-voltage test box is always in perfect working order.
- The regular inspection periods for the high-voltage test box and all components are observed and logged.
- The statutory and trade association inspection periods for the operation of electrical devices are observed.

Scope of delivery

Immediately check the condition of the product and the completeness of the delivery. If anything is missing or defective, please contact the manufacturer immediately.



- (1) Carrying case
- (2) High-voltage test box
- (3) USB stick with operating manual

Design





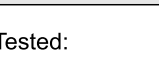






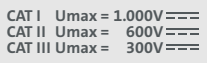

Product design:



- (1) Connection area for HPK connectors
- (2) Test sockets for HPK connectors (see wiring diagram)
- (3) Connection area for IPT screw connectors
- (4) Test sockets for IPT screw connectors (see wiring diagram)
- (5) Locking pins

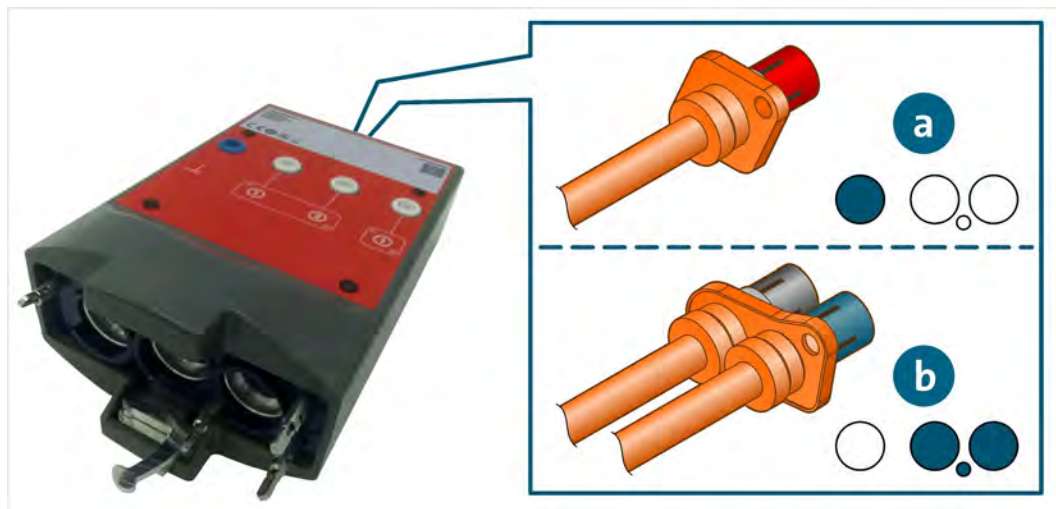
Symbols and connections

The following symbols are shown on the product:

Symbol	Meaning
	General warning symbols
	Electrical hazard! Read the operating manual!
	The serial number is used in conjunction with the manufacturer part number to identify the product.
	The manufacturer part number is used in conjunction with the serial number to identify the product.
	Date of manufacturer's test
	The product complies with protection class II, meaning it has increased or double insulation between active and accessible parts in accordance with VDE 0100, Part 410/412.1.
	The disposal instructions prohibit disposal of the product with household waste. Always dispose of the product in accordance with all local disposal regulations.
	The CE marking certifies that the product complies with all applicable European regulations and has been subjected to the prescribed conformity assessment procedure.
	This label certifies that the product complies with the limits of GB/T 26572-2011 ("China-ROHS").
	The cTÜVus mark indicates that the product has been tested and certified by an NRTL in accordance with applicable standards.
	The test seal identifies the product as having been approved for use in workshops and production facilities belonging to the vehicle manufacturer.
	Indicates which measurement categories the product is intended for according to IEC 61010-31.
	QR code for accessing the operating manual on mobile devices.
	Schematic wiring diagrams (see wiring diagram)


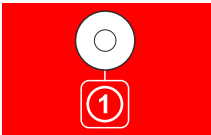
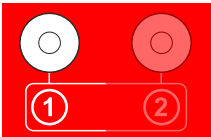
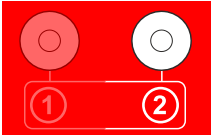
The product has connection areas for HPK plug-in connectors and IPT screw connectors (see “Design” section). Separate test sockets are assigned to each connection area.

