The Power of Reliability

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, up to 7.5 kW Total Output Power

Features

▶ **Four or five hot swappable** 700 or 1500 watt, 48 or 24 volt, primary DC output power modules

▶ **700 watt 12 or 24 volt integrated** DC output converter

▶ **90 to 95%** 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

▶ **Support for Li-ion** battery management systems

▶ **4 or 8 fully managed** breaker-protected 20A load outputs

▶ **Digital and analog** input contacts

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 700 or 1500 watt, 48 or 24 volt, 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.

Applications

- Critical wireless communications networks
- Fixed Wireless Access
- Radio Access Networks
- FTTP/H PON GPON
- Distributed Antenna Systems
- Security and surveillance
- Industrial DC power

ELECTRICAL SPECIFICATIONS - POWER MODULES

	700 Watt		1500 Watt	
AC input voltage (nominal)	120/240VAC		120/240VAC	
Input voltage range	100-300VAC		90-300VAC (derate to 50% power at 90VAC)	
AC input current (per module) at 220VAC nom.	3.5A max.		8.0A max.	
AC input current (per module) at 110VAC nom.	7.0A max.		8.0A max.	
Power factor (typical)	0.99		0.99	
Frequency	50/60Hz		50/60Hz	
Output voltage	+/- 55.2 VDC	+/- 27.6 VDC	+/- 55.2 VDC	+/- 27.6 VDC
Output voltage range (adjustable)	46.0 - 62.0 VDC	23.0 - 31.0 VDC	46.0 - 62.0 VDC	23.0 - 31.0 VDC
Power output per module (230VAC nom.)	700W	700W	1500W	1500W
Power output per module (115VAC nom.)	700W	700W	900W	900W
Output current per module (230VAC nom.)	12.5A	25A	27A	54A
Output current per module (115VAC nom.)	12.5A	25A	16A	32A
Efficiency (peak)	93%	91%	95%	94%
Output ripple (rms)	60mV	30mV	60mV	40mV
Max. system output current with 5 Power Modules (220VAC nom.)	62.5A	125A	135A	270A
Max. system output current with 5 Power Modules (110VAC nom.)	62.5A	125A	65A	135A

ELECTRICAL SPECIFICATIONS - DC CONVERTER

	+/- 13.8 VDC	+/- 27.6 VDC
Output voltage	+/- 13.8 VDC	+/- 27.6 VDC
Output voltage range (adjustable)	11.5 - 15.5 VDC	23.0 - 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% /^{o}C (above 50°C)
Storage temperature	-45°to +85°C

WARRANTY   Two (2) years

DESIGN STANDARDS

Safety	EN 60950-1
Emissions	**700 W** : EMC Compliance with CE Class B, FCC Part 15/B, UL/CSA60950-1, UL/CSA 62368-1, ICES-003, EN 61000-6-2 and EN 61000-6-3
	1500 W : EMC Compliance with CE Class A, UL/CSA 60950-1, UL/CSA 62368-1, ICES-003, EN55032, EN 61000-3-2 and EN 61000-3-3

ORDERING INFORMATION

	Primary Output Voltage (nominal)			Converter Output Voltage (Floating)	Managed Load Outputs
	System Voltage	Negative V Output	Positive V Output		
Intelligent Power Chassis with Ethernet Controller, dual 100A battery breakers with LVD and 700 watt 12 volt DC secondary converter output. Accepts up to 4 Power Modules.	48 or 24 VDC	ICT-2U4-DC12	ICT-2U4P-DC12	12 VDC	8
Intelligent Power Chassis with Ethernet Controller, dual 100A battery breakers with LVD and 700 watt 24 volt DC secondary converter output. Accepts up to 4 Power Modules.	48 or 24 VDC	ICT-2U4-DC24	ICT-2U4P-DC24	24 VDC	8
Intelligent Power Chassis with Ethernet Controller, dual 100A battery breakers with LVD and 700 watt 12 volt DC secondary converter output. Accepts up to 5 Power Modules.	48 or 24 VDC	ICT-2U5-DC12	ICT-2U5P-DC12	12 VDC	4
Intelligent Power Chassis with Ethernet Controller, dual 100A battery breakers with LVD and 700 watt 24 volt DC secondary converter output. Accepts up to 5 Power Modules.	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				
Power Module, 48 VDC, 1500W output, hot swappable	ICT1500-48PM				
Power Module, 24 VDC, 1500W output, hot swappable	ICT1500-24PM				
Optional blanking panel for unused Power Module positions	ICT-BPM				

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