Winncom Technologies
Premier Global Distribution

BEAD

ICT The Power of Reliability

Powering BEAD Deployments: DC Power Systems for a Future-Ready Eco-Center

DATE: Thursday, May 1st

TIME: 2:00pm EST

WEBINAR

BEAD Update:

Latest Updates – Upcoming Pre-Qualification / Application Deadlines

BEAD Pre-Qualification Details

PRE-QUALIFICATION END-DATE	
California	May 1
Oklahoma	May 26
Ohio	TBD
Florida	TBD
Iowa	TBD
Texas	May 14
New Jersey	TBD

APPLICATION END-DATE	
California	May 1
Oklahoma	May 26
Ohio	TBD
Florida	TBD
Iowa	TBD
Texas	TBD
New Jersey	TBD

Industry Ecosystem

Fixed Wireless Access	•PTP •PMP •Access Points / Base Nodes •Micro-Pop Sites
Fiber to the premises	•Head Ends •OLTs •Backhaul Sites
Land Mobile Radio	•Base Stations •Repeaters •Transmitters
Microwave	•Outdoor Radios •Indoor Radios •Split Mount
Narrowband/SCADA	•Radios •PLCs •RTUs
4G/5G Mobile Networks	•Core Sites •Massive MIMO LTE •Small Cell Sites
DAS (Distributed Antenna Systems)	•HUB / Head Ends •Amplifiers •Remote Units

Cambium Networks

TARANA

NOKIA

motorola

KENWOOD

CERAGON

MDS

Schneider Electric

ERICSSON

SAMSUNG

COMMSCOPE®

JMA

Verticals Served

Service Providers
- ISPs (WISP/FISP)
- Telephone Cooperatives
- Electric Cooperatives
- Indigenous/Tribal

