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Application Details	
APPLICATION NUMBER	202141049745
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	29/10/2021
APPLICANT NAME	1 . Institute of Aeronautical Engineering 2 . Dr. P Sridhar, Professor 3 . A Srikanth, Assistant Professor 4 . A Sathish Kumar, Assistant Professor 5 . Mrs K. Harshini, Assistant Professor 6 . Ms. B Navothna, Assistant Professor 7 . Mr. K Devender Reddy, Assistant Professor 8 . Mr. T Ravi Babu, Assistant Professor 9 . Mr. S Srikanth, Assistant Professor 10 . Mr. T Mahesh, Assistant Professor 11 . Mr. P Shivakumar, Assistant Professor
TITLE OF INVENTION	DESIGN AN ELECTRIC VEHICLE BATTERY ADVANCED CHARGING SOLUTIONS
FIELD OF INVENTION	ELECTRICAL
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ADDITIONAL-EMAIL (As Per Record)	dr.bksarkar2003@gmail.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	12/11/2021

Application Status	
APPLICATION STATUS	**Awaiting Request for Examination**

View Documents

Filed → Published → RQ Filed → Under Examination → Disposed

In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in

Patent Search

Invention Title	DESIGN AN ELECTRIC VEHICLE BATTERY ADVANCED CHARGING SOLUTIONS
Publication Number	46/2021
Publication Date	12/11/2021
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Application Number	202141049745
Application Filing Date	29/10/2021
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Priority Country	
Priority Date	
Field Of Invention	ELECTRICAL
Classification (IPC)	H02J0007000000, B60L0053100000, B60L0053650000, B60L0050640000, B60L0053140000

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Applicant

Name	Address	Country	Nationality
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Mr. T Mahesh, Assistant Professor	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India	India	India
Mr. P Shivakumar, Assistant Professor	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.	India	India

Abstract:

ABSTRACT Our Invention “Design an Electric Vehicle Battery Advanced Charging Solutions” is a outcome of the expansion in battery limit and, along these lines, driving reach, charging the Bolt's 60 kWh battery at the super-quick charging pace of 50 kW takes 1 h and 15 min. Consequently, while EV driving reaches have become cutthroat with interior burning motor vehicles (ICEVs), the re-energize/refuel times actually need correlation. Quick consequence from the predominant utilization of oil based transportation have pushed the globe towards zapped transportation. With this push, numerous innovative difficulties are being experienced and tended to, one of which is the turn of events and accessibility of quick evolving advancements. To contend with petrol based transportation, electric vehicle (EV) battery charging times need to diminish to the |4.9–9.98| min range. This invention gives a deep research of EV quick changing innovations and the effects on the battery frameworks, including heat the board and related constraints. Furthermore, the invention presents promising new methodologies and openings for power electronic converter geographies and frameworks level exploration to propel the best in class in quick charging. The size of the installed charging gadget is compelled by the space inside the vehicle. As the locally available converter is little, the measure of force that it can convey to the battery is ordinarily low (3–6 kW). Conversely, the DC charger is outside to the vehicle and along these lines not obliged in size or cost. What's more, DC quick chargers can interface with 3-stage power and empower change of the charge level to suit the battery state.

Complete Specification

Claims:WE CLAIMS

1) Our Invention “Design an Electric Vehicle Battery Advanced Charging Solutions” is an outcome of the expansion in battery limit and, along these lines, driving reach, charging the Bolt's 60 kWh battery at the super-quick charging pace of 50 kW takes 1 h and 15 min. Consequently, while EV driving reaches have become cutthroat with interior burning motor vehicles (ICEVs), the re-energize/refuel times actually need correlation. Quick consequence from the predominant utilization of oil based transportation have pushed the globe towards zapped transportation. With this push, numerous innovative difficulties are being experienced and tended to, one of which is the turn of events and accessibility of quick evolving advancements. To contend with petrol based transportation, electric vehicle (EV) battery charging times need to diminish to the |4.9–9.98| min range. This invention gives a deep research of EV quick changing innovations and the effects on the battery frameworks, including heat the board and related constraints. Furthermore, the invention presents promising new methodologies and openings for power electronic converter geographies and frameworks level exploration to propel the best in class in quick charging. The size of the installed charging gadget is compelled by the space inside the vehicle. As the locally available converter is little, the measure of force that it can convey to the battery is ordinarily low (3–6 kW). Conversely, the DC charger is outside to the vehicle and along these lines not obliged in size or cost. What's more, DC quick chargers can interface with 3-stage power and empower change of the charge level to suit the battery state.

2) According to claim1# the invention is a “Design an Electric Vehicle Battery Advanced Charging Solutions” is a outcome of the expansion in battery limit and, along these lines, driving reach, charging the Bolt's 60 kWh battery at the super-quick charging pace of 50 kW takes 1 h and 15 min.

3) According to claim1,2# the invention is a Consequently, while EV driving reaches have become cutthroat with interior burning motor vehicles (ICEVs), the re-

View Application Status

FORM 1 THE PATENTS ACT 1970(39 of 1970) & The Patents Rules, 2003 APPLICATION FOR GRANT OF PATENT (See sections 7, 54 & 135 and rule 20(1)	**(FOR OFFICE USE ONLY)** Application No: Filing Date Amount of Fees Paid: CBR NO: Signature:
1. APPLICANTS REFERENCE / IDENTIFICATION NO. (AS ALLOTTED BY OFFICE)	

2. **TYPE OF APPLICATION [Please tick (✓) at the appropriate category]**

Ordinary (✓)		Convention ( )		PCT-NP ()	
Divisional ( )	Patent of Addition ( )	Divisional ( )	Patent of Addition ( )	Divisional ( )	Patent of Addition ( )

3A. APPLICANT(S):

Name	**Nationality**	**Address**
Institute of Aeronautical Engineering	AN INDIAN NATIONAL	**Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.**
Dr. P Sridhar, Professor	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.
A Srikanth, Assistant Professor	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.
A Sathish Kumar, Assistant Professor	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.
Mrs K. Harshini, Assistant Professor	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.
Ms. B Navothna, Assistant Professor	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.
Mr. K Devender Reddy, Assistant Professor	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.

Mr. T Ravi Babu, Assistant Professor	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.
Mr. S Srikanth, Assistant Professor	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.
Mr. T Mahesh, Assistant Professor	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.
Mr. P Shivakumar, Assistant Professor	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.

3B. CATEGORY OF APPLICANT [Please tick (✓) at the appropriate category]

Natural Person (✓)	Other than Natural Person ()		
	Small Entity ( )	Startup ( )	Others ()

4. INVENTOR(S): [Please tick (✓) at the appropriate category]

Name	Country of Residence	**Nationality**	**Address**
Dr. P Sridhar, Professor	INDIA	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.
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A Sathish Kumar, Assistant Professor	INDIA	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.
Mrs K. Harshini, Assistant Professor	INDIA	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.
Ms. B Navothna, Assistant Professor	INDIA	AN INDIAN NATIONAL	Electrical and Electronics Engineering,

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Mr. K Devender Reddy, Assistant Professor	INDIA	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.
Mr. T Ravi Babu, Assistant Professor	INDIA	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.
Mr. S Srikanth, Assistant Professor	INDIA	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.
Mr. T Mahesh, Assistant Professor	INDIA	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.
Mr. P Shivakumar, Assistant Professor	INDIA	AN INDIAN NATIONAL	Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.

5. TITLE OF THE INVENTION:

Design an Electric Vehicle Battery Advanced Charging Solutions.

6. AUTHORISED REGISTERED PATENT AGENT(S)		NA
ADDITIONAL PATENT AGENTS	NA	

7. ADDRESS FOR SERVICE OF APPLICANT/ PATENT AGENT(S) IN INDIA Dr. P Sridhar, Professor Address: Electrical and Electronics Engineering, Institute of Aeronautical Engineering, Dundigal, Medchal, Hyderabad, Telangana - 500 043, India.	Mobile No.: 8059794469 E-mail: dr.bksarkar2003@yahoo.in dr.bksarkar2003@gmail.com

8. IN CASE OF APPLICATION CLAIMING PRIORITY OF APPLICATION FILED IN CONVENTION COUNTRY, PARTICULARS OF CONVENTION APPLICATION: N.A

Country	App. Number	Filing Date	Name of the Applicant	Title of the Invention	IPC (as classified in the convention country)
NA	NA	NA	NA	NA	NA

9. IN CASE OF PCT NATIONAL PHASE APPLICATION, PARTICULARS OF INTERNATIONAL APPLICATION FILED UNDER PATENT CO-OPERATION TREATY (PCT):

International application number	International filing date as allotted by the receiving office.
NA	NA

10. IN CASE OF DIVISIONAL APPLICATION FILED UNDER SECTION 16, PARTICULARS OF ORIGINAL (FIRST) APPLICATION: N.A

Original (first) application number	Date of filing of Original (first) application
N.A.	N.A.

11. IN CASE OF PATENT OF ADDITION FILED UNDER SECTION 54, PARTICULARS OF MAIN APPLICATION OR PATENT: N.A

Main application / patent Number	Date of filing of main application
N.A.	N.A.

12. DECLARATIONS:

(i) **Declaration by the Inventor:**

(**In case the applicant is an assignee**: the inventor(s) may sign herein below or the applicant may upload the assignment or enclose the assignment with this application for patent or send the assignment by post/electronic transmission duly authenticated within the prescribed period).

We, the above named inventor is the true & first inventor for this invention and declare that the applicant herein is my assignee or legal representative: **NA**

(ii) **Declaration by the applicant/s in the convention country:**

(In case the applicant in India is different than the applicant in the convention country: the applicant in the convention country may sign herein below or applicant in India may upload the assignment from the applicant in the convention country or enclose the said assignment with this application for patent or send the assignment by post/electronic transmission duly authenticated within the prescribed period)

I/~~We~~, the applicant(s) in the convention country declare that the applicant(s) herein is/~~are~~ my/~~our~~ assignee or legal representative. : **N.A.**

(iii) **Declaration by the applicants:**

We, the applicants hereby declare that: -

1. We are in possession of the above-mentioned invention.
2. The **Complete Specification** relating to the invention is filed with this application.
3. The invention as disclosed in the specification uses the biological material from India and the necessary permission from the competent authority shall be submitted by us before the grant of patent to us: **N.A.**
4. There is no lawful ground of objection to the grant of the patent to me/ us.
5. We are the assignees or legal representatives of true and first inventors:
6. The application or each of the applications, particulars of which are given in Para – 8 was the first application in convention country/countries in respect of our invention: **N.A.**
7. We claim the priority from the above mentioned application filed in convention country/countries and state that no application for protection in respect of the invention had been made in a convention country before that date by us or by any person from which we derive the title: **YES**
8. Our application in India is based on international application under Patent Cooperation Treaty (PCT) as mentioned in Para-9: **N.A.**
9. The application is divided out of our application particulars of which is given in Para-10 and prays that this application may be treated as deemed to have been filed on N.A. Under sec.16 of the Act: **N.A.**
10. The said invention is an improvement in or modification of the invention particulars of which are given in Para-11: **N.A.**

FOLLOWING ARE THE ATTACHMENTS WITH THE APPLICATION

(a) **Form 2**

Item	Details	Fee	Remarks
Complete specification) #	No. of pages:		
Claim(s)	No. of claims: No. of pages:		
Abstract	No. of pages:		
Drawing(s)	No. of drawings: No. of pages:		

In case of a complete specification, if the applicant desires to adopt the drawings filed with his provisional specification as the drawings or part of the drawings for the complete specification under rule 13(4), the number of such pages filed with the provisional specification are required to be mentioned here.

1. Complete specification (in conformation with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies) **N.A**

2. Sequence listing in electronic form **N.A**
3. Drawings (in conformation with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies) **N.A**

total fee Rs ……. /- **in ~~Cash~~/ Banker's Cheque /Bank Draft bearing No……..**

Date……..on…….. Bank.

We hereby declare that to the best of my knowledge, information and belief the facts and matters stated herein are correct and I request that a patent may be granted to me for the said invention.

Dated 28/10/2021

To,
The Controller of Patent,
The Patent Office, at ……