



SPIRO
SOLUTIONS PVT LTD

**POWER
ELECTRONICS
PROJECT TITLE
2016 - 2017**



1. RENEWABLE ENERGY

I.SOLAR ENERGY

S.NO	PROJECT CODE	PROJECT TITLES	YEAR
1	ITPW01	Highly efficient asymmetrical pwm full-bridge converter for renewable energy sources	2016
2	ITPW02	A Three Phase Hybrid Cascaded Modular Multilevel Inverter For Renewable Energy Environment	2016
3	ITPW03	Cascaded H Bridge Multilevel PV Topology For Alleviation Of Per Phase Power Imbalances & Reduction of Second Harmonic Voltage Ripple	2016
4	ITPW04	Least Power Tracking Method For Photovoltaic Differential Power Processing System	2016
5	ITPW05	Design And Analysis Of A High Efficiency DC-DC Converter With Soft Switching Capability For Renewable Energy Application Requiring High Voltage Gain	2016
6	ITPW06	A Bi-Directional Three Level LLC Resonant Converter With PWAM Control	2016

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CORPORATE OFFICE: - **SPIRO GROUP OF COMPANIES FOR ECE, EEE, E&I, E&C MECHANICAL,CIVIL, BIO-MEDICAL**, #1, C.V.R Complex, Singaravelu street,T.Nagar,Cennai-600017,(Behind BIG BAZZAR) Mobile: 9962067067; 9176499499 Email:info@spiroprojects.com. FOR IT, CSE, MSC, MCA, BSC(CS), B.COM(CS) #78, 3rd Floor, Usman Road, T.Nagar, Chennai -17, (Upstairs of Hotel Saravana Bhavan) Mobile - 9791 044 044,9176 644 044. E-Mail: info1@spiroprojects.com,Website: www.spiroprojects.com Our branches : SALEM - 9176 615 615, KOVAI-9176 648 648,NELLAI-9176 617 617 NAMAKKAL - 9962 514 514, VELLORE - 9176 620 620, PONDICHERRY-9176 694 694.



7	ITPW07	High-Gain Single-Stage Boosting Inverter For Photovoltaic Applications	2016
8	ITPW08	A Single Phase PV Quasi –Z –Source Inverter With Reduced Capacitance Using Modified Modulation And Double Frequency Ripple Suppression Control	2016
9	ITPW09	Soft Switching Non Isolated Current Fed Inverter For PV/Fuel Cell Application	2016
10	ITPW10	Front End Isolated Quasi Z Source DC-DC Converter Modules In Series For Photovoltaic High voltage Dc Application	2016
11	ITPW11	A Fast Converging MPPT Technique For Photovoltaic System Under Fast Varying Solar Irradiation And Load Resistance	2015
12	ITPW12	Performance of medium voltage dc bus PV system architecture utilizing high gain DC DC converter	2015
13	ITPW13	Hybrid Transformer Zvs/Zcs Dc Dc Converter With Optimized Magnetics And Improved Power Devices Utilization For Photovoltaic Module Application	2015
I. WINDENERGY			

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14	ITPW14	Control & Operation Of A Dc Grid Based Wind Power Generation System In A Microgrid	2016
15	ITPW15	Sliding Mode Control Of PMSG Wind Turbine Based On Enhanced Exponential Reaching Law	2016
16	ITPW16	A Medium Frequency Transformer Based Wind Energy Conversion System Used For Current Source Converter Based Offshore Wind Farm	2016
17	ITPW17	Doubly Fed Induction Generator For Wind Energy Conversion Systems With Integrated Active Filter Capabilities	2015
II. HYBRID SYSTEMS			
18	ITPW18	A Modified Reference Of An Intermediate Bus Capacitor Voltage Based Second Harmonic Current Reduction Method For A Standalone Photovoltaic Power System	2016
19	ITPW19	Control And Implementation Of Standalone Solar Photovoltaic Hybrid System	2016
20	ITPW20	Grid Connected PV-Wind –Battery Based Multi Input Transformer Coupled Bi Directional DC-DC Converter For Household Application	2016