Land Mobile Radio
- Public Safety/Emergency Services
- Private Network Operators

Industrial
- Oil & Gas
- Mining
- Renewable Energy

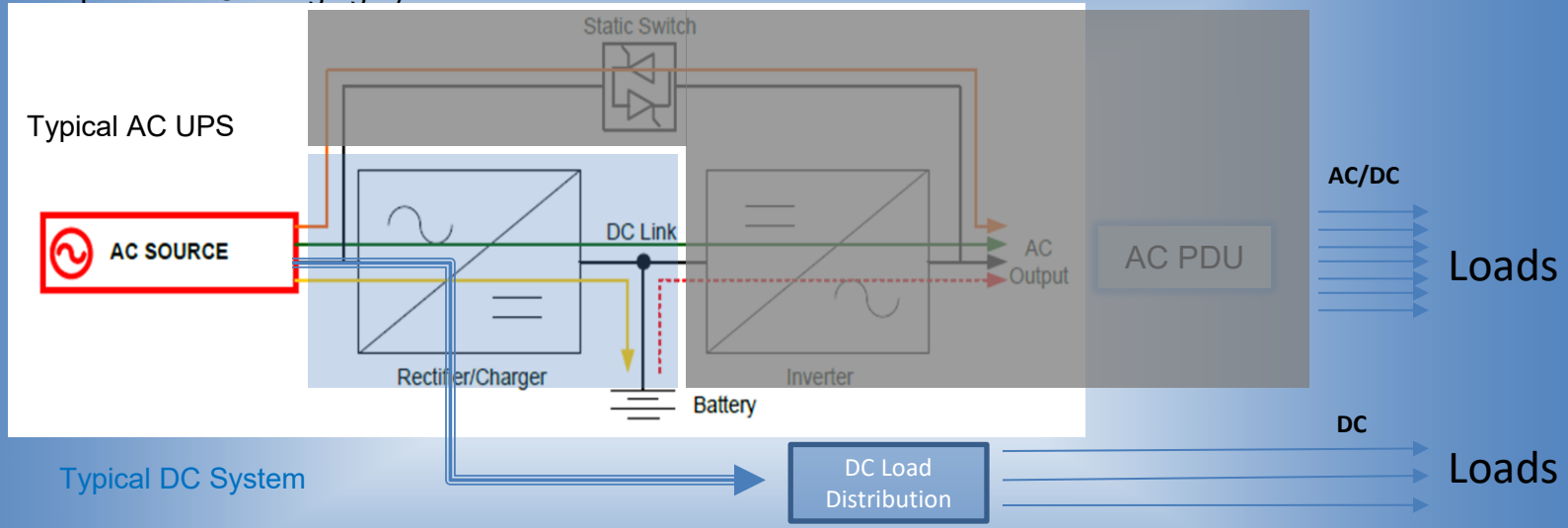
City & Municipal

Tier 1 & 2 Carriers

Security & Surveillance

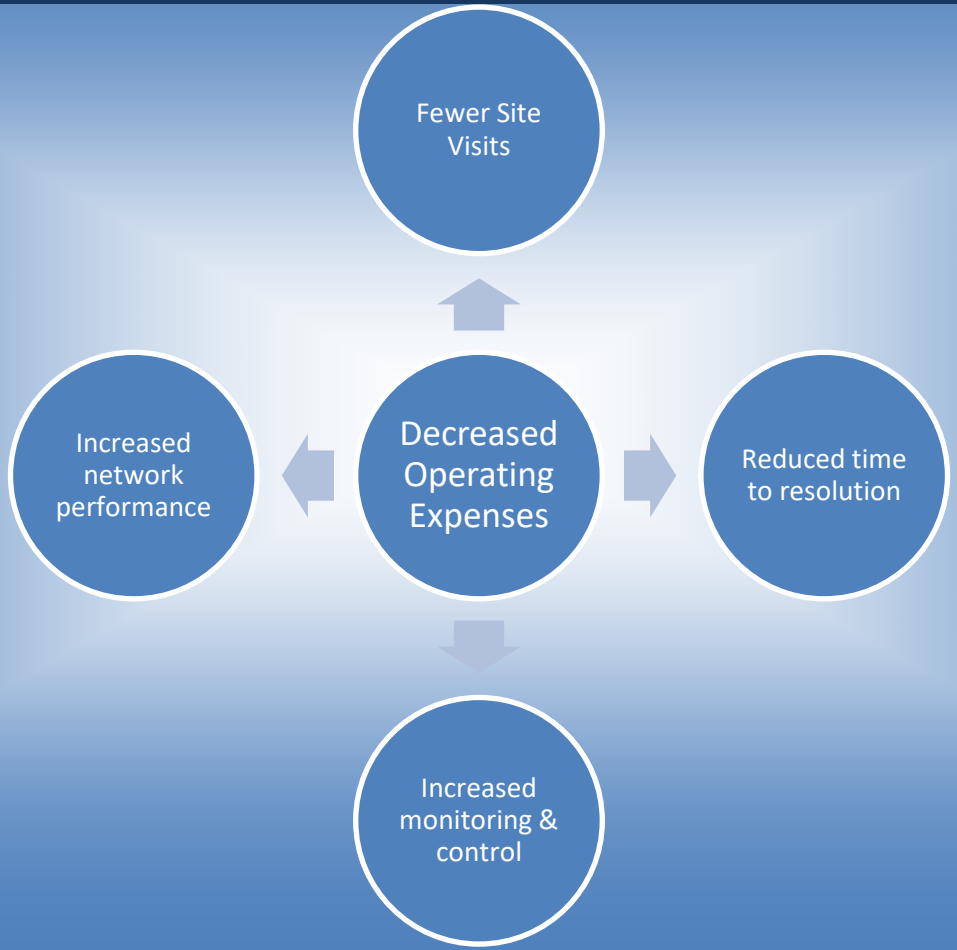
Advantages of DC over AC powered sites

- Storing electrical energy is required for back-up systems, requiring rechargeable DC batteries along with an AC/DC rectifier to provide DC charging system.



