

### UNIVERSAL COMMUNICATION MODULE™

The Universal Communication Module (UCM™) provides a full featured communication bridge or gateway between Blue Sky Energy's Integrated Power Net (IPN™) based charge controllers and external systems.

Blue Sky Energy's proprietary IPN Network allows multiple charge controllers to communicate with each other and coordinate their activities to charge the battery as a single coordinated charging machine. The IPN network also allows multiple charge controllers to share a battery temperature sensor and remote display.

The UCM attaches to the display connector of any IPN based charge controller to receive power and network communication. The UCM then provides multiple standard communication interfaces which may be used simultaneously. These standard communication interfaces allow easy access to data and setup parameters for all charge controllers on the network. If an IPN-ProRemote is present on the IPN network it's full featured battery system monitoring functionality and associated setup become available as well®.

A standard Modbus RTU interface is provided both as isolated RS-485 and TCP/IP Ethernet based Modbus/IP. Additional Ethernet connectivity includes a built in HTTP web site driver allowing data view and parameter setup with a standard web browser either locally, or globally over the Internet® without a subscription. The ability for periodic real time FTP data upload to a remote server is also provided.

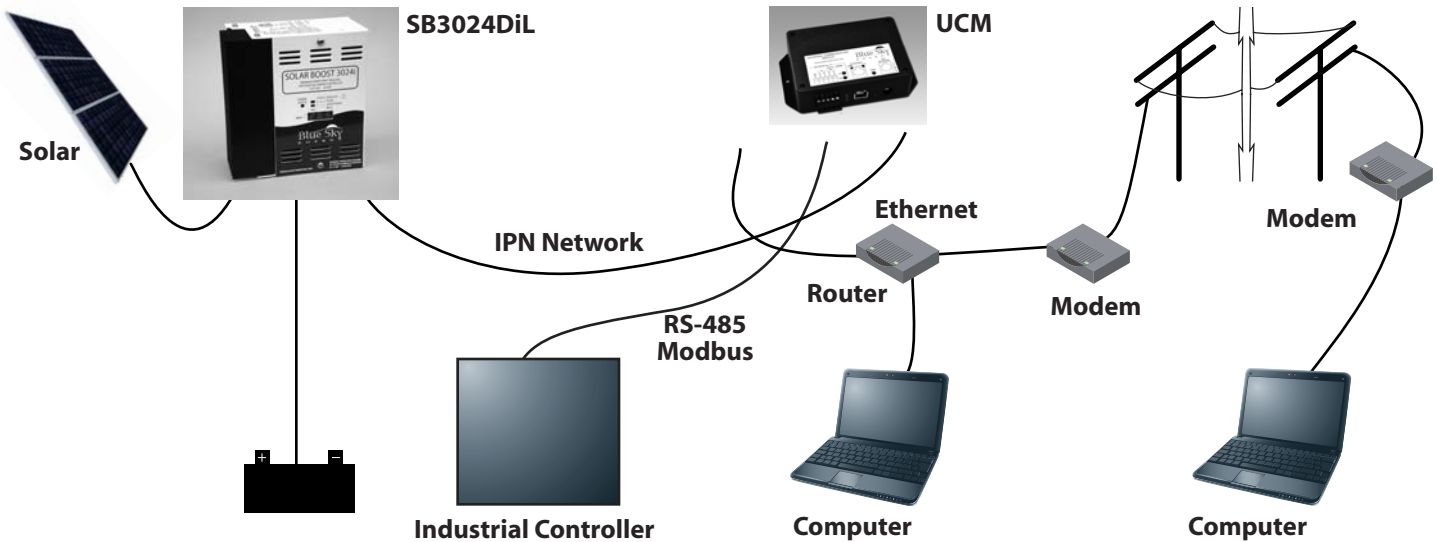
The UCM also provides 128 days of datalogging of key performance parameters. The data is available as a downloadable Microsoft® Excel® compatible file stored in nonvolatile memory. The file may be downloaded remotely via the embedded web site, transferred to a laptop locally, or the UCM may be taken back to the office for file download and analysis.



#### Key Features:

- Attaches To Any Blue Sky Energy Charge Controller With An IPN Display Connector
- Allows Access To Charge Controller & Display Data & Setup Via Multiple Standard Communication Interfaces
- Provides Standard Modbus RTU Interface Via Both Isolated RS-485 & Modbus/IP
- Provides TCP/IP Connection & Embedded Ethernet HTTP Web Site Driver
- Provides Periodic FTP Data Upload To Remote Server
- Supports Single Or Multiple Charge Controllers On An IPN Network With Or Without Optional Displays
- Provides 128 Days Of System Performance Datalogging Available As Downloadable Excel® Compatible File
- Conformal Coated Electronics And Plastic Enclosure Resist Corrosion
- Full 24 Month Limited Warranty

# UCM Typical Application



SPECIFICATIONS		Universal Communication Module	
Power	Power provided by charge controller, 0.9W		
IPN Network Connection	RJ-11 Phone jack, 25' (7.6m) 4-wire swap cable to charge controller provided		
Compatible Charge Controllers	All Blue Sky Energy charge controllers with IPN compatible display connector which may be identified by a lower case "i" in the charge controller part number (e.g., SB3024iL)		
RS-485	Fully isolated RS-485 to $\pm 500\text{VDC}$ , common mode transient immunity $>25\text{kV}/\mu\text{s}$ Selectable half duplex (2-wire) or full duplex (4-wire), Connection via compression terminal block Default communication parameters, 19.2k baud, Even parity (9.6k, 38.4k & 57.6k baud & Odd parity available)		
Ethernet	Standard Ethernet TCP/IP 10Mbps • RJ-45 connector		
Modbus	Standard Modbus RTU, slave addresses 1-247 available Communication via RS-485 or Modbus/IP		
HTTP Web Site Driver	Delivers HTTP web site for data view, parameter setup and data log file download to two locations simultaneously. Requires Internet browser software supporting HTTP 1.1 or higher. Web site available locally via users existing router and LAN. May also connect directly to users computer via CAT5 crossover cable. Web site available globally over the internet <sup>Ⓞ</sup> with users router set for "port forwarding" & Internet Service Provider allowing port forwarding.		
Datalogging	Provides datalogging of up to 33 key performance parameters for up to 128 days. Datalog available as MSDOS <sup>®</sup> compatible .CSV file which may be viewed, manipulated and analyzed using Microsoft <sup>®</sup> Excel <sup>®</sup> . Datalog includes for system as a whole; Min & Max bat voltage, Time in Accp & Float, Max bat discharge current <sup>Ⓞ</sup> , Min & Max bat AH from full <sup>Ⓞ</sup> , Max total PV output current, Total PV output AH. Plus for each individual controller; Max PV voltage, Max PV output current, and Total PV output AH.		
FTP Upload	Provides ability to periodically upload real time data via FTP to IP Address or Domain Name including; Charge mode, Bat voltage, Bat current, AH from full, Load on/off state, and Total charge current. Plus for each individual controller; PV voltage, and Output current. Upload frequency may be set from 0.1 – 200.0 hrs.		
Environmental	-40 – +50°C, 10 – 90% RH non-condensing		
Dimensions	5.1" (13.0cm) x 3.6" (9.1cm) x 1.6" (4.1cm)		

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

ⓄWith user supplied Internet connection  
 ⓄRequires IPN-ProRemote with software version V4.00 or greater

• **Available From**  
[www.solar-wind.co.uk](http://www.solar-wind.co.uk)

• **Part Numbers & Shipping Weight**  
 Universal Com. Module.....UCM.....1lbs.....0.45kg