



**KITS FOR THE  
INSTALLER OF  
ELECTRIC VEHICLES  
CHARGING STATIONS**

INSTALLATION AND SERVICE OF CHARGING STATIONS FOR  
ELECTRIC AND PLUG-IN HYBRID VEHICLES

[www.promaxelectronics.com](http://www.promaxelectronics.com)



# THE NEW MOBILITY NEEDS NEW PROFESSIONALS ARE YOU READY?



## KITS FOR THE INSTALLER OF ELECTRIC VEHICLES CHARGING STATIONS

PROMAX introduces a new range of equipment designed to supply the installer of electric vehicle charging stations to help him to deal with this new, growing market.

## PERFECT FOR TRAINING CENTERS

The equipment in this catalogue is available as a kit in very special conditions for **vocational education centers**. We want to help the future professionals in the sector to develop their professional skills providing them with top-of-range instruments.

# KITS FOR THE INSTALLER OF ELECTRIC VEHICLES CHARGING STATIONS

## MULTI FUNCTIONAL INSTALLATION TESTER

FOR SINGLE-PHASE AND THREE-PHASE SYSTEMS

This is a must-have instrument to test low voltage systems. It performs all the necessary tests for installation safety testing on TT and TN systems, including continuity, isolation, RCD, loop, line, voltage, frequency, earth resistance testing and phase sequence tests.



## TEST ADAPTER FOR CHARGING STATIONS

ALLOWS USING THE IC-600 TO CHECK THE STATIONS

It allows testing the charging stations using the installation tester. It is intended for testing Mode 3 EV supply equipment with a type 2 charging plug. It is designed for on-site testing of EVSE charging stations with no need of a physical electric vehicle, just with a three-phase tester IC-601 and the IC-610 adaptor.



## EVSE CHARGING STATION

WITH DYNAMIC POWER MANAGEMENT

The design of the charging station incorporates a sensor that monitors and prioritizes the energy consumption of the house. The power of the charging station is automatically regulated without exceed the contracted power term, avoiding overloads in the electrical installations of houses and small businesses, while achieving economic savings on the bill.



# MULTI FUNCTIONAL INSTALLATION TESTER

## FOR SINGLE-PHASE AND THREE-PHASE SYSTEMS

### IC-600

**FOR TT AND TN SYSTEMS**

**TRUE RMS VOLTAGE AND FREQUENCY**  
MAXIMUM ACCURACY

**UNIVERSAL TESTER**  
FOR DOMESTIC AND INDUSTRIAL INSTALLATIONS

**STEP-BY-STEP ON-SCREEN GUIDE**  
FOR AN ERROR-FREE TESTING

**UPGRADABLE FIRMWARE**  
KEEP THE INSTRUMENT UP-TO-DATE TO THE REGULATIONS



## ANALYZES, DIAGNOSES AND CERTIFIES THE SAFETY IN BOTH DOMESTIC AND INDUSTRIAL INSTALLATIONS

It performs all the necessary tests for installation safety testing on TT and TN systems, including continuity, isolation, RCD, loop, line, voltage, frequency, earth resistance testing and phase sequence tests.

## APPLICABLE REGULATIONS

The instrument meets 14 reference standards, including **IEC/EN 61557** and **VDE 0413** as well as the safety standards **IEC/EN 61010-1** and **-031**.

## CONNECTIVITY TO SMARTPHONES, TABLETS AND COMPUTERS

The **IC-600** can communicate with Android devices via Bluetooth. It includes a PC software to download the test results and parameters and to create reports.

## MEASUREMENT FUNCTIONS

- Insulation resistance with DC voltage
- Continuity of PE conductors with 200 mA test current with polarity change
- Continuity of PE conductors with 7 mA test current (continuous measurement) without RCD tripping
- Line and Loop impedance
- Loop impedance with Trip Lock RCD function
- TRMS voltage and frequency
- Phase sequence
- RCD testing (general and selective, type AC, A, F, B, B+ and EV RCD)
- Earth resistance (3-wire method)

## MAIN FEATURES

- Wide **Pass/Fail LED** to avoid misreadings.
- On-screen help** per function.
- Earth resistance measurement** with the 3-wire method with two additional rods.
- Built-in fuse tables** (unique feature) for an automatic evaluation of the line / loop impedance compared to the regulations.
- Real-time **online 3-voltage line monitoring**.
- Upgradable** to keep the instrument up-to-date to the regulations.
- Automatic **polarity reversal on continuity test**.
- Insulation test voltages** from 50 V up to 1000 V (readings up to 1000 MΩ).
- Trip Lock function** to perform a loop impedance test without tripping the (EV) RCD.
- Multi-system** for single and multiphase TT and TN systems
- Built-in charger & NiMH rechargeable batteries** included as standard.
- Automated RCD testing** procedure significantly reduces test time.
- Supports **Type B RCD** testing.
- Bluetooth communication** with Android tablets and smart phones.
- Includes **PC software** to download test results and parameters and to create reports.

