



SUSTAINABLE  
DEVELOPMENT  
GROUP



# Modular Power Introduction

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# Key Features

## Overview-1

- Modular product design, configurable as per customer requirements.
- Plug in NMS-240 / **NMD-240** (Dual Output Voltage) DC module cards to configure a multiple output power supply.
- **1U slim mechanical design**, fit space constraint instruments or systems.
- Front-end and DC/DC module cards are separately certified by safety agencies. Can be sold **separately** as components or as assembly of a power supply unit.



**NMS-240**



**NMD-240**

# Key Features

## Overview-2

- Certified by **60601-1** and **62368-2** dual safety standards, comply with **2x MOPP** medical insulation regulation
- PV (Programmable Voltage) & PC (Programmable Current) functions (NMS-240 only)
- Comply with **SEMI F47** standards for **semiconductor manufacturing equipment**.
- Intelligent control functions



NMS-240



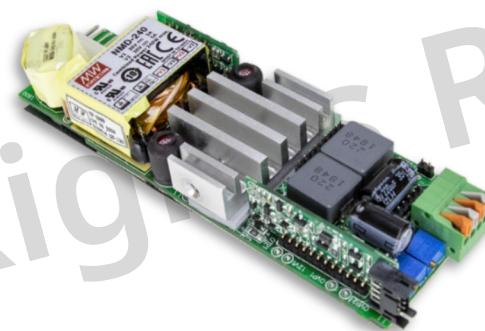
NMD-240



# Key Features

## NMD-240

- Dual **isolated output channels**
- **Independent protection** on both output channels
- Output voltage is adjustable via separate SVRs
- Two sets of remote control signals
- Dual safety certifications:  
**Medical 60601-1 & Industrial 62368-1**
- **2x MOPP** medical grade insulation design
- **Bi-color** output connector to indicate **polarity** of output voltage
- Comply with **SEMI F47** standards for **semiconductor manufacturing equipment**
- 5-year warranty



Model No.	NMD-240	
Output Channel	V1	V2
Vo Adj. Range	3-30V	3-30V
Iout Max.	5A	5A
Pout Max.	150W	150W
Combined Power	240W	

## Key Features

# Modular Power Supply Design

Fast customization on PSU Configurations/ Electrical Parameters

Add more D/D modules: multiply output power;

D/D modules in Parallel / Series operation: multiply output Current / Voltage;


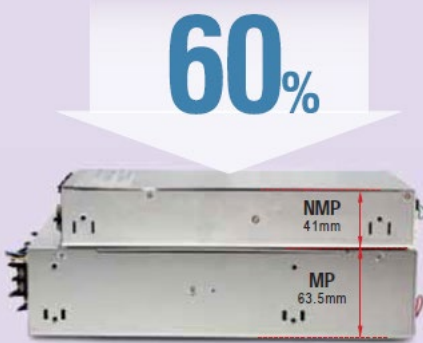
PV / PC function: adjust output Voltage / Constant Current Limit

Create a multiple output PSU by just plugging in NMS-240 & **NMD-240** (Dual Output Voltage) D/D module cards, maximum **12** channels!