Connection area for HPK plug-in connectors

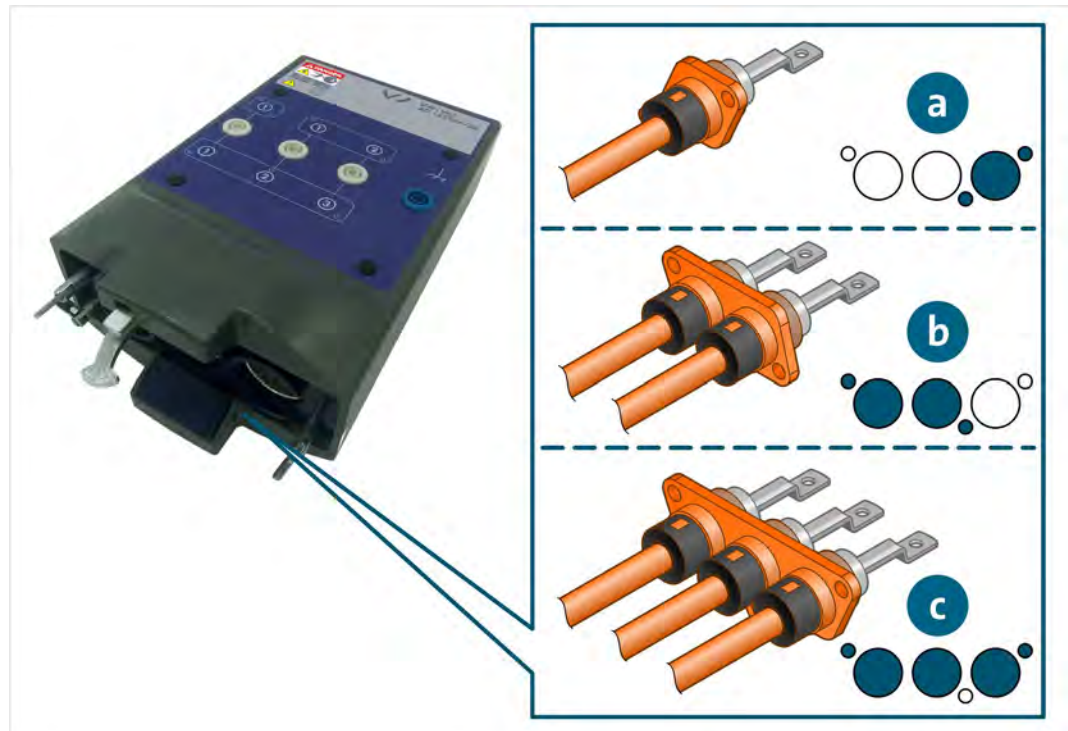


- (a) Socket for single HPK plug-in connector
- (b) Sockets for double HPK plug-in connectors

The sockets are connected to the following test sockets:

Connector	Function
	Ground socket
	Test socket for single HPK plug-in connector
	Test socket for double HPK plug-in connector (cable 1)
	Test socket for double HPK plug-in connector (cable 2)