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21	ITPW21	MPPT With Single Dc Dc Converter With Inverter For Grid Connected Hybrid Wind Driven PMSG-PV System	2015
III. ENERGY STORAGE SYSTEM			
22	ITPW22	High Step Up /Step Down Soft Switching Bidirectional DC-DC converter with coupled inductor and voltage matching control for energy storage systems	2016
23	ITPW23	Bidirectional Resonant DC-DC Step-Up Converters For Driving High-Voltage Actuators In Mobile MicroRobots	2016
24	ITPW24	High Efficiency Bi-Directional Converter for Flywheel Energy Storage Application	2016
2.POWER ELECTRONICS			
I. AC TO DC CONVERSIONS			
25	ITPW25	Power Quality Improved Bridgeless Converter Based Computer Power Supply	2016

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26	ITPW26	Universal Ac Input High Density Power Adapter Design With A Clamped Series Resonant Converter	2016
27	ITPW27	A Novel Multilevel Multi Output Bidirectional Active Buck PFC Rectifier	2016
28	ITPW28	A Single Stage Single Switch LED Driver Based On The Integrated SEPIC Circuit & CLASS E Converter	2016
29	ITPW29	Interleaved SEPIC Power Factor Pre Regulator Using Coupled Inductors In Discontinuous Conduction Mode With Wide Output Voltage	2016
30	ITPW30	Soft Switching Two Switch Resonant AC-DC Converter With High Power Factor	2016
31	ITPW31	An Integrated High Power Factor Converter With Zvs Transition	2015
32	ITPW32	High Frequency Fed Unity Power Factor Ac-Dc Power Converter With One Switching Per Cycle	2015
II. DC TO AC CONVERSION			

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33	ITPW33	Efficient Transformerless MOSFET Inverter Grid Tied Photovoltaic System	2016
34	ITPW34	A Novel Zero-Voltage-Switching Push-Pull High-Frequency-Link (PPHFL) Single-Phase Inverter	2016
35	ITPW35	A Zvs Grid Connected Full Bridge Inverter With A Novel ZvsSpwm Scheme	2016
36	ITPW36	Bi Directional Single Power Conversion DC-AC Converter With Non Complementary Active Clamp Circuits	2016
37	ITPW37	Model Predictive Control Applied To An Improved Five Level Bidirectional Converter	2016
38	ITPW38	A Coupled Inductor Based High Boost Inverter With Sub Unity Turns-Ratio Rating	2016
39	ITPW39	A New Common Mode Transformer Less Photovoltaic Inverter	2015
40	ITPW40	An Interleaved High Power Flyback Inverter For Photovoltaic Application	2015
III. MULTILEVEL INVERTER			
41	ITPW41	A New Cascaded Switched-Capacitor Multilevel Inverter Based On Improved Series-Parallel Conversion With Less Number Of Components	2016

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42	ITPW42	Design And Implementation Of A Novel Multilevel DC-AC Inverter	2016
43	ITPW43	An Enhanced Single Phase Step Up Five Level Inverter	2016
44	ITPW44	A Single Dc Source Cascaded Seven Level Inverter Integrating Switched Capacitor Techniques	2016
45	ITPW45	A Capacitor Voltage Balancing Method For Nested Neutral Point Clamped (NNPC) Inverter	2016
46	ITPW46	Zero Crossing Disturbance Elimination And Spectrum Analysis Of Single Carrier Seven Level SPWM	2015
47	ITPW47	A Single Phase Cascaded Multilevel Inverter Based On A New Basic Unit With Reduced No Of Power Switches	2015
48	ITPW48	Optimum Structure Of Proposed New Cascaded Multilevel Inverter With Reduced No Of Components	2015
IV. DC TO DC CONVERSIONS			
49	ITPW49	A New Transformerless Buck Boost Converter With Positive Output Voltage	2016
50	ITPW50	Z-Source Resonant Converter With Power Factor Correction For Wireless Power Transfer Applications	2016
51	ITPW51	A CLCL Resonant DC/DC Converter for Two-Stage LED Driver System	2016

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52	ITPW52	Phase Shift Controlled Isolated Buck Boost Converter With Active Clamped Three Level Rectifier Featuring Soft Switching Within Wide Operation Range	2016
53	ITPW53	Design And Analysis Of A High Efficiency DC-DC Converter With Soft Switching Capability For Renewable Energy Application Requiring High Voltage Gain	2016
54	ITPW54	Isolated Double Step Down Dc Dc Converter With Improved Zvs Range And No Transformer Saturation Problem	2016
55	ITPW55	Inductors A High Gain Input Paralell Output Series Dc Dc Converter With Dual Coupled	2015
56	ITPW56	High Gain Zero Voltage Switching Bidirectional With Reduced Number Of Switches	2015
v. AC TO AC (CYCLOCONVERTER)			
57	ITPW57	High Efficiency Single Phase Ac –Ac Converters Without Commutation Problem	2016
58	ITPW58	A Single Stage High Frequency Resonant Ac/Ac Converter	2016
59	ITPW59	A Family Of High Frequency Isolated Single Phase Ac –Ac converter With Safe Commutation Strategy	2016
60	ITPW60	A Dimming Method For Hot Cathode Fluorescent Lamp Using A	2015

