

# Concept

Possess the benefits to provide flexible solutions, time to market, fast delivery, high cost performance ratio and high reliability, MEAN WELL System Power Solution is now ready to power up your business in multiple industries and diversified applications!



Series Name	CMU3	CMU2
<b>Product Positioning</b>	Next-generation AI intelligent controller supporting voice systems and cloud computing for smart energy management	Traditional digital controller suitable for monitoring and managing single or entire power systems
<b>User Interface</b>	No built-in control panel; operated via mobile APP	Built-in 7" TFT touch panel with buttons for easy on-site configuration and real-time control
<b>Communication Interface</b>	RS-485 x2, CANbus x2, PMBus x2, Ethernet x2, USB-C, USB 2.0 x2	RS-232, RS-485, CANbus, PMBus, USB x2; supports various expansion card modules
<b>Wireless Communication</b>	Supports WiFi, NFC	Not natively supported (expandable via optional modules)
<b>Cloud Integration Capability</b>	Supports AWS, MQTT, SMTP for uploading monitoring data and remote configuration	Supports Ethernet upload and web-based monitoring; simpler functionality
<b>Data Logging &amp; AI Analysis</b>	Equipped with AI algorithms to analyze usage behavior and device health, offering optimization suggestions	Supports log and event recording, SD card data logging
<b>Input Voltage</b>	10~28Vdc	85~264Vac
<b>Relay Output</b>	2 programmable relays (30V / 1A)	4 programmable relays (30V / 1A)
<b>Analog / Digital I/O</b>	4 digital programmable input/output channels (Open Collector)	5 DIN / DOUT channels, 5 AOUT / AIN channels (0~10V)
<b>Firmware Upgrade</b>	Supports online Ethernet/USB partitioned upgrade	Supports firmware upgrade via Ethernet or SD card
<b>Supported Languages</b>	English, Traditional Chinese, Simplified Chinese	English, Traditional Chinese, Simplified Chinese
<b>Operating Temperature</b>	-25°C~ +70°C	-25°C~ +60°C
<b>Applications</b>	Multi-industry applications as smart home/ building energy monitoring, power efficiency optimization, automated scheduling, and others	Conventional power system monitoring, aging test, EV charging and others
<b>Dimensions (Lx Wx H)</b>	192x 178x 45.5mm (Standalone) 482x 193.6x 44.5mm (Rackmount)	245x 70x 164.2mm (Standalone) 483.6x 66.3x 132mm (Rackmount)



# Combination Demonstration

**PowerNex Accessories**

- 1U/2U/3U Blank Panel  
Part No. : RA9AQ
- 1U/2U/3U Vent Panel  
Part No. : RA9AR
- Support Angle  
Part No. : RA27904
- Support Plate  
Part No. : RAF9AH01
- 19" Rack Cabinet  
Part No. : RA-\*\*U-750



- UPS Backup System
- Energy Saving Burn-in System
- Bidirectional System Power
- Programmable DC System Power
- Grid & Off-grid Energy Storage System

	Model No.	RA-15U-750	RA-22U-750	RA-30U-750
<b>Cabinet</b>	Height (U)	15	22	30
	Dimensions (LxWxH)	750x 600x 912 mm	750x 600x 1224 mm	750x 600x 1579 mm
<b>Power Controller</b>	Recommend Model		1 CMU2C-R / CMU2A-R / CMU2E	
<b>Power Shelf</b>	Recommend Model		2 DHP-1UT-B (NCP-3200 series only)	
<b>Power Module</b>	Recommend 1U Model		3 NCP-3200 series	
	Recommend 2U Model		4 SHP-30K series	
<b>Bidirectional Power Supply</b>	Recommend 1U Model		5 BIC-2200 series	
	Recommend 2U Model		6 BIC-5K series	
<b>Grid Type Inverter</b>	Recommend 2U Model		7 ERG-5000 series	
<b>Off-Grid Type Inverter</b>	Recommend 2U Model		8 NTN-5K series	
<b>Off-grid / Grid-connected Hybrid Inverter</b>	Recommend 2U Model		9 NTG-7K5 series 10 NTG-20K series	
<b>Max. Number of Installations (Unit) (with Controller)</b>	1U Model	40	72	100
	2U Model	5	8	12
<b>Max. Output Power (KW) (Product Rated Power x Maximum Number of Installations)</b>	1U Model	128	230	320
	2U Model	150	240	360
<b>Application</b>	Energy control system, Battery power recycling system, Burn-in power recycling system, Industrial power system, Grid & off-grid energy storage system and others.			

Note: We value the information accuracy, if there's any discrepancy between the data presented in our brochure and the specification, the specification shall prevail. (Please refer to [www.meanwell.com](http://www.meanwell.com) for the latest spec.)

# Advantages

## Smart Rack Power Solution in Digitalized Design

### Remote ON/OFF

This signal allows user to turn on/off power modules all at once or one by one.

