BLITZPower

Hybrid Programmable Power Supply

COM Series

6 Channels, AC/DC Module Arbitrary Combination

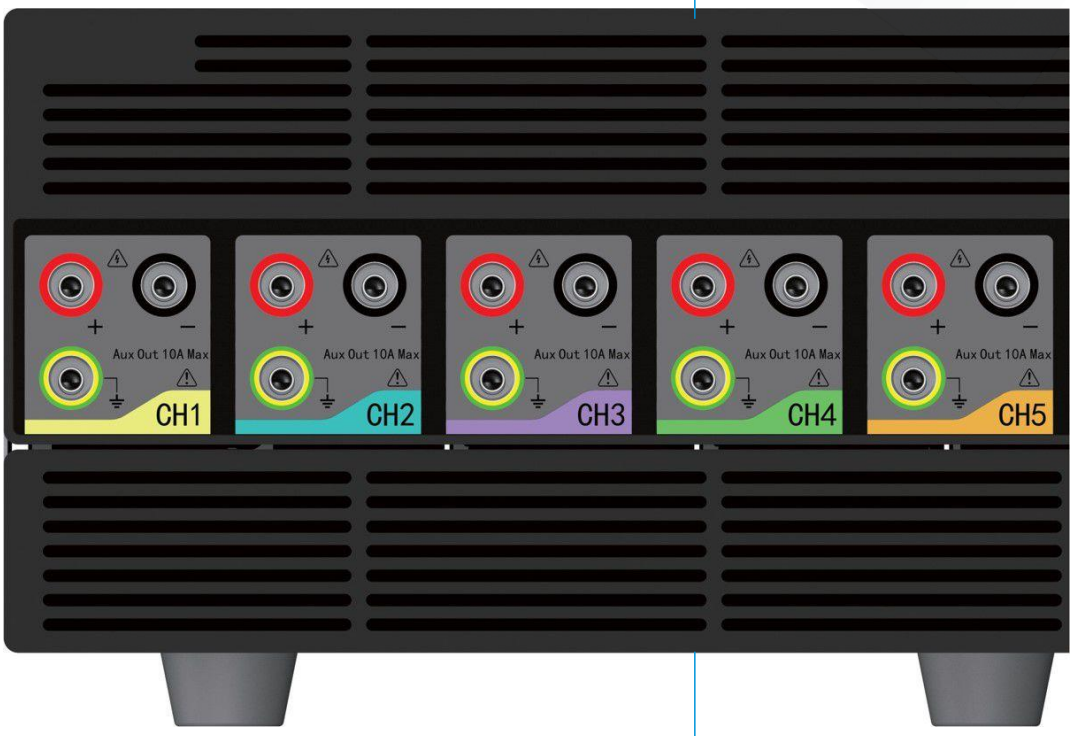
Hybrid Programmable Power Supply

blitz-power.com

HYBRID MULTI-CHANNELS

Six-channel hybrid interface within a 3U enclosure, offering flexible configuration. Supports common topologies including AC/AC, AC/DC, DC/AC, and DC/DC testing.

6
HYBRID MULTI-CHANNELS



CONVENIENT FRONT PANEL OUTPUT

All six front panel channels support banana plug connections up to 10A.

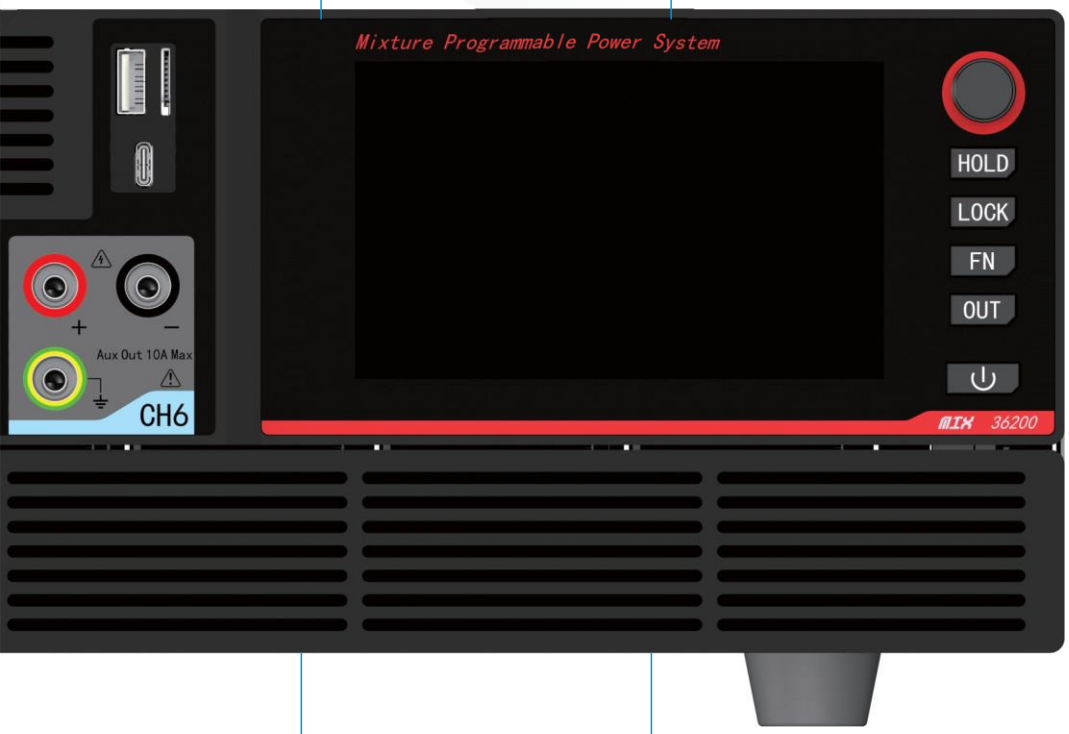
10A
BANANA PLUG CONNECTION

WEB-BASED
POWER SUPPLY CONTROL & MONITORING

AUTO RECOGNITION
AFTER AC/DC MODULE REPLACEMENT

ADAPTIVE MODULAR DESIGN

Support plug-and-play quick installation, flexible replacement of AC/DC modules, and automatic system recognition of power module types.