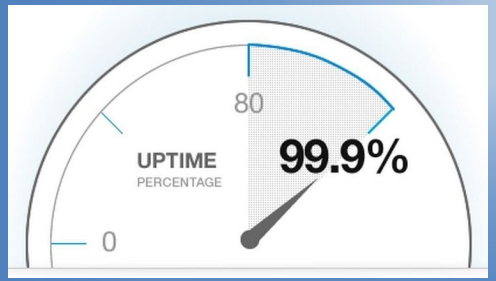
- Advanced battery management
- Scalable battery back up
- Scalable DC power
- Energy Efficient
- Simple Network

Benefits of Remote Monitoring & Control



Features & Benefits

Feature	Benefit
Scalable & Configurable	Solutions that can be customized
Individual monitoring & control of outputs	Troubleshooting individual devices
Network Watchdog	Ensure ethernet connectivity, even during power outages
Load Shedding	Keep critical devices operational during outages



Features & Benefits (Continued)

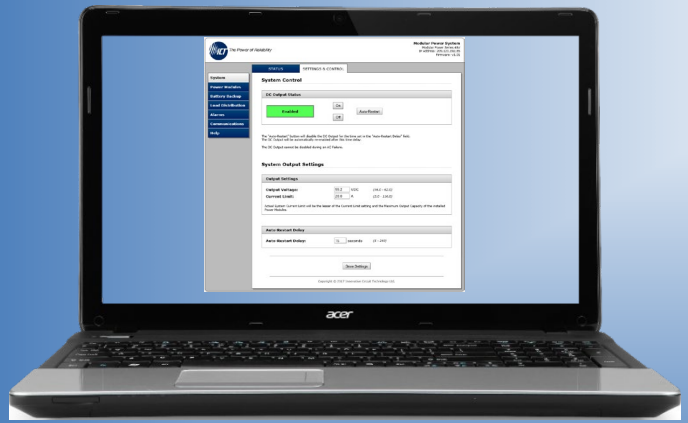
Feature	Benefit
Enhanced security & connectivity	Compatible with SNMP v1/2/3 & TLS 1.0/1/2
Alarm reporting & data logging	Instant notification of issues
Battery backup connections	Advanced battery management
Integrated LVD	Protect system batteries from over discharge

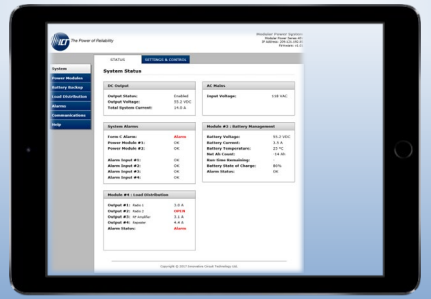
Remote Monitoring & Control

Many ICT's products feature intelligent monitoring and power control

This allows customers to log in to ICT equipment from a remote location

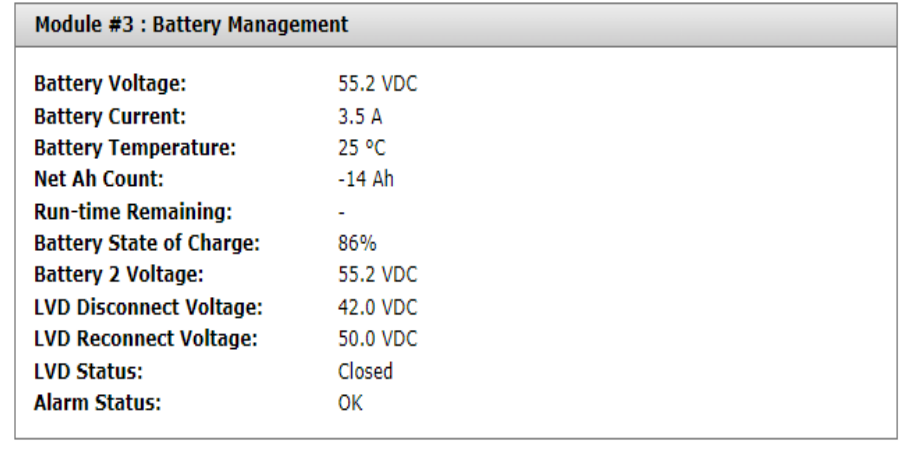
Customers can monitor power conditions and turn connected devices on and off remotely without having to physically visit a site





