



AstreX Inc.

AXPHDY-PCU

Power Control Unit for Micro Satellite

■ Outline

AXPHDY-PCU is a power control device optimum for micro satellites, which requires up to 200W of power, combines the battery control and the control of power generation from solar panels.

It is equipped with automatic MPPT control by analog circuit configuration that is conscious of radiation resistance, and has the function of monitoring voltage, current, and temperature.

In addition, PCUs can be controlled from OBCs (On Board Computers) via RS422/485.

The digital control unit and the analog control unit are characterized by high noise resistance performance, with the GND isolated by the isolation circuit.



Figure.1-1 AXPHDY-PCU

■ Spec

Battery I/F	Max.3ch, +22V~+33V, Max 4A (Discharge)
Solar Cells	Max.6ch , +44~+55V, Max 3.6A
Inhibit circuit	3 (HOT Line : 2 / RTN Line : 1)
Flight-Pin	2
Output Line	9ch (Power distribution circuit)
Battery heater Line	2ch
Communication I/F	RS422/485 : 2ch Reset : 3Line
Size	206mm×215mm×110mm (*1)
Weight	1.5kg (*1)
Number of connectors	10

AXPHDY-PCU

■ Features

- ◆ Automatic power supply function by analog timer for radio and OBC.
- ◆ Battery overcharge protection
- ◆ UVC/overcurrent trip control function for connected devices
- ◆ OBC telecommunication function in RS422/485 (commands reception & control, and telemetry transmission)
- ◆ Fully electrically isolated configuration of the analog and digital sections
- ◆ MPPT function that operates with only analog circuits
- ◆ High-efficiency digitally controlled MPPT function (*2)
- ◆ Various current and voltage monitors with up to 12 bits
- ◆ Complete double redundant circuit configuration

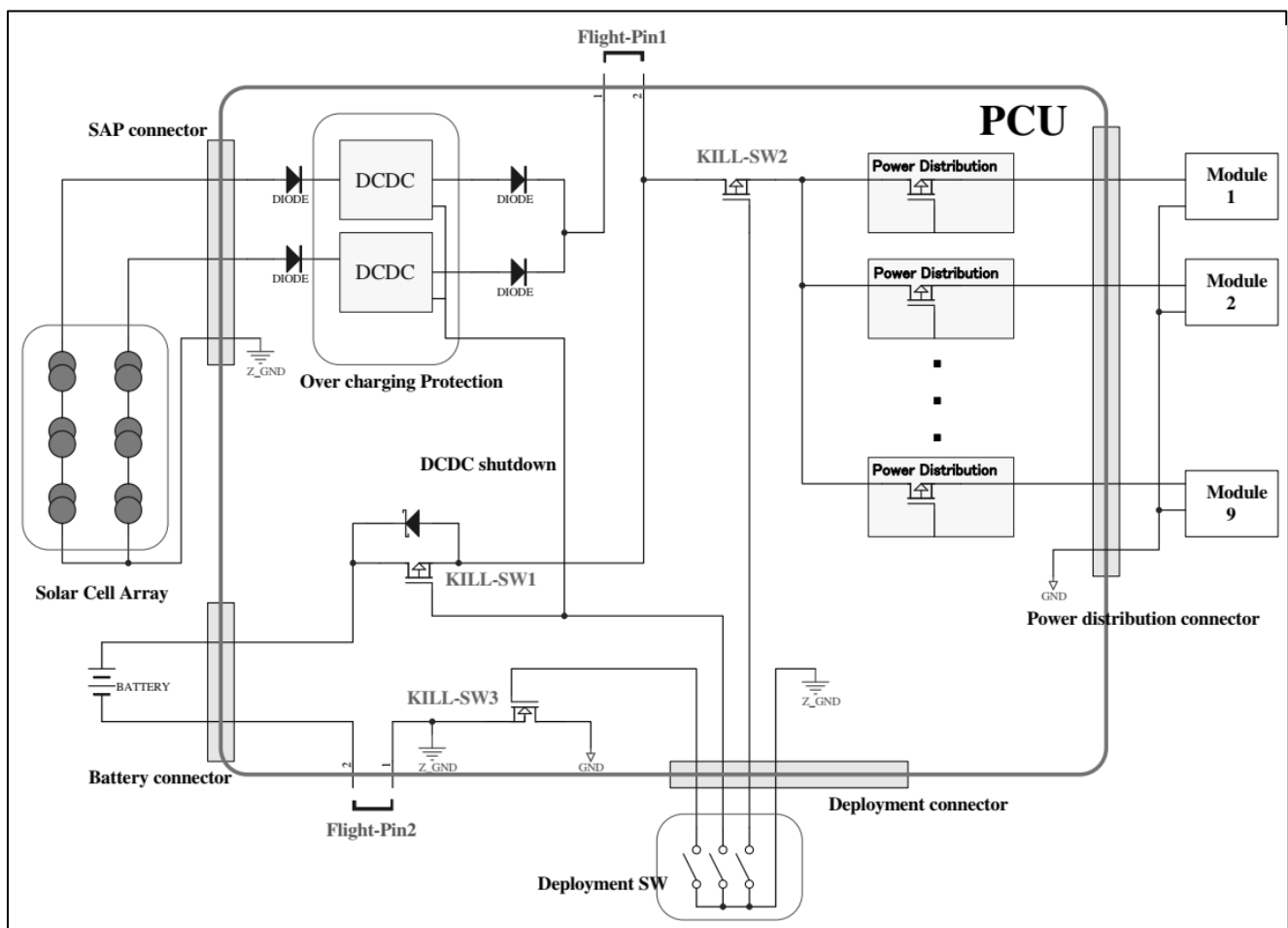


Figure.1-2 Power supply circuit diagram

*1 : Some errors occur during manufacturing.

*2 : Because it is an extended function, it is not implemented at the time of purchase. Please contact us for installation.