Connection area for IPT screw connectors

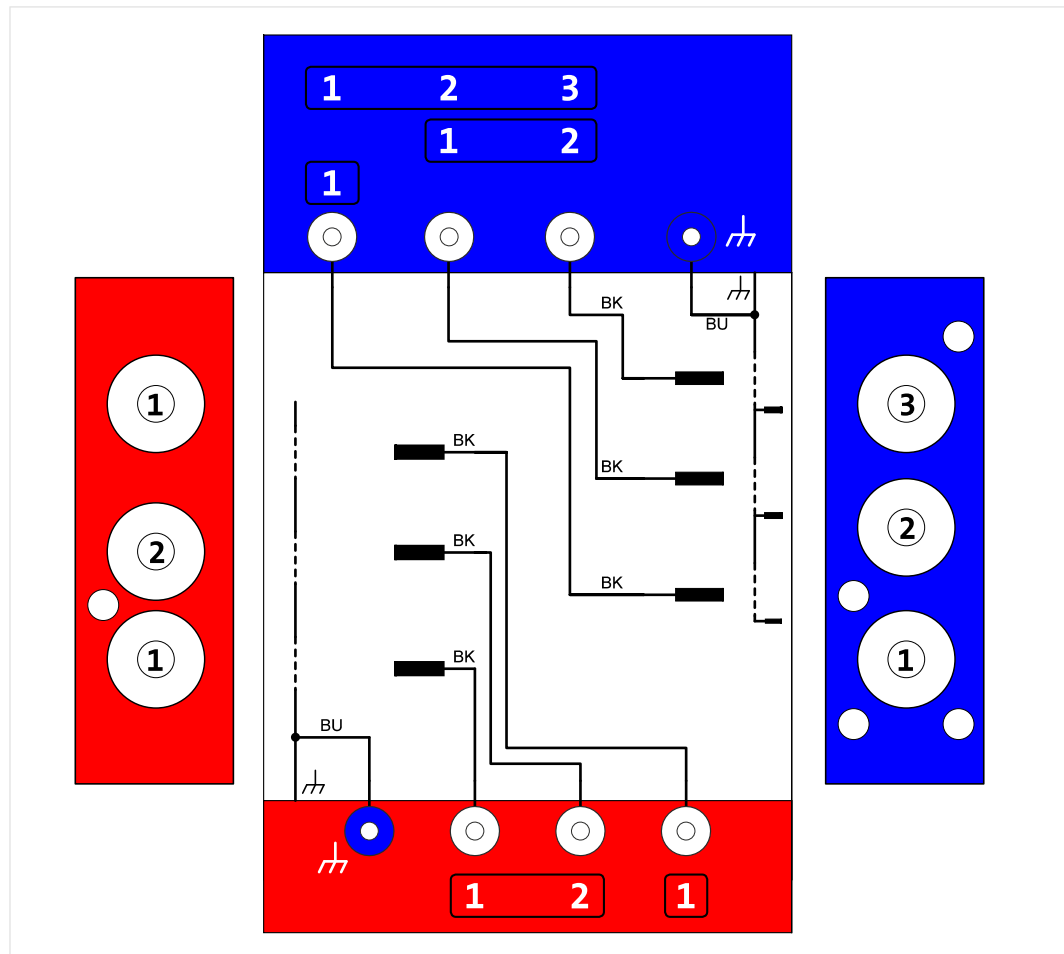


- (a) Socket for single IPT screw connector
- (b) Sockets for double IPT screw connectors
- (c) Sockets for triple IPT screw connectors

The sockets are connected to the following test sockets:

Connector	Function
	Ground socket
	Test socket for the following IPT screw connectors: <ul style="list-style-type: none"> - Single IPT screw connector - Triple IPT screw connector (cable 1)
	Test socket for the following IPT screw connectors: <ul style="list-style-type: none"> - Double IPT screw connector (cable 1) - Triple IPT screw connector (cable 2)
	Test socket for the following IPT screw connectors: <ul style="list-style-type: none"> - Double IPT screw connector (cable 2) - Triple IPT screw connector (cable 3)

Wiring diagram



Technical data

Rated data	Values
Manufacturer number	22101692
Maximum rated voltage	CAT I: DC 1000 V CAT II: DC 600 V CAT III: DC 300 V
Maximum rated current	≤ DC 60 V: 1000 mA > DC 60 V: 2 mA
Protection class	II / double insulated
Weight	~ 2300 g
Dimensions L/H/W	~ 130 mm/210 mm/50 mm

Ambient conditions	Operation	Storage	Transportation
Temperature	5 °C to 40 °C	-20 °C to 60 °C	-20 °C to 60 °C
Elevation above sea level	max. 2000 m	No limitation.	
Humidity	Max. 80% up to 31°C, decreasing linearly to 50% at 40°C	Max. 85%	
Pollution rating	2		
Condensation	Not permitted. Maximum permissible relative humidity: 60% in environments with corrosive gas/air.		

This chapter provides information about the following activities:

- Startup
- Detaching the plug connection
- Cleaning
- Storage and transportation
- Disposal
- Maintenance



WARNING

Danger of fatal electric shock!

