



## **DC1U-1V DC-DC Converter Module**

**Quick Start Guide  
Rev 1.0 10/12/06**

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# Chapter 1

## Overview

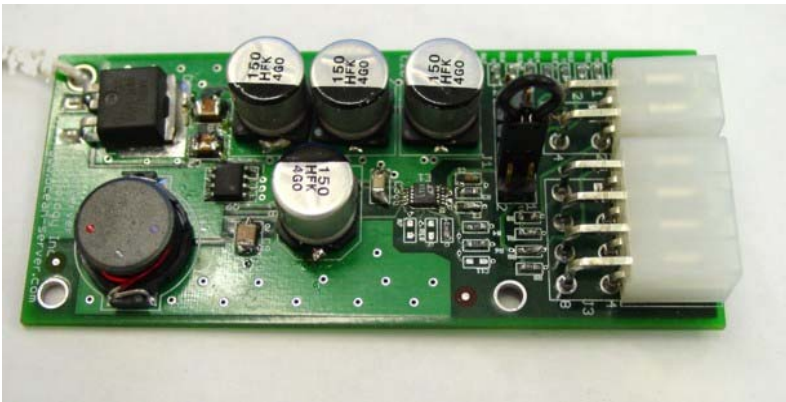
### DC1U-1V DC-DC Converter

#### 1.1 General Description

The DC1U-1V is a high efficiency DC-DC converter to be used with select OceanServer Intelligent Battery and Power System (IBPS) modules. It can be used with any of the BBDC-02, BB-xx, MP-xx, and XP-xx series modules. These modules allow designers to add Smart rechargeable Lithium Ion battery power to a variety of devices. The DC1U-1V can be added to these IBPS modules to provide regulated DC output.

- The DC1U-1V is a 75W high efficiency DC – DC regulator.
- Up to 96% efficient.
- Factory configured to output 19V, 20V, 24V, or 28V.
- Input voltages from 12V to V Output – 1V. Voltage in must be a minimum of 1V less than Voltage out (step-up regulator).

#### 1.2 Picture of the DC1U-1V



### **1.3 Getting Started**

Ground yourself by touching a metal surface before getting started. Static charges on your body can damage electronic components. Handle the DC1U-1V by the edge; do not touch board components. OceanServer recommends using a static ground strap. Before cabling the DC1U-1V to one of the supported IBPS modules (BBDC-02, BB-xx, MP-xx and XP-xx) be sure no Battery Packs or Power Supply is attached. Also, insure the device that the DC1U-1V is going to be used in is not being powered by another power source prior to installation.

Input power is connected to J3. The output power is connected to J2. An ON/OFF signal is not required to turn the regulator on or off. The DC1U-1V is always on when the power is present.

### **1.4 Recommended Cables**

OceanServer offers both input and output cables for the DC1U-1V. Below are the standard cables OceanServer offers:

#### ***Input Cables (Raw Battery Output from IBPS module to DC1U-1V)***

19-00026-05 IBPS Module TO DC1U-1V CONVERTER, 8P STRAIGHT THROUGH, 5"  
19-00026-10 IBPS Module TO DC1U-1V CONVERTER, 8P STRAIGHT THROUGH, 10"  
19-00026-20 IBPS Module TO DC1U-1V CONVERTER, 8P STRAIGHT THROUGH, 20"  
19-00050-00\* XP-08S and MP-08S IBPS Modules TO DC1U-1V Converter 10"  
\* XP-08S and MP-08S have two power output connectors so the 19-00050-00 cable should be used to connect the DC2U-1V

#### ***Output Cables (Regulated Power Output from DC1U-1V)***

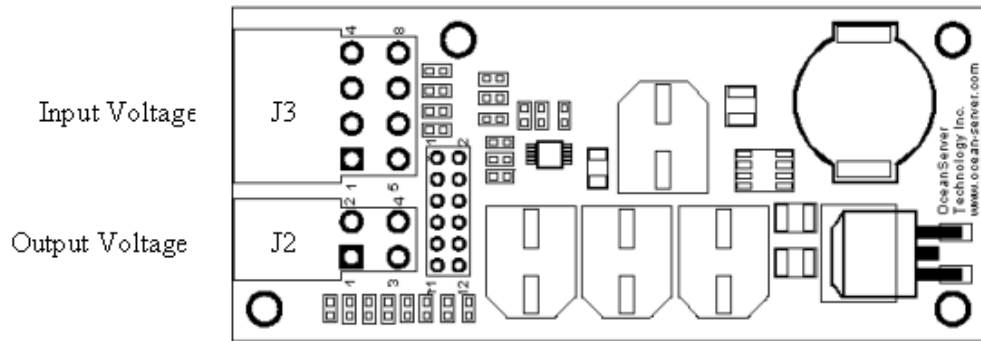
DC1U REGULATED POWER OUT CABLE W/RING TERMINALS, 30" 19-00047-30

All cables can be found on OceanServer's Online Store:

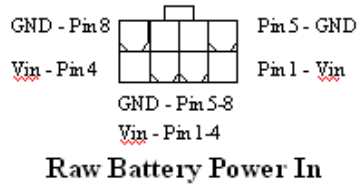
<http://www.oceanserver-store.com/cables.html>



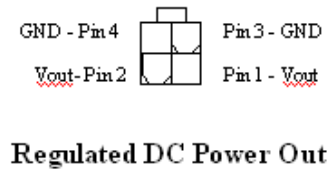
## 2.2 Connector Layout



**J3**  
(looking into connector)



**J2**  
(looking into connector)



## 2.5 Specifications

Parameter	Description	Value
Efficiency		Up to 96%
Ambient Temperature (see note 1)	Max Min	50C 0C (see note 2)
Vout		19V 20V 24V 28V
Vin (see note 3)	Max Min	Vout-1 up to 24V 12V
Power Output	Max Power out	75W
Output Voltage Tolerance		+/-7%
Frequency		300KHz
Power Connector current rating	Per pin	7A
Power Mating connectors	4 pin 8 pin	Molex 39-01-2040 Molex 39-01-2080
Power Mating pins	18-24AWG 16AWG	Molex 44476-1112 Molex 44476-3112

Note 1: Module is specified to work in 0-50C but it is up to the system designer to make sure that the components remain below their 125C junction rating and that the Aluminum Electrolytic capacitors remain below 105C.

Note 2: Contact OceanServer for applications beyond 0C-50C temperature range.

Note 3: Will support voltages as low as 9V, but at a de-rated power output.

# Customer Support

Send technical questions to: [support@ocean-server.com](mailto:support@ocean-server.com)

Or call us at 508-678-0550 during normal business hours.

## **Related Publications:**

Please visit our download page and download our latest Hardware User Guides and FAQs guide.

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