AC 0.01%±0.05%F.S.
DC 0.02%±10mV
HIGH ACCURACY

9.9kW/3U
HIGH DENSITY POWER

HIGH ACCURACY VOLTAGE & CURRENT

In performs fast dynamic characteristics by stable and precise control using equipped high accuracy voltage and current measurement device and micro-processor for digital signal.

Mainframe System

3U Standard Width Mainframe System Diagram

Model Selection Specification Table:

3U Rack

Product Model	Rated Output Power (kW)	Input Voltage Range (V)	Number of Channels	Input Type	Appearance
COM362	6.6	L1-N: (200-240)Vac L1-L2: (200-440)Vac	6	Two-wire	3U Standard Width
COM363	9.9	200-480V	6	Three-phase	3U Standard Width

AC Module

AC module Schematic

Model Selection Specification Table:

Product Model	Power (kVA)	Maximum Voltage (V_rms)	Frequency Range (Hz)	Maximum Current (A_rms)	Maximum Voltage (V_DC)	Maximum Current (A_DC)
AC-3K0-450-16	3	450	DC,0.001–5000	16	±630	±16
AC-1K6-450-16	1.6	450	DC,0.001–5000	16	±630	±16

DC Module

DC Module Schematic

Model Selection Specification Table:

Product Model	Power Rating (kW)	Voltag (V)	Current Rating (A)	Maximum Efficiency	Type
DCB-3K0-160-50	±3.00	0-160	±50	92%	Bidirectional DC Module
DCB-1K6-160-30	±1.65	0-160	±30	90%	Bidirectional DC Module
DCB-850-160-15	±0.85	0-160	±15	90%	Bidirectional DC Module
DCB-3K0-100-60	±3.00	0-100	±60	92%	Bidirectional DC Module
DCB-1K6-100-45	±1.65	0-100	±45	90%	Bidirectional DC Module
DCB-850-100-30	±0.85	0-100	±30	90%	Bidirectional DC Module
DCF-3K0-160-50	3.00	0-160	50	92%	PV Simulation Module
DCF-1K6-160-30	1.65	0-160	30	90%	PV Simulation Module
DCF-850-160-15	0.85	0-160	15	90%	PV Simulation Module
DCF-3K0-100-60	3.00	0-100	60	92%	PV Simulation Module
DCF-1K6-100-45	1.65	0-100	45	90%	PV Simulation Module
DCF-850-100-30	0.85	0-100	30	90%	PV Simulation Module

Technical Specification Table

Main System Technical Specification Table

Model		COM363	COM362
AC Input	Connection Method	3ph+PE(L1/L2/L3+PE)	2ph+PE (L1/L2+PE or L/N+PE)
	Rated Voltage	(200～440)Vac	L1-N: (200-240)Vac L1-L2: (200-440)Vac
	Rated Frequency	50/60Hz	
	Frequency Range	47Hz～63Hz	
	Power Factor ①	0.99	
Channel Parameters Channel Spec.	Internal Energy Circulation	Total system loss does not exceed the main system distribution power	
	Non-energy Internal Circulation	Total system input power does not exceed the main system distribution power	
	Maximum Number of Channels	6	
	Channel Power	Max 3kW	
Insulation			
Insulation Resistance Insulation Resistance	Input-PE	500 VDC, greater than 30 MΩ (25°C, 70% RH)	
	Input-Output	500 VDC, greater than 30 MΩ (25°C, 70% RH)	
Dielectric Strength Withstand Voltage	Input-PE	5kVAC	
	Input-Control Interface	3kVAC	
Interfaces			
Interfaces	Control Interfaces	LAN: RJ45 Connector USB：Type-A USB 2.0、Type-C、Type B TF Card Slot, HDMI	
Standards	Standards	Standards	
Safety	Safety	IEC/EN 61010-1:2010	
EMC	EMC	IEC/EN 61326-1, classA	
Ambient			
Temperature Temperature	Operation ②	0°C～50°C	
	Storage	-20°C～70°C	
Humidity Humidity	Operation	≤ 80%. Not condensing	
	Storage	≤ 90%. Not condensing	
Altitude		Output current derates by 2% for every 100 m above 2000 m	
Others			
Dimensions		W435×H132×D750mm (without handle)	
Weight (without modules)		15kg	

Note:
①: Under rated input voltage and rated output power conditions.
②: Power derating applies when the operating temperature exceeds 40°C. For detailed derating requirements, refer to the User Manual.

AC Module Technical Specification Table

Model	AC-3K0-450-16	AC-1K6-450-16
Basic Information		
Output Mode	AC,AC+DC,DC,DC+AC	
Rated DC Voltage	630V	
Rated AC Voltage	450V	
DC Current Range	0～16A	
AC Current Range	0～16A	
Rated Power	3000VA	1650VA
Maximum Efficiency	94%	90%
AC Voltage		
Setting Range	0～472.5V ＠0.001Hz～200Hz 0～300V ＠200Hz～2000Hz 0～200V ＠2000Hz～3000Hz 0～100V ＠3000Hz～5000Hz	
Setting Accuracy ①	±(0.01%+0.05%F.S.) ＠15Hz～400Hz ±(0.1%+0.2%F.S.) ＠400Hz～3000Hz ±(0.2%+0.2%F.S.) ＠3000Hz～5000Hz	
Setting Resolution	10mV	
DC Offset ②	±20mV	
Distortion ③	≤0.25% ＠50/60Hz ≤0.5% ＠15Hz～400Hz ≤1% ＠400Hz～1500Hz ≤3% ＠1500Hz～5000Hz	
Line Regulation(±10%Uac)	±0.01% F.S	
Load Regulation	±0.025% F.S	
Voltage Slew Rate	＞3V/μs	
Remote Compensation	≤10V	
Frequency		
Setting Range	0.001Hz～5000Hz	

