

(54) Title of the invention : PHOTOVOLTAIC BASED SINGLE DC INPUT HYBRID OUTPUT CONVERTER

(51) International classification :H02M1/10, H02M1/00, H02M3/155 (86) International Application No :NA Filing Date :NA (87) International Publication No : NA (61) Patent of Addition to Application Number :NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA	(71)Name of Applicant : 1)INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD Address of Applicant :Dhanbad - 826004, Jharkhand, India Dhanbad ----- Name of Applicant : NA Address of Applicant : NA (72)Name of Inventor : 1)Chandan Verma Address of Applicant :Department of Electrical Engineering, Indian Institute of Technology (Indian School of Mines), Dhanbad, Dhanbad - 826004, Jharkhand, India Dhanbad ----- ----- 2)Sanjay Kumar Sena Address of Applicant :Department of Electrical Engineering, Indian Institute of Technology (Indian School of Mines), Dhanbad, Dhanbad - 826004, Jharkhand, India Dhanbad ----- ----- 3)Dr. Ashok Kumar Address of Applicant :Department of Electrical Engineering, Indian Institute of Technology (Indian School of Mines), Dhanbad, Dhanbad - 826004, Jharkhand, India Dhanbad ----- -----
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(57) Abstract :
This invention relates to a photovoltaic based single DC input hybrid output converter (100). The converter (100) is capable of providing DC and AC outputs simultaneously with only one DC source. Therefore, such converters are suitable with loads requiring both AC and DC supply. The converter is derived by replacing the single ground referenced switch of a basic fourth order DC-DC converter by a H-bridge. The converter comprises of only four active switches (S1-S4) and features step-up and step-down facility at the AC output which eliminates the need of power frequency transformer for integration of loads at standard AC load voltage. The DC gain is also high at lower duty ratios. [figure 1]

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