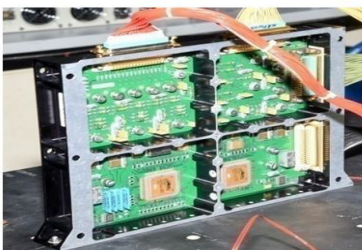


Hybrid Fixed Switching String Shunt Regulator

U R Rao Satellite Centre (URSC) of Indian Space Research Organisation (ISRO) has developed a Hybrid Fixed Switching String Shunt Regulator which can handle power levels up to 20kW with digital control for ON/OFF strings. It regulates the Bus voltage to 71V using Ripple regulated bus concept. Coarse regulation is achieved by On/Off strings and Fine regulation is by fixed Switching Strings (SS).



Hybrid Fixed Switching
String Shunt Regulator

Salient Features

- ✦ Bus voltage regulated to 71V using Ripple regulated bus concept.
 - ✦ Coarse regulation by On/Off strings.
 - ✦ Fine regulation by fixed switching strings with hot redundancy.
 - ✦ UTP/LTP control for switching strings.
 - ✦ FPGA based control for ON/OFF strings.
 - ✦ Designed to support 40 Strings.
- ✦ Modular concept (Horizontally stacked) & scalable according to power requirement, each module can support up to 3kW.
 - ✦ Employs dedicated Majority Voting logic (MVL).
 - ✦ Dedicated scalable Battery charging modules using charger string concept, controlled by FPGA.

Major Specifications

- ✦ Package Dimensions : 286*70*212 (Mm*Mm*Mm)/Module
- ✦ Package Mass : 1.2kg/Module
- ✦ Output Voltage (V) : 71 ± 0.5
- ✦ Output Power (W) : Up To 20kW
- ✦ Concept : Ripple Regulated
- ✦ Efficiency (%) : 98%
- ✦ Telemetry : Analog-Duty Cycle Of Switching Strings
- ✦ Telemetry Digital : Inclusion/Exclusion Status Of Strings

Technology Transfer

URSC/ISRO offers to transfer this technology of Hybrid Fixed Switching String Shunt Regulator developed by URSC to industries in India with adequate experience and facilities. Industries interested in obtaining knowhow may write giving details of their present activities, infrastructure and facilities.

Technology Transfer & Industry Coordination Division (TTID),
Programme Planning and Evaluation Group (PPEG),

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