



# MPS Ultra

## 2RU Redundant Hot Swap Modular DC Power System

The ICT MPS Ultra provides hot swappable, N+1 redundancy for power requirements up to 5.6kW. 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.



ICT-2U4  
2.8KW, dual battery breakers  
12 managed load distribution outputs

### Power Chassis

- ▶ 2RU Power Chassis configured at factory for fast, easy installation
- ▶ All connections are accessible from the rear, with no covers to remove during setup
- ▶ Accepts 48, 24 or 12 volt DC hot-swappable ICT 700 watt Power Modules

### Integrated Intelligent Control Module

- ▶ TCP/IP remote Ethernet communications for monitoring and control of all system parameters through a single I.P. address and fully integrated user interface
- ▶ Embedded web server for plug and play set up
- ▶ HTTP/HTTPS, SMTP, SNMPv1/v2c/v3 protocols supported
- ▶ Alarms can be sent to multiple email accounts
- ▶ Four site monitoring sensor inputs with alarm reporting
- ▶ Data logging of AC, DC, alarms and load current conditions
- ▶ Password protection with multiple security levels

### Load Distribution Module (2.8, 3.5 and 4.2kW models)

- ▶ Load current monitoring and alarm reporting of each output for pinpointing of issues with connected loads
- ▶ Outputs can be power cycled individually over Ethernet
- ▶ Adjustable alarm and load-shed settings for each output
- ▶ 8 or 12 outputs, max. 30A circuit breakers

### Battery Management Module (2.8 and 3.5kW models)

- ▶ Temperature compensated charging, display of battery voltage, status, battery current, state of charge, and run time remaining
- ▶ Adjust LVD settings remotely
- ▶ Configure advanced battery management features such as boost charge parameters, max charge current, battery capacity, battery test timer, and battery discharge testing

### 700 Watt Power Modules (order separately)

- ▶ 100-300 volts AC input with Power Factor Correction
- ▶ 48, 24 or 12VDC volts nominal DC output
- ▶ 90-93% efficiency
- ▶ -30° to +60°C operating temperature range

## AC INPUT

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

## ETHERNET COMMUNICATIONS

Front display	High resolution OLED with function keys			
Remote communications	TCP/IP 10/100 Base-T			
I.P. protocols	HTTP/HTTPS, SMTP, SNMPv1/v2c/v3			
Inputs	4 digital, 1 analog temp sensor contacts			
<b>Monitoring &amp; Control:</b>	<b>5.6KW</b>	<b>4.2KW</b>	<b>3.5KW</b>	<b>2.8KW</b>
AC input, DC output V and A reporting and adjust, DC output control, Power Module status and remote alarms reporting	Yes	Yes	Yes	Yes
Enable/disable DC load outputs, adjust output voltage and current settings, auto restart delay time, power cycle load outputs, auto load shedding, network watchdog, power on sequencing, customizable input alarm labels and settings	N/A	Yes	Yes	Yes
Battery state of charge and run time remaining reporting, battery equalization and discharge testing, LVD setpoint adjust	N/A	N/A	Yes	Yes

## LOAD DISTRIBUTION OUTPUTS - 2.8, 3.5 and 4.2KW Systems<sup>(a)</sup>

Load outputs	12 or 8
Over current protection	Hydraulic/magnetic circuit breakers
Max. breaker size	30A <sup>(b)</sup>

## BATTERY MANAGEMENT - 2.8KW & 3.5KW Systems

Circuit breaker	Dual 100A
Low voltage disconnect	150A contactor

## ENVIRONMENTAL

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

## REGULATORY STANDARDS

Safety	EN 60950-1
Emissions (48/24V only)	EN61000-6-1, EN61000-6-3, EN61000-3-2, RoHS, CE

## MECHANICAL

AC input connectors (dual)	Terminal Block, #8 - #16 AWG
DC output connector	Busbars with 5/16" bolts
Ethernet connector	RJ-45
Remote alarm connectors	Terminal Block (#16 -24 AWG)
Mounting	2RU, 19 inch rack mount
Weight (exc. Power Modules)	30lbs / 13.6 kg
Dimensions - H x W x L	3.5 x 19.0 x 15.7 in. / 89 x 483 x 398 mm

(a) Load breakers must be ordered separately

(b) Max. system current rating for each 4 position load distribution module is 80A. Breakers should be continuously operated at no more than 80% of their current rating.