## SPECIFICATIONS

Function	Measurement margin	Resolution	Accuracy
Insulation resistance (EN 61557-2)	[U] 50, 100, 250 VDC		
	From 0 M $\Omega$ to 19.99 M $\Omega$	0.01 M $\Omega$	$\pm(5\%$ rdg. + 3 digits)
	From 20 M $\Omega$ to 99.9 M $\Omega$	0.1 M $\Omega$	$\pm 10\%$ rdg.
	From 100 M $\Omega$ to 199.9 M $\Omega$	0.1 M $\Omega$	$\pm 20\%$ rdg.
	[U] 500 VDC, 1 kVDC		
	From 0 M $\Omega$ to 19.99 M $\Omega$	0.01 M $\Omega$	$\pm(5\%$ rdg. + 3 digits)
Continuity 200 mA of PE conductor with polarity change (EN 61557-4)	From 0 $\Omega$ to 19.99 $\Omega$	0.01 $\Omega$	$\pm(3\%$ rdg. + 3 digits)
	From 20 $\Omega$ to 199.9 $\Omega$	0.1 $\Omega$	$\pm 5\%$ rdg.
	From 200 $\Omega$ to 1999 $\Omega$	1 $\Omega$	$\pm 5\%$ rdg.
Low resistance continuity measurement, test current 7 mA (continuous measurement)	From 0 $\Omega$ to 19.9 $\Omega$	0.1 $\Omega$	$\pm(5\%$ rdg. + 3 digits)
	From 20 $\Omega$ to 1999 $\Omega$	1 $\Omega$	$\pm(5\%$ rdg. + 3 digits)
Loop impedance (EN 61557-3)	From 0 $\Omega$ to 9.99 $\Omega$	0.01 $\Omega$	$\pm(5\%$ rdg. + 5 digits)
	From 10 $\Omega$ to 99.9 $\Omega$	0.1 $\Omega$	$\pm(5\%$ rdg. + 5 digits)
	From 100 $\Omega$ to 999 $\Omega$	1 $\Omega$	$\pm 10\%$ rdg.
	From 1 k $\Omega$ to 9.99 k $\Omega$	10 $\Omega$	$\pm 10\%$ rdg.
Line impedance (EN 61557-3)	From 0 $\Omega$ to 9.99 $\Omega$	0.01 $\Omega$	$\pm(5\%$ rdg. + 5 digits)
	From 10 $\Omega$ to 99.9 $\Omega$	0.1 $\Omega$	$\pm(5\%$ rdg. + 5 digits)
	From 100 $\Omega$ to 999 $\Omega$	1 $\Omega$	$\pm 10\%$ rdg.
	From 1 k $\Omega$ to 9.99 k $\Omega$	10 $\Omega$	$\pm 10\%$ rdg.
Voltage drop	From 0% to 99.9%	0.1%	Consider accuracy of line impedance
Voltage	From 0 V to 550 V	1 V	$\pm(2\%$ rdg. + 2 digits)
Frequency	From 0,00 Hz to 9,99 Hz	0.01 Hz	$\pm(0,2\%$ rdg. + 1 digits)
	From 10,0 Hz to 499,9 Hz	0.1 Hz	
Phase sequence (EN 61557-7)	1-2-3 o 3-2-1		
RCD testing (EN 61557-6)	I $\Delta$ N: 10 mA, 30 mA, 100 mA, 300 mA, 500 mA, 1 A		
Contact voltage UC	From 0 V to 19.9 V	0.1 V	(-0% / +15%) rdg. $\pm$ 10 digits
	From 20 V to 99.9 V	0.1 V	(-0% / +15%) rdg.
Trip-out time	From 0 ms to 40 ms	0.1 ms	$\pm 1$ ms
	From 0 ms to max. time	0.1 ms	$\pm 3$ ms
Trip-out current	0.2 x I $\Delta$ N to 1.1 x I $\Delta$ N (type AC)	0.05 x I $\Delta$ N	$\pm 0.1$ x I $\Delta$ N
	0.2 x I $\Delta$ N to 2.2 x I $\Delta$ N (type A, I $\Delta$ N < 30 mA)	0.05 x I $\Delta$ N	$\pm 0.1$ x I $\Delta$ N
	0.2 x I $\Delta$ N to 1.5 x I $\Delta$ N (type A, I $\Delta$ N $\geq$ 30 mA)	0.05 x I $\Delta$ N	$\pm 0.1$ x I $\Delta$ N
	0.2 x I $\Delta$ N to 2.2 x I $\Delta$ N (type B)	0.05 x I $\Delta$ N	$\pm 0.1$ x I $\Delta$ N
Earth resistance (EN 61557-5)	From 0 $\Omega$ to 19.99 $\Omega$	0,01 $\Omega$	$\pm(5\%$ rdg. + 5 digits)
	From 20 $\Omega$ to 199.9 $\Omega$	0,1 $\Omega$	$\pm(5\%$ rdg. + 5 digits)
	From 200 $\Omega$ to 9999 $\Omega$	1 $\Omega$	$\pm(5\%$ rdg. + 5 digits)
Power supply	6 x 1.2 V rechargeable batteries, type AA		
Overvoltage category	CAT III / 600 V; CAT IV / 300 V		
Protection class	Double insulation		
COM port	RS-232 and USB		
Dimensions	140 x 80 x 230 mm		
Weight	1 kg		