Model	AC-3K0-450-16	AC-1K6-450-16
Harmonic Regulation		
Order	100th order @ 40 Hz–70 Hz fundamental frequency 25th order @ 70 Hz–400 Hz fundamental frequency 10 times @ 400 Hz to 1000 Hz fundamental frequency	
THD	40% of rated amplitude	
Amplitude Error	±5% of set value or 0.1% of fundamental value (below 39th order @ 40–70 Hz fundamental frequency)	
Phase Range	0°～359.9°	
DC Voltage		
Rated Voltage	±630V	
Setting Range	-650V～650V	
Setting Accuracy ⑤	±(0.01%+0.05%F.S.)	
Setting Resolution	10mV	
Line Regulation(±10%Uac)	±0.01%F.S	
Load Regulation	±0.05%F.S	
Voltage Slew Rate	＞3V/μs	
Ripple Peak-to-Peak (20 MHz) ⑥	2Vpp	
Ripple RMS (300 kHz) ⑥	200mVrms	
Remote Compensation	≤13.6V	
AC Voltage Measurement		
Range	0～707Vrms	
Resolution	10mV	
Accuracy	±(0.01%+0.05% F.S) @ 15Hz～400Hz ±(0.1%+0.1% F.S) @ 400Hz～3000Hz ±(0.3%+0.3% F.S) @ 3000Hz～5000Hz	
AC Current Measurement		
Range	0～±18Arms	
Resolution	1mA	
Accuracy	±(0.1%+0.1% F.S) @ 15Hz～200Hz ±(0.2%+0.2% F.S) @ 200Hz～3000Hz ±(0.3%+0.3% F.S) @ 3000Hz～5000Hz	
Peak Current Measurement		
Range	0～±60Apk	
Resolution	3mA	
Accuracy	±1% F.S.	

Model	AC-3K0-450-16	AC-1K6-450-16
Frequency Meters		
Range	0.001Hz～5000Hz	
Resolution	0.001Hz	
Accuracy	±0.01%	
Phase Meters		
Range	0～360°	
Resolution	0.1° @15Hz～100Hz 1° @100Hz～5000Hz	
Accuracy	±1° @ 15Hz～100Hz ±2° @ 100Hz～1000Hz ±5° @ 1000Hz～5000Hz	
CF Meters		
Range ⑦	1.414～6.000	
Resolution	0.01	
Accuracy Ⓑ	±2.0% F.S.	
Active Power Meters		
Range	0～±3600W	0～±1980W
Resolution	10mW	
Accuracy ⑥	±0.2% F.S. @15Hz～200Hz	
Apparent Power Meters		
Range	0～±3600VA	0～±1980VA
Resolution	10mVA	
Accuracy ⑥	±0.2% F.S. @15Hz～200Hz	
PF Meters		
Range	-1.000～1.000	
Resolution	0.01	
Accuracy	±1%F.S.	
Harmonic Meters		
Fundamental Frequency	10Hz～1000Hz	
Harmonic Frequency	2 to 100th order, and ≤10 kHz	
DC Voltage Meters		
Range	0～±1000V	
Resolution	10mV	
Accuracy	±(0.01%+0.05% F.S.)	

Model	AC-3K0-450-16	AC-1K6-450-16
DC Current Meters		
Range	-18A～18A	
Resolution	1mA	
Accuracy	±(0.1%+0.2% F.S.)	
Programming		
Mode	LIST, WAVE, STEP, PULSE, Advanced, Harmonic, Interharmonic, 30 sets of DST	
Minimum Programming Time	100μs	
Programming Steps	300 steps	
Waveform Types	Sine, triangle, square, pulse, clipped, half -wave, custom waveforms, and over 100 other types	
Sync or Trigger Source	Internal, external	
Data Source	Edit, import, export	
Built-in Standards		
AC IEC61000	4-11、4-13、4-14、4-17、4-27、4-28、4-29	
Output Protection		
Over RMS Current Protection	Setting range: 0－110% F.S.; output disconnection in case of overcurrent	
Overpower Protection	Setting range: 0－110% F.S.; output disconnection in case of overpower	
Over Capacity Protection	Setting range: 0－110% F.S.; output disconnection in case of overcapacity.	
DC Overvoltage Protection.	Setting range: 0－110% F.S.; output disconnection in case of overvoltage.	
AC Overvoltage Protection.	Setting range: 0－110% F.S.; output disconnection in case of overvoltage.	
Over and Under Frequency Protection.	Setting range: 0.001 Hz－5000.000 Hz; output disconnection in case of over or under frequency.	
Interfaces		
Power Terminals.	Plug-in Connector.	
Control Terminals.	Remote compensation connector; ANYPORT port; parallel port; indicator light.	
Standard.		
Safety.	IEC/EN 61010-1:2010	
EMC	IEC/EN 61326-1，classA	

Model	AC-3K0-450-16	AC-1K6-450-16
Environment.		
Operating Temperature⑩.	0°C–50°C (power derating above 40°C).	
Storage Temperature	-20°C～70°C	
Operating Humidity	≤ 80%. Not condensing	
Storage Humidity	≤ 90%. Not condensing	
Altitude	When above 2000 m, the output current derates by 2% for every 100 m.	
Cooling Method	Air cooling (airflow directed toward the rear panel)	
Dimensions and Weight		
Dimensions	W127×D665×H50mm(without handle)	
Weight	≤4.8kg	

Note:

①: In the parameter table, F.S. for parameters related to AC output voltage refers to the AC rated voltage.

②: The DC component is tested at rated output voltage and 50 Hz frequency under no-load conditions.

③: When the output voltage is set to the rated maximum output voltage, testing is performed with a purely resistive load up to the rated output power.

④: The resolution is 0.001 Hz or 0.01% of the current set value, whichever is greater.

⑤: In the parameter table, F.S. for parameters related to DC output voltage refers to the rated DC output voltage.

