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References marked on tester or in instruction manual:

- Warning of possible dangers; observe the associated note in the operating instructions.
- Note, information.
- Warning of electrical voltage - risk of electric shock.
- Double or reinforced insulation throughout according to class II IEC 60536.
- Mark of conformity. This mark confirms that the appliance complies with the applicable directives. It complies with the EMC Directive (2014/30/EU) and the Low Voltage Directive (2014/35/EU). The EN 61010-1 standard is fulfilled.
- The appliance complies with the Waste Electrical and Electronic Equipment Directive (2012/19/EU WEEE).

CAT II / 300 V The unit complies with measurement category CAT II/300 V to earth, means, for measurements on circuits that have a direct connection to the low-voltage mains by means of a plug, e.g. household appliances, portable electrical appliances and similar.

1.0 Introduction / Scope of delivery

The operating instructions contain information and instructions that are necessary for safe operation and maintenance of the appliance. Therefore, before using the machine, the user should (commissioning/assembly) read the operating instructions carefully and follow them in all points.

If the operating instructions are not read or the warnings and notes contained therein are not observed, serious personal injury or damage to property may result.

HDT EVSE Wallbox Wiring Tester is a testing device for quick and safe indication of correct or faulty socket or cable connections in the wiring.

The unit may only be used in properly earthed electrical installations!

- Integrated socket test

Scope of delivery:

- 1 HDT EVSE Wallbox Wiring Tester
- 1 Instruction Manual

2.0 Transport and storage

Please keep the original packaging for later shipment, e.g. for calibration. Transport damage due to inadequate packaging is excluded from the warranty.

The unit must be stored in a dry place in a closed room.

If the unit has been transported or stored at extreme temperatures, it requires at least 2 hours of acclimatization to room temperature before being switched on.

3.0 Safety instructions

The HDT EVSE Wallbox Wiring Tester has been built and tested in accordance with the current safety regulations for electrical measuring, control and laboratory equipment as per IEC/EN 61010-1 and has left the factory in safe and perfect condition.

- The HDT EVSE Wallbox Wiring Tester is only a testing device. The HDT EVSE Wallbox Wiring Tester does not test for absence of voltage.
- To avoid electric shocks, the applicable safety and VDE regulations must be observed when working with voltages above 120 V (60 V) DC or 50 V (25 V) RMS AC. The values in brackets apply to restricted voltage ranges (for example in the medical or agricultural sector).
- Before use, make sure that the device is functioning properly. The tester may only be used within the specified measuring ranges.
- If the safety of the user is no longer guaranteed, the unit must be taken out of service and protected from further use.

Safety is no longer guaranteed if the unit:

- has obvious damage
- no longer performs the desired measurements
- has been stored for too long under unfavorable conditions
- has been subjected to mechanical stress during transport
- has been contaminated by leaking batteries
- has been altered in any way and no longer corresponds to its original condition

In the above cases, the unit must no longer be used!

- The unit may only be opened by trained personnel. Before opening, make sure that the unit has been disconnected from all measuring circuits.
- The accident prevention regulations laid down by the professional associations for electrical systems and equipment must be strictly observed during all tasks.
- To ensure correct operation and long life, do not leave the instrument in direct sunlight where it may heat up.

4.0. Intended use

The appliance may only be used under the conditions and for the purposes for which it was designed. In this regard, particular attention must be paid to the safety instructions, the technical specifications with regard to the ambient conditions and the use of the appliance in dry environments.

4.1 Using HDT EVSE Wallbox Wiring Tester 8419

The EVSE Wallbox Wiring Tester indicates the status of the charger output socket (vehicle side) and not the functionality of the charger itself.

- It shows if the vehicle charging is possible.
- The charger itself could prevent charging in case of wrong wiring at the chargers input.

- Select CP Mode "A" with the slider switch.
- Connect HDT EVSE Wallbox Wiring Tester to the Type-2 connector of the charging point.
- Select CP Mode "B" with the slider switch, the charging point should show "ready to charge".
- Select CP Mode "C" with the slider switch, the charging point should start charging.
- The test result about the wiring of the Type2 socket and information to the present voltages is shown on the table on the instrument.
- After you completed all your measurements select CP Mode "A" with the slider switch to stop charging.
- Unplug HDT EVSE Wallbox Wiring Tester from the charging point.

