



## IPN Remote

*IPN™ network compatible charge controller and battery system monitor*

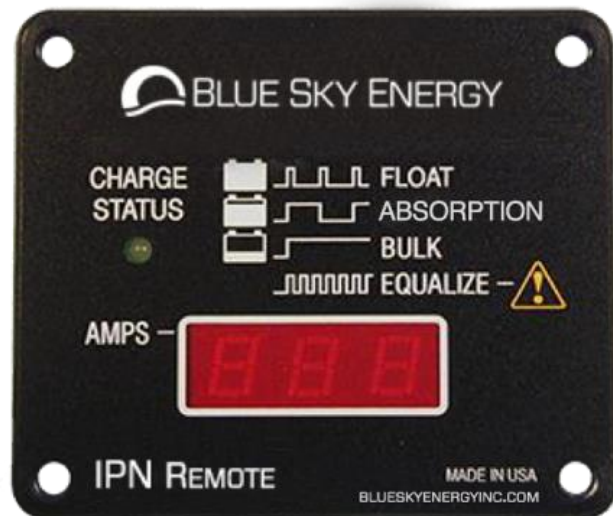
### INSTALLATION AND OPERATION MANUAL



**CONFORMS TO**  
EN 61000-6-2:2005  
EN 61000-6-3:2007 + A1:2011  
AS/NZS 60000-6-3:2012

**FCC CFR 47 Part 15 Subpart B**

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: 1) This device may not cause harmful interference, and 2) This device must accept any interference received, including interference that may cause undesired operations.