⑥: The output ripple voltage is measured with the output DC voltage set to the rated output voltage and under no-load conditions.

⑦: The crest factor refers to the ratio of peak current to RMS value. The typical value for a standard sine wave is 1.414, and the maximum allowable value is 6; however, the peak value must not exceed the maximum current of a single unit. This does not refer to the crest factor under rated conditions.

Ⓑ: In the parameter table, F.S. for parameters related to output peak current refers to the maximum peak output current.

⑥: In the parameter table, F.S. for parameters related to output power refers to the rated output power.

⑩: For temperatures above 40°C, power derating applies. For detailed derating requirements, please refer to the User Manual.

DC DC Module Technical Specification Table

Bidirectional DC Module Technical Specification Table

Parameter	Bidirectional DC Module	
	160V Output Specification Parameters	100V Output Specification Parameters
Voltage regulation		
Setting Range	0V～163.2V	0V～102V
Setting Accuracy ①	≤±(0.02%+30mV)	≤±(0.02%+20mV)
Setting Resolution	1mV	
Line Regulation(±10%Uac)	±0.01%F.S.	
Load Regulation(0~100%Load)	±0.02%F.S.	
Transient Time (10~90%Load Step) ②	0.8ms	
Raise Time(Full Load) ③	10ms	
Raise Time(Without Load) ③	5ms	
Fall Time(Full Load) ③	5ms	
Fall Time(Without Load) ③	10ms	
Ripple P~P (20MHz) ④	200mVpp	160mVpp
Ripple RMS (300KHz) ④	40mVrms	32mVrms
Remote Sense Compensation	≤6.0V	≤3.2V
Current regulation		
Setting Range	3 kW specification: 0 to ±51A 1.65 kW specification: 0 to ±30.6A 0.85 kW specification: 0 to ±15.3A	3 kW specification: 0 to ±61.2A 1.65 kW specification: 0 to ±45.9A 0.85 kW specification: 0 to ±30.6A
Setting Accuracy ⑤	3 kW specification: ±(0.02% of set value + 10mA) 1.65 kW specification: ±(0.02% of set value + 10mA) 0.85 kW specification: ±(0.02% of set value + 5mA)	±(0.02% of Set Value + 10 mA)
Setting Resolution	1mA	
Line Regulation(±10%Uac)	±0.02%F.S.	
Load Regulation(ΔU=90%Uo)	±0.02%F.S.	
Raise Time(10%~90%rating) ③	5ms	
Fall Time(90%~ -10%rating) ③	5ms	

Parameter	Bidirectional DC Module	
	160V Output Specification Parameters	100V Output Specification Parameters
Power regulation		
Setting Range	3 kW specification: 0 to ±3150 W 1.65 kW specification: 0 to ±1732.5 W 0.85 kW specification: 0 to ±892.5 W	3 kW specification: 0 to ±3150 W 1.65 kW specification: 0 to ±1732.5 W 0.85 kW specification: 0 to ±892.5 W
Setting Accuracy	3 kW specification: ±0.2% F.S. 1.65 kW specification: ±0.4% F.S. 0.85 kW specification: ±0.6% F.S.	
Setting Resolution	0.15W	
Resistor regulation		
Setting Range	0～3000Ω	
Setting Accuracy ⑥	±0.5%	
Setting Resolution	0.01Ω	
Voltage Meters		
Range	0～192V	0～120V
Resolution	1mV	
Accuracy	≤±(0.02%+30mV)	≤±(0.02%+20mV)
Current Meters		
Range	3 kW specification: 0 to ±60 A 1.65 kW specification: 0 to ±36 A 0.85 kW specifi cation: 0 to ±18 A	3 kW specification: 0 to ±72 A 1.65 kW specification: 0 to ±54 A 0.85 kW specification: 0 to ±36 A
Resolution	1mA	
Accuracy	3 kW specification: ±(0.02% of set value +	±(0.02% of Set Value + 10 mA)

Parameter	Bidirectional DC Module	
	160V Output Specification Parameters	100V Output Specification Parameters
Programming		
Didital Programming	For use with the system	
Analog Programming	Supports voltage and current programming	
Protection		
Over Current Protection	Setting range: 0 to 110% F.S.; output disconnects in case of overcurrent.	
Over Power Protection	Setting range: 0 to 110% F.S.; output disconnects in case of overpower.	
Over Voltage Protection	Setting range: 0 to 110% F.S.; output disconnects in case of overvoltage.	
Over Temperature Protection	Output disconnects in case of internal overtemperature.	
Interfaces		
Power terminals	Power copper busbar, M5 screws; equipped with protective cover.	
control terminals	Remote compensation connector; ANYPORT port; parallel port; indicator light.	
Standard.		
Safety	IEC/EN 61010-1:2010；	
EMC	IEC/EN 61326-1, classA；	
Environment.		
Operation temperature⑦	0℃~50℃	
Storage temperature	-20℃~70℃	
Operation humidity	≤ 80%. Not condensing	
Storage humidity	≤ 90%. Not condensing	
Altitude	Output current derates by 2% for every 100 m above 2000 m	
Cooling	Air cooling (airflow directed toward the rear panel)	
Dimensions and Weight		
Dimensions	W127×D665×H50mm(without handle)	
weight	≤5kg	

Note:

①: In the parameter table, F.S. for parameters related to output voltage and current refers to the rated output voltage and current.

②: 10–90% load step, recovers to steady state within ±0.75% F.S. range.

③: Voltage and current rise or fall time refers to the actual time for the set value to change from 10% to 90% or from 90% to 10% of the rated output, excluding the time for pressing the OUT output/on-off button.

④: The ripple parameter indicates the worst-case value within the 10%–100% rated voltage output range and across the full range of resistive loads.

⑤: The data in the parameter table are measured under resistive load conditions.

⑥: The data in the parameter table are measured under the condition that the set value is within 1Ω.

⑦: Power derating applies above 40°C. For specific derating standards, please refer to the datasheet.

