# MPS ULTRA
## 2RU Redundant Hot Swap Modular DC Power System



## Features

▶ **Up to 8 hot swappable** 700 or 1500 watt, 48 or 24 volts, 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 25A 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 25A 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. | 8.0A max. | | | 8.0A max. | |
| AC input current (per module) a 115VAC nom. | 7.0A max. | | | 7.0A 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 | 13A | 27A |
| 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 | **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 |

**LOAD DISTRIBUTION MODULE**

| | |
|---|---|
| Load outputs | 4, 8 or 12 |
| System current rating | 80, 160 or 240A |
| Max. breaker size | 30A (25A continuous) |
| 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-2U6 | ICT-2U8 |
|---|---|---|---|---|---|
| | Max. no. of Power Modules | 4 | 5 | 6 | 8 |
| | Output voltage polarity [a] | POS or NEG | POS or NEG | POS or NEG | Neutral |
| | BMM [b] with Low Voltage Disconnect | Yes | Yes | No | No |
| | BMM rating | 150 | 150 | N/A | N/A |
| | LDM [c] | Yes | Yes | Yes | No |
| | No. of managed 25A outputs | 12 | 8 | 8 | N/A |
| 700W Power Modules | Total power output | 2,800W | 3,500W | 4,200W | 5,600W |
| | Max. system current - 48VDC | 50A | 62.5A | 75A | 100A |
| | Max. system current - 24VDC | 100A | 125A | 150A | 200A |
| | Max. system current - 12VDC | 150A [d] | 150A [d] | 300A | 350A [e] |
| 1500W Power Modules | Total power output | 6,000W | 7,500W | 9,000W | 12,000W |
| | Max. system current - 48VDC | 108A | 135A | 162A | 216A |
| | Max. system current - 24VDC | 150A [d] | 150A [d] | 324A | 350A [e] |

(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.
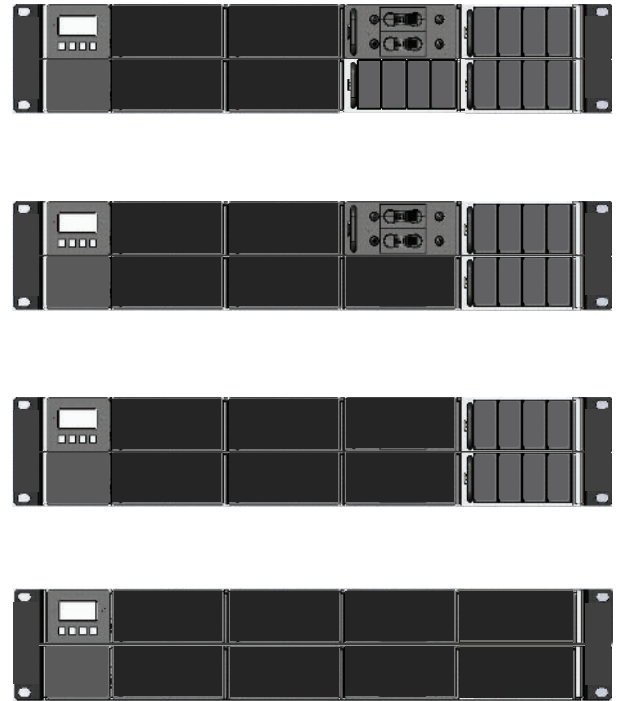(b) Battery Management Module.

(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 8-position fully managed load distribution outputs. Accepts up to 6 Power Modules. (Load breakers and Power Modules must be ordered separately). | ICT-2U6 | ICT-2U6P |
| 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 |
| 30 Amp Hydraulic/Magnetic breakers for use with Load Distribution Module | ICT-CB30 |
| 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.

800-310-016