



MAXWELLON MXD

1KW-10KW/ (1mV / 1mA)
Programmable DC Power Supply
2025

The MXD Series Programmable DC Power Supply (1KW-10KW) offers high-resolution control down to 1mV/1mA and features a programmable output timer along with OVP (Over Voltage Protection) and OTP (Over Temperature Protection). This series supports both panel-based List programming and PC software operation, providing greater flexibility for various communication needs. Equipped with standard RS485 and optional RS232 interfaces, it offers a versatile solution for different applications.

■ Key Feature

- Rated voltage options: **30V/ 40V/ 50V/ 60V/ 75V/ 80V/ 100V/ 125V/ 150V/ 200V/ 250V/ 300V/ 400V/ 500V/ 600V/ 800V/ 1000V/ 1200V/ 1500V**
- **5-digit voltage display, 4-digit current display**
- **Low ripple and low noise**
- **High resolution of 1mV / 1mA for precise output**
- **Fast dynamic response time <10ms**
- **High display and programming accuracy**
- **No overshoot at startup**, with adjustable voltage and current rise slopes
- **Real-time power display**
- **Standard communication interface: RS485; Optional: RS232**

■ Application

- Testing and aging of LEDs, energy-saving lamps, and other lighting equipment
- Switching power supplies and power adapters
- Testing and aging of photovoltaic systems and inverters
- Aerospace and defense industries
- Electric vehicle motors, controllers, and DC motor testing & aging
- Electronic components such as capacitors, resistors, relays, transistors, and sensors
- Electrolysis, electroplating, aluminum foil corrosion processing, LCD screens, and touch screens
- Automotive electronics, DC motors, motor controllers, cigarette lighters, audio/video equipment testing & aging

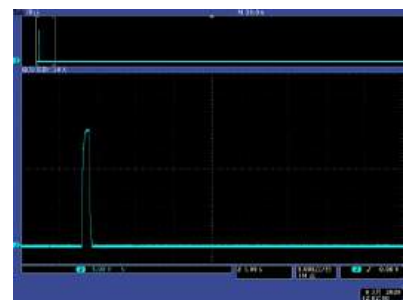
Programmable Output Function

The power supply supports a programmable output mode, enabling users to configure up to 10 sets of parameters with an unlimited cycle count. Key programmable parameters include initial voltage/current, final voltage/current, and hold time.

It offers:

- **Multi-step continuous output** for complex testing scenarios
- **Single-step output** for precise control
- **Cyclic output** for automated repetitive testing

Advanced sequencing functions such as voltage step transitions and customized voltage sequences are supported. The following diagram illustrates various output waveforms:



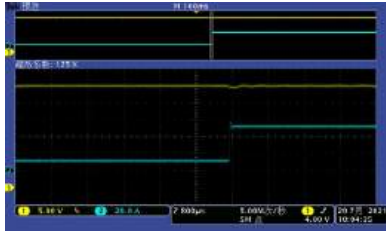
Programming Specifications:

- **Voltage & Current Settings:** Fully adjustable within the rated range
- **Hold Time:** Configurable from 1s to 10,000s
- **Cycle Count:** Adjustable from 1 to 65,535

The programming mode can be toggled via the interface settings, overriding standard voltage and current settings when activated.

Superior Dynamic Response Time

The power supply demonstrates excellent dynamic response under varying load conditions:



10% to 50% load change: Dynamic response waveform



50% to 90% load change: Dynamic response waveform



90% to 50% load change: Dynamic response waveform

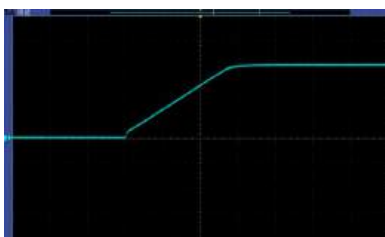


50% to 10% load change: Dynamic response waveform

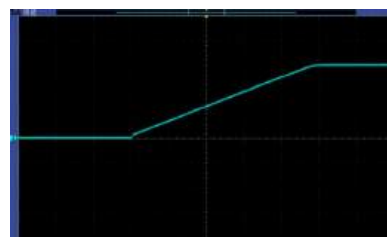
These performance characteristics ensure fast and stable voltage and current regulation, minimizing transient fluctuations and improving overall system reliability.

No Inrush Current at Startup with Adjustable Voltage and Current Rise Time

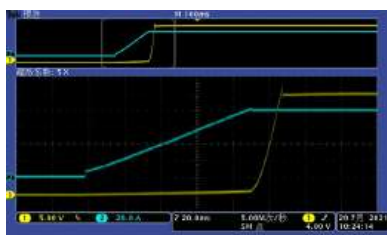
The power supply ensures smooth startup without inrush current while allowing users to define the voltage and current rise time for precise control:



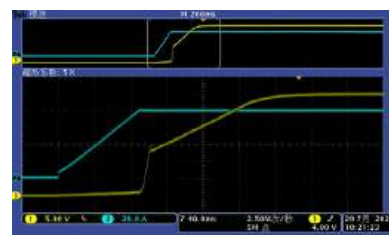
No-load condition, 300ms rise time



No-load condition, 1000ms rise time



80% load condition, 50ms rise time



80% load condition, 500ms rise time

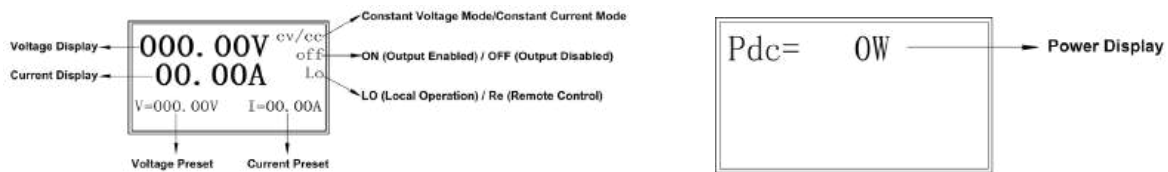
This feature enhances system stability and protects sensitive components from sudden electrical surges.

High Display Accuracy

- Voltage display accuracy: $\pm 0.2\%$
- Current display accuracy: $\pm 0.3\%$



The preset voltage/current values, output voltage/current values, operating mode, local/remote control status, and start/stop status are displayed on a single interface, allowing users to conveniently monitor the DC power supply status. Additionally, the power supply supports real-time power display.



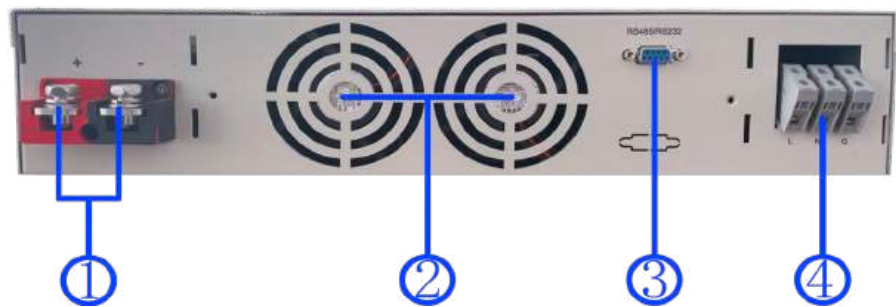
This series of DC power supplies features low voltage ripple and low current ripple, making them suitable for use as a constant current source.

Front Panel



Key	Description
CV	Set the output voltage value
CC	Set the output current value
L/R	Toggle between local and remote control
0~9	Numeric keys for input
C	Back key
OK	Confirm key
ON/OFF	Control power output on/off

Rear Panel



No.	Description
1	DC Output Terminals – Red for positive, black for negative.
2	Fan Exhaust Vent – Must not be blocked to ensure proper heat dissipation.
3	RS485/RS232 Communication Interface – For remote control and monitoring.
4	AC Power Connection Terminal – Ensure proper grounding for safe operation.

■ Specifications

Technical Data		1KW/3KW
AC:Supply		
Voltage		1 ϕ 220VAC $\pm$ 10%
Frequency		50-60Hz
Power Factor		> 0.92
DC:Voltage		
Accuracy		< 0.2% of rated value
Load regulation 0-100%		< 0.1% of rated value
Line regulation $\pm$ 10% Δ U ^{AC}		< 0.1% of rated value
Regulation 10-100% load		< 10ms
Rise time 10-90%		< 100ms-10s
Overvoltage Protection		
Ripple		< 0.3% of rated value
DC:Current		
Accuracy		< 0.3% of rated value+20mA
Load regulation 1-100%		< 0.1% of rated value
Line regulation $\pm$ 10% Δ U ^{AC}		< 0.1% of rated value
DC:Power		
Accuracy		< 0.5% of rated value
Protection		
Over Voltage Protection, Over Current Protection, Over Power, Over temperature Protection and so on		
Insulation		
AC input to enclosure		1500VDC
AC input to DC output		1500VDC
DC output to enclosure(PE)		Below 300V:500V(PE)
		Below 1000V:1500V(PE)
		Below 2000V:2000V(PE)
Other		
Digital interfaces		RS485 or RS232
Cooling		Air cooling
Operation temperature		-5 $^{\circ}$ C - 45 $^{\circ}$ C
Storage temperature		-20 $^{\circ}$ C - 60 $^{\circ}$ C
Humidity		< 80%,No condensation
Dimensions(W*H*D)		210*88*350mm(1KW)
		425*88*420mm(3KW)
Weight		6KG(1KW)
		12KG(3KW)