PV Simulation Module Technical Specification Table

Parameter	PV Simulation DC Module	
	160V Output Specification Parameters	100V Output Specification Parameters
Voltage regulation		
Setting Range	0V～163.2V	0V～102V
Setting Accuracy ①	≤±(0.02%+30mV)	≤±(0.02%+20mV)
Setting Resolution	1mV	
Line Regulation(±10%Uac)	±0.01%F.S.	
Load Regulation(0~100%Load)	±0.02%F.S.	
Transient Time (10~90%Load Step) ②	0.8ms	
Raise Time(Full Load) ③	10ms	
Raise Time(Without Load) ③	5ms	
Fall Time(Full Load) ③	5ms	
Fall Time(Without Load) ③	10ms	
Ripple P~P (20MHz) ④	200mVpp	160mVpp
Ripple RMS (300KHz) ④	40mVrms	32mVrms
Remote Sense Compensation	≤6.0V	≤3.2V
Current regulation		
Setting Range	3 kW specification: 0 –51 A 1.65 kW specification: 0 –30.6 A 0.85 kW specification: 0 –15.3 A	3 kW specification: 0 –61.2 A 1.65 kW specification: 0 –45.9 A 0.85 kW specification: 0 –30.6 A
Setting Accuracy ⑤	3 kW specification: ±(0.02% of set value + 10mA) 1.65 kW specification: ±(0.02% of set value + 10mA) 0.85 kW specification: ±(0.02% of set value + 5mA)	±(0.02% of Set Value + 10 mA)
Setting Resolution	1mA	
Line Regulation(±10%Uac)	±0.02%F.S.	
Load Regulation(ΔU=90%Uo)	±0.02%F.S.	
Raise Time(10%~90%rating) ③	5ms	
Fall Time(90%~ -10%rating) ③	5ms	

Parameter	PV Simulation DC Module	
	160V Output Specification Parameters	100V Output Specification Parameters
Power regulation		
Setting Range	3 kW specification: 0 –3150 W 1.65 kW specification: 0 –1732.5 W 0.85 kW specification: 0 –892.5 W	3 kW specification: 0 –3150 W 1.65 kW specification: 0 –1732.5 W 0.85 kW specification: 0 –892.5 W
Setting Accuracy	3 kW specification: ±0.2% F.S. 1.65 kW specification: ±0.4% F.S. 0.85 kW specification: ±0.6% F.S.	
Setting Resolution	0.15W	
Resistor regulation		
Setting Range	0～3000Ω	
Setting Accuracy ⑥	±0.5%	
Setting Resolution	0.01Ω	
Voltage Meters		
Range	0～192V	0～120V
Resolution	1mV	
Accuracy	≤±(0.02%+30mV)	≤±(0.02%+20mV)
Current Meters		
Range	3 kW specification: 0 –60 A 1.65 kW specification: 0 –36 A 0.85 kW specification: 0–18 A	3 kW specification: 0 –72 A 1.65 kW specification: 0 –54 A 0.85 kW specification: 0 –36 A
Resolution	1mA	
Accuracy	3 kW specification: (0.02% of Set Value + 10 mA) 1.65 kW specification: (0.02% of Set Value + 10 mA) 0.85 kW specification: (0.02% of Set Value + 5 mA)	0.02% of Set Value + 10 mA
Power Meters		
Range	3 kW specification: 0 –3600 W 1.65 kW specification: 0 –1980 W 0.85 kW specification: 0 –1020 W	
Resolution	0.15W	
Accuracy	3 kW specification: ±0.2% F.S. 1.65 kW specification: ±0.4% F.S. 0.85 kW specification: ±0.6% F.S.	

Parameter	PV Simulation DC Module	
	160V Output Specification Parameters	100V Output Specification Parameters
Programming		
Didital Programming	For use with the system	
Analog Programming	Supports voltage and current programming	
Protection		
Over Current Protection	Setting range: 0 to 110% F.S.; output disconnects in case of overcurrent.	
Overpower Protection	Setting range: 0 to 110% F.S.; output disconnects in case of overpower.	
Over Voltage Protection	Setting range: 0 to 110% F.S.; output disconnects in case of overvoltage.	
Over Temperature Protection	Output disconnects in case of internal overtemperature.	
Interfaces		
Power terminals	Power copper busbar, M5 screws; equipped with protective cover.	
control terminals	Remote compensation connector; ANYPORT port; parallel port; indicator light.	
Standard.		
Safety	IEC/EN 61010-1:2010；	
EMC	IEC/EN 61326-1, classA；	
Environment.		
Operation temperature⑦	0°C~50°C	
Storage temperature	-20°C~70°C	
Operation humidity	≤ 80%. Not condensing	
Storage humidity	≤ 90%. Not condensing	
Altitude	When above 2000 m, output current is derated by 2% per 100 m	
Cooling	Air cooling (airflow directed toward the rear panel)	
Dimensions and Weight		
Dimensions	W127×D665×H50mm(without handle)	
weight	≤5kg	

Note:

①: In the parameter table, F.S. for parameters related to output voltage and current refers to the rated output voltage and current.

②: 10–90% load step, recovers to steady state within ±0.75% F.S. range.

③: Voltage and current rise or fall time refers to the actual time for the set value to change from 10% to 90% or from 90% to 10% of the rated output, excluding the time for pressing the OUT output/on-off button.

④: The ripple parameter indicates the worst-case value within the 10%–100% rated voltage output range and across the full range of resistive loads.

⑤: The data in the parameter table are measured under resistive load conditions.

⑥: The data in the parameter table are measured under the condition that the set value is within 1Ω.

⑦: Power derating applies above 40°C. For specific derating standards, please refer to the datasheet.

