



NRC

NewRealGreen



Validation and inspection of electric car charging stations



Validation and inspection of electric car charging stations

**Recharging stations:
a new way to use electric energy.**

MACROEVTEST and **COMBI521EV**, HT'S new instruments for **validation** and **inspection** of **electric car charging stations** (EVSE) in compliance with standards IEC/EN 61851-1 and IEC/EN60364-7-722, and for **safety tests** in **private** and **industrial** environments. Thanks to the brand new **HTAnalysis App**, free to download for iOS and Android systems, **MACROEVTEST** and **COMBI521EV** are capable of transferring measured and recorded data onto tablets and smartphones, thus giving the operator the possibility to customize and share through HTCloud the result of their tests.



ORDER CODE **HA0EV100**

EV-TEST

EVSE ADAPTER FOR ELECTRIC
VEHICLE CHARGER TESTING

- › Suitable for **charging stations with charging mode 2 and 3**
- › **Vehicle simulation** with **Control Pilot (CP State)**
- › **Cable capacity simulation** with **Proximity Pilot (PP State)**
- › **Ground fault simulation (Fault PE)**
- › **Error simulation** on the **Control pilot** signal (**Fault E**)
- › **Phase presence** indication via **three LEDs**
- › **Connection terminals for connecting external load**, in order to verify the correct operation of the energy meter of the charging station
- › **Measurement terminals L1-L2-L3-N-PE** to connect HT verification tools, perform **safety and functional tests** (such as RPE, RCD, ISO)
- › Verification of the **conformity of charging stations to the IEC 61851-1 and IEC 60364-7-722 standards**



SEE THE
TECHNICAL
DATA SHEET



ORDER CODE **HV0521EV**

COMBI521EV

MULTIFUNCTION INSTRUMENT FOR
ELECTRICAL INSTALLATION SAFETY
TESTING, POWER QUALITY ANALYSIS
AND EVSE SAFETY TESTING

AUTOMATIC SEQUENCE OF TESTS FOR THE VERIFICATION OF EVSE STATIONS

- › Check of the output voltage value
- › Continuity check of the protective conductor
- › Insulation resistance measurement
- › Check of the status:
 - Standby (status A)
 - Vehicle detected (status B)
 - Mechanical interlock verification (status B)
 - Ready (charging) (status C) with ventilation (status D)
 - Fault simulation on the protective conductor (fault PE)
 - Fault on CP signal (fault E)
- › Global earth resistance measurement
- › Measurement of RCD tripping time (type A, type B and type DD 6ma)



EVSE
TESTING

AUTO
TEST



SEE THE
TECHNICAL
DATA SHEET

HT charging stations EVSE



ORDER CODE **HV5036EV**

MACROEVTEST

MULTIFUNCTION INSTRUMENT FOR ELECTRICAL INSTALLATION SAFETY TESTING, POWER QUALITY ANALYSIS AND EVSE SAFETY TESTING

AUTOMATIC SEQUENCE OF TESTS FOR THE VERIFICATION OF EVSE STATIONS

- › Check of the output voltage value
- › Continuity test of the recharging station's protection conductor
- › Insulation test of the recharging station
- › Verification of the statuses of the recharging station
 - Vehicle not present (status A)
 - Vehicle present but not being charged (status B)
 - Mechanical interlock verification (status B)
 - Mechanical interlock verification (status B)
 - Fault simulation on the protective conductor (fault PE)
 - Fault on CP signal (fault E)
- › Global earth resistance measurement
- › Measurement of RCD tripping time (type A, AC, F, B 6ma, DD)