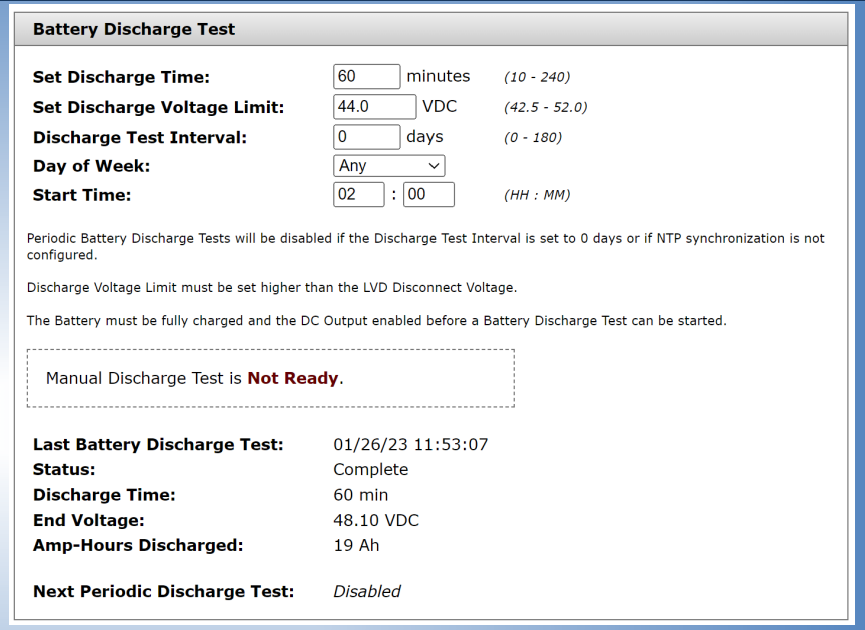
GUI – Battery Management: Lead Acid

- Monitor Battery Metrics & Status
- Equalize Charge
- Battery Discharge Testing
- LVD
- SoC alarming



Module #3 : Battery Management

Battery Voltage:	55.2 VDC
Battery Current:	3.5 A
Battery Temperature:	25 °C
Net Ah Count:	-14 Ah
Run-time Remaining:	-
Battery State of Charge:	86%
Battery 2 Voltage:	55.2 VDC
LVD Disconnect Voltage:	42.0 VDC
LVD Reconnect Voltage:	50.0 VDC
LVD Status:	Closed
Alarm Status:	OK



Battery Discharge Test

Set Discharge Time:	60 minutes	*(10 - 240)*
Set Discharge Voltage Limit:	44.0 VDC	*(42.5 - 52.0)*
Discharge Test Interval:	0 days	*(0 - 180)*
Day of Week:	Any	
Start Time:	02 : 00	*(HH : MM)*

Periodic Battery Discharge Tests will be disabled if the Discharge Test Interval is set to 0 days or if NTP synchronization is not configured.

Discharge Voltage Limit must be set higher than the LVD Disconnect Voltage.

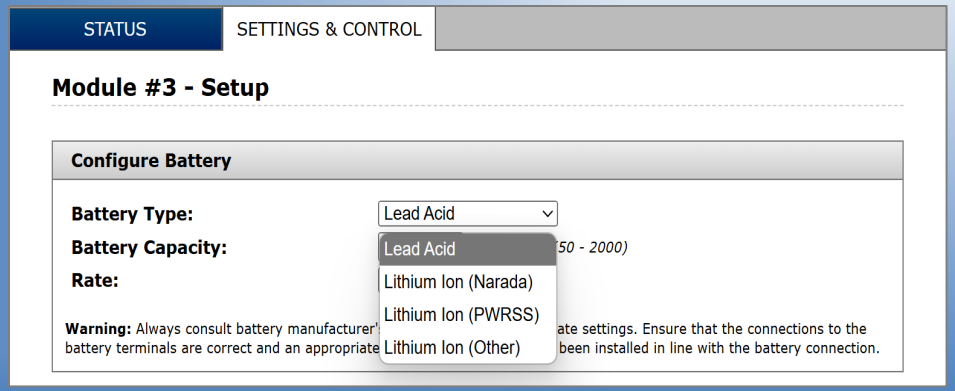
The Battery must be fully charged and the DC Output enabled before a Battery Discharge Test can be started.

