# Battery Discharge Regulator

U R Rao Satellite Centre (URSC) of Indian Space Research Organisation (ISRO) has developed a Battery Discharge Regulator to maintain the bus regulation during eclipse and peak power requirement periods to avoid the off-optimal operation of the solar array and consequent over sizing of battery. BDR is a Boost Regulator, which regulates the bus voltage in-spite of the variations in the battery voltage. This results in 3 to 4% improvement in the overall efficiency of the user DC-DC and TWTA converters. BDR is modular in nature and can be scaled according to the load requirement.

***Battery Discharge Regulator***

## Specifications:

- Average Current Mode programming for load current sharing.
- Alternate path for fuse blow current and turn on inrush currents.
- Current transformer sense for implementing OCP.
- MVL based inclusion/exclusion.
- Protection Circuits:
  - Pulse by pulse type output over current limit protection.
  - Over voltage limit protection for Output over Voltage.

## Major Specifications:

| | | |
|---|---|---|
| Input Voltage (V) | : | 45 to 67V |
| Output Voltage (V) | : | 69.5±0.5 |
| Output Power (W) | : | 1000W |
| Topology | : | Non-Isolated Boost |
| Efficiency (%) | : | >94% |
| OVP Limit (V) | : | 77V (110%) |
| Current Limit (%) | : | 120 % of Full (100%) Load Current |
| Telemetery | | |
| • Analog | : | Output Voltage, Output Current |
| • Digital | : | Ovp Relay & On/Off Relay Status |
| Dimensions (L*W*H) | : | 86*70*212(mm3) |
| Package Mass | : | 2.5kg |

## Technology Transfer from ISRO

ISRO is willing to offer the knowhow of this technology to suitable entrepreneurs / industries in India. Capable manufacturing industries interested in acquiring this knowhow may write with details of their present activities, requirements and plans for implementation, infrastructure and technical expertise available with them, their own market assessment, if any, and plans for diversification to the address given below: