MPS ULTRA 2

2RU Redundant Hot Swap Modular DC Power System



Features

- Supports up to 8 hot-swappable DC power modules
- Available with 1500-, 1000- and 700-watt DC power modules
- Supports 48-, 24- or 12-volt applications
- TCP/IP Ethernet is standard with support for 10/100/1000 Mbps speeds, providing full remote monitoring and power control capabilities via SNMP or graphical user interface (GUI)
- Battery Management Module provides dual 100-amp battery breakers with comprehensive battery management of sealed lead acid and lithium-ion battery types
- Dedicated RS-485 MODBUS interface connects directly with supported lithium-ion batteries, allowing direct reporting of battery conditions through SNMP or GUI
- Load Distribution Module provides four breaker-protected outputs with comprehensive remote monitoring of each output, and full remote ON/OFF control of each individual output
- Digital inputs for monitoring and reporting of environmental alarms, such as smoke, fire, and door alarms

Description

The ICT MPS Ultra 2 provides up to 12 kW of hot swappable, managed DC power critical communication networks. Available for 48-, 24- or 12-volt DC applications, the MPS Ultra 2 DC power system is preconfigured at the factory to provide fast, easy installation at the site.

The Intelligent Control Module with Gigabit Ethernet provides full remote monitoring and control of all system functions, and supports 10-, 100-, and 1000- megabits per second speeds.

The Battery Management Module provides a 150-amp low voltage disconnect, dual 100-amp battery breakers with advanced battery management functions for both sealed lead acid and lithium-ion battery types, including battery state of charge, estimated run time remaining, and battery discharge testing. An RS-485 MODBUS interface provides direct communication with battery management systems (BMS) of supported lithium-ion batteries, and reporting battery conditions and alarms directly from the BMS.

Up to three Load Distribution Modules can be factory installed for supporting up to 12 load devices. Rated at 20A max. each, every output can monitor and report load current conditions, and individual outputs can be remotely power cycled manually, or based on user-defined criteria, reducing site visits and operating costs, and increasing network uptime.

The ICT MPS Ultra 2 is designed, manufactured and supported in North America to meet the need for wireless communications, broadband and other critical DC power applications.

Applications

- Critical wireless communications networks
- Fixed wireless access networks
- Fiber networks
- Land mobile radio networks
- Distribution antenna systems
- Traffic management systems
- Oil, gas, utilities
- Industrial DC power

ELECTRICAL SPECIFICATIONS - POWER MODULES	700 Watt		1000 Watt	1500 Watt	
AC input voltage (nominal)	120/240VAC		120/240VAC	120/240VAC	
Input voltage range	100-300VAC		100-300VAC	90-300VAC (derate to 50% power at 90VAC)	
AC input current (per module) a 230VAC nom.	3.5A max.		6.0A max.	8.0A max.	
AC input current (per module) a 115VAC nom.	7.0A max.		11A max.	8.0A max.	
Power factor (typical)	0.99		0.99	0.99	
Frequency	50/60Hz		50/60Hz	50/60Hz	
Output voltage (nom.)	+/- 27.6 VDC	+/- 13.8 VDC	+/- 55.2 VDC	+/- 55.2 VDC	+/- 27.6 VDC
Output voltage range (adjustable)	23.0 - 31.0VDC	11.5 - 15.5VDC	46.0-62.0VDC	46.0 - 62.0 VDC	23.0 - 31.0 VDC
Power output per module (230VAC nom.)	700W	700W	1000W	1500W	1500W
Power output per module (115VAC nom.)	700W	700W	1000W	900W	900W
Output current per module (230VAC nom.)	25A	50A	20A	27A	54A
Output current per module (115VAC nom.)	25A	50A	20A	16A	32A
Efficiency (peak)	91%	90%	91%	95%	94%
Output ripple (rms)	30mV	30mV	60mV	60mV	40mV

MECHANICAL

AC input connectors	Terminal Block (#8 - #22 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 16.3 in. / 89 x 483 x 414 mm

Warranty

Two (2) Years

INTELLIGENT CONTROL MODULE

Front display	High resolution OLED with function keys
Remote communications	TCP/IP - RJ45 Ethernet connector on rear
I.P. protocols	10/100/1000 BASE-T, HTTPS, HTML, SNMPv3
Inputs	4 digital, 1 analog temp sensor contacts
Monitoring functions	DC, AC status, load output currents
Control functions	Disable DC outputs, open LVD, disable or power cycle load outputs

BATTERY MANAGEMENT MODULE

Circuit breaker	Dual 100A
Low voltage disconnect	150A contactor
Battery terminal	Busbar with 3/8" bolts

ENVIRONMENTAL

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

DESIGN STANDARDS

Safety	UL/CSA 62368-1
Emissions	**700 W** : EMC Compliance with CE Class B, FCC Part 15/B, UL/CSA 62368-1, ICES-003, EN55032, EN61000-3-2, EN61000-6-1, EN 61000-6-2 and EN 61000-6-3, (CE Pending) **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

LOAD DISTRIBUTION MODULE

Load outputs	4 per module
System current rating	160 or 240A (2, or 3 LDMs)
Max. breaker size	25A
Max. current per output	20A
Protection	Hydraulic/magnetic circuit breakers
Remote current monitoring	Yes
Remote power control of outputs	Yes

Breakers should be continuously operated at no more than 80% of their rating.

MODEL COMPARISON

		ICT-2U4	ICT-2U5	ICT-2U7	ICT-2U8
	Max. no. of Power Modules	4	5	7	8
	Output voltage polarity (a)	POS or NEG	POS or NEG	POS or NEG	Neutral
	BMM (b) with Low Voltage Disconnect	Yes	Yes	Yes	No
	BMM LVD rating	150A	150A	150A	N/A
	LDM (c)	Yes	Yes	No	No
	No. of managed 20A outputs	12	8	N/A	N/A
700W Power Modules	Total power output	2,800W	3,500W	4,900W	5,600W
	Max. system current - 24VDC	100A	125A	150A (d)	200A
	Max. system current - 12VDC	150A (d)	150A (d)	150A (d)	350A (e)
1000W Power Modules	Total power output	4000W	5000W	7000W	8000W
	Max. system current - 48VDC	72A	90A	126A	144A
1500W Power Modules	Total power output	6,000W	7,500W	10,500W	12,000W
	Max. system current - 48VDC	108A	135A	150A (d)	216A
	Max. system current - 24VDC	150A (d)	150A (d)	150A (d)	350A (e)

(a) All models available with positive voltage output by adding P to the model number (eg. ICT-2U4eP) except ICT-2U8 which is polarity neutral.
(b) Battery Management Module.
(c) Load Distribution Module.
(d) LVD contactor max. current rating.
(e) Chassis max. current rating.

STEP 1 Select Power Chassis

	NEG V Output	POS V Output
Intelligent Power Chassis with integrated Control Module and Ethernet communications. Includes dual 100A battery disconnect breakers and 150A Low Voltage Disconnect. 12-position fully managed load distribution outputs. Accepts up to 4 Power Modules. (Load breakers and Power Modules must be ordered separately).	ICT-2U4e	ICT-2U4eP
Intelligent Power Chassis with integrated Control Module and Ethernet communications. Includes dual 100A battery disconnect breakers and 150A Low Voltage Disconnect. 8-position fully managed load distribution outputs. Accepts up to 5 Power Modules. (Load breakers and Power Modules must be ordered separately).	ICT-2U5e	ICT-2U5eP
Intelligent Power Chassis with integrated Control Module and Ethernet communications. Includes dual 100A battery disconnect breakers and 150A Low Voltage Disconnect. Accepts up to 7 Power Modules. (Power Modules must be ordered separately).	ICT-2U7e	ICT-2U7eP
Intelligent Power Chassis with integrated Control Module and Ethernet Communications. Accepts up to 8 Power Modules. (Power Modules must be ordered separately).	ICT-2U8e (POS or NEG ground)	









STEP 2 Select Power Modules

Depending on the Power Shelf selected, up to four hot-swappable Power Modules can be installed (must be same voltage). Mixing of 700 and 1500 watt Modules not recommended.

Power Module, 24VDC, 700W output, hot swappable, floating output	ICT700-24PM
Power Module, 12VDC, 700W output, hot swappable, floating output	ICT700-12PM
Power Module, 48VDC, 1000W output, hot swappable, floating output	ICT1000-48PM
Power Module, 48VDC, 1500W output, hot swappable, floating output	ICT1500-48PM
Power Module, 24VDC, 1500W output, hot swappable, floating output	ICT1500-24PM

STEP 3 Select Load Breakers and Accessories

5 Amp Hydraulic/Magnetic breakers for use with Load Distribution Module	ICT-CB5
10 Amp Hydraulic/Magnetic breakers for use with Load Distribution Module	ICT-CB10
15 Amp Hydraulic/Magnetic breakers for use with Load Distribution Module	ICT-CB15
25 Amp Hydraulic/Magnetic breakers for use with Load Distribution Module	ICT-CB25
Optional blanking panel for unused Power Module positions	ICT-BPM

INTELLIGENT POWER CHASSIS

Includes fully integrated Ethernet controller to provide remote monitoring and control of system and installed options. HTTPS, SMTP and SNMP supported. Four site monitoring input contacts. Provides advanced SLA battery management features when used with Battery Management Module including temperature compensated charging, battery state-of-charge, run-time remaining, battery discharge testing. Supports Li-ion Battery Management Systems.

BATTERY MANAGEMENT MODULE (BMM)

Includes 150A Low Voltage Disconnect and dual 100A battery disconnect breakers. Monitor and adjust LVD setpoints over Ethernet. Battery disconnect breaker will send alarm via Ethernet and Form C contacts.

LOAD DISTRIBUTION MODULE (LDM)

Provides up to 12 breaker-protected load outputs. Monitor and power cycle each load individually via Ethernet. Sends email alarms. Automatic load shedding and network watchdog (ping) features maximize run-time for critical loads and will power cycle critical devices such as routers, possibly preventing unplanned trips to the site.

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