

# Small Satellite Power System

Scalable power conditioning and switching

## Applications

- Small LEO satellites
- Commercial constellations
- Earth Observation missions
- Space Science missions

## Features

- Extensive heritage
- Internally redundant
- Scalable up to 1.6kW
- 7 year design life

## Interfaces

- 28V battery (Li Ion or NiCd)
- Multiple 80W solar array sections
- 5V and 28V switched lines

## Options

- Number and configuration of over switches
- Provision with a Li-Ion Battery
- Solar panel design and laydown
- GEO power systems

## Heritage

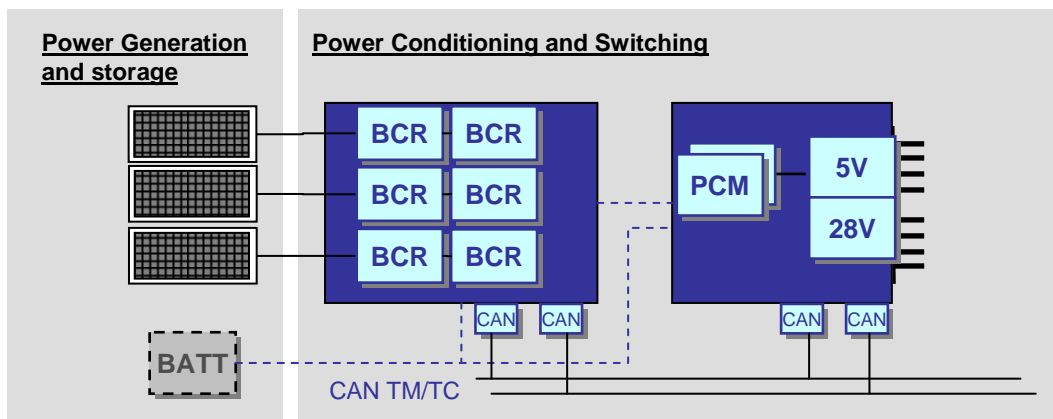
- Based on SSTL microsat power system design
- DMC (x4), Beijing-1, CFESAT, RapidEye (x5)



Battery Charge Regulator

## Key Specifications

- Battery Charge Regulator
  - 6 independent BCRs per module
  - Each BCR can handle up to 80W
  - Over voltage battery protection
  - Produces unregulated +28 (±6V) Volt bus
  - 10 x 28 Volt power switches
  - Hot redundant CAN nodes with command decoding capability from receivers
- Power Conditioning Module
  - Dual redundant +5 volt regulated supply
  - Hot redundant CAN nodes
  - With command decoding capability from receivers
  - 28 x 28 volt power switches
  - 6 off switches provided as Latch Current Limiters for payload
  - 16 x 5 volt power switches.
  - Module requires 28 volt unregulated supply.
  - 2 x fused lines
  - 2 parallel fuses lines to support receivers





# Small Satellite Power System

## Scalable power conditioning and switching

The Scalable Small Satellite Power System supports power generation, storage, conditioning and distribution for Low Earth Orbit spacecraft. The system has a long heritage, and can support missions requiring up to 1.6kW.

SSTL is ISO9000:2000 certified

- Manufacture and rework to
  - ECSS Q-70-80A
  - ESA PSS-01-738
  - ECSS Q-70-28A
  - Test to SSTL ISO9000:2000

Standard Delivery Service Includes

- Compliance Testing
- Vibration Test
- Thermal Cycling
- User manual
- Test Results
- Export License and Shipping
  
- Thermal Vacuum Testing available
- Unit can be supplied prior to environmental testing



<b>Mass</b> per module	BCR 2.25kg PCM/PDM 1.65kg
<b>Dimensions</b> Per module	300x300x30mm
<b>Operating Temperature</b>	-20 to +50degC
<b>Random Vibration</b>	15G <sub>rms</sub> in all axes
<b>Radiation</b>	10kRad (Si)

## Surrey Satellite Technology Limited

SSTL has launched over 30 satellites gaining almost 200 years in-orbit experience. SSTL draws on its world-class expertise in both small satellite platform technology and high and medium resolution optical instruments. SSTL provides complete turn-key system solutions; spacecraft, ground station, launch, operations and image processing.

SSTL is unique in the space industry; able to design, manufacture and integrate multiple satellites in-house.

Changing the economics of space  
[www.sstl.co.uk](http://www.sstl.co.uk)

© Surrey Satellite Technology Ltd.

Tycho House, 20 Stephenson Road, Surrey Research Park, Guildford, Surrey, GU27YE, United Kingdom  
Tel: +44(0)1483803803 | Fax: +44(0)1483803804 | Email: [info@sstl.co.uk](mailto:info@sstl.co.uk) | Web: [www.sstl.co.uk](http://www.sstl.co.uk)

