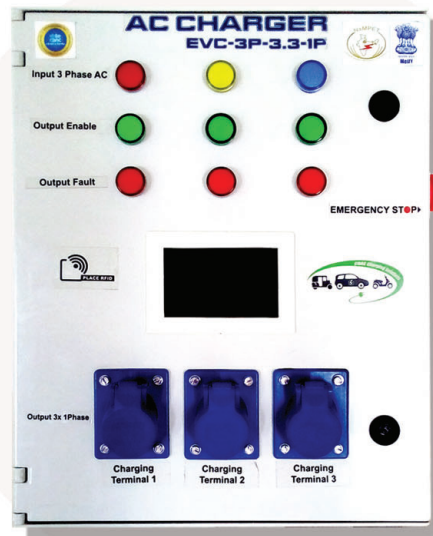




Notice Inviting Expression of Interest for  
Transfer of Technology  
for

**"3.3kW THREE-PORT AC CHARGER – EVC-3P-3.3-1P"**

**EoI No: NaMPET-III/EVSE-AC-3.3/EoI/2021**



**POWER**  
ELECTRONICS GROUP



An initiative of  
**Ministry of Electronics &  
Information Technology,**  
Government of India



Under the aegis of  
**NAMPET PHASE-III**  
National Mission on  
**Power Electronics Technology**

# **Centre for Development of Advanced Computing (CDAC)**

## **Thiruvananthapuram**

### **1. Introduction**

National Mission on Power Electronics Technology (NaMPET) is a unique mission programme of MeitY involving research, development, deployment, demonstration and commercialization of Power Electronics (PE) technology, implemented through a network of Academic Institutes, R&D laboratories and Industries supported with extensive technology outreach programs.

NaMPET has grown into Phase III, started in Feb 2019 for a duration of 5 years with a budget of 9300 Lakhs. The Main focus areas include Empowerment of e-mobility ecosystem, Microgrid for powering remote villages, Green Energy for Community buildings, Smart Power Quality Centre in Distribution Grid, High Voltage Power Electronics for Food processing, Agriculture, Industry & Health. Consortium for exploring New Horizon in PE Technology and Exploratory Research Projects from premier Academic Institutes, provide the base technology seeds for the program. Awareness Creation, International Interaction, Technology marketing and Promotion of Start-ups provide platform for technology outreach. The Mission program is successfully being implemented through Power Electronics Group of C-DAC, Thiruvananthapuram.

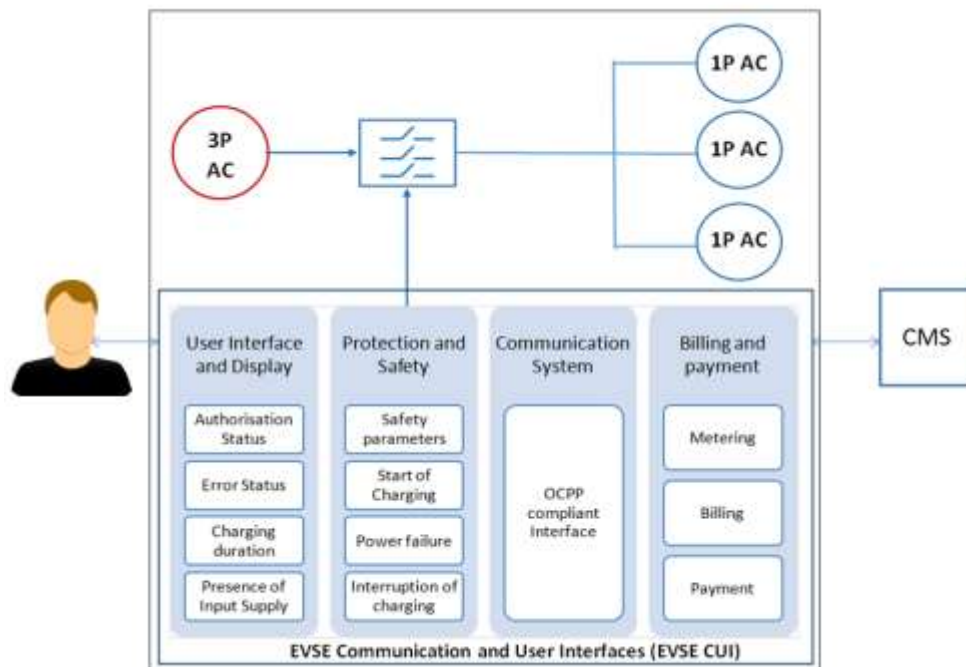
### **2. About 3.3kW Three-port AC Charger – EVC-3P-3.3-1P**

For Public Metered AC Outlet (PMAO), the electric power needs to be billed and payment needs to be collected. Further, the charges may depend on the state of grid (whether it is a power surplus or is in a power deficit state). The customers access and preference for billing and the payments need to be addressed. User interface and indicators/display are to be provided for authorization, fault indication, charge progress status, time remaining for a full charge, etc.

#### ***Functional Description***

This scheme incorporates major functionalities like user authentication, metering, billing, fault detection, indication and protection, communication and interface to Central Management System (CMS), etc. The block representation of the developed 3.3kW AC charger is as shown in the figure 1. Input to the system is a three-phase five-wire power supply with standard protection as per AIS-138. The output three sockets, each phase is connected to IEC 60309 socket to charge three vehicles at a time. User interface and display block perform authentication, user data input, and status indication functionalities. Authentication is done through an RFID card reader or smartphone application OTP. Users can input data through the GUI of the touch screen. Status indicators are provided for faults, presence of supply, charging status, etc. Protection schemes and indicators are provided for Over-voltage, Under-voltage, Over-current, connector plugged-out, over-temperature, etc. An OCPP compliant communication interface is provided to the CMS through Ethernet, WiFi, and GSM interfaces. Billing and


payment block facilitates functionalities for metering, billing, and payment mechanism. Energy consumed through each port is metered separately and bills are provided based on various options such as time-based billing, energy-based billing, and cost-based charging. Payment can be done at Point of Sale through UPI payment mechanism or monthly billing and online payment. Interface to CMS is provided to facilitate functionalities such as user registration, token generation, authentication, charging status updating, charging history viewing, etc.



**Figure 1** Block Representation of the 3.3kW AC Charger

**Technology features**

<p><b>EVC-3P-3.3-1P</b></p>	<p style="text-align: center;"><b>Key Features</b></p> <ul style="list-style-type: none"> <li>• Three Single phase output each of 3.3kW</li> <li>• User Authentication</li> <li>• Phase Cycling for optimum grid power usage</li> <li>• Wired/Wireless connectivity for integration with CMS</li> <li>• IEC60309 Output Connector</li> <li>• Protections as per AIS-138 &amp; BEV AC-001 specifications</li> </ul> <p style="text-align: center;"><b>Product Configuration Options</b></p> <ul style="list-style-type: none"> <li>• Networked/ Stand-alone operations</li> </ul> <p>Charger with/without Communication &amp; User Interface</p>
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 <p style="text-align: center;"><b>EVC-1P-3.3-1P</b></p>	<p style="text-align: center;"><b>Key Features</b></p> <ul style="list-style-type: none"> <li>• Single phase output of 3.3kW</li> <li>• User Authentication</li> <li>• Wired/Wireless connectivity for integration with CMS</li> <li>• IEC60309 Output Connector</li> </ul> <p style="text-align: center;"><b>Product Configuration Options</b></p> <ul style="list-style-type: none"> <li>• Networked/ Stand-alone operations</li> <li>• Charger with/without Communication &amp; User Interface</li> </ul>
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### 3. Technical demonstration and product brochures

Please follow the below links for product brochures and demo videos

[https://www.nampet.in/images/latest\\_events/EVCharger/AC\\_EV\\_Charger\\_Three\\_Phase.pdf](https://www.nampet.in/images/latest_events/EVCharger/AC_EV_Charger_Three_Phase.pdf)

[https://www.nampet.in/images/latest\\_events/EVCharger/AC\\_EV\\_Charger\\_Single\\_Phase.pdf](https://www.nampet.in/images/latest_events/EVCharger/AC_EV_Charger_Single_Phase.pdf)

<https://www.youtube.com/watch?v=DqCjq5q4Xfo&t=624s>

### 4. Technology Transfer

The technology will be transferred on non-exclusive basis. The technology fee will be finalized at a later stage soon.

The ToT package contains the following

1. Document(s) for technology know-how consisting of design files and source code
2. Bill of Materials of the system
3. Training and Support for hardware testing at C-DAC(T)
4. Installation guide and user's manual

### 5. General terms and conditions

1. An expert committee constituted by MeitY/C-DAC will scrutinize the applications for follow-up action.
2. The applicants may be called for a presentation regarding their strengths and business proposals
3. All incidental expenditure incurred in preparation/ submission or presentation of the EoI shall be borne by the participating agency
4. Participation in this EoI does not guarantee any association with C-DAC unless notified by MeitY/C-DAC in writing.
5. MeitY/C-DAC reserves the right of rejecting any offer without assigning reasons.
6. Last date for submission of EoI is within 30 days from issue of the first advertisement. Any offer received after due date and time will not be accepted.

7. There is neither a business guarantee nor any commitment for funding support from MeitY/C-DAC to the appointed/ empanelled agencies.
8. A Committee of experts constituted by MeitY/C-DAC will assess capabilities and strengths of the industry before finalizing the technology partners.
9. The industry willing to take technology for commercial production will be required to enter into a ToT agreement with C-DAC as per the terms and conditions approved by the competent authority in the MeitY in the prescribed format.

## **6. Eligibility**

Companies/organizations with expertise in manufacturing power electronics/instrumentation equipments who are willing to take up the production and deployment of EV charging infrastructure as per the ToT guideline agreement of C-DAC are eligible to apply. Professionally managed companies, corporates and startups are also welcome to apply for the technology.

## **7. How to apply**

Interested companies/industries may send expression of interest with their details by filling the EoI form as per Annexure – I to the following address.

### **Power Electronics Group**

C-DAC, Vellayambalam

Thiruvananthapuram

Kerala – 695033

India.

Email: [peg@cdac.in](mailto:peg@cdac.in), [renji@cdac.in](mailto:renji@cdac.in), [vvksekar@cdac.in](mailto:vvksekar@cdac.in)

Ph: 0471-2723333 ext 239, 267

Mob: 09446512630, 08547036623, 9447401344

**Annexure-I****Details of Expression of Interest**

(To be filled by the organization interested in technology transfer from C-DAC(T))

Sl No.	Description of Items	Details from Organisation
1	Name of the Organisation  Address of registered office with telephone no. & fax	
2	Contact Details Name Designation Address for Comm. Email & Phone	
3	About Organisation Website if available	
4	Any Additional Technology development request	
5	Readiness level to take the technology	
6	Any other information request	
7	Feedback on the information shared by C-DAC(T)	

**Declaration**

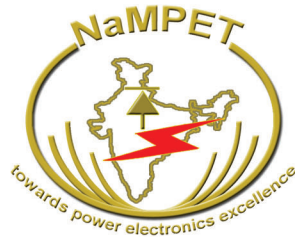
I/We hereby confirm that I/we are interested in the above technology and would productionise it as per terms and conditions. All the information provided above is genuine and accurate.

Authorized Person's Signature.

Name and Designation:

Date of Signature:





National Mission on  
Power Electronics Technology

*An Initiative of*



CDAC, Vellayambalam



CDAC, Technopark Campus

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