SEE THE
TECHNICAL
DATA SHEET



ACCESSORIES PROVIDED

- › **C2033X**
Three wire cable with Schuko plug
- › **UNIVERSALKITG3**
Set of 4 cables + 4 alligator clips + 3 test leads (MACROEVTEST)
- › **UNIVERSALKITCOMBI**
Set of 3 cables + 3 alligator clips + 3 test leads (COMBI521EV)
- › **KITTERRNE**
Set of 4 cables + 4 earth probes + carrying bag (MACROEVTEST)
- › **PT400**
Touchscreen stylus (included inside meter) (MACROEVTEST)
- › **PR400**
Remote START/STOP switch probe (optional for COMBI521EV)
- › **ZEROLOOP**
Loop zero adapter (MACROEVTEST)
- › **EV-TEST100**
EVSE test adapter
- › **RCDX10**
Accessory to test earth leakage relay (MACROEVTEST)
- › **SP-5100**
Carrying straps
- › **TOPVIEW2006**
PC Windows software + optical/USB connection cable (order code: C2006)
- › **VA507**
Hard carrying case (optional for COMBI521EV)
- › **YABAT0003000**
Rechargeable battery NiMH, 1.2V, type AA 6 pcs (MACROEVTEST)
- › **YABAT0004001**
External charger (MACROEVTEST)
- › **YAMUM0058HT0**
Quick reference guide
- › **YAMUM0057HT0**
User's manual on CD-ROM
- › ISO calibration report



OPTIONAL ACCESSORIES

- › **HT4005K**
Standard clamp with 200A/1V AC full scale
- › **HT96U**
Standard clamp with 1/100/1000A full scale
- › **IMP57**
Accessory for Loop impedance measurement with high resolution
- › **T2100**
Clamp for earth probe resistance measurement
- › **HT52/05**
Temperature/Humidity probe
- › **HT53/05**
Illuminance (lux) probe
- › **BORSA2051**
Carrying bag (Standard for COMBI521EV)
- › **606-IECN**
Connector with magnetic tip
- › **1066-IECN**
Connector for extension of banana cables 4mm



TECHNICAL SPECIFICATIONS

	COMBI521EV	MACROEVTEST
Compatibility with EV-TEST100, sequence of tests for the verification of electric columns	●	●
Integrated WiFi connection and compatibility with HTANALYSIS App	●	●
Internal memory for measured data saving with TOPVIEW software	●	●
Insulation with voltage 50, 100, 250, 500, 1000VDC	●	●
Continuity of protective conductors with 200mA	●	●
Continuity of protective conductors with 10A	● With optional accessory	●
Tripping time of RCDs type B, A, AC, F, Standard, Selective and Delayed	● A, AC, F standard, selective up to 1A B/B+ up to 300mA	● A, AC, F standard, selective up to 1A B/B+ up to 300mA
Tripping current of RCDs type B, A, AC, F, Standard, Selective and Delayed	● A, AC, F standard, selective up to 1A B/B+ up to 300mA	● A, AC, F standard, selective up to 1A B/B+ up to 300mA
Tripping time and current of RCDs type B, A, AC, F, Standard, Selective and Delayed with auto/ramp/manual mode	●	●
Tripping time and current of RCDs with separate clamp jaws type B, A, AC Standard, Selective and Delayed		●
Non-trip earth resistance	●	●
Earth resistance by voltammetric method		●
Resistance of the single earth rods with clamp		● **
Ground resistivity by 4-wire method		●
Loop/Line impedance, Phase-Phase, Phase-Neutral, Phase-PE	●	●
Loop/Line impedance Phase-Phase, Phase-Neutral, Phase-PE with high resolution (0.1mΩ)	● ***	● ***
Measurement of percentage voltage drop on the line	●	●
Contact voltage	●	●
Phase sequence	●	●
Leakage current with optional clamp meter	●	●
Measurement of Voltage, Current, Active, Reactive, Apparent Power	● (real time) (1)	● (real time) (1)
Measurement of Cosphi, Power Factor	● (real time) (1)	● (real time) (1)
Measurement of environmental parameters (°C, °F, %RH, Lux)	● (real time)	● (real time)
Voltage and current harmonics up to the 25th and THD%	● 25 ^a	● 25 ^a

(**)With optional accessory T2100 (***)With optional accessory IMP57

HT charging stations EVSE



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