### Output Programmable Function

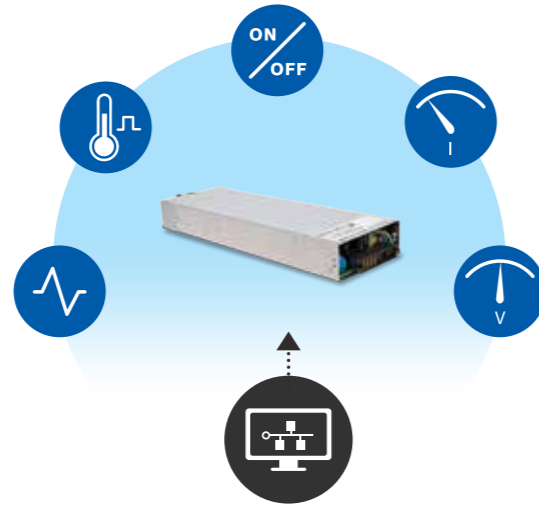
By using external DC signal, output voltage (PV) and constant current limit (PC) can be tuned up or down according to end user's need.

### T-alarm

PSU sends out TTL signal to warn probable over-heating event.

### Intelligent Control

Featuring multiple I/O signals, programmable outputs and communication to enable easy and smart monitor and control from power supply to the entire power system.



## Power Supply in Modular Design



Rack power/charger use connector as interface to fit power modules into power shelf which realizes the key function of "hot swap" and enables power system with flexibility to promptly enlarge output power for future needs.

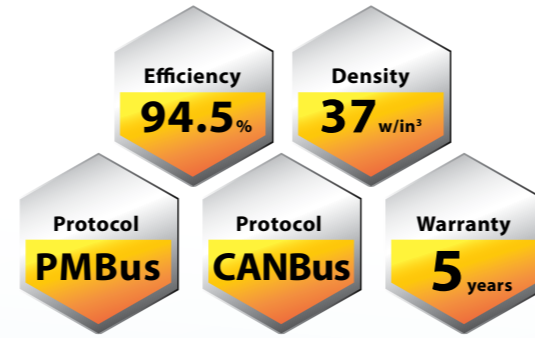
## Upgradable and Redundant Power Solution in Building Block Design

Configure power shelves in parallel connection, the total output power can be multiplied and upgradable. Or configure solutions with back-up power in N+1 redundancy. Using off-the-shelf 3200w digitalized power module as the base, MEAN WELL successfully creates a wide range of solutions from 3200w up to 128KW.

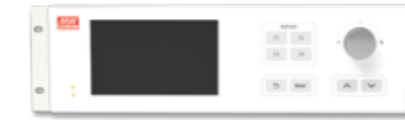


# The Core of Digital System Power Solution

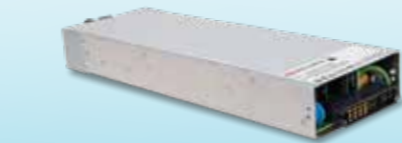
Rack Power NCP-3200 Series + Digital Controller CMU2 Series



**Rack Controller**  
CMU2C-R  
L147.5x W127x H41(1U) mm



**Power Shelf**  
DHP-1UT-B (HV)  
L400x W440x H44mm



**Rack Power/Charger**  
NCP-3200  
L325.8x W107x H41(1U) mm



## Features

### Power Supply Mode

- Programmable Outputs, PV & PC functions
- Built-in OR-ing FETs to support hot swap
- Active current sharing
- Built-in DC fans forced air cooling
- Protections: Short circuit, over voltage & over temp.
- Optional conformal coating

### Battery Charger Mode

- Charge lead-acid (Gel, Flooded & AGM) and Li-Ion batteries
- Built-in 3 three-stage charging curves and 1 programmable curve
- Protections: Battery under voltage, Battery no connection



Model No.	Vin	Output	Efficiency
NCP-3200-24	90~264VAC	24V, 0~133A	93.5%
NCP-3200-48	90~264VAC	48V, 0~67A	94.5%
NCP-3200-380	90~264VAC	380V, 0~9.6A	94%

Model No.	Vin	Output	Efficiency
NCP-3200-24	90~264VAC	28.8V, 0~110A	93.5%
NCP-3200-48	90~264VAC	57.6V, 0~55A	94.5%



Your Reliable Power Partner



# System Power Solution

Integrating Digital Rack Power, Charger and Controller for Industrial Applications

### Taiwan (Headquarters)

MEAN WELL ENTERPRISES CO., LTD.  
Tel +886-2-2299-6100(rep.) e-mail info@meanwell.com

### U.S.A. (California)

MEAN WELL USA, INC.  
Tel +1-833-635-7201 e-mail info@meanwellusa.com

### Europe (The Netherlands)

MEAN WELL EUROPE N.V.  
Tel +31-20-758-6000 e-mail info@meanwell.eu

### China

MEAN WELL (GUANGZHOU) ELECTRONICS CO., LTD.  
Tel +86-20-3773-7100 / 400-800-3608(sales) e-mail info@meanwell.com.cn  
SUZHOU MEAN WELL TECHNOLOGY CO., LTD.  
Tel +86-512-6508-8600 e-mail info@meanwell.cc

### Asia

MEAN WELL (HONG KONG) HOLDING LIMITED  
Tel +852-2643-9098 e-mail vickiho@meanwell.com.hk  
MEAN WELL MALAYSIA SDN.BHD.  
Tel +603-8070-8120 e-mail wswong@meanwellasean.com  
MEAN WELL SINGAPORE PTE. LTD.  
Tel +86-2-2299-6100 etc.864 e-mail info@meanwell.com  
MEAN WELL INDIA ELECTRONICS PRIVATE LIMITED  
Tel +91-9686-448906 e-mail info@meanwellindia.com  
MEAN WELL TURKEY  
Tel +90-850-532-4667 e-mail a.argilli@meanwell.com