4.2 Proximity Pilot (PP) State (Cable Simulation)

The HDT EVSE Wallbox Wiring Tester is configured internally (680 Ohm between PP and PE) to simulate 20 A current capability.

4.3 Control Pilot (CP) State (Vehicle Simulation)

With the CP Mode slider switch various vehicle states can be simulated. Vehicle states are simulated with different resistances connected between CP and PE conductors. Correlation between resistance and vehicle states is shown in Table below.

Vehicle State	State Description	CP-PE-Resistance	CP terminal voltage
A	Electric vehicle not connected	open (∞)	± 12 V @ 1 KHz
B	Vehicle connected, not ready to charge	2.74 K	+9 V / -12 V @ 1 KHz
C	Electric vehicle connected, ready to charge, ventilation not required	882 Ω	+6 V / -12 V @ 1 KHz
[E]	CP Error „E“ (see below)	0 Ω	0 V

4.4 CP Error "E"-simulation

"E" - CP Error simulation could be realized by pushing the slider switch into (spring loaded) position [E]. This will simulate behavior of the station when there is a short circuit between CP and PE through internal diode (acc. to standard IEC/EN 61851-1). In the case of CP Error ("E" is pushed), result should be aborting of the charging process and new charging process is prevented.

4.5 Operation elements



5.0 Error messages during the installation and function test

- The unit may only be used in properly earthed electrical installations!**
- Before use, check that the unit is in working order, for example on a known voltage source.
- The tester does not detect reversed N<->PE connections.**
- In case of crosstalk from very long energized to non-energized wires wrong indications are possible.**
- If the CP-Mode-switch is in position "C" but all indicators are OFF there could be**
 - no voltage at all,
 - malfunction of the charger,
 - wrong wiring at the chargers input or output.

This needs further investigation of the root cause.

5.1 Socket inspection

To test sockets and connecting cables, insert the device into the socket. A statement about the test result is made by means of the display legend below.

<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	OK
<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	L/N swapped
<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	L/PE swapped
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	PE missing
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	N missing
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	L missing
<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	L/PE swapped & PE missing
<input type="radio"/>	<input type="radio"/>		○ = LED OFF
<input checked="" type="radio"/>	<input type="radio"/>		● = LED ON

6.0 Care and maintenance

When operated according to the instructions in the operating manual, the unit does not require any special maintenance. Should operating problems occur during daily use, our advisory service is available to you free of charge. If functional faults should occur after the warranty period has expired, our customer service will repair your unit without delay.

If the unit becomes dirty from daily use, it is recommended to clean the unit with a damp cloth and a mild household cleaner. Before cleaning the unit, make sure that it has been disconnected from the external power supply and all other connected devices. Never use harsh cleaners or solvents for cleaning. The unit should not be used for about 6 hours after cleaning.

7.0 Technical data

Model:	230 V / 400 V
Networks:	TN, TT
Measuring Terminals:	(L1, N, PE) max. 230 /400 V 50 / 60 Hz*
Fixed connector:	Type-2-connector, fixed to device
Socket / Test lead colors:	L1, N, PE in 3-wire-cable
Operating Time:	continuous
Current consumption:	≤ 3,5 mA
IP:	IP 40
Safety:	CAT II 300 V
Pollution degree:	2
Height:	2000 m
Standards:	EN 61010-1, EN 61851-1
Temperature:	0°...40°C
Humidity:	85% RH
Dimensions:	approx. 600x70x60mm
Weight:	approx. 365g

The unit may only be used in properly earthed electrical installations!

Warranty

Triplett Test Equipment and Tools extends the following warranty to the original purchaser of these goods for use. Triplett warrants to the original purchaser for use that the products sold by it will be free from defects in workmanship and material for a period of (1) one year from the date of purchase. This warranty does not apply to any of our products which have been repaired or altered by unauthorized persons in any way or purchased from unauthorized distributors so as, in our sole judgment, to injure their stability or reliability, or which have been subject to misuse, abuse, misapplication, negligence, accident or which have had the serial numbers altered, defaced, or removed. Accessories, including batteries are not covered by this warranty

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