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AC:Supply		
Voltage		1 ϕ 220VAC $\pm$ 10%
Frequency		50-60Hz
Power Factor		> 0.92
DC:Voltage		
Accuracy		< 0.2% of rated value
Load regulation 0-100%		< 0.1% of rated value
Line regulation $\pm$ 10% ΔU^{AC}		< 0.1% of rated value
Regulation 10-100% load		< 10ms
Rise time 10-90%		< 500ms-10s
Overvoltage Protection		
Ripple		< 0.3% of rated value
DC:Current		
Accuracy		< 0.3% of rated value+20mA
Load regulation 1-100%		< 0.1% of rated value
Line regulation $\pm$ 10% ΔU^{AC}		< 0.1% of rated value
DC:Power		
Accuracy		< 0.5% of rated value
Protection		
Over Voltage Protection, Over Current Protection, Over Power, Over temperature Protection and so on		
Insulation		
AC input to enclosure		1500VDC
AC input to DC output		1500VDC
DC output to enclosure(PE)		Below 300V:500V(PE)
		Below 1000V:1500V(PE)
		Below 2000V:2000V(PE)
Other		
Digital interfaces		RS485 or RS232
Cooling		Air cooling
Operation temperature		-5 C - 45 C
Storage temperature		-20 C - 60 C
Humidity		< 80%,No condensation
Dimensions(W*H*D)		425*132*552mm
Weight		24KG

■ Product selection

Model	Voltage	Current	Power	Interface
MXD3030	0-30.000V	0-30.00A	900W	RS485/RS232
MXD5020	0-50.000V	0-20.00A	1000W	RS485/RS232
MXD6015	0-60.000V	0-15.00A	900W	RS485/RS232
MXD10H10	0-100.00V	0-10.00A	1KW	RS485/RS232
MXD20H05	0-200.00V	0-5.000A	1KW	RS485/RS232
MXD30H03	0-300.00V	0-3.000A	900W	RS485/RS232
Model	Voltage	Current	Power	Interface
MXD3010H	0-30.000V	0-100.0A	3KW	RS485/RS232
MXD4075	0-40.000V	0-75.00A	3KW	RS485/RS232
MXD5060	0-50.000V	0-60.00A	3KW	RS485/RS232
MXD6050	0-60.000V	0-50.00A	3KW	RS485/RS232
MXD7540	0-75.000V	0-40.00A	3KW	RS485/RS232
MXD10H30	0-100.00V	0-30.00A	3KW	RS485/RS232
MXD12H24	0-125.00V	0-24.00A	3KW	RS485/RS232
MXD15H20	0-150.00V	0-20.00A	3KW	RS485/RS232
MXD20H15	0-200.00V	0-15.00A	3KW	RS485/RS232
MXD25H12	0-250.00V	0-12.00A	3KW	RS485/RS232
MXD30H10	0-300.00V	0-10.00A	3KW	RS485/RS232
MXD40H07	0-400.00V	0-7.000A	2,8KW	RS485/RS232
MXD50H06	0-500.00V	0-6.000A	3KW	RS485/RS232
MXD60H05	0-600.00V	0-5.000A	3KW	RS485/RS232
Model	Voltage	Current	Power	Interface
MXD6010H	0-60.000V	0-100.0A	6KW	RS485/RS232
MXD8075	0-80.000V	0-75.00A	6KW	RS485/RS232
MXD10H60	0-100.00V	0-60.00A	6KW	RS485/RS232
MXD12H48	0-125.00V	0-48.00A	6KW	RS485/RS232
MXD15H40	0-150.00V	0-40.00A	6KW	RS485/RS232
MXD20H30	0-200.00V	0-30.00A	6KW	RS485/RS232
MXD25H24	0-250.00V	0-24.00A	6KW	RS485/RS232
MXD30H20	0-300.00V	0-20.00A	6KW	RS485/RS232
MXD40H15	0-400.00V	0-15.00A	6KW	RS485/RS232
MXD50H12	0-500.00V	0-12.00A	6KW	RS485/RS232
MXD60H10	0-600.00V	0-10.00A	6KW	RS485/RS232
MXD80H07	0-800.00V	0-7.000A	5.6KW	RS485/RS232
MXD10HH06	0-1000.0V	0-6.000A	6KW	RS485/RS232
MXD12HH05	0-1200.0V	0-5.000A	6KW	RS485/RS232
MXD15HH04	0-1500.0V	0-4.000A	6KW	RS485/RS232
Model	Voltage	Current	Power	Interface
MXD10H10H	0-100.00V	0-100.0A	10KW	RS485/RS232
MXD15H60	0-150.00V	0-60.00A	9KW	RS485/RS232
MXD20H50	0-200.00V	0-50.00A	10KW	RS485/RS232
MXD25H40	0-250.00V	0-40.00A	10KW	RS485/RS232
MXD30H30	0-300.00V	0-30.00A	9KW	RS485/RS232
MXD40H25	0-400.00V	0-25.00A	10KW	RS485/RS232
MXD50H20	0-500.00V	0-20.00A	10KW	RS485/RS232

Model	Voltage	Current	Power	Interface
MXD60H15	0-600.00V	0-15.00A	9KW	RS485/RS232
MXD80H12	0-800.00V	0-12.00A	9.6KW	RS485/RS232
MXD10HH10	0-1000.0V	0-10.00A	10KW	RS485/RS232
MXD12HH08	0-1200.0V	0-8.000A	9.6KW	RS485/RS232
MXD15HH06	0-1500.0V	0-6.000A	9KW	RS485/RS232

■ Packing List

No.	Name	Qty
1	Input Power Cable	1
2	Output Protection Cover	1
3	User Manual	1
4	Product Test Report	1



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