DC Power Supply for StackableUSB™ PSUSB

Features

- ✓ Distributed Power Architecture (DPA)
- ✓ 4.5-76Vdc input range
- ✓ Isolated/regulated Outputs
- ✓ Low Noise Design
- ✓ Fanless operation
- ✓ Small 1.85" x 1.78" board
- ✓ -40° to +85°C operation

StackableUSB

RoHS COMPLIANT

The PSUSB stacks onto any ¼-size 104™ Form Factor StackableUSB single board computer and functions as a DC/DC power supply. Made to tackle tough voltage problems in telecom (48Vdc), factory (24Vdc), and vehicular (12Vdc) applications, the PSUSB is designed for customers who want a DPA system for local power that has fewer wires, less complex grounding, and smaller gauge wiring.

The PSUSB is typically sourced from a universal AC/DC bulk supply already in the system. Wires can be run from the bulk supply to the PSUSB supply, which is part of the StackableUSB stack, thereby eliminating troublesome CPU reset problems associated with incorrect voltage drop/current calculations. The input section has been designed to handle worst case voltage fluctuations and low input voltage protection and includes fuse and Pi filtering. The output 5V supply is capable of sourcing 2 amps max. An optional 3.3V regulator can be added allowing the PSUSB to output 5V and 3.3V maintaining a combined 2 amps max with a low output ripple of less then 40mV max for each voltage.

The PSUSB is an important addition to any StackableUSB system that requires a wider range of input voltage than their systems can handle.

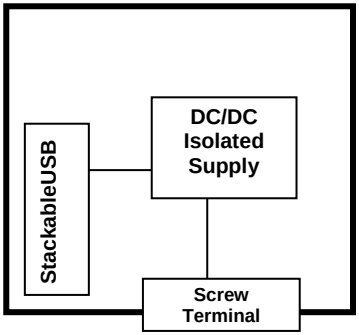
Software/Driver Support

Compatible Hardware

StackableUSB single board computers and microcontrollers

Mounting/Packaging

¼-size 104 Form Factor Standoffs, STDOFFUSB



Specifications:

Mechanical:
- ❑ 1.85” x 1.74” StackableUSB
- ❑ ¼-Size 104™ Form factor

Power Requirements:

Input Voltage Range	
Product	Voltage Range
PSUSB-5-ST	4.5V - 9V
PSUSB-12-ST	9V - 18V
PSUSB-24-ST	18V - 36V
PSUSB-48-ST	36v - 76V

This product is equipped with a low input voltage protection circuit in order to prevent miss-operation when the input voltage is low. The converter stops operating when it falls below the voltage setting. The setting range is shown in the table below.

Low Input Voltage Protection Range	
Product	Voltage Range
PSUSB-5-ST	3.3V – 4.5V
PSUSB-12-ST	6V – 9V
PSUSB-24-ST	13V – 18V
PSUSB-48-ST	27V – 36V

Isolated Output Power				
Vin	Vout	Aout total -40° to +50°C Amb	Aout total at 70°C Amb	Aout total at 85°C Amb
4.5-9V	5	2A	1.5A	800mA
9-18V	5	2A	1.5A	800mA
18-36V	5	2A	1.5A	800mA
36-76V	5	2A	1.5A	800mA

Environmental:
- ❑ -40° to +85°C operating
- ❑ -40° to +85°C storage
- ❑ 5%-95% relative humidity, non-condensing

External Connections:
- ❑ StackableUSB
- ❑ 4-pin right-angle Weidmuller header with retaining screws

4 Pin Right Angle Connector	
Pin	Signal
1	Voltage In VCC
2	Voltage In GND
3	+5V Out isolated
4	GND Out isolated

Development Kit:
- ❑ Base module
- ❑ Documentation, schematics

Ordering Information:

OEM Modules:

PSUSB-5-ST	4.5V to 9VDC/ 5VDC Power Supply with StackableUSB stack-through connector
PSUSB-12-ST	9V to 18VDC/ 5VDC Power Supply with StackableUSB stack-through connector
PSUSB-24-ST	18V to 36VDC/ 5VDC Power Supply with StackableUSB stack-through connector
PSUSB-48-ST	36V to 76VDC/ 5VDC Power Supply with StackableUSB stack-through connector
PSUSBOPT1	3.3V output supply

Related Products:

STDOFFUSB	StackableUSB Standoff Kit

Development Board Kits*

DKPSUSB-5-ST	4.5V to 9VDC/ 5VDC power board with StackableUSB stackthrough connector
DKPSUSB-12-ST	9V to 18VDC/ 5VDC power board with StackableUSB stackthrough connector
DKPSUSB-24-ST	18V to 36VDC/ 5VDC power board with StackableUSB stackthrough connector
DKPSUSB-48-ST	36V to 76VDC/ 5VDC power board with StackableUSB stackthrough connector

**See Development Kit Specifications*

The above model is for U.S. operation. Contact the factory for international models.