Advantages and Functions of the AC Module

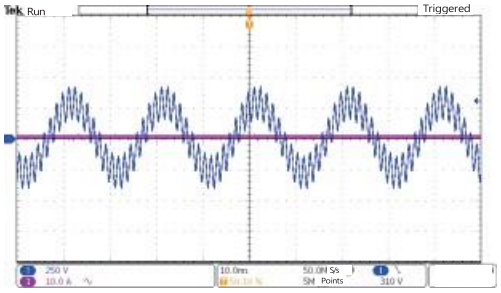
Flexible AC Output Configuration

The independent single-phase AC output module, featuring a high degree of modularity, flexibility, and scalability, supports parallel operation for capacity expansion. By shorting the N lines (neutral lines) of two or three modules, a variety of power supply system architectures can be constructed. These architectures not only meet the stringent requirements of R&D laboratories, universities, and ATE system integration testing, but also offer new solutions for the global power electronics product testing sector.

High-Precision Measurement Capability

COM Series AC Module Products offer high-precision voltage and current measurement accuracy, with a built-in harmonic analysis function capable of analyzing up to the 100th order at 50Hz/60Hz. The data accuracy and reliability significantly surpass those of similar products, enabling users to reduce the need for additional measuring instruments in production line ATE or certain R&D testing scenarios.

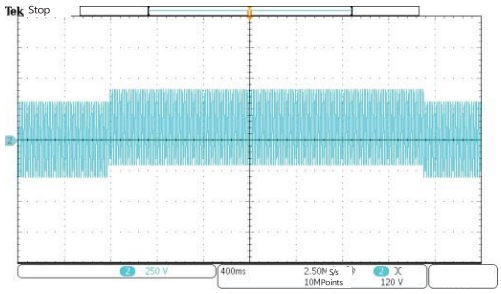
COM Series AC Module Products extend harmonic analysis up to the 100th order at 40Hz–70Hz, while maintaining excellent output accuracy.



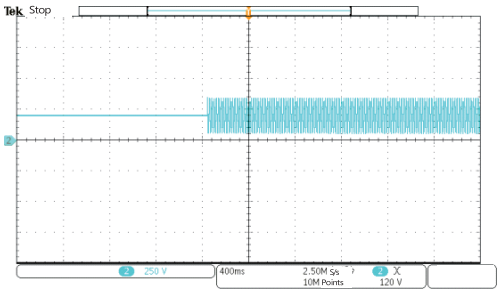
220V, 15th harmonic, 40% content @50Hz waveform

Multiple Output Modes

COM Series AC Module Products support four output modes: AC, DC, AC+DC, and DC+AC, with full power output available in each mode.



AC+DC: 220V/50Hz, superimposed with 100V DC, 0° trigger



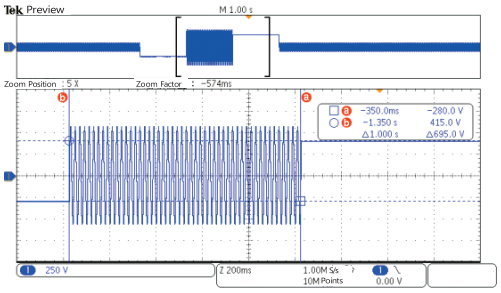
DC+AC: DC 200V superimposed with AC 100V

RL Internal Impedance Adjustment

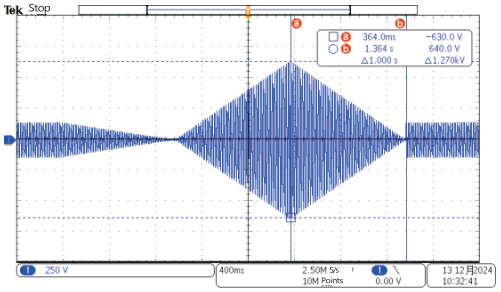
COM Series AC Module Products feature integrated R and L impedance adjustment functions, enabling the output voltage and current to be associated with R and L parameters. This simulates the cable impedance functions specified in IEC61000-3-2 and 3-3 standards.

Comprehensive Programming Functions

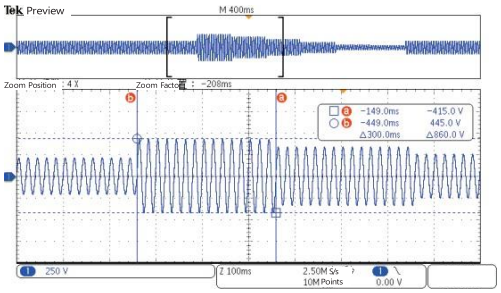
COM Series AC Module Products support a variety of programming functions, including List, Wave, Step, Pulse, and Advanced modes. They also enable harmonic and inter-harmonic simulation programming, and support up to 100 sets of custom waveform programming.



