

ELECTRICAL POWER SYSTEM (EPS)

MAIN FEATURES

- Cold redundancy and graceful degradation
- Single point failure tolerant
- Telemetry and telecommand communication with redundant CAN bus
- Temperature ranges:
 - circuits: -40°C to 80°C qualified
 - battery: 0°C to 50°C
- Autonomous LCL protection
- Autonomous battery heater and balancing
- Two-level battery undervoltage protection
- Robust aluminium (T-7070) milling case



SPECIFICATION

Solar Energy Harvesting

| | |
|---|--|
| Solar Cell Type | Triple Junction Solar Cells, (~30% eff.) |
| Maximal Number of Solar Cells in Series | 7 pcs |
| Number of MPPT channels | 6 pcs |
| Maximum Input Power per Channels | 12 W |
| Maximum incoming solar energy | 50 W |

Energy Storage

| | |
|--------------------------------------|---------------|
| Battery Pack Configuration | 2P3S |
| Nominal Pack Capacity (90% SOC) | 5.4 Ah |
| Nominal Pack Stored Energy (90% SOC) | 58.3 Wh |
| Integrated Battery Heater | YES |
| Balancer | YES (passive) |

Energy Distribution

| | |
|--------------------------|--|
| Number of LCL channels | 12 |
| Available Voltage Levels | 3.3 V, 5.0 V, 9.9 V – 12.3 V (unregulated) |

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