



# MPS ULTRA

## 2RU Redundant Hot Swap Modular DC Power System



### Features

- ▶ **Up to 8 hot swappable** 700 or 1500 watt DC power modules
- ▶ **100-300 volts AC input** with PFC
- ▶ **Up to 95% efficiency**
- ▶ **-30 C to +60 C** operating temperature range
- ▶ **TCP/IP Ethernet is standard** on every model and provides complete easy-to-use remote monitoring and control of the power system using secure graphical user interface or SNMPv3
- ▶ **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 SLA Battery Management** features including state of charge, estimated run-time remaining and discharge testing
- ▶ **Support for Li-ion** battery management systems
- ▶ **4, 8 or 12 fully managed** breaker-protected 20A load outputs
- ▶ **Digital and analog** inputs for site monitoring sensor reporting

### Description

The ICT MPS Ultra provides up to 12 kW of hot swappable, managed DC power for a broad range of communications and broadband applications. Available for 48, 24 or 12 volt DC applications, MPS Ultra systems are preconfigured at the factory to provide fast, easy installation at the site. Every model includes the ICT Intelligent Control Module to provide full TCP/IP remote monitoring and control of all system functions. A variety of battery management and load distribution combinations are available to suit your requirements.

The Intelligent Control Module provides TCP/IP remote monitoring and control. The Battery Management Module provides a 150 Amp low voltage disconnect, dual 100 Amp battery breakers with advanced sealed lead acid battery functions including battery state of charge, estimated run time remaining, and battery discharge testing. Li-ion battery management systems are supported as well.

Up to three Load Distribution Modules can be ordered for supporting up to 12 load devices. Rated at 20A max. each, every output is capable of monitoring and reporting load current conditions. Remote power control over Ethernet allows for the power-cycling or de-energizing of individual loads without having to visit the site.

The ICT MPS Ultra 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
- 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) a 230VAC nom.	3.5A max.			8.0A max.	
AC input current (per module) a 115VAC nom.	7.0A max.			8.0A max.	
Power factor (typical)	0.99			0.99	
Frequency	50/60Hz			50/60Hz	
Output voltage (nom.)	+/- 55.2 VDC	+/- 27.6 VDC	+/- 13.8 VDC	+/- 55.2 VDC	+/- 27.6 VDC
Output voltage range (adjustable)	46.0 - 62.0VDC	23.0 - 31.0VDC	11.5 - 15.5VDC	46.0 - 62.0 VDC	23.0 - 31.0 VDC
Power output per module (230VAC nom.)	700W	700W	700W	1500W	1500W
Power output per module (115VAC nom.)	700W	700W	700W	900W	900W
Output current per module (230VAC nom.)	12.5A	25A	50A	27A	54A
Output current per module (115VAC nom.)	12.5A	25A	50A	16A	32A
Efficiency (peak)	93%	91%	90%	95%	94%
Output ripple (rms)	60mV	30mV	30mV	60mV	40mV

## 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

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

## DESIGN STANDARDS

Safety	EN 60950-1
Emissions	<b>700 W</b> : 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
	<b>1500 W</b> : 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	8 or 12
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 <sup>(a)</sup>	POS or NEG	POS or NEG	POS or NEG	Neutral
	BMM <sup>(b)</sup> with Low Voltage Disconnect	Yes	Yes	Yes	No
	BMM LVD rating	150A	150A	150A	N/A
	LDM <sup>(c)</sup>	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 - 48VDC	50A	62.5A	87.5A	100A
	Max. system current - 24VDC	100A	125A	150A <sup>(d)</sup>	200A
	Max. system current - 12VDC	150A <sup>(d)</sup>	150A <sup>(d)</sup>	150A <sup>(d)</sup>	350A <sup>(e)</sup>
1500W Power Modules	Total power output	6,000W	7,500W	10,500W	12,000W
	Max. system current - 48VDC	108A	135A	150A <sup>(d)</sup>	216A
	Max. system current - 24VDC	150A <sup>(d)</sup>	150A <sup>(d)</sup>	150A <sup>(d)</sup>	350A <sup>(e)</sup>

(a) All models available with positive voltage output by adding P to the model number (eg. ICT-2U4P) except ICT-2U8 which is polarity neutral.

(b) Battery Management Module.

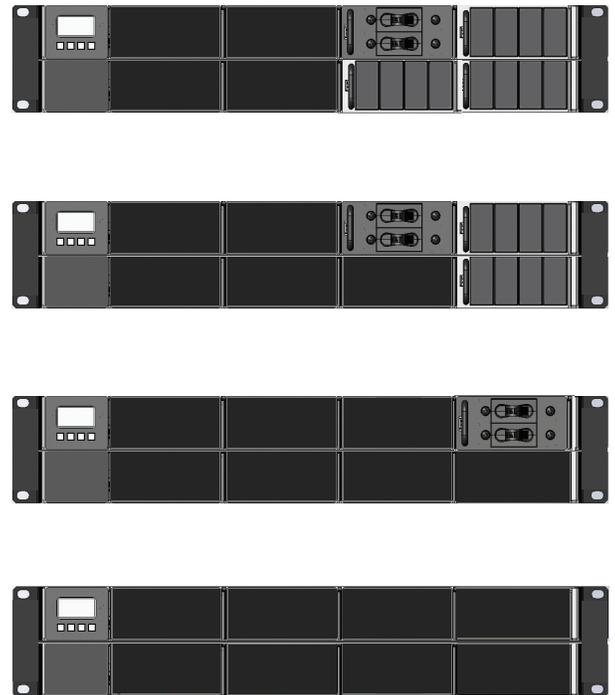
(c) Load Distribution Module.

(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-2U4	ICT-2U4P
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-2U5	ICT-2U5P
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-2U7	ICT-2U7P
Intelligent Power Chassis with integrated Control Module and Ethernet Communications. Accepts up to 8 Power Modules. (Power Modules must be ordered separately).	ICT-2U8 (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, 48VDC, 700W output, hot swappable, floating output	ICT700-48PM
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, 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.