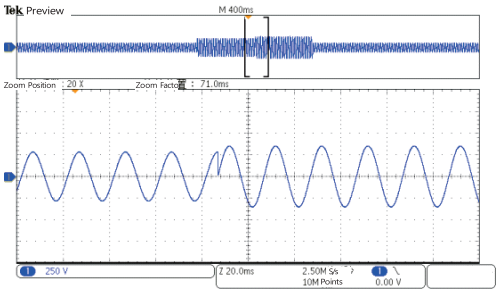
List programming waveform



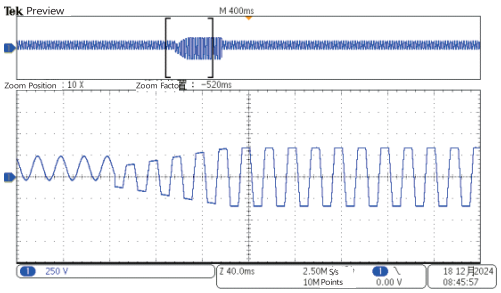
Wave programming waveform



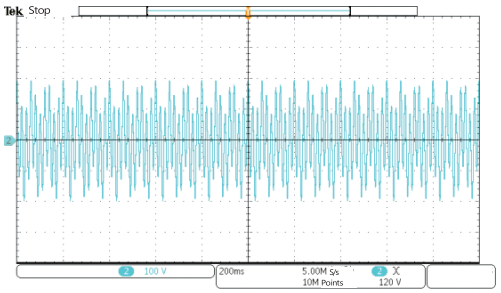
Step programmable waveform



Pulse editable waveform



Advanced custom waveform



Interharmonic frequency sweep

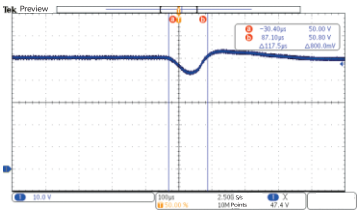
Comprehensive Standard Waveform Library

COM Series AC Module Products support testing in accordance with UL1741SA, IEEE1547, IEC62116, NB/T32004 distributed energy standards, and T/CPSS1007-2020 switching power supply standards.
The host software includes selected IEC61000-4 standards, which can be accessed with a single click, meeting the integration and development requirements of most automated test systems. Specific test items: IEC61000-4-11, 4-13, 4-14, 4-27, and 4-28 AC standards. Supports IEC61000-4-17 and 4-29 DC standards. Includes 30 sets of built-in DST waveforms, which can be accessed with a single click for harmonic injection testing in accordance with relevant standards.

Advantages and Functions of the DC Module

High Dynamic Performance

COM Series DC Modules offer dynamic performance with response times as fast as hundreds of microseconds, elevating DC product testing to a new level. Abnormal field conditions can be simulated directly in the laboratory.



40%–90% load step output voltage response time

High Accuracy: Up to 6.5-digit preset and measurement system; voltage and current accurate to the mV/mA level

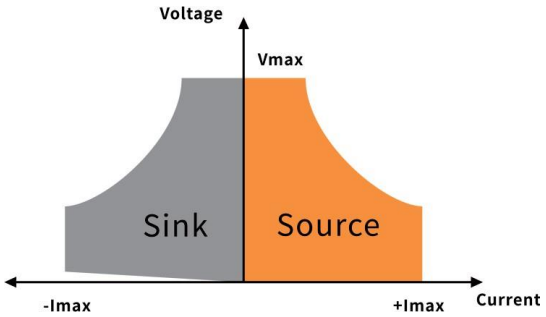
COM Series DC Modules feature independent high-accuracy voltage and current measurement systems, with performance comparable to 6.5-digit voltmeters. This eliminates the need for high-voltage, high-accuracy DC voltmeters, high-accuracy ammeters, power meters, and impedance meters. Device data can serve as a basis for product performance evaluation. When used for photovoltaic inverter testing, the high accuracy measurement system enables more precise measurement of the tracking efficiency of the device under test.

Digital Parallel System: capacity expansion without loss of accuracy

COM Series DC Module products are equipped with a fiber optic digital parallel system, allowing the system to maintain single-unit accuracy standards even after parallel connection.
COM Series DC Module products feature parallel redundancy. During operation, if some slave units experience non-output end protection, the remaining DC modules can continue to operate and actively distribute current, ensuring normal testing.

Automatic Source-Load (Bidirectional DC Module)

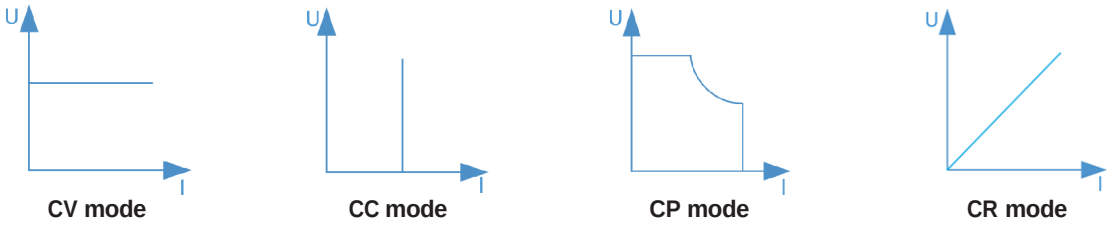
Automatic 'Source'/'Load': COM Series DC Modules are equipped with both bidirectional DC source and regenerative load functions, supporting two-quadrant operation. They enable online, automatic, smooth, and seamless switching between 'source' and 'load' modes, with no delay in state transitions, effectively preventing voltage or current overshoot.



Automatic Power: COM Series DC Modules feature constant power characteristics under both 'source' and 'load' conditions, allowing high current output at low voltage or low current output at high voltage.

Four Output Functions

COM Series DC Modules provide four mode indicators: Constant Voltage (CV), Constant Current (CC), Constant Power (CP), and Constant Resistance (CR) (Bidirectional DC Module). The CC, CV, and CP modes can automatically switch according to the formula P=UI; that is, when any of the output voltage, current, or power parameters first reaches its limit, the power supply will operate in that mode.



Function Generator Capability

The COM Series DC Module can superimpose sine, triangle, pulse, and square waves onto the DC output. The expected output waveform frequency resolution is 0.01, with a maximum output of 10 kHz. The expected DC component value of the output waveform has a resolution of 0.001, meeting the requirements for DC voltage ripple adaptability testing of the device under test.

Function Programming

In addition to traditional programming functions such as List, Wave, Step, and Advanced, the Mix Series DC Module also supports function editing and programming of sine, pulse, triangle, and custom waveforms, meeting the personalized needs of product R&D testing, regulatory certification, production line testing, quality inspection, and other stages.

Programming data can be saved and exported to another device for operation, reducing the user's workload.

SAS Mode

The SAS solar cell simulator function can precisely simulate the I-V characteristic curve of solar panels. It features built-in SAS models from standards such as EN50530, Sandia, CGC/GF004, and CGC/GF035, enabling the testing of both static and dynamic MPPT in photovoltaic inverters. The device's built-in SAS function only supports basic curve operations. For MPPT efficiency testing in accordance with standards, the 'Programmable Power Supply Virtual Terminal' software is required to achieve comprehensive testing capabilities for the photovoltaic industry.