## Key Features

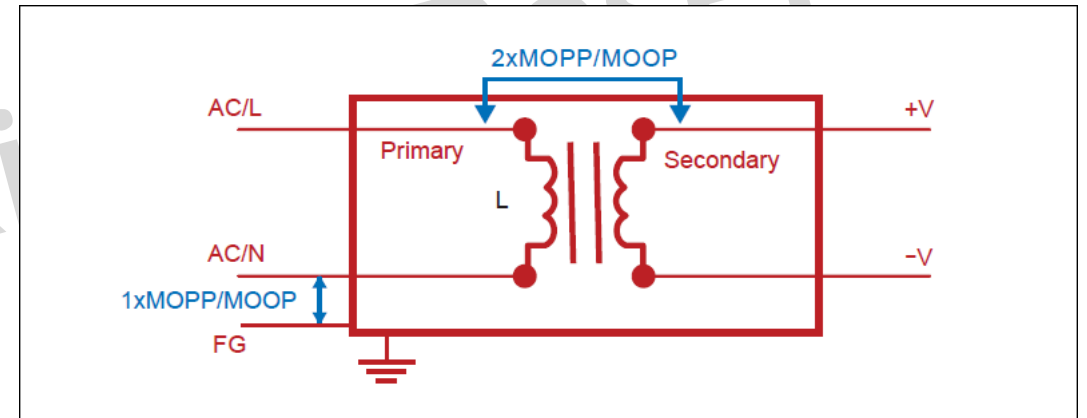
# 1U Slim Mechanical Design

Concerns	Solutions
	
<ul style="list-style-type: none"> <li>Limited by old technology on components, modular PSU used to be much bigger in size. If end system has insufficient inner space, modular PSU can't be applied.</li> <li>Nowadays, industrial and medical instruments become <b>compact and lighter</b>, thus demands for slim solution is increasing.</li> </ul>	<ul style="list-style-type: none"> <li><b>Enlarge Power Density</b> of Front-end and D-D module cards</li> <li>Use <b>coolers with higher airflow</b> to boost heat dissipation for PSU</li> </ul>

## Key Features

# Medical & Industrial Dual Safety

- 62368 -1 Industrial & 60601-1 Medical Dual Safety Certification  
Widest range for product applications
- 2x MOPP Medical Grade Insulation Design  
(MOPP, Means of Patient Protection)
- Low Touch Current  
<100uA @264Vac



Effectively protect patients from the risk of fatal electric shock!



## Key Features

# Programmable Outputs (PV & PC)

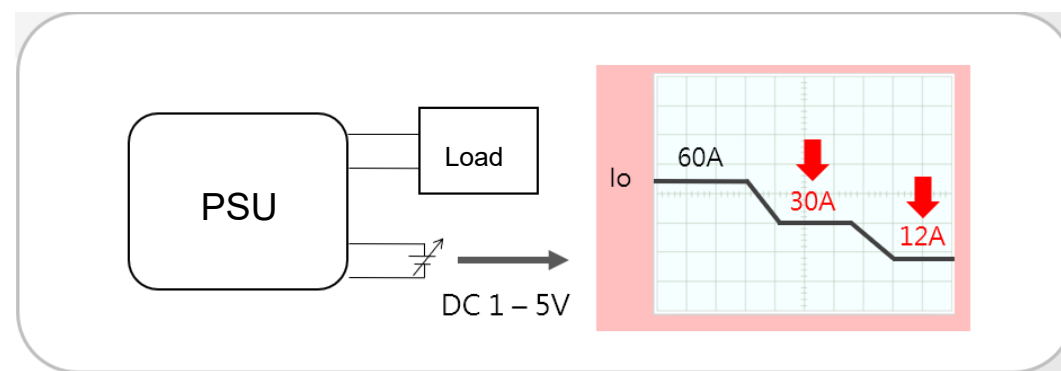
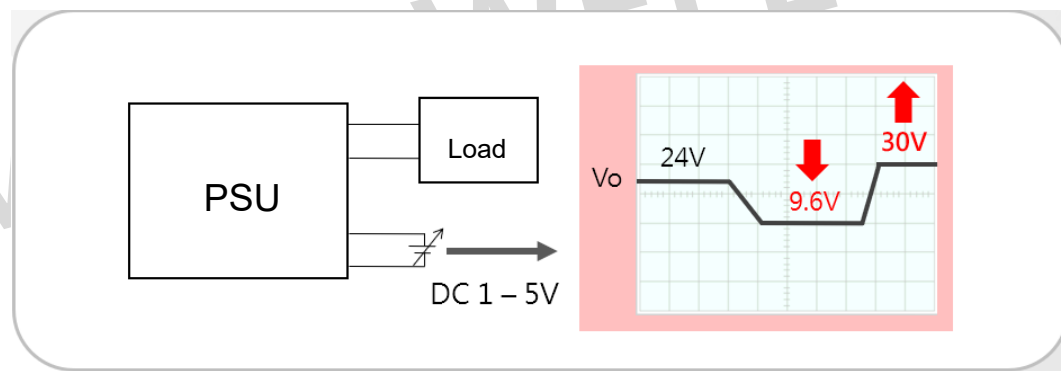
Output **Voltage** and Output **current limit** can be adjusted!

Use external DC signal to control output voltage/current limit.

Fully base on user's need to tune up or down within specification defined.

