

HYBRID ULTRA

48 and 24 Volt DC Power Systems with integrated 12 or 24 Volt DC Converter Output



Two DC Output Voltages, Advanced Battery Management Features, Standard TCP/IP Monitoring and Control, Remotely Managed Load Outputs, 2.8 or 3.5kW Total Output Power

Features

- ▶ **Four or Five hot swappable** 48 or 24 volt primary DC output power modules
- ▶ **700 watt 12 or 24 volt integrated** DC output converter
- ▶ **90 to 93%** efficiency
- ▶ **-30 C to +60 C** operating temperature range
- ▶ **TCP/IP Ethernet** is standard on every model - provides complete and easy-to-use remote monitoring and control of the power system using built-in web server and graphical user interface or SNMP
- ▶ **Battery Backup with 150A LVD** and adjustable disconnect and reconnect voltage setpoints
- ▶ **Dual** 100A battery disconnect breakers
- ▶ **User Adjustable** output voltages and battery charge current limit
- ▶ **Advanced Battery Management** features:
 - Battery state of charge and charge current reporting
 - Estimated run-time remaining
 - Battery discharge testing
 - Temperature compensated charging
- ▶ **4 or 8 fully managed** load outputs
- ▶ **Digital and analog** input contacts
- ▶ CSA/UL, FCC Class B, CE, ROHS

Description

Many wireless communications sites require different DC voltages to power a range of devices, whether 48, 24 or 12 volts DC. This often means installing multiple power supplies or DC converters which may not always be feasible given limited rack space or budgets.

The ICT Hybrid Ultra is designed to meet this need. It combines a 48 or 24 volt DC power system with a factory installed 12 or 24 volt DC converter module to provide a flexible hybrid power solution for wireless network sites. The Hybrid Ultra accepts four or five hot swappable 48 or 24 volt, 700 watt DC Power Modules. The integrated DC converter provides 700 watts of 12 or 24 volts DC output through a separate output bus bar.

Ethernet-based communications and control is standard on every model. System and battery monitoring are provided through a secure web-based server or SNMP. Outputs can be turned off and on, and various parameters can be controlled and managed remotely.

Four or eight load outputs provide remote monitoring and management of connected loads, including the ability to power cycle or load shed. (Supports up to 30A breakers.)

Applications

- Wireless two-way communications networks
- Trunked radio systems
- Microwave
- Backhaul
- FTTP/H PON GPON
- DAS
- Security and surveillance
- Industrial DC power

AC INPUT

Nominal system voltage	120/240VAC
Input voltage range	100-300VAC
Power factor (typical)	0.99
Frequency	50/60Hz

ELECTRICAL SPECIFICATIONS - POWER MODULES

Output voltage	+/- 48 VDC	+/- 24 VDC
Output voltage range (adjustable)	46.0 - 62.0 VDC	23.0 - 31.0 VDC
Power output per module	700W	700W
Output current per module	12.5A	25A
Efficiency (peak)	93%	91%
Output ripple (rms)	60mV	30mV
Max. system output current with 4 Power Modules	50A	100A
Max. system output current with 5 Power Modules	62.5A	125A

ELECTRICAL SPECIFICATIONS - DC CONVERTER

Output voltage	+/- 13.8 VDC	+/- 27.6 VDC
Output voltage range (adjustable)	10.5 - 15.5 VDC	21.0 - 31.0 VDC
Power output	700W	700W
Output current	50A	25A
Efficiency (peak)	92%	92%
Output ripple (rms)	20mV	30mV

MECHANICAL

AC input connectors	Terminal Block, #8 - #16 AWG
DC output connectors	Busbars with 1/4-20 x 7/8" bolts
Remote alarm connectors	Terminal Block (#16 -24 AWG)
Mounting	2RU, 19 in rack mount
Weight (power shelf empty)	30 lbs / 13.6 kg
System dimensions - H x W x L	3.5 x 19.0 x 15.7 in. / 89 x 483 x 398 mm

ENVIRONMENTAL

Operating temperature range	-30° to +60° C
Output derating	2% /°C (above 50° C)
Storage temperature	-45° to +85° C

DESIGN STANDARDS

Safety	EN 60950-1
Emissions	EMC compliance with FCC Part 15, Class B, EN61000-6-1, EN61000-6-3, EN61000-3-2, RoHS, CE

ORDERING INFORMATION

	Primary Output Voltage (nominal)			Secondary Output Voltage (Floating)	Managed Load Outputs
	System Voltage	Negative Output Voltage	Positive Output Voltage		
Intelligent Power Chassis with integrated Ethernet Controller. Factory-installed 200A Battery Management Module with LVD and 700 watt 12 volt DC secondary converter output.	48 or 24 VDC	ICT-2U4-DC12	ICT-2U4P-DC12	12 VDC	8
Intelligent Power Shelf with integrated Ethernet Controller. Factory-installed 200A Battery Management Module with LVD and 700 watt 24 volt DC secondary converter output.	48 or 24 VDC	ICT-2U4-DC24	ICT-2U4P-DC24	24 VDC	8
Intelligent Power Shelf with integrated Ethernet Controller. Factory-installed 200A Battery Management Module with LVD and 700 watt 12 volt DC secondary converter output.	48 or 24 VDC	ICT-2U5-DC12	ICT-2U5P-DC12	12 VDC	4
Intelligent Power Shelf with integrated Ethernet Controller. Factory-installed 200A Battery Management Module with LVD and 700 watt 24 volt DC secondary converter output.	48 or 24 VDC	ICT-2U5-DC24	ICT-2U5P-DC24	24 VDC	4
Power Module, 48 VDC, 700W output, hot swappable	ICT700-48PM				
Power Module, 24 VDC, 700W output, hot swappable	ICT700-24PM				
Optional blanking panel for unused Power Module positions	ICT-BPM				