The electrical voltage in high-voltage systems is lethal and can cause death by electric shock!

- Use the product only for the applications intended by the vehicle manufacturer!

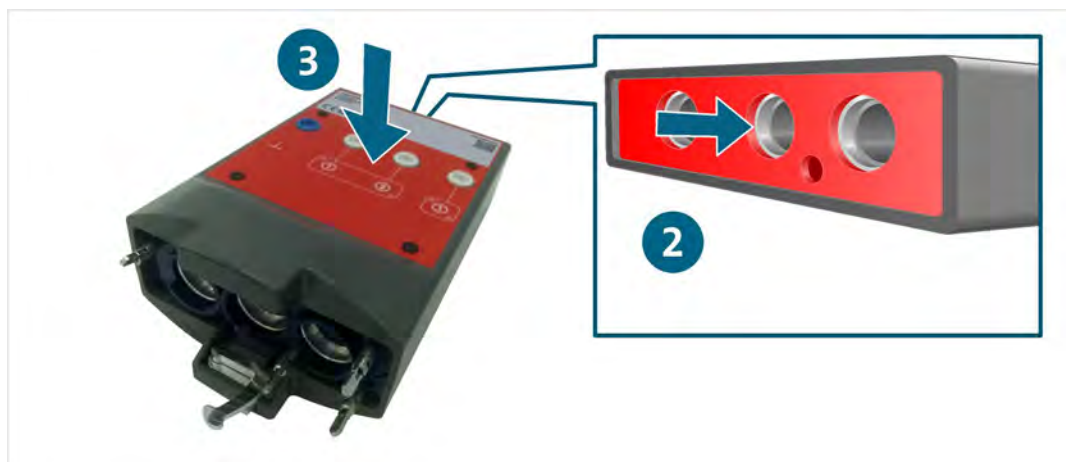
Startup

Connecting HPK connectors

1. Follow the safety instructions.



2. Connect the HPK connector to the appropriate HPK socket(s) (see the “Connections” section).
3. Connect the high-voltage measurement module to the HPK test sockets according to the guided fault finding.



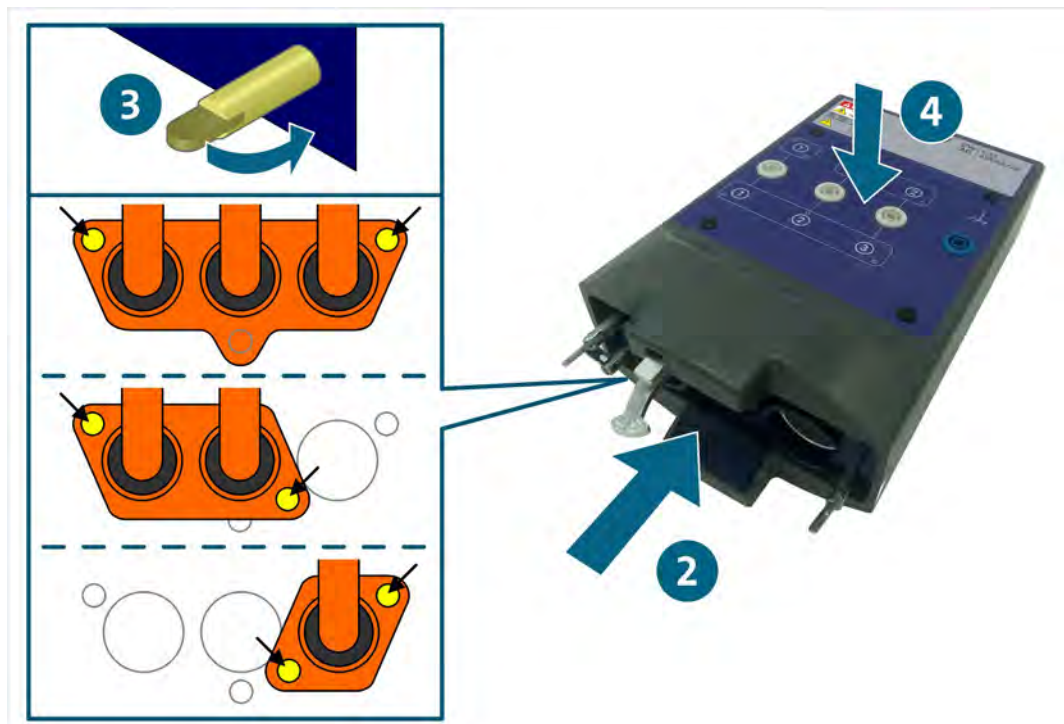
- ✓ You can now perform measurements in accordance with the guided fault finding.