### Programmable Voltage, PV Function

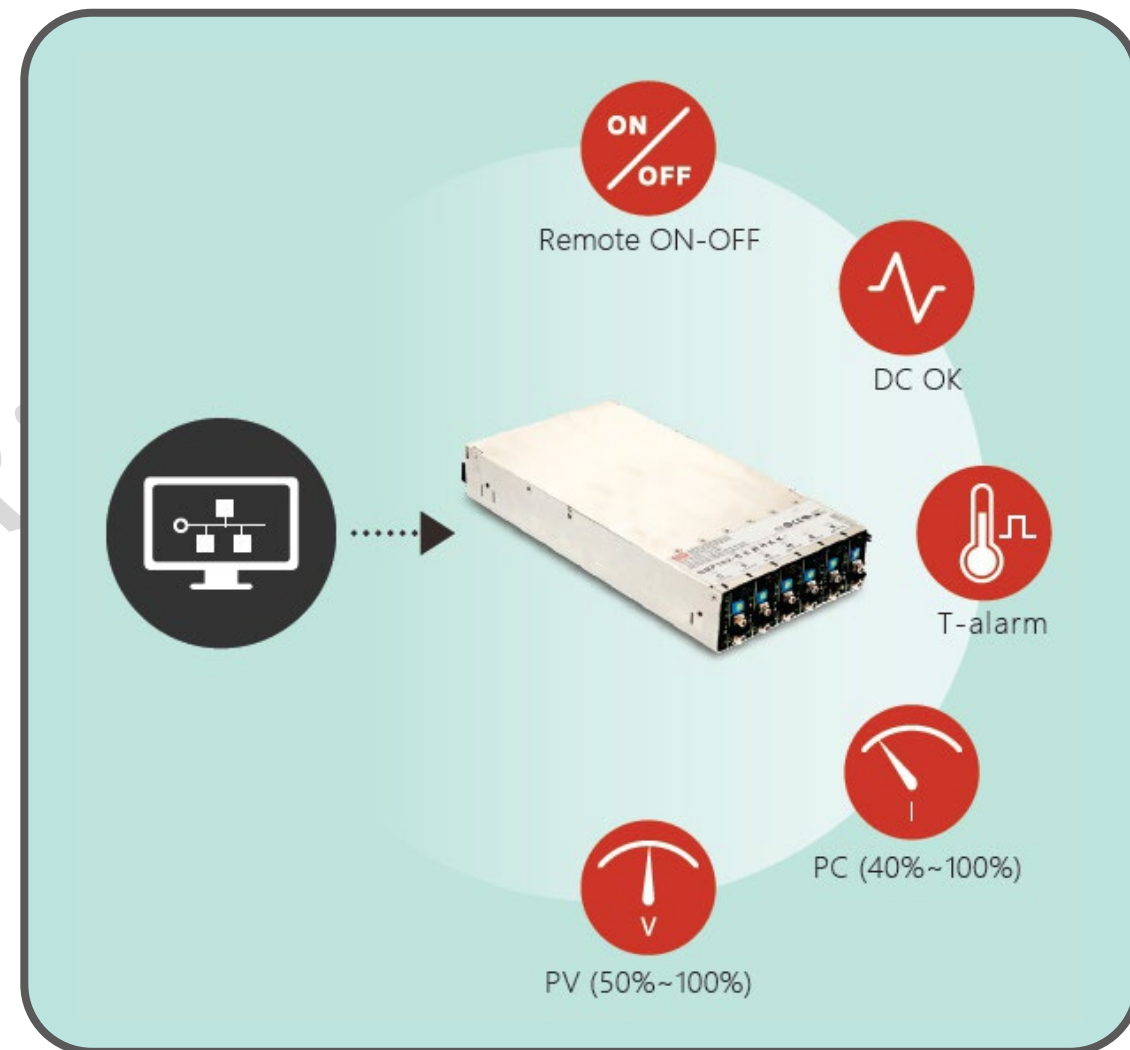
### Programmable Current, PC Function



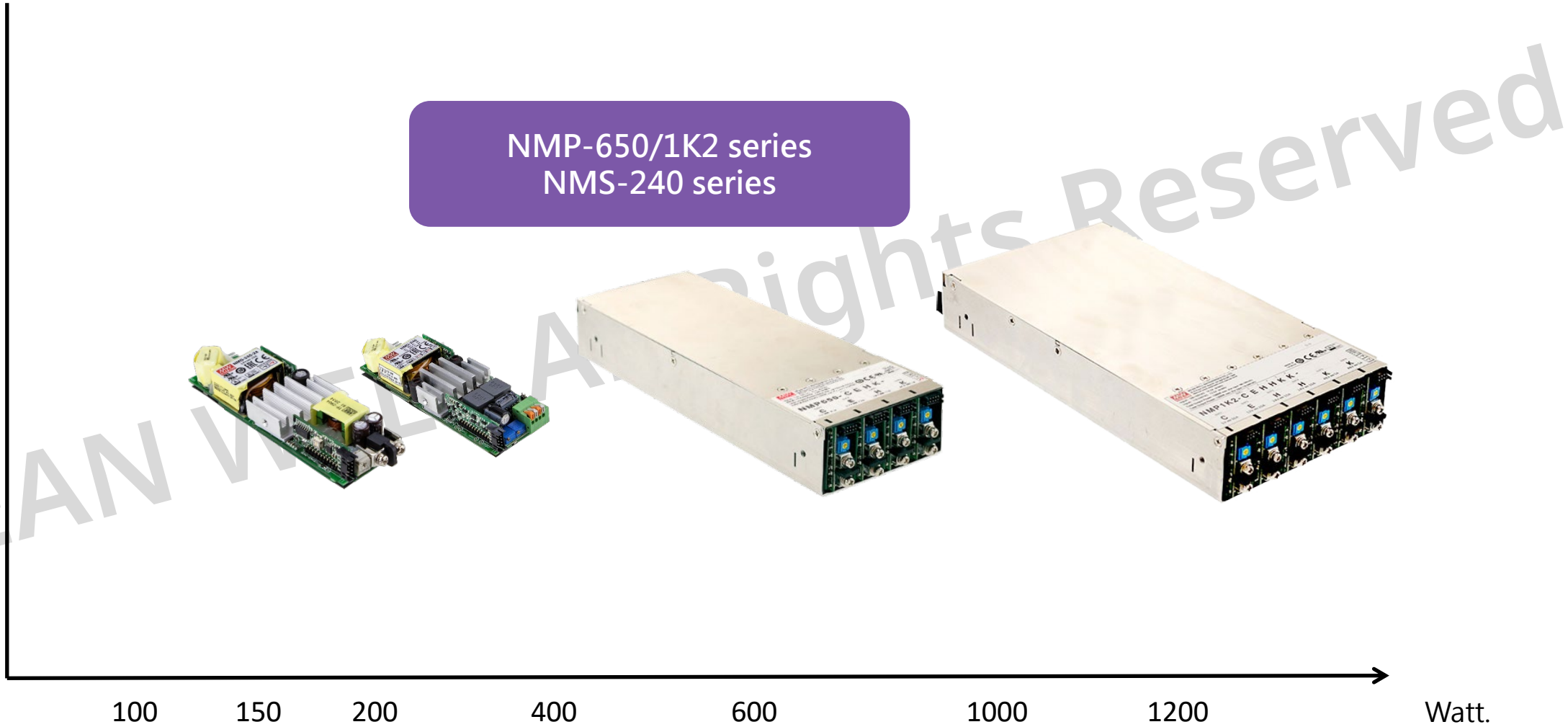
## Key Features

# Intelligent Control Functions

- Intelligent and Automatic Monitor/Control Featured Remote ON/OFF, DC OK, T-alarm signal, and programmable output (PV & PC) functions to easier monitor and control PSU.
- Remote ON/OFF Signal Turn ON/OFF DC modules all at once or one by one.
- T-alarm signal Send over-temperature alert thru TTL signal to avoid system crash due to **OTP** condition.



# Road Map



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# Applications

## Industrial Automation



### 3D Printer

- Space constraint
- Drive Motor & Control signals



### Energy Storage System

- Need multiple output voltages to drive BMS sub-system
- Space constraint in BMS sub-system

## Medical Equipment



### Medical Instruments


- Space constraint
- Need to comply with 60601-1 & 2x MOPP standards




### MRI Scanner

- Space constraint
- Drive Motor & Diagnostic Computer


# Why MEAN WELL?

**P** **Products**   
More than 10,000 models, continues to introduce 10% new models and EOL 5% every year

**Q** **Quality**   
High reliability and quality indicator  
Post-sales failure rate decreases by 10% each year

**C** **Cost**   
High cost-performance products, stable material price, complete supply chain integration

**D** **Delivery**   
24-hour delivery for small amount order.  
14-day delivery for frequent purchase standard products.

**S** **Service**   
MEAN WELL Group and distributors provide services 24 hours a day, and commit to reply within 24 hours

**R** **Reliable Relationship**   
75% of revenue come from long-term distributors and customers

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*Your Reliable Power Partner*