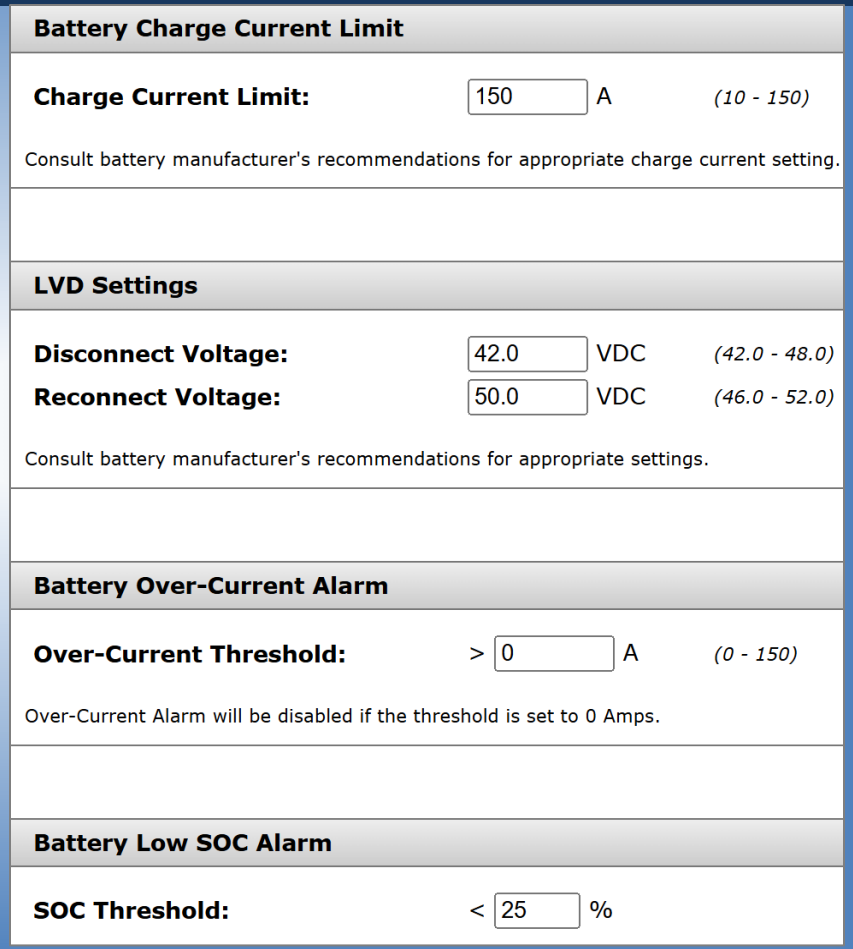
Manual Discharge Test is **Not Ready**.

Last Battery Discharge Test:	01/26/23 11:53:07
Status:	Complete
Discharge Time:	60 min
End Voltage:	48.10 VDC
Amp-Hours Discharged:	19 Ah
Next Periodic Discharge Test:	*Disabled*

GUI – Battery Management: Lithium-Ion

- Monitor Battery Metrics & Status
- Battery SoC alarms
- Charge current limit
- Preconfigured settings
- Compatibility for all chemistries





GUI – Load Management

- Monitor individual load status & metrics
- Load shedding
- Power cycling

Module Output Control

Output #1: Radio 1 — **Enabled** On Off

Output #3: RF Amplifier — **Enabled** On Off

Output #2: Radio 2 — **Enabled** On Off

Output #4: Repeater — **Enabled** On Off

If Power Cycling is enabled in Module Output Configuration settings, the "Off" button will be replaced with a "Cycle" button.

Master Output Control

All Outputs ON | All Outputs OFF

Module Output Configuration (Click "Save Settings" when finished)

Select an Output to edit

- **#1:** Radio 1
- **#2:** Radio 2
- **#3:** RF Amplifier
- **#4:** Repeater

Output #1 Settings

Output Label:	Radio 1
Output State after Power Loss:	Restore Last State
Ignore Circuit Breaker Status:	☐
Enable Power Cycling:	☐

If Power Cycling is enabled, "Delay Time" must be set above.

