California Instruments
An AMETEK Company

*i*M Series II
AC Power Source
3 kVA-15 kVA
Economical AC Power

CE

- **Easy to Use AC Power Source**
  Simple menu operation
- **3000 VA - 15000 VA of Output Power**
  Capable of handling a wide range of loads with 0 to 1 power factor
- **Dual Voltage Ranges**
  Offers 150Vrms and 300Vrms output ranges
- **Constant Power Mode**
  Provides additional current at lower voltages (See current voltage curve)
- **High Peak Current Capability**
  Supports high crest factor loads and startup currents.
- **Compact Design**
  5 KVA power in 7" (4U) Rack space
- **Remote Control**
  Standard RS232 and USB interfaces

Powerful yet intuitive AC Power Source

The *i*M Series II represents is based on the popular iX Series AC source/analyzer but is simpler in operation while offering the same voltage, current and power capability at a reduced price. By combining only the key AC capabilities of the iX Series, the *i*M Series II systems are capable of handling most generic AC power applications more economically.

The *i*M Series II can be used as a bench top instrument and is also is rackmountable. It's compact 4U chassis design minimizes required rack space for this power level. All AC input and output connections are made at the rear of the unit leaving a clean uncluttered front panel for the user to interact with.

Using a state-of-the-art digital signal processor in conjunction with precision high resolution A/D converters, the *i*M Series II provides accurate output voltage and load regulation.

Easy To Use Controls

The *i*M Series II is microprocessor controlled but retains a familiar 'analog control' feel using a large rotary knob to set output parameters. This knob is controlled by a dynamic rate change algorithm that combines the benefits of precise control over small parameter changes with quick sweeps through the entire range. Additional functions are grouped logically and are directly accessible from the keypad. A large backlit LCD display shows setup parameters for operator feedback.

*i*M Series II - Specifications

Operating Modes

Output Mode: AC

AC Output

Frequency: Range: 16.00-1000 Hz (Note: Voltage on 300 V range derates from 300 Vrms max at 500 Hz to 150 Vrms max at 1000 Hz; See V-F rating chart. below)

Total Power: **3001*i*M:** 3000 VA, **5001*i*M:** 5000 VA, **10001*i*M:** 10000 VA, **15001*i*M:** 15000 VA, **15003*i*M:** 5000 VA/ø 3ø

Load Power Factor: 0 to unity at full output VA

Voltage Ranges:

Range:	V Low	V High
AC	0-150 V	0-300 V

Load Regulation (with ALC on): < 0.2%

Load Regulation (with ALC off): < 0.5% DC to 100 Hz, < 0.6% 100 Hz to 500 Hz in high voltage range, < 2.2% 100 Hz to 500 Hz in low voltage range, < 3% 500 Hz to 1000 Hz

Line Regulation: < 0.1% for 10% line change

Output Noise (20 kHz to 1 MHz): < 250 mVrms typ., < 500 mVrms max.

Harmonic Distortion (Linear): < 1% from 16 - 66 Hz, < 2% at 400 Hz, < 3% at 800 Hz (Full resistive load)

DC Offset: < 20 mV External Amplitude Modulation: Depth: 0 - 10 %, Frequency: DC - 2 KHz

Isolation Voltage: 300 Vrms output to chassis

AC Current

Steady State AC Current:

Model	3001*i*M	5001*i*M	10001*i*M	15001*i*M	15003*i*M 3ø
300 V range	11.1	18.5	37.0	55.5	18.5
150 V range	22.2	37.0	74.0	111.0	37.0

Note: Constant power mode provides increased current at reduced voltage (See chart below)

Peak Repetitive AC Current:

Model	3001*i*M	5001*i*M	10001*i*M	15001*i*M	15003*i*M 3ø
High range	96.0	96.0	192.0	288.0	96.0
Low range	110.0	110.0	220.0	330.0	110.0

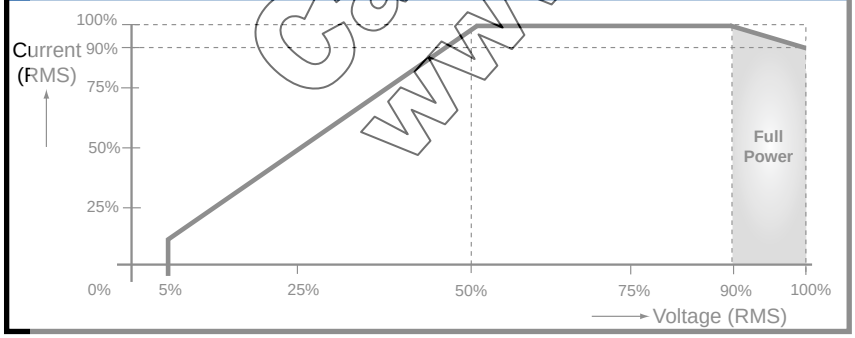
Settings

Accuracy: Voltage (rms): ± 0.2 of range, 16 to 1000 Hz, Frequency: ± 0.01 % of programmed value, Current Limit: ± 0.5 % of programmed value, Phase: < 1.5° with balanced load at 50/60 Hz

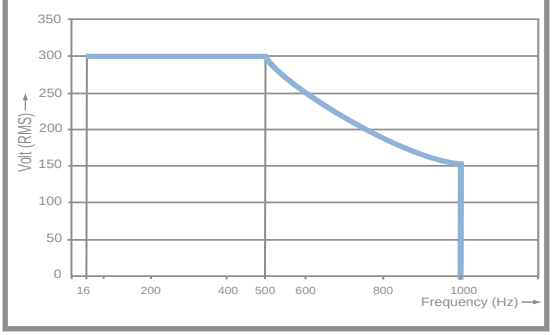
Resolution: Voltage (rms): 100 mV, Frequency: 0.01 Hz from 16 - 81.91 Hz, 0.1 Hz from 82.0 - 819.1 Hz, 1 Hz from 820-1000 Hz, Current Limit: 0.1 A, Phase, 0.1°

Output Relay: Push-button controlled or bus controlled output relay

Constant Power AC Mode - Available Max. AC Current



V-F Rating Chart - 300V Range



Note: Specifications are subject to change without notice. Specifications are warranted over an ambient temperature range of 25°± 5° C. Unless otherwise noted, specifications are per phase for a sinewave with a resistive load and apply after a 30 minute warm-up period. For three phase configurations, all specifications are for L-N. Phase angle specifications are valid under balanced load conditions only.

*i*M Series II - Specifications

Measurement

Measurements:	Not available. Refer to i Series for AC power source models with measurement functions.

Storage

Non Volatile Mem. storage:	16 instrument setups

Waveforms

Waveform Types:	Sine
User defined waveform storage:	Not available. See iX Series II datasheet for power sources witharbitrary waveform capabilities

System Interface

Inputs:	Remote shutdown, External Sync, Clock/Lock (option)
Outputs:	Function Strobe, Clock/Lock (option)

Protection

Over Load:	Constant Current or Constant Voltage mode
Over Temperature:	Automatic shutdown

Remote Control

USB Interface:	USB 1.0. Max baud rate 460800 bps, IEEE-488.2 SCPI Syntax (USB cable not included).
RS232C Interface:	9 pin D-shell connector, Handshake: CTS, RTS, Data bits: 7,8, Stop bits: 1,2, Baud rate: 9600, 19200, 38400, 57600, 115200, IEEE-488.2 SCPI Syntax (Supplied with RS232C cable).

AC Input

Voltage:	**3001*i*M:** 208-240 ± 10% Vac, (L-N, 1ø), **All other models:** Standard: 208-240 ± 10% Vac, (L-L, 3ø), Option -400: 400-480 ± 10% Vac, (L-L, 3ø) (Input range must be specified when ordering).

Input Line Current (per phase):

Model	3001*i*M	5001*i*M	10001*i*M	15001*i*M	15003*i*M
187-264V	25 A	23 A	46 A	69 A	69 A
360-528V	N/A	12 A	24 A	36 A	36 A

Inrush Current per chassis:	< 100 Apk for 100 µs at 208-240V, < 50 Apk for 100 µs at 400-480 V
Line Frequency:	50-60 Hz ± 10 %
Efficiency:	75% typical
Power Factor:	0.6 typical

AC Service

Regulatory:	IEC61010, EN50081-2, EN50082-2, CE EMC and Safety Mark requirements
RFI Suppression:	CISPR 11, Group1, Class A
Rear Panel Connectors:	AC Input & Output terminal block with cover, 9 pin D-Shell RS232C and USB connector*, Remote voltage sense terminal block, System Interface Connector, *RS232 DB9 to DB9 cable supplied

Physical Dimensions

Dimensions:	Height: 7" (178 mm), Width: 19" (483 mm), Depth: 24" (610 mm) (depth includes rear panel connectors)
Weight:	per 5001*i*M Chassis: Net: 61 lbs / 28 Kg, Shipping: 115 lbs / 52 Kg
Vibration and Shock:	Designed to meet NSTA project 1A transportation levels
Air Intake/Exhaust:	Forced air cooling, side air intake, rear exhaust.
Operating Humidity:	0 to 95 % RAH, non condensing.
Temperature:	Operating: 0 to 40° C, Storage: -20 to +85° C

Ordering Information

Available Models:

Model	Output Power AC	Phase Output	Max. current per phase Low V range AC	Low V range DC	High V range AC	High V range DC	Input Voltage[1]
3001*i*M	3 kVA	1	22	15.6	11	7.8	208-240V
5001*i*M	5 kVA	1	37	26	18.5	13	208-240V
5001*i*M-400	5 kVA	1	37	26	18.5	13	400-480V
10001*i*M	10 kVA	1	74	52	37	26	208-240V
10001*i*M-400	10 kVA	1	74	52	37	26	400-480V
15001*i*M	15 kVA	1	111	78	55.5	39	208-240V
15001*i*M-400	15 kVA	1	111	78	55.5	39	400-480V
15003*i*M	15 kVA	3	37	26	18.5	13	208-240V
15003*i*M-400	15 kVA	3	37	26	18.5	13	400-480V

Note (1): All input voltage specifications are for Line to Line three phase except 3001iM which requires single phase input only.

Model

Refer to table shown for model numbers and configurations.

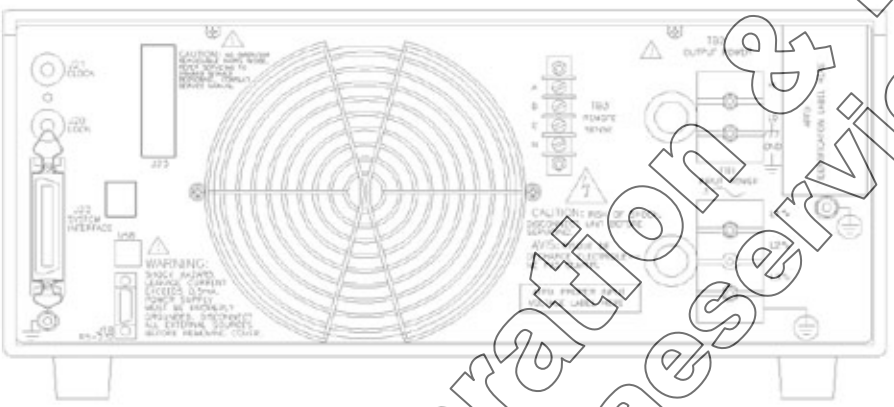
Supplied with

User Manual, Programming Manual, (all on CD ROM), RS232C serial cable.

Options

-400	400-480 Volt Line to Line AC input.
-EXS	External Sync
-LKM	Clock/Lock Master
-LKS	Clock/Lock Auxiliary
-LNS	Internal AC Line Sync.
-RMS	Rackmount Slides.
-XLS	External AC Line Sync adaptor. (-LNS and XLS are mutually exclusive)
Cabinets	Multi box *i*M Series systems can be factory installed and wired in 19 inch cabinets. Cabinet configurations can be ordered by preceeding the model number with a "C1-C4" prefix. See Cabinet data sheet.

*i*M Series II Rear Panel



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