

# CST-322

## ADVANCED CHARGING STATION TEST ADAPTER

The CST-322 Advanced charging station test adapter is designed to test functionality and safety of Mode 2 and Mode 3 single phase and three phase Electric Vehicle Supply Equipment (EVSE) with fixed cable or direct socket connection. EVSE could be tested in accordance with IEC/EN 61851-1 and IEC/EN 60364-7-722 functional standards.

CST-322 allows user for detailed Control Pilot signal investigation. Built-in colour TFT LCD with embedded microcontroller allows AUTOTEST functionality. Automatic tests of Mains voltages, Control Pilot signal and Error states can be performed together with EVSE RCD (type AC, A, B) and RDC-DD tests. AUTOTEST steps can be arbitrary defined by the user.

Built-in Bluetooth module can be used to transfer measurement data to smartphone application for saving or report generation.

CST-322 allows user to conduct tests also in combination with appropriate test instruments like Installation Testers without using the advanced functionality of the instrument. Also Control Pilot signal output sockets are provided if even more detailed Control Pilot signal analysis is required.

CST-322 can be supplied from 4x AA batteries or mains voltage which makes the instrument usable for indoor or field use.

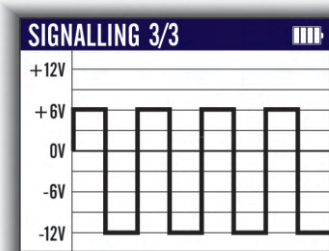
### CST-322 AUTOMATIC TESTS

- Visual inspection
- Mains voltage
- Mains voltage (3P sequence)
- CP State analysis
- PE Error
- CP Error
- CP Diode Error
- RCD trip time tests
- CP State hysteresis



### KEY FEATURES

- Supports Mode 2 and Mode 3 single phase or three phase EVSE with fixed or detachable cable
- AUTOTEST functionality
- Mains voltage measurements
- Three phase sequence indication
- Detailed Control Pilot signal analysis
- Connection to the smartphone App for data transfer
- PE Pre-Test test pad with a warning indicator
- Control Pilot state simulation
- Proximity Pilot state simulation
- Diode, CP, PE Error simulation
- RCD trip time test (RCD type AC, A, B and RDC-DD)
- Sunlight readable color TFT LCD
- Battery or mains power supply
- L1, L2, L3, N, PE 4 mm output terminals for connection of an installation tester
- CP signal 4 mm output terminals
- Schuko socket for connecting an installation tester or mains loading (selectable phase L1, L2, L3)
- Evaluation of measuring results according to IEC 61851-1



MAINS 1/2	
UL1/L2	UL1/N
441 V	231 V
UL2/L3	UL2/N
442 V	232 V
UL3/L1	UL3/N
440 V	230 V



This adapter complies with requirements of LVD Directive 2014/35/EU, EMC Directive 2014/30/EU, Directive 2011/65/EU (RoHS) and Directive 2012/19/EU (WEEE)

## TECHNICAL SPECIFICATIONS

Input voltage	Max. 250 V~/480V 3~; 50/60 Hz
Overvoltage category	CAT II 300 V
Maximum load current	10 A (continuous) Schuko socket and 4 mm sockets
PE Pre-Test	Test pad with a warning LED
CP (Control Pilot) simulation	A (no connection) B (connected, no charging) C (charging without ventilation) D (charging with ventilation) E (CP Error)
PP (Proximity Pilot) simulation	Open, 13 A, 20 A, 32 A, 63 A
Error state simulation	Diode short-circuit CP short to PE (via 0 Ω) PE open RCD trip out
Pollution degree	2
IP protection	IP54 (closed case), IP40 (open case)
Protection classification	Class II (double insulation)
Max. altitude	2000 m
Working temperature range	-10 °C to 40 °C
Working humidity range	10 % to 85 % RH, non-condensing
Storage temperature range	-20 °C to 50 °C
Storage humidity range	10 % to 85 % RH
Overall size (W x D x H)	258 x 230 x 123 mm
Length of detachable cable	2 m
Mass of equipment	2.1 kg + 0.8 kg (adapter + cable)
Battery size	4 x AA (IEC LR6 or HR6)
Battery chemistry	Alkaline or rechargeable NiMH
Mains Supply	AC 100-240V 50/60Hz 0.1A Max
Schuko socket protection fuse	T10A 250V(H) (5 x 20 mm)
Display type	TFT colour 2.4 inch
Display resolution	320 x 240
Connectivity	Bluetooth v5.0 (connection to Smartphone App for data transfer)

## SCOPE OF DELIVERY

- 1 pc CST-322 Advanced Charging Station Test Adapter
- 1 pc User Manual CST-322 booklet in English language
- 1 pc T2-322 Type 2 connection cable for CST-322
- 1 pc Supply cable with Euro Plug, black, 2m
- 1 pc Soft accessory bag



## OPTIONAL ACCESSORIES

- 1 pc LA-322-D Load Adapter for CST-322. Extension cable with two additional schuko sockets. Cable length 1.5m.



## Phase voltage (L1/N, L2/N, L3/N)

Display/meas. range	0 ... 280 V/0 ... 250 V
Resolution	1 V
Accuracy	± (3 % of rdg + 3 D)

## Phase-Phase voltage (L1/L2, L2/L3, L3/L1)

Display/meas. range	0 ... 490 V/0 ... 480 V
Resolution	1 V
Accuracy	± (3 % of rdg + 3 D)

## Frequency of mains voltage

Display/meas. range	40.0 ... 70.0 Hz
Resolution	0.1 Hz
Accuracy	± (0.1 Hz)

## Phase sequence

Display range	Left / Right / Undefined
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## CP signal frequency

Display/meas. range	700 ... 1300 Hz
Resolution	1 Hz
Accuracy	± (0.1 % of rdg.)

## CP signal voltage

(separate positive and negative values)

Display/meas. range	± (2.00 ... 15.00 V)
Resolution	0.01 V
Accuracy	± (0.5 % of rdg.)

## CP signal duty cycle

(max. charging current calculated and displayed)

Display/meas. range	3.0 ... 97.0 %
Resolution	0.1 %
Accuracy	± (5 D)

## RCD, RDC-DD TRIP OUT time (t<sub>RCD</sub>, t<sub>RDC-DD</sub>)

RCD test current	30 mA (AC), 42 mA (pulse) 60 mA (DC), 6 mA (DC)
Type	RCD (AC, A, B), RDC-DD
Display/meas. range	0 ... 350 ms / 0.0 ... 11.0 s
Resolution	1 ms / 0.1 s
Accuracy	± (3 % of rdg + 3 D)
Standard limit	300 ms / 10.0 s

## EVSE SWITCH OFF time (t<sub>PE</sub>) - PE error

Display/meas. range	0 ... 1000 ms
Resolution	1 ms
Accuracy	± (3 % of rdg + 3 D)
Standard limit	100 ms

## EVSE SWITCH OFF time (t<sub>CP</sub>, t<sub>b</sub>) - CP, Diode Error

Display/meas. range	0.0 ... 10.0 s
Resolution	0.1 s
Accuracy	± (3 % of rdg + 3 D)
Standard limit	3 s

## REGULATIONS

### Functionality:

- IEC/EN 61851-1, IEC/EN 60364-7-722

### Safety:

- IEC/EN 61010-1, IEC/EN 61010-2-30

### EMC:

- IEC/EN 61326-1

Subject to technical change without notice!