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		Resonant Inverter Operating At Fixed Switching Frequency	
3.AC & DC DRIVES APPLICATIONS			
61	ITPW61	Speed Sensor Less Induction Machine Control In The Field Weakening Region Using Discrete Speed Adaptive Full Order Observer	2016
62	ITPW62	Sensorless Control For High Speed Brushless Dc Motor Based On Line To Line Back Emf	2016
63	ITPW63	Blde motor driven solar pv array –fed water pumping system employing zeta converter	2016
64	ITPW64	Single Phase Grid Connected Motor Drive System Dc Link Shunt Compensator & Small Dc Link Capacitor	2016
65	ITPW65	Discontinuous Hybrid –Pwm Based Dc Link Voltage Balancing Algorithm For A 3 Level Neutral Point Clamped (NPC) Traction Inverter Drive	2016
66	ITPW66	A BL-CSC converter-fed BLDC motor drive with power factor correction	2015

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67	ITPW67	A Unity Power Factor Bridgeless Isolated CUK Converter-Fed Brushless Dc Motor Drive	2015
4. ELECTRICAL VEHICLE APPLICATION			
68	ITPW68	Pulse Width Modulation Based Electromagnetic Interference Mitigation Of Bi Directional Grid Connected For Electrical Vehicles	2016
69	ITPW69	Topology & Control Scheme Of OBC-LDC Integrated Power Unit For Electrical Vehicles	2016
70	ITPW70	Investigation Of Integrated Charging &Discharging Incorporating Interior Permanent Magnet Machine With Damper Bars For Electrical Vehicles	2016
71	ITPW71	Performance Analysis Of Bidirectional DC-DC Converter For Electrical Vehicles	2015
72	ITPW72	A NonisolatedMultiinputMultioutput Dc-Dc Boost Converter For Electrical Vehicle Application	2015
5.FUZZY LOGIC CONTROL			

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73	ITPW73	Sensorless Fuzzy-Logic-Based Maximum Power Point Tracking Control For A Small-Scale Wind Power Generation Systems With A SwitchedMode Rectifier	2016
74	ITPW74	Mathematical Modeling And Fuzzy Logic Control Of A Brushless Dc Motor Employed In Automobile And Industrial Application	2016
75	ITPW75	Experimental Evaluation Of A Partially Shaded Photovoltaic System With A Fuzzy Logic-Based Peak Power Tracking Control Strategy	2016
6. MICROGRID APPLICATION			
76	ITPW76	Naturally Clamped Snubberless Soft Switching Bidirectional Current Fed Three Phase Push Pull Dc- Dc Converter For Dc Microgrid Application	2016
77	ITPW77	Non Isolated Bidirectional Soft Switching Current Fed LCL Resonant Dc/Dc Converter To Interface Energy Storage In Dc Microgrid	2016
78	ITPW78	A Single Sensor Based MPPT Controller For Wind-Driven Induction Generators Supplying DC Microgrid	2016

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Education Partners:



Technologies and Domain used:

IEEE 2016, Java, J2ee, Android, Dot net, PHP, Embedded, Vlsi, Matlab, VB, Net working, Data Mining, Image Processing, Cloud Computing, Mobile Computing, Multimedia, Network Security, Soft Engg, Grid Computing, Automation, Robotics, Communication, RF, Zigbee, Blue tooth, GSM/GPS/GPRS, Power Electronics & Systems, Electrical, DSP, RTOS, Bio metrics, etc.

Features

- Latest 2016 IEEE, Science Direct, ACM based project concept and solutions.
- State of the art infrastructure, Innovative Project training methods.
- All our efforts are focused on students to meet industry requirements.
- Our environment is encapsulated with doctorates, professionals and other experts.
- Excellent Placements through our **Spiro HR Management Consultants (SMC) Pvt Ltd.**

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