Its high-accuracy measurement and control system enables more precise testing of the maximum tracking efficiency of solar inverters. Voc, Isc, and other parameters can be set to simulate I-V curves, supporting the simulation of various types of solar panels. Features include shading simulation and custom curve editing. Up to 4,096 points can be defined for built-in curves, enabling precise I-V curve simulation. Log and report generation functions are provided to record the curve variation process.

Battery Simulation (Bidirectional DC Module)

Capable of simulating the output and charge/discharge characteristics of various battery packs, including lithium manganese oxide, lithium cobalt oxide, lithium iron phosphate, nickel-metal hydride, ternary lithium, lithium titanate, and lead-acid batteries. Parameters such as the number of series and parallel connections, temperature, SOC, internal resistance, and individual cell capacity can be configured. Supports 1st-order, 2nd-order, and 3rd-order RC battery models with customizable battery parameters, enabling comprehensive simulation of battery pack characteristics.

Curve Import and Export

When a valid USB storage device is connected, click the 'USB' button to switch to the data import interface.

Press 'Export' to export static curve data from the device to an external USB storage device. The screen will display 'Data exporting...'. If the operation is successful, 'Data export successful!' will be shown. After a successful export, the file list on the display will be refreshed.

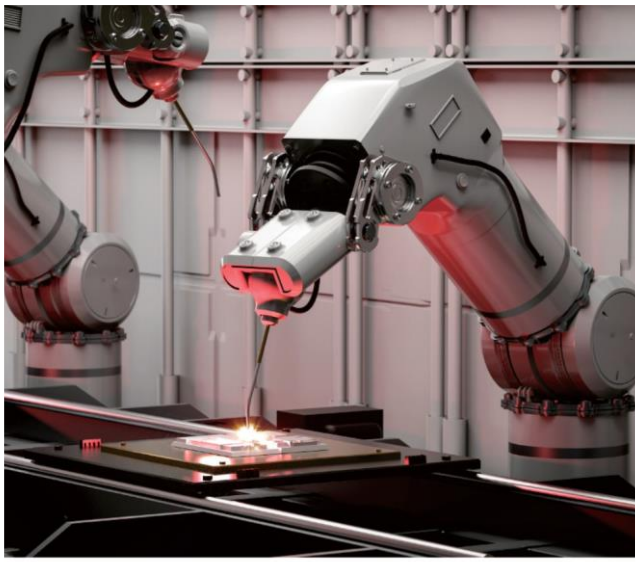
Press 'Import' to import files from the currently selected external USB storage device into the device. The parameters contained in the file will be displayed on the screen. The screen will display 'Data importing...'. If the operation is successful, 'Data import successful!' will be shown.

Application

The system features a modular design, enabling users to flexibly configure AC and DC modules according to actual needs, providing efficient and adaptable power supply solutions. It is widely used in the development and application of micro-inverters, micro-storage, portable energy storage, household appliances, industrial electronics, and related products.

Household Appliances

Portable Energy Storage



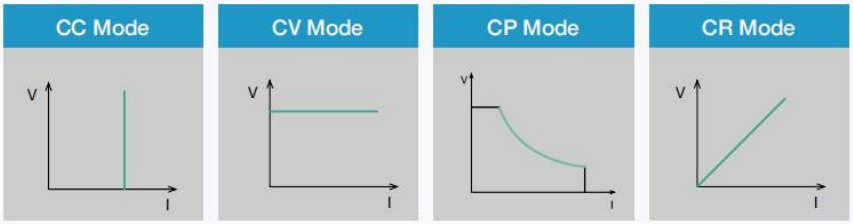
Industrial Electronics

BLITZPower

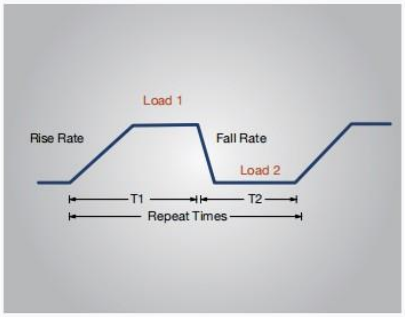
Powerful Software

Provides Diverse Simulation Modes

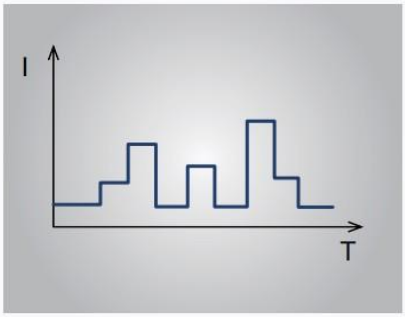
Basic Mode



Dynamic Mode



Programmable Sequences



FEATURES

- Battery Simulation

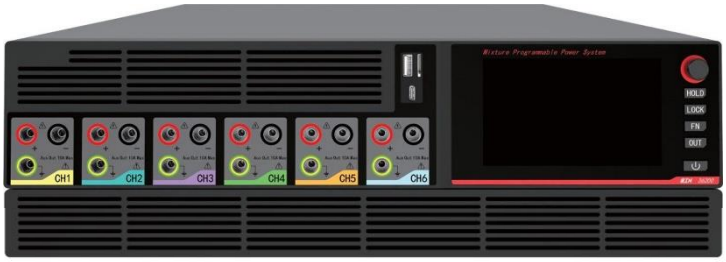
LiMn204, LiCoO2, LiFePO4, NiMH, Ternary LI, LiTiO2 and PbO2 batteries

- PV Simulation

Static curves, Curve programming, Static MPPT, Dynamic MPPT, Weather Simulation, Shading of photovoltaic panels

- Programming waveform
- Curve import and export

Panel Description



Power Output Button
Power On / Reset Button
Device on/off switch
USB port
External Storage Interface
18”FHD Touch Screen
Display setting and measurement data
Push able Knob
To edit the settings on-screen
LAN Interface
USB Interface
Energy Matrix Interface
Parallel connection
Any port Interface
Voltage Sensing
Output Positive/Negative Terminals
AC input & PE Terminal
AC Circuit Breaker
AC power on/off