Output #1 Load-Shedding

Enable Load-Shedding:	☐		
Load-Shedding Threshold:	42.0	VDC	*(9.0 - 58.5)*
Recovery Threshold:	50.0	VDC	*(10.5 - 60.0)*
Enable Load-Shedding upon AC Failure condition:	☐		
Load-Shedding Auto Recovery:	☐		

If enabled, Load-Shedding will disable this Output if the system voltage drops below the threshold for at least 30 seconds.

GUI – Alarm Notifications

Alarm Status

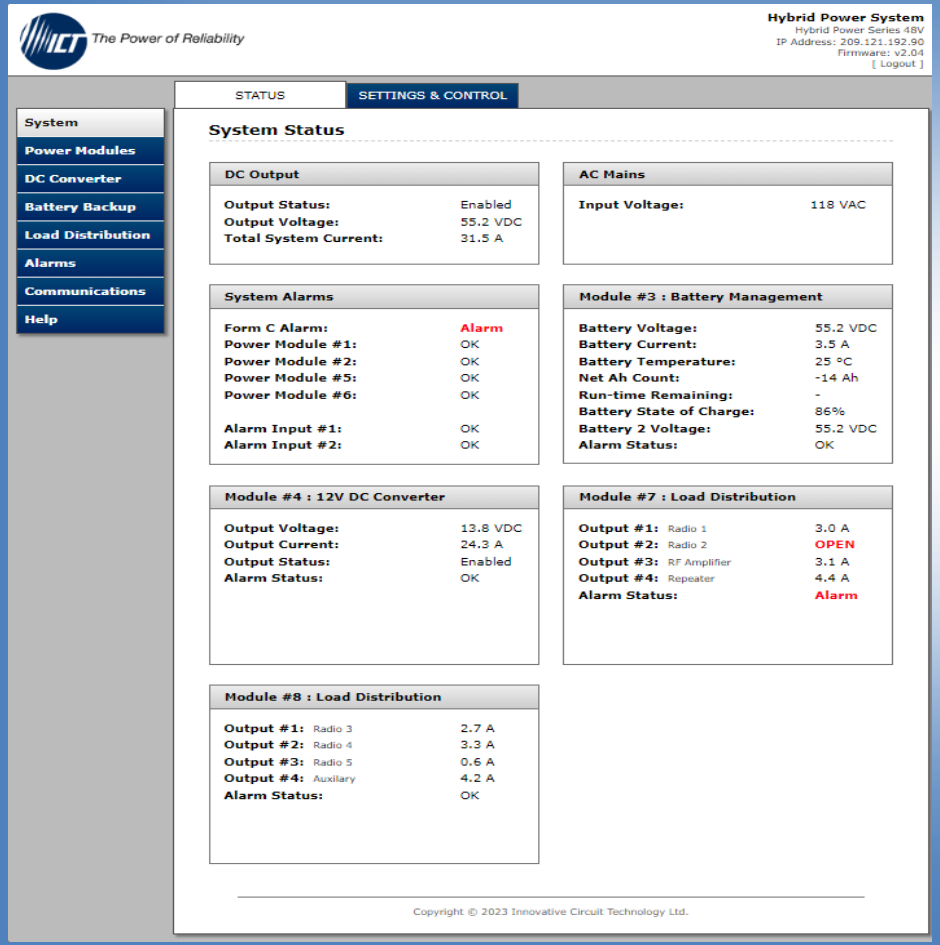
Active Alarms

Module:	Alarm:	Time Set:	Status:
#4	OUT #2 Breaker Open	03/31/23 12:11:02	**ACTIVE**

Alarm History

Module:	Alarm:	Time Set:	Time Cleared:
ICM	Alarm Input 1	04/21/23 08:01:20	04/21/23 09:15:03
#3	Battery Low SOC	03/08/23 12:42:56	03/08/23 14:17:24
ICM	AC Input Failure	03/08/23 05:32:17	03/08/23 13:29:27