## 700W POWER MODULES (order separately)

Model number	ICT700-48PM	ICT700-24PM	ICT700-12PM
Nominal voltage	48	24	12
Output voltage range (adjustable)	46.0 - 62.0 VDC	23.0 - 31.0 VDC	11.5 - 15.5 VDC
Output current per module	12.5A	25A	50A
Power Factor	0.99 typ.	0.99 typ.	0.99 typ.
Efficiency (typical)	93%	91%	90%
Output ripple (rms)	60mV	30mV	30mV

## MODEL COMPARISON

Model No.	Output Voltage Polarity	System Power Output	Max. System Current @			Battery Management Module	Battery Circuit Breakers	LVD Rating	Load Distribution Module	No. of Managed Load Outputs
			48VDC	24VDC	12VDC					
ICT-2U4	NEG	2.8KW	50A	100A	200A <sup>(c)</sup>	Yes	100A (x2)	150A	Yes	12
ICT-2U4P	POS	2.8KW	50A	100A	200A <sup>(c)</sup>	Yes	100A (x2)	150A	Yes	12
ICT-2U5	NEG	3.5KW	65A	125A	250A <sup>(c)(d)</sup>	Yes	100A (x2)	150A	Yes	8
ICT-2U5P	POS	3.5KW	65A	125A	250A <sup>(c)(d)</sup>	Yes	100A (x2)	150A	Yes	8
ICT-2U6	NEG	4.2KW	78A	150A	300A	No	N/A	N/A	Yes	8
ICT-2U6P	POS	4.2KW	78A	150A	300A	No	N/A	N/A	Yes	8
ICT-2U8	POS/NEG	5.6KW	104A	200A	400A	No	N/A	N/A	No	N/A

(c) Do not exceed LVD rating of 150A

(d) Do not exceed battery disconnect breaker rating of 100A each per battery string



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**STEP 1 Select Power Chassis**

	Model Number	
	NEG V Output	POS V Output
<b>2.8KW</b> 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
<b>3.5KW</b> 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
<b>4.2KW</b> 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
<b>5.6KW</b> 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**

Select hot-swappable Power Modules (must be same voltage for each chassis)

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	

**STEP 3 Select Load Breakers and Accessories**

	5 Amp	10 Amp	15 Amp	25 Amp	30 Amp
Hydraulic/Magnetic load breakers	ICT-CB5	ICT-CB10	ICT-CB15	ICT-CB25	ICT-CB30
Blanking plate for unused load breaker positions	ICT-BLP		Blanking panel for unused Power Module positions ICT-BPM		

**Descriptions**

**INTELLIGENT POWER CHASSIS**

Each MPS Ultra system includes a fully integrated Intelligent Control Module to provide remote Ethernet-based monitoring and control of all aspects of the system through a single I.P. address and a built-in intuitive graphical user interface.

**BATTERY MANAGEMENT**

The 2.8 and 3.5KW MPS Ultra systems come with an integrated 150A Low Voltage Disconnect, dual 100A Battery disconnect breakers and a remote temperature sense probe. Monitor and adjust LVD set-points over Ethernet. Advanced battery management features include temperature compensated charging, battery state-of-charge, run-time remaining, and battery discharge testing.

**MANAGED LOAD DISTRIBUTION OUTPUTS**

The 2.8, 3.5 and 4.2KW MPS Ultra systems come with integrated breaker-protected load outputs, allowing you to 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.

**CUSTOM CONFIGURATIONS**

Contact factory to discuss custom configuration requirements.

