



Office of the Controller General of Patents, Designs & Trade Marks  
Department of Industrial Policy & Promotion,  
Ministry of Commerce & Industry,  
Government of India

(<http://ipindia.nic.in/index.htm>)

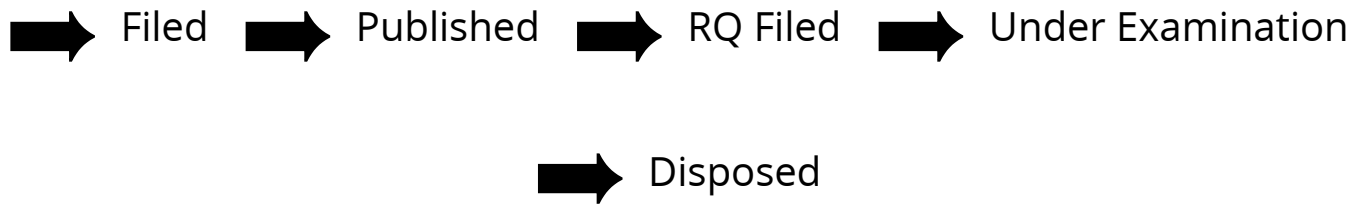


(<http://ipindia.nic.in/index.htm>)

| Application Details              |  |
|----------------------------------|--|
| APPLICATION NUMBER               | 202141033947   |
| APPLICATION TYPE                 | ORDINARY APPLICATION   |
| DATE OF FILING                   | 28/07/2021   |
| APPLICANT NAME                   | VALLURUPALLI NAGESWARA RAO VIGNANA JYOTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY  |
| TITLE OF INVENTION               | MULTI-BRANCH RESONANT CONVERTER BASED DC POWER SUPPLY FOR DIVERSIFIED APPLICATIONS |
| FIELD OF INVENTION               | ELECTRICAL   |
| E-MAIL (As Per Record)           | lipi.kaundilya@gmail.com   |
| ADDITIONAL-EMAIL (As Per Record) | ravirlyfan@gmail.com   |
| E-MAIL (UPDATED Online)          |  |
| PRIORITY DATE                    |  |
| REQUEST FOR EXAMINATION DATE     | 20/09/2021   |
| PUBLICATION DATE (U/S 11A)       | 06/08/2021   |
| REPLY TO FER DATE                | 18/08/2022   |

| Application Status |  |
|--------------------|--|
| APPLICATION STATUS | <b>Reply Filed. Application in amended examination</b> |

|  |  |  |                                |
|--|--|--|--------------------------------|
|  |  |  | <a href="#">View Documents</a> |
|--|--|--|--------------------------------|



In case of any discrepancy in status, kindly contact [ipo-helpdesk@nic.in](mailto:ipo-helpdesk@nic.in)

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202141033947 A

(19) INDIA

(22) Date of filing of Application :28/07/2021

(43) Publication Date : 06/08/2021

(54) Title of the invention : Multi-Branch Resonant Converter Based DC Power Supply for Diversified Applications

|  |   |  |
|--|---|--|
| (51) International classification                | :H02J0007350000,<br>H02M0007480000,<br>F15B0021140000,<br>H02M0003240000,<br>A61B0005030000 | (71) <b>Name of Applicant :</b><br><b>1)VALLURUPALLI NAGESWARA RAO VIGNANA<br/>JYOTHI INSTITUTE OF ENGINEERING AND<br/>TECHNOLOGY</b><br>Address of Applicant :Vignana Jyothi Nagar, Pragathi Nagar,<br>Nizampet (S.O), Hyderabad- 500090, Telangana State, India<br>Telangana India |
| (31) Priority Document No                        | :NA   | (72) <b>Name of Inventor :</b>   |
| (32) Priority Date                               | :NA   | <b>1)Dr. Pasula Naresh</b>   |
| (33) Name of priority country                    | :NA   | <b>2)P. Geethanjali</b>  |
| (86) International Application No                | :PCT//  | <b>3)D.S.G. Krishna</b>  |
| Filing Date                                      | :01/01/1900   | <b>4)R. Geshma Kumari</b>  |
| (87) International Publication No                | : NA  |  |
| (61) Patent of Addition to Application<br>Number | :NA   |  |
| Filing Date                                      | :NA   |  |
| (62) Divisional to Application Number            | :NA   |  |
| Filing Date                                      | :NA   |  |

(57) Abstract :

DC-DC Power supplies with diversified modes of operation will always attracts attention of industrialist and researchers. Resonant converters type DC-DC based DC power supplies are popular for load independent constant current(CC)/constant voltage(CV)/constant power (CP) to charge energy storage systems. These power supplies are limited to one or, at worst case two of above said modes of operation. A multi-branch resonant converter-based DC-DC power supply that can deliver power in all three modes irrespective of load dynamics is proposed. A detailed mathematical analysis has been carried to reach out the conditions CC, CV and input constant power (ICP) modes of operation. One can select the mode of operation on tuning the switching frequency of H-Bridge inverter. The versatility of power supply is validated mathematically, coding, simulation and with hardware prototype for different load conditions.Regardless of loading the power supply remained rigid and efficient in each of the mentioned modes.

No. of Pages : 13 No. of Claims : 0