## STANDARDS

**Functionality**  
IEC/EN 61557

### Other reference standards for testing

VDE 0413  
IEC/EN 61008  
IEC/EN 61009  
IEC/EN/HD 60364  
HD 384; BS 7671  
IEC/TR 60755  
CEI 64.8  
AS/NZ 3760  
AS/NZ 3018

### Electromagnetic compatibility

IEC/EN 61326-1  
IEC/EN 61326-2-2

### Safety

IEC/EN 61010-1  
IEC/EN 61010-031

## KIT CONTENTS

1x Set of carrying straps  
3x 1.5 m test leads  
1x 1.5 m Schuko-plug test cable  
3x Test probes (blue, black, green)  
3x Crocodile clips (blue, black, green)  
Power supply adapter + 6 NiMH rechargeable batteries, AA type  
USB cable  
RS-232 - PS/2 cable  
PC software  
Short instruction manual  
Instruction manual and handbook on storage media  
Calibration certificate

# TEST ADAPTER FOR CHARGING STATIONS

## USE THE INSTALLATION TESTER TO CHECK THE CHARGING STATIONS

**IC-610**

**SIMULATION OF ELECTRIC VEHICLE PRESENCE**  
PROXIMITY PILOT RESISTANCE SELECTOR

**SIMULATION OF ELECTRIC VEHICLE STATUS**  
WITH RESISTANCE SELECTOR

**CONNECTION TO A SINGLE-PHASE TESTER**  
PHASE 1, NEUTRAL, PE

**DESIGNED FOR ALL KINDS OF STATIONS**  
PRIVATE, SEMI-PRIVATE AND PUBLIC

**SAFETY AND FUNCTIONALITY REGULATIONS**  
EN 61010-1 AND EN 61851-1



### DESIGNED TO TEST THE ELECTRICAL SAFETY AND THE FUNCTIONALITY OF THE EVSE CHARGING STATIONS

The adapter allows you to test charging stations using installation testers. It is intended for testing Mode 3 EV supply equipment with a type 2 charging plug.

### SIMULATION OF THE PRESENCE OF THE EV CABLE AND THE BATTERY CHARGE STATUS

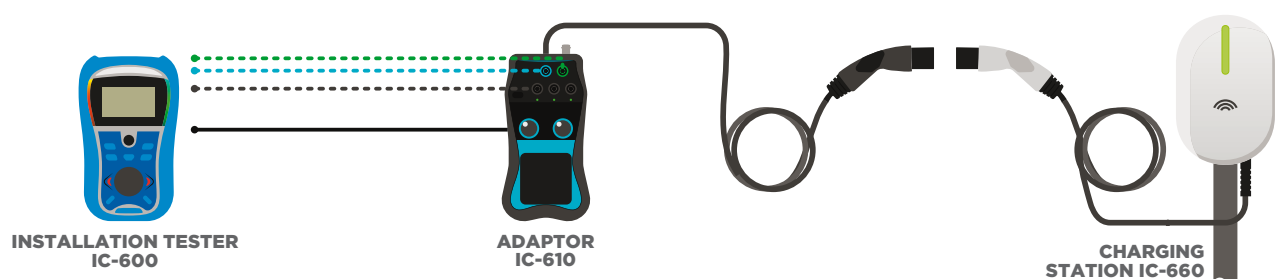
Designed for on-site testing of EVSE charging stations with no need of a physical electric vehicle, just with a three-phase tester and the IC-610 adaptor.