Graphical User Interface



System Status Page

- Main screen upon launching GUI
- Provides overview of the entire system

Visit https://ict-power.com/demos/ict-2u4-dc12 for an in-depth, hands-on software demonstration

Industry Leading Power Conversion Products

HOT SWAP DC POWER SYSTEM
FOR CRITICAL APPLICATIONS

MODULAR POWER SERIES

HYBRID HOT SWAP DC POWER SYSTEM

HYBRID POWER SERIES

INTELLIGENT DC POWER SUPPLIES
FOR BASE STATION APPLICATIONS

PLATINUM SERIES

HIGH PERFORMANCE STANDARD DC POWER SUPPLIES

PRO SERIES

INTELLIGENT HIGH POWER LOAD DISTRIBUTION PANEL (50-Amp Outputs)

ENERGY MANAGER SERIES

DC LOAD DISTRIBUTION PANELS
UNMATCHED CHOICE OF STANDARD AND I.P. MANAGED SOLUTIONS

DISTRIBUTION SERIES 2 & 3

SITE OPTIMIZED INVERTERS

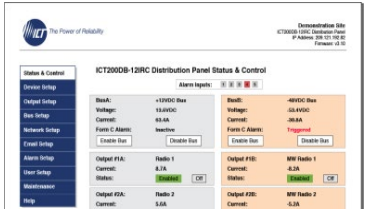
SINE WAVE SERIES SITE INVERTER SERIES

DIN-RAIL SOLUTIONS

POWER SUPPLY UNIT

POWER DISTRIBUTION UNIT

SOFTWARE
EMBEDDED, INTUITIVE USER INTERFACE



DC Power Systems

- 12VCD, 24VDC, & 48VDC Models (Single or dual output voltages)
- 1RU & 2RU Form Factors
- Up to 12,000W of output power
- Hot-swappable, N+1 redundant power modules (700W or 1500W)
- Battery Management Module
- Intelligent Load Distribution Module(s)
- Intelligent Control Module

Modular Power Series (MPS)

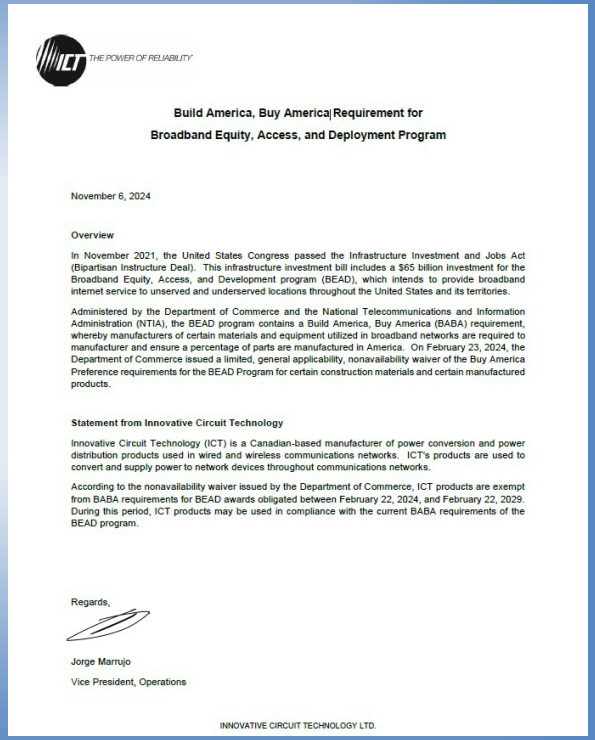
MPS Ultra

Hybrid Power Series

Hybrid Ultra

BABA – Build America, Buy America

- ICT is BABA exempt
- Signed exemption letter is available



THE POWER OF RELIABILITY

Build America, Buy America|Requirement for
Broadband Equity, Access, and Deployment Program

November 6, 2024

Overview

In November 2021, the United States Congress passed the Infrastructure Investment and Jobs Act (Bipartisan Instructure Deal). This infrastructure investment bill includes a $65 billion investment for the Broadband Equity, Access, and Development program (BEAD), which intends to provide broadband internet service to unserved and underserved locations throughout the United States and its territories.