**THIS MANUAL INCLUDES IMPORTANT SAFETY INSTRUCTIONS FOR MODEL - IPN Remote  
SAVE THESE INSTRUCTIONS**

**TABLE OF CONTENTS**

**IMPORTANT SAFETY INSTRUCTIONS** ..... 1

**PRODUCT DESCRIPTION** ..... 1

    Part Numbers..... 1

**OPERATION** ..... 3

    LCD Display..... 3

    Charge Status Indicator..... 3

**SETUP**..... 3

    DIP switch configures..... 3

**INSTALLATION** ..... 4

    Charge Controller Connection..... 4

**TROUBLESHOOTING GUIDE** ..... 4

**FIVE YEAR LIMITED WARRANTY**.....4

*TABLES AND FIGURES*

    Table 1     DIP switches ..... 3

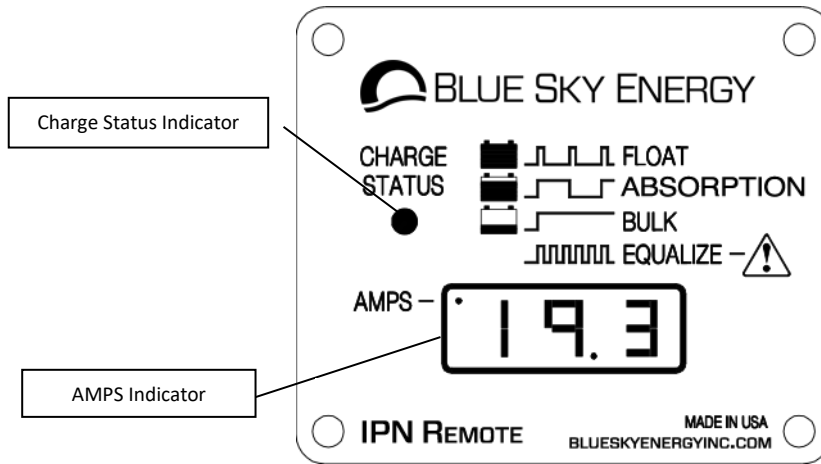
    Table 2     Troubleshooting ..... 4

    Figure 1    Display Panel ..... 3

    Figure 2    Detailed Dimensional Drawing ..... 3

**OPERATION**

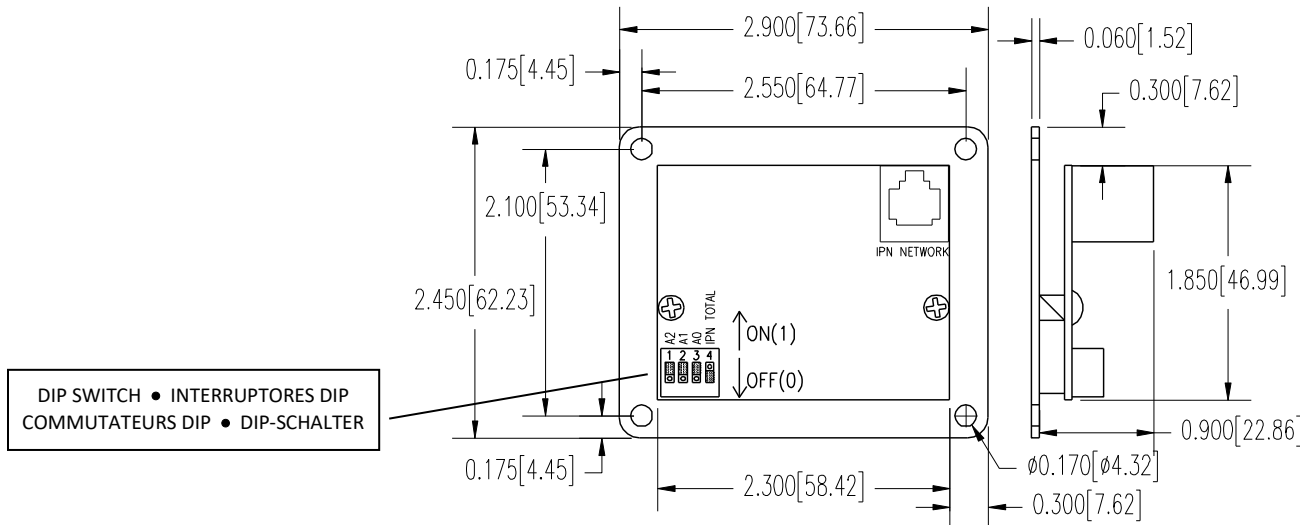
The IPN Remote provides a digital display of battery voltage and output charge current. The display alternates between voltage and current when charging. Current is displayed when the “AMPS” indicator is ON and can be the *total* of all controllers on the IPN network (factory default), or the current of a *single* controller on the IPN network. An automatic night time dimming feature reduces display brightness when PV charge is OFF.



**SETUP**

A four position DIP switch configures the output current display. To show output current from a single controller IPN network address of the display and charge controller must match.

DIP SWITCH	IPN ADDRESS – OUTPUT CURRENT OF SINGLE CHARGER								TOTAL OUTPUT CURRENT OF ALL CHARGERS ON IPN NETWORK
	0	1	2	3	4	5	6	7	
# 1 (A2)	OFF (0)	OFF (0)	OFF (0)	OFF (0)	ON (1)	ON (1)	ON (1)	ON (1)	X
# 2 (A1)	OFF (0)	OFF (0)	ON (1)	ON (1)	OFF (0)	OFF (0)	ON (1)	ON (1)	X
# 3 (A0)	OFF (0)	ON (1)	OFF (0)	ON (1)	OFF (0)	ON (1)	OFF (0)	ON (1)	X
# 4 (IPN Total)	OFF (0)	OFF (0)	OFF (0)	OFF (0)	OFF (0)	OFF (0)	OFF (0)	OFF (0)	ON (1)



**INSTALLATION**

This unit is designed to be used with Integrated Power Net™ (IPN™) compatible charge controllers. Do not plug into anything other than an IPN compatible communications port. Each charge controller includes an IPN DISPLAY connector which provides power and IPN network connection. The IPN-Remote can plug into any charge controller on the network using the standard 4 conductor RJ-11 voice telephone cable supplied. Standard 4-pin telephone cables swap pin numbers end-to-end. If cables are custom terminated or cable couplers are used, be certain pin swap is maintained. Do not expose to rain, snow or excessive moisture. Total maximum cable length should be limited to approximately 500 feet (152.4m).