### MEASUREMENTS ON CHARGING STATIONS

Proximity pilot 0-64 A	Isolation test for the charging station
The Control pilot sets the adjustments	Single-phase and three-phase charging stations test
Line impedance for the charging station	Single-phase test through the plug
Circuit impedance fail for the charging station	CP short error simulation (E status)
Functional test of the proximity and control pilots	

### TECHNICAL SPECIFICATIONS

Input impedance	400 V (three-phase), 50 Hz CAT II
Test current	267 A (10 ms) intermittent operation
Proximity Pilot (PP) simulation	Open circuit (13 A, 20 A, 32 A, 63 A)
Control Pilot (CP) simulation	A state (not connected), B state (connected, not charging), C state (charging without ventilation), D state (charging with ventilation), E state (error - CP-to-PE short via diode)
Protection degree	IP 40 (protection), 2 (pollution)
Protection classification	Double insulation
Mechanical features	250 (W.) x 100 (H.) x 70 (D.) mm + 0.5 m. cable 0.9 kg
Temperature	0 to 40 °C (operation), -10 to 70 °C (storage)



# EVSE CHARGING STATION

## WITH DYNAMIC POWER MANAGEMENT

**IC-660**

**UP TO 8 TIMES FASTER**  
FASTER AND SAFER THAN A CONVENTIONAL PLUG

**REAL-TIME INFORMATION**  
CHARGING STATUS LED

**UNIVERSAL SYSTEM**  
COMPATIBLE WITH ANY BRAND

**FOR INDOOR AND OUTDOOR**  
RESISTANT TO HIGH TEMPERATURES - IP54 RATING

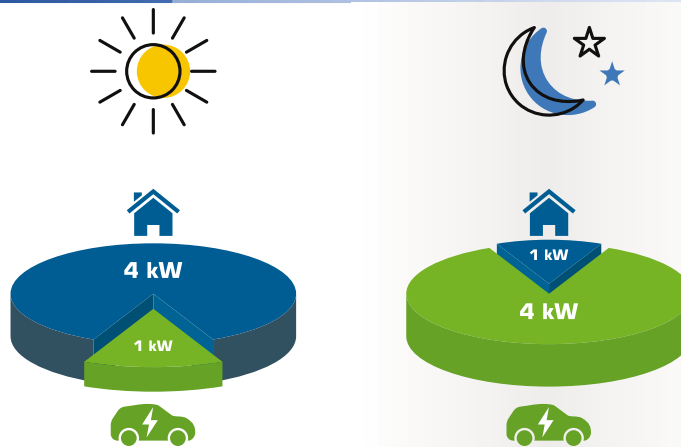
**CABLE UP TO 10 METERS**  
AVAILABLE IN 5 M AND 10 M VERSIONS

**MADE IN EUROPE**  
HIGH QUALITY MANUFACTURING



### SMART SYSTEM - USES THE CONSUMPTION SURPLUS TO CHARGE THE VEHICLE

The design of the charging station incorporates a sensor that monitors and prioritizes the energy consumption of the house. The power of the charging station is automatically regulated without exceed the contracted power term, avoiding overloads in the electrical installations of houses and small businesses, while achieving economic savings on the bill.



### CHARGE THE ELECTRIC AND PLUG-IN HYBRID VEHICLES WITH PHOTOVOLTAIC ENERGY

The IC-660 charging station has been designed to be integrated into electrical installations with solar panels, automatically taking advantage of the surplus of the energy generated.

#### ELECTRICAL SPECIFICATIONS

Voltage	220 - 250 VAC (50/60 Hz) single-phase
Power	7.4 kW
Charging current	32 A
Charger	Type 2 single-phase
Standby consumption	5 W

#### FEATURES

Communication protocol	MODBUS
Cooling	Air-refrigerated
Environmental conditions	-40 to 85 °C (0-95% RF non-condensing) IP54
Material	White ABS
Dimensions	210 (W.) x 300 (H.) x 90 (D.) mm
Weight	3 kg.

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OF ELECTRIC VEHICLES  
CHARGING STATIONS**



# **THE NEW MOBILITY NEEDS NEW PROFESSIONALS ARE YOU READY?**

Please contact your distributor for more information:

DESIGN AND SPECIFICATIONS ARE SUBJECT TO CHANGES WITHOUT PRIOR NOTICE. 08/23