Administered by the Department of Commerce and the National Telecommunications and Information Administration (NTIA), the BEAD program contains a Build America, Buy America (BABA) requirement, whereby manufacturers of certain materials and equipment utilized in broadband networks are required to manufacturer and ensure a percentage of parts are manufactured in America. On February 23, 2024, the Department of Commerce issued a limited, general applicability, nonavailability waiver of the Buy America Preference requirements for the BEAD Program for certain construction materials and certain manufactured products.

Statement from Innovative Circuit Technology

Innovative Circuit Technology (ICT) is a Canadian-based manufacturer of power conversion and power distribution products used in wired and wireless communications networks. ICT's products are used to convert and supply power to network devices throughout communications networks.

According to the nonavailability waiver issued by the Department of Commerce, ICT products are exempt from BABA requirements for BEAD awards obligated between February 22, 2024, and February 22, 2029. During this period, ICT products may be used in compliance with the current BABA requirements of the BEAD program.

Regards,

Jorge Marrujo

Vice President, Operations

INNOVATIVE CIRCUIT TECHNOLOGY LTD.

Scalability – Modular System Example

Power Modules

- Slots can be loaded with power supplies as required
- Able to integrate additional power supplies while the system is running (hot swappable)
- 700W & 1500W module options
- Blanking plates are available for unused slots

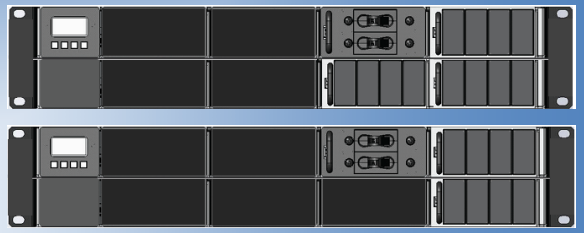
Load Distribution Modules

- Breakers can be loaded into the LDM as needed
- Blanking plates are available for unused positions

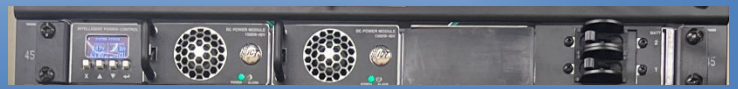
Master/Slave Expansion

- Can expand a 1RU system with an additional shelf

2RU Examples (MPS Ultra)



1RU Examples (MPS)



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BABA Eco-Center Solutions

BEAD Pre-Engineering

High Level Fiber Design

Grant Writing Services

Professional Engineering Services

Financial Services

Winncom Enhanced Services

BEAD

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Broadband Equity Access & Deployment Program

WINNCOM BEAD OVERVIEW | STATE FUNDING OVERVIEW | BEAD SERVICES | BEAD ELIGIBLE PRODUCTS | WEBINARS & EVENTS | CONTACT US | LOGIN

WEBINARS

The Latest BEAD Updates & Strategies – What Service Providers Need to Know

Revealing essential updates on the Broadband Equity, Access, and Deployment (BEAD) program that could transform your approach to funding!

SUPPLIERS & PRODUCTS

ACTIVE FIBER

Are you looking for a comprehensive Active Fiber solution that can cater to all your needs? Winncom offers a complete end-to-end solution that includes everything from system design to post-deployment support.

Winncom BEAD Portal

www.winncomus.com/bead/

Are you looking for a comprehensive Active Fiber solution that can cater to all your needs? Winncom offers a complete end-to-end solution that includes

Winncom Technologies
Premier Global Distribution

Action Items:

1. Schedule a consultation to strategize on positioning your company for a successful BEAD application in your state
2. Schedule a call to learn more about **Winncom BEAD Programs**

Contact Information

Winncom Bead Consultation: BEAD@Winncom.com & a.cernik@winncom.com

Winncom Portal Links

BEAD Portal**: www.winncomus.com/bead/**

ICT Landing Page: https://www.winncom.com/en/manufacturer/ICT