Connecting IPT screw connectors

1. Follow the safety instructions.



2. Connect the IPT screw connector to the appropriate IPT socket(s) (see the “Connections” section).
3. Lock the connection by moving the locking pins.
4. Connect the high-voltage measurement module to the HPK test sockets according to the guided fault finding.

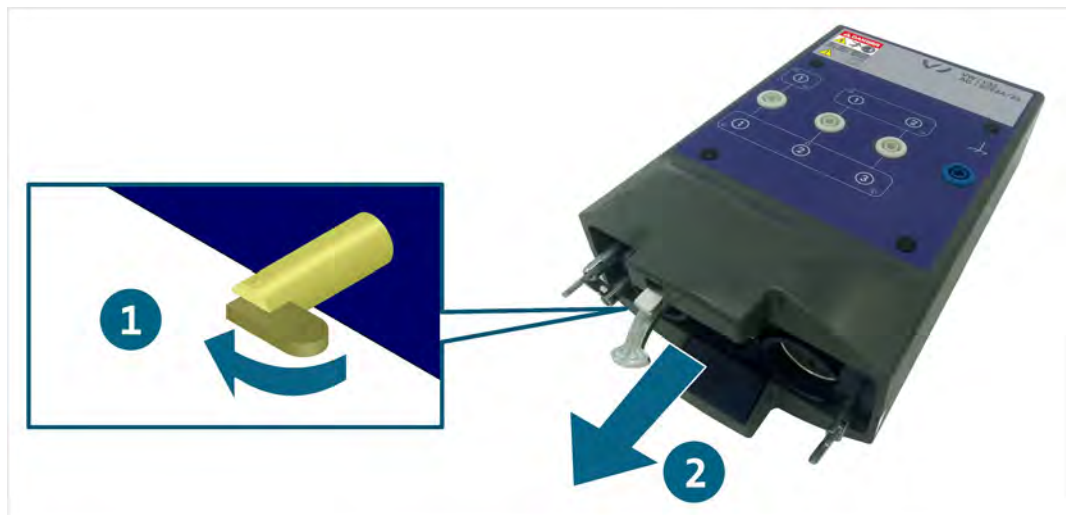


- ✓ You can now perform measurements in accordance with the guided fault finding.

Detaching the plug connections

Before you pull the IPT screw connector out of the socket, you must release the locking mechanism.

1. Release the locking mechanism by straightening the locking pins.
2. Pull the IPT screw connector out of the socket.



✓ The plug connection is now detached.

Cleaning



DANGER

Danger of fatal electric shock!

The electrical voltage in high-voltage systems is lethal and will cause death by electric shock!

- Disconnect the product from all power sources before cleaning the product!

Observe the safety instructions!

Use only a dry cloth to clean the product.

Storage and transportation

Store and transport the product only in the carrying case (see the “Scope of delivery” section).

Disposal

Observe the safety instructions!

Always dispose of the product in accordance with all local disposal regulations.

Maintenance

Observe the safety instructions!

National and local requirements for regular testing must be observed!

Test the product for proper function at intervals of no more than 24 months.

Contact the manufacturer to have a professional function test performed.

Warranty

STODIA GmbH grants a warranty period of 24 months from the date of purchase. The warranty is valid for demonstrable defects in functional material and workmanship.

Further information on the warranty conditions can be found in the terms and conditions on the manufacturer's website.

Customer service

Always include the item number and, if available, the serial number with any product queries. Both numbers are found on the product.

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For internal use only
Subject to technical changes
Edition 01/2024