



Integration of ELECTRICAL VEHICLE CHARGING SYSTEM (EVCS) to SEC LV and MV Distribution Network

*Inspection and Commissioning Checklist
For Unidirectional EVCS*

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1 SCOPE

The purpose of this document is to provide a generic form of checklist to be used during the inspection or the commissioning of a Unidirectional ELECTRICAL VEHICLE CHARGING SYSTEM (EVCS). This checklist has the purpose to inspect the presence of the necessary protection and equipment to safeguard the distribution network, this checklist doesn't intend to provide a detailed inspection of the charging stations.

It's worth highlighting that, at the time of the release of this document there are no international references yet developed that provide in detail what are the main components or elements to inspect and test in a Unidirectional ELECTRICAL VEHICLE CHARGING SYSTEM (EVCS), as a consequence, this document shall be maintained and updated frequently in particular after the development of international standards in commissioning of EV charging systems.

1.1 Notice to users

Users of this document are certified installers and SEC inspectors. The responsibility of SEC inspectors is to witness the correct installations of the Unidirectional ELECTRICAL VEHICLE CHARGING SYSTEM (EVCS) and ensure the presence of the minimum protection required to prevent any negative impact on the distribution network. The certified installers must be aware of the installing practices and commissioning procedures recommended by the manufacturer, the certified installer can belong to the manufacturer company or a trained third party that is trained to install ELECTRICAL VEHICLE CHARGING SYSTEM (EVCS) and is certified by the manufacturer.

2 EVCS INSPECTION APPLICATION FORM

After the installation of the EVCS, the contractor shall apply for the inspection request online and upload all the needed data as per the below checklist.

Data name	Data type	Author	Notes
Site Test Upload and Request of Inspection			
<i>Declaration of Conformity (letter of undertaking from Contractor) including:</i> <ul style="list-style-type: none"> • <i>Clearance and Readiness for Energization of the proposed Exit Point and Equipment*</i> • <i>A declaration that no changes to the initial design took place.*</i> • <i>Safety Rules and instructions, to declare that site is safe and ready for inspection*</i> 	Upload files	Contractor	
<i>Electrical Diagram of the Consumer's Equipment at the POC*</i>	Upload files	Contractor	<i>Highlighting changes compared to the initial design if any</i>
<i>Proposed operation and maintenance manual according to manufacturer recommendations*</i>	Upload files	Contractor	

After the upload of this information, SEC will have to check if all the needed documents are uploaded or not.

3 ONSITE INSPECTION FORM

Below is the checklist that will be used by SEC for inspecting the bidirectional EVCS

Data name	Data type	Author	Notes
AC System - General			
<i>The Main Switch is present*</i>	Selection	SEC	<input type="checkbox"/> Yes <input type="checkbox"/> No
EVCS number of installations is aligned with the design documents*	Selection	SEC	<input type="checkbox"/> Yes <input type="checkbox"/> No
EVCS's total power capacity is aligned with the design documents*	Selection	SEC	<input type="checkbox"/> Yes <input type="checkbox"/> No
The over-current protection is present*	Selection	SEC	<input type="checkbox"/> Yes <input type="checkbox"/> No
The RCD protection is present*	Selection	SEC	<input type="checkbox"/> Yes <input type="checkbox"/> No
All signs and labels inside the EVCS are in both Arabic and English*	Selection	SEC	<input type="checkbox"/> Yes <input type="checkbox"/> No
A communication system is available?	Selection	SEC	<input type="checkbox"/> Yes <input type="checkbox"/> No
SIM card availability? If yes, SIM technology If yes, SIM operator	Selection	SEC	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 4G <input type="checkbox"/> 5G <input type="checkbox"/> STC <input type="checkbox"/> Mobily <input type="checkbox"/> Zain
Emergency button?	Selection	SEC	<input type="checkbox"/> Yes <input type="checkbox"/> No
Final Approval			
<i>Is the Inspection approved?*</i>	Selection	SEC	<input type="checkbox"/> Yes <input type="checkbox"/> No
<i>Has the result been notified to the Consumer?</i>	Selection	SEC	<input type="checkbox"/> Yes <input type="checkbox"/> No
<i>Does the EVCS grant an energization approval? *</i>	Selection	SEC	<input type="checkbox"/> <i>Final Operational Notification (for Bidirectional)</i>
<i>Name of the SEC Inspector</i>	Alphabetic	SEC	
<i>Notes from SEC Inspector</i>	Alphabetic	SEC	