(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :03/11/2025
(21) Application No.202511106444 A
(43) Publication Date : 19/12/2025

(54) Title of the invention : AN IoT-BASED DEVICE FOR SMART ELECTRIC VEHICLE CHARGING STATIONS

(51) International classification	:H04L 41/149, H04W 28/08, H02J 1/14, H04N 7/167, B63B 79/40
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No Filing Date	: :01/01/1900
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

(71)**Name of Applicant :**
1)NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY
Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
(72)**Name of Inventor :**
1)Dr. HARSHA GUPTA
2)PRATEEK MATHUR

(57) Abstract :
The present invention discloses an IoT-based device (101) for smart electric vehicle charging stations (102), incorporating a sensor network (105), microcontroller (109), renewable energy integration (104), and cloud analytics (108). The system enables intelligent load balancing, real-time monitoring, predictive maintenance, and user-centric services through interface module (106). It optimizes energy distribution, prevents grid overload, and enhances user experience with remote booking and payment. Experimental validation demonstrated improved efficiency, reliability, and sustainability, making the invention suitable for scalable EV charging infrastructures.

No. of Pages : 13 No. of Claims : 6