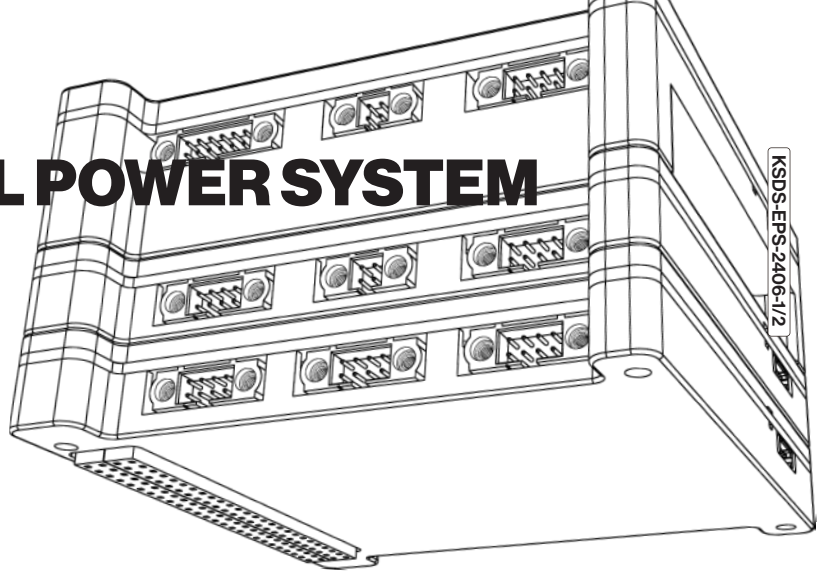


KSEPS ELECTRICAL POWER SYSTEM

DATASHEET



Battery Unit

- 8 INR18650-35E lithium-ion cell
- Automatic passive cell balancing
- Heater with automatic control
- I2C, UART, CAN communication protocol
- EMI protection

Battery cell ratings

Nominal voltage	3.6 V
Allowable max charging voltage	4.2 V

System protection ratings

Parameter	Limits per cell
Over-voltage	4.162 V
Under-voltage	3.05 V
Operating temperature	-20°C ~ +60°C
Storage temperature	-20°C ~ +60°C

Available protections

Charge, discharge, over-voltage, under-voltage, over-current, short-circuit, over-temperature, under-temperature, and open wire fault.

MPPT Unit

- Three channel MPPT
- 1 to 7 solar cells per panel
- 1 to 2 solar panel per channel
- 6 variable frequency buck-boost converter
- Battery charger converter and battery protection circuit
- Independent power, voltage, and current monitoring
- Reverse current protection
- EMI protection
- I2C, UART, CAN communication protocol

System ratings

Channel number	Specification	
	Min	Max
Channel input voltage	2.4 V	16.8 V
Channel input current	0.0004 A	1.0 A
Channel output voltage	0 V	8.3 V
Channel output current	0 A	5 A
Operating temperature	-40 °C	65 °C

PCD Unit

- Seven-channel power conditioning and distribution unit
 - Two 3.3V channels
 - Two 5V channels
 - Two adjustable and reconfigurable output channels
 - One raw battery voltage output
- Independent voltage, current, and power monitoring across each channels
- 7 protected output channels
 - Current limit up to 3A
 - Over-current and latch-up protection
 - Over-temperature, under-voltage lockout and short circuit protection
 - EMI protection
 - High quality enclosure
- I2C, UART, CAN communication interface

System ratings

Parameter	Min / Max
Current per channel	1.5 / 3 A
Channels	1 / 7

Converter configuration details

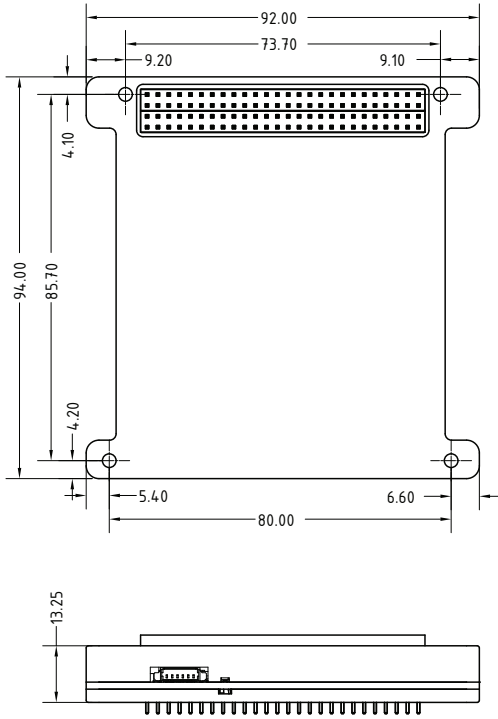
Channel number	Converter configuration			Current limit
	3.3V	5V	Raw battery voltage	
1	Yes	-		
2	Yes	-		
3	-	Yes		
4	-	Yes		3A
5	Yes	Yes		
6	Yes	Yes		
7	-	-	Yes	

KSEPS ELECTRICAL POWER SYSTEM

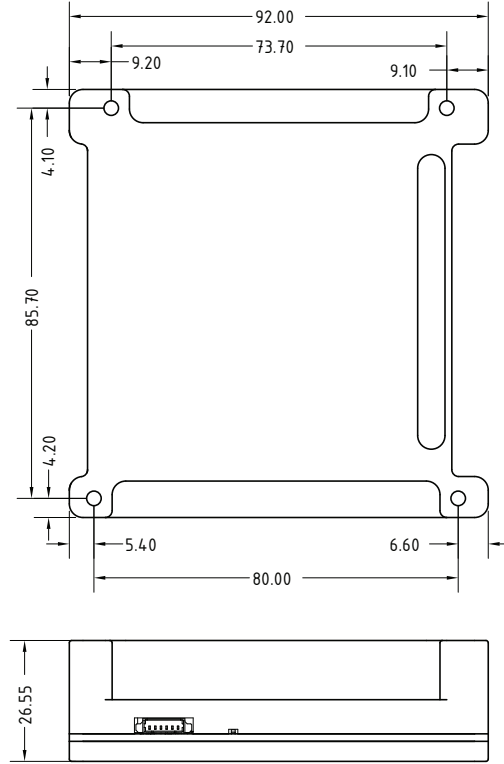
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KSDS-EPS-2406-2/2

MPPT unit



Battery unit



*Units: Metric mm

PCDU unit