**ELECTROMAGNETIC COMPATIBILITY (CE and FCC Marks)**

To comply with electromagnetic compatibility requirements the IPN Remote must be installed with a clamp on type ferrite suppressor (included with the products). The clamp suppressor must be installed around the remote display cable with the cables looped to pass through the core 2 times. Additional suppressors can be ordered as BSE p/n 523-0005-01.

**TROUBLESHOOTING GUIDE**

SYMPTOM	PROBABLE CAUSE	ITEMS TO EXAMINE OR CORRECT
Completely dead, no display	No battery power	Battery disconnected, overly discharged (<9V), or connected reverse polarity. Battery powers unit, not PV. Cable Faulty
Display turns on, but battery voltage displays “---” rather than a number	Display not communicating with charge controller	Cable faulty One charge controller only must be Master. Poor or missing Bat – connections preventing communication
When charger turns on, current displays “---” rather than a number	Output current display selection set for an address not present on the IPN network	Configure display IPN network address to a charger present on the IPN network.
When charger turns on, output current displays but the value seems incorrect	Output current display selection set for wrong IPN network address Bat– connected to PV– outside charge controller	Configure display IPN network address DIP switch to read desired output current.  PV- & BAT- must be separate external to the unit for proper operation and cannot connect to a common location. External connection prevents proper operation of internal shunts and current measurement system.
Voltage or current value displayed seems to be stuck and does not change	Display or charge controller IPN network addressed has changed  Display not communicating with charge controller	Configure display IPN network address DIP switch to properly read output current of a charger present on the IPN network  Intermittent display cable.

Specifications:	IPN Remote
Power Consumption:	0.25W (typical standby), 1.0W backlit ON
Display:	3-Digit • 0.30” Low Power LED
Communication and Cabling:	Communication via 25' (7.6m) RJ-11 4-pin telephone cable provided
Operating Temperature:	-40°C – 40°C
Environmental Protection:	IP00
Weight:	0.017 lb. (42 g)
Dimensions:	2.9 x 2.45 x 0.9" (7.4 x 6.2 x 2.3 cm)

NB. As a part of our continuous improvement process specifications are subject to change without prior notice.

**5 YEAR LIMITED WARRANTY**

Blue Sky Energy, Inc. (hereinafter BSE), hereby warrants to the original consumer purchaser, that the product or any part thereof will be free from defects due to defective workmanship or materials for a period of five (5) year subject to the conditions set fourth below. If within the coverage of this limited warranty, BSE will repair or replace the product at BSE’s discretion. The original consumer purchaser is responsible for all transportation costs and insurance related to returning the product to BSE. BSE will cover standard ground transportation costs and insurance to return the product to the original consumer within the continental US.

1. This limited warranty is extended to the original consumer purchaser of the product, and is not extended to any other party.
2. The limited warranty period commences on the date the product is sold to original consumer purchaser.
3. This limited warranty does not apply to any product or part thereof damaged by; a) alteration or disassembly, b) repair or service not rendered by a BSE authorized repair facility, c) accident or abuse, d) corrosion, e) lightning or other act of God, or f) operation or installation contrary to instructions pertaining to the product.
4. BSE’s liability for any defective product or any part thereof shall be limited to the repair or replacement of the product, at BSE’s discretion. BSE will not be liable for any loss or damage to person or property, or any other damages, whether incidental, consequential or otherwise, caused by any defect in the product or any part thereof. Some states do not allow exclusions or limitations of incidental or consequential damages, so the above limitation may not apply to you.
5. Any implied warranty for merchantability or fitness for a particular purpose is limited in duration to the length of this warranty. Some states do not allow exclusions or limitations on how long an implied warranty lasts, so the above limitation may not apply to you.
6. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.
- 7 To obtain warranty repairs, contact BSE at 760-597-1642 or techsupport@blueskyenergyinc.com to obtain a Returned Goods Authorization (RGA) number. Mark the outside of the package with the RGA number and return the product, postage prepaid and insured to the address below. The consumer is responsible for all transportation costs and insurance related to returning the product to BSE, and for any shipping damage which may void the warranty or increase the cost of repairs.