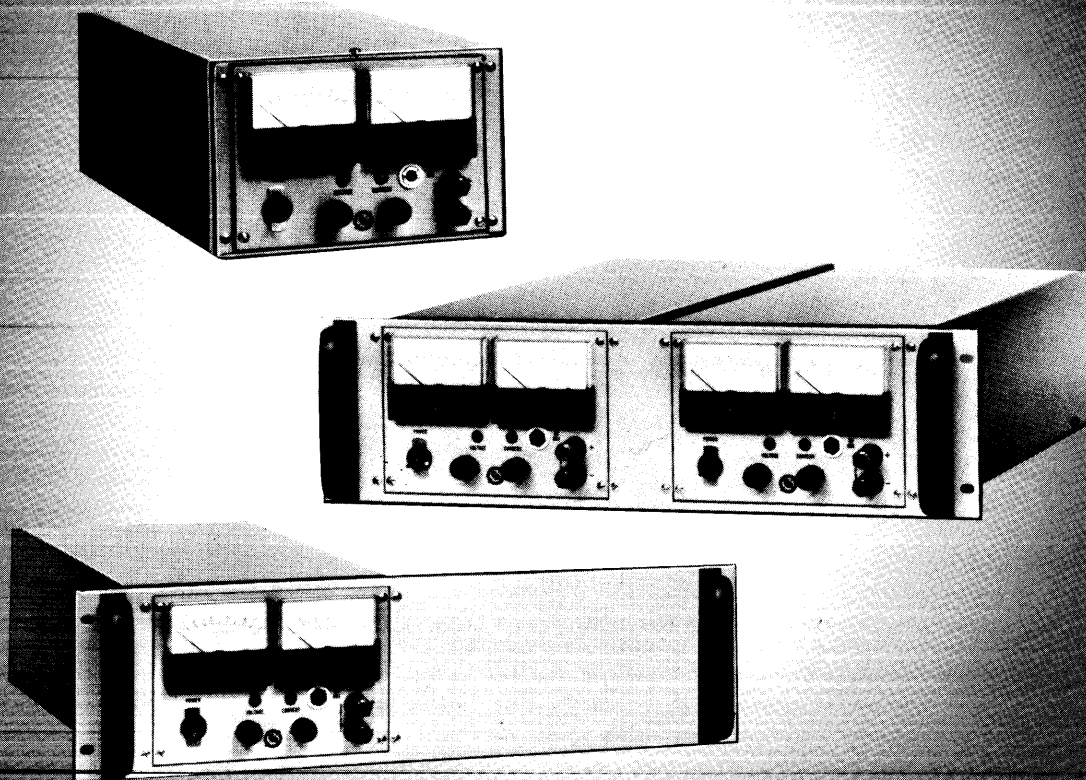


# ● HCR Series

## Half Rack 250 Watt DC Power Supplies



**ELECTRONIC  
MEASUREMENTS  
INC.**

*For over 40 years, Electronic Measurements has been synonymous with DC power supplies. The HCR Series, described herein, continues this same tradition of both quality and value. These low output power supplies are available—for either bench use or building into your own system—offering full programmability, remote sensing, and the complete flexibility that comes with half-rack packaging.*

## APPLICATIONS

- Burn-in systems
- CW lasers
- Pulse lasers
- Capacitor forming
- Cryogenic magnet applications
- Electroplating
- Battery charging
- Aging racks for semiconductors and ICs
- Electronic memory systems
- General laboratory & systems applications

## DESIGN FEATURES

- High efficiency
- Constant-voltage/constant-current output, with automatic crossover
- Remote sensing: programming from resistance, voltage, or current sources
- Series or parallel operation
- Master/slave operation
- Thermal overload protection
- Input and output RFI filtering
- Five-year warranty

## MECHANICAL FEATURES

- Bench or rack mounted
- Fully metered
- Half-rack mounting

## CONTROLS & INSTRUMENTS

- AC on-off circuit breaker
- Voltage control (ten-turn potentiometer)
- Current control (one-turn cermet potentiometer)
- Voltmeter
- Ammeter
- Mode indicator lights

## OPTIONS

### Over-Voltage Protection

Optional, plug-in, factory-installed, over-voltage protection is available. This protection is recommended whenever a load could be damaged by excessive voltage resulting from power supply failure, inadvertent output misadjustment, or a remote sensing fault.

If the output voltage level exceeds a present limit, an SCR, connected across the output, is driven into conduction. This prevents any further rise of output and rapidly reduces the output level toward zero.

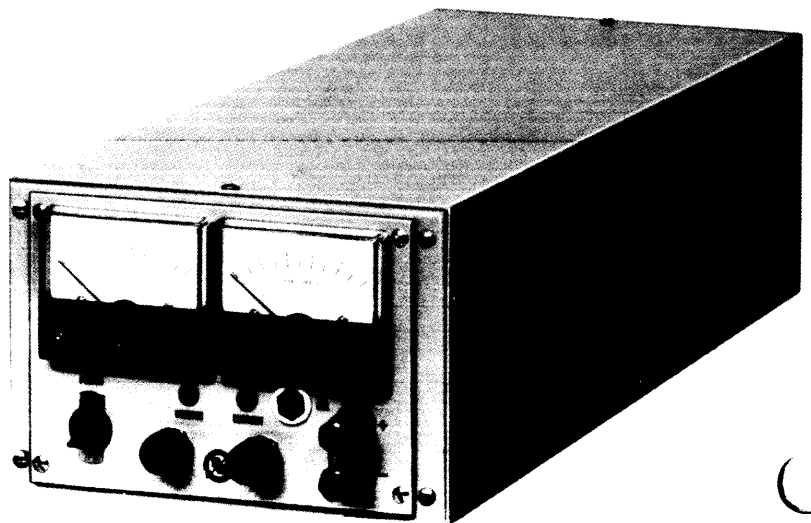
The over-voltage protector is not intended to absorb power from the load. If the load is capable of supplying power (i.e., a storage battery), the over-voltage protector must be protected by a diode in series with the power supply output. Over-voltage protection is screwdriver-adjustable from the front of the power supply, from 50 to 110 percent of maximum output.

### Input Voltage

On 250W models, 105-130V input is standard. Optional 190-252V input is available. An AC line cord (110-volt only) is available.

### Rack Adaptors:

RA-1, single-unit rack adaptors (left or right mounting), are available.  
RA-2, dual-mounted rack adaptors, are also available.



## SPECIFICATIONS:

AC input .....	105-130V, 47-63 Hz, 4A*, 75% PF, or 190-253V, 47-63 Hz, 2A*, 75% PF *Typical line currents and power factors measured at nominal line voltage and maximum output voltage and current. NOTE: See Options section for optional input voltages.
Input connections .....	Terminal block
Regulation, voltage mode:	
Line .....	± 0.1% over input range specified
Load .....	± 0.1% for a 100% load change
Ripple .....	Increases by 3% for each 1% increase in line voltage above nominal. Decreases by 2% for each 1% decrease in line voltage below nominal. At 50 Hz AC, input ripple is 30% above 60 Hz ratings, measured with either positive or negative ground or output floating, at nominal input voltage and 100% output voltage and current, into a resistive load. (See Rating Table.)
Transient response .....	Upon instant application of loads up to 50% of maximum rating of the supply, output voltage will typically recover to within ± 1.0% of its final value within 50 ms. Instantaneous line variations are absorbed by the L-C filter. Longer duration line variations are corrected for within 50 ms.
Stability .....	0.05% for 8 hours after warmup, under fixed line, load, and temperature conditions.
Temperature coefficient:	
Output voltage .....	0.02%/°C of maximum rating
Output current .....	0.03%/°C of maximum rating
Operating temperature .....	0°C to 50°C (0°C to 40°C for 50 Hz input). Derate current linearly to 50% of table rating at 71°C ambient.
Storage temperature .....	- 40°C to + 85°C
Cooling .....	Fan-cooled, thermostatically-protected. (Since air enters at sides and exits at rear, no heat is applied to equipment either above or below the power supply.)
Weight .....	45 lbs (20 Kg)

## RATING TABLE

VOLTAGE (V)	CURRENT (A)	RIPPLE		EFF. (%)	MODEL NO.
		CV (mV rms)	CC (mA rms)		
0-7.5	0-30	80	450	62	HCR 7.5-30
0-10	0-25	80	275	65	HCR 10-25
0-20	0-13	80	55	68	HCR 20-13
0-30	0-8	90	45	69	HCR 30-8
0-40	0-6	100	27	70	HCR 40-6
0-60	0-4	120	15	75	HCR 60-4
0-80	0-3	150	9	80	HCR 80-3
0-150	0-2	300	3	85	HCR 150-2
0-300	0-0.9	500	1.5	86	HCR 300-0.9

## How to Order

The following chart explains the model numbers for the HCR Single-Phase Power Supply family.

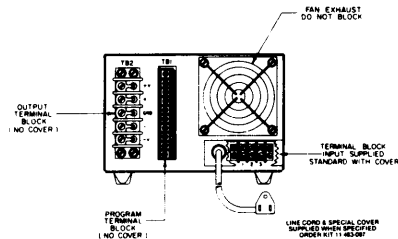
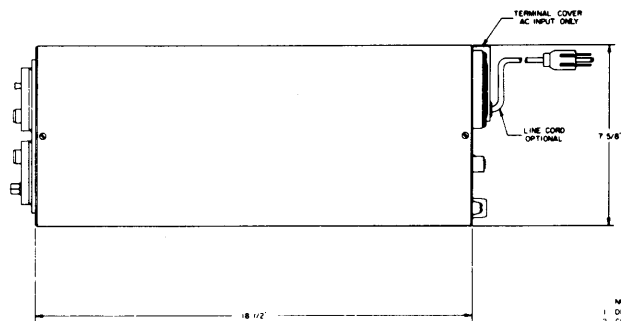
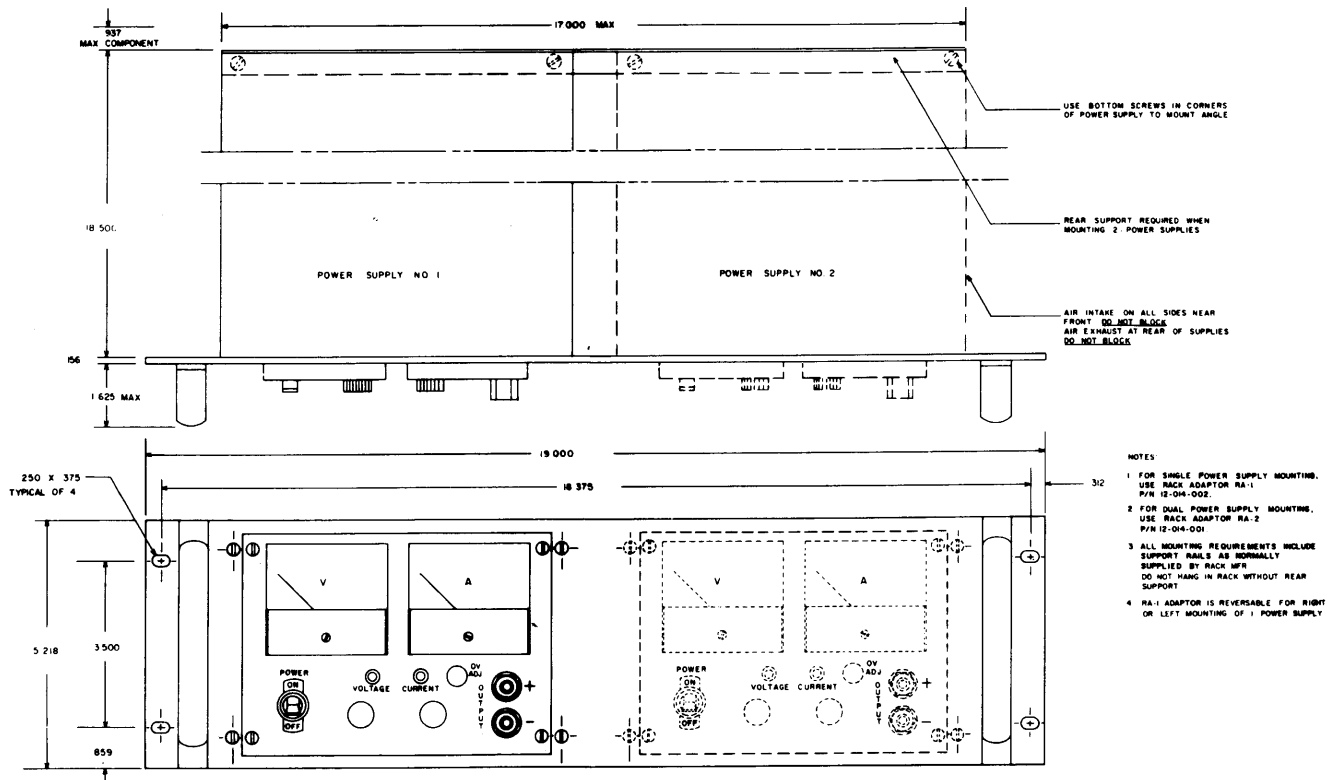
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INPUT		OVP		ACCESSORIES	
1	105/125V - 47-63HZ	0	Not chosen	0	Not chosen
2	190/253V - 47-63HZ	1	Over voltage*	1	Line cord*
3	200VAC 50HZ				
4	100VAC 50 HZ				

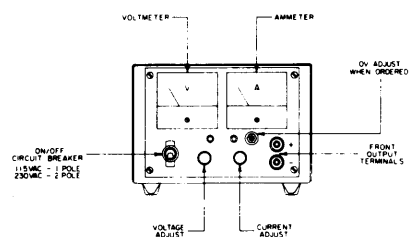
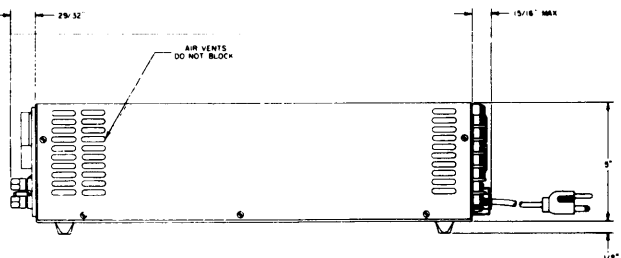
Product information published in this brochure was current at time of printing, however, E/M reserves the right to change specifications, designs and models without prior notice.

\*Optional

# HCR Series Single Phase Power Supply



- NOTES:
1. DIMENSIONS SHOWN FOR REFERENCE ONLY.
  2. COLOR EMI TEXTURED TAN.
  3. OPTIONAL INPUT (15VAC OR 230VAC 50/60HZ).
  4. OPTIONAL INPUT CONNECTION TERMINAL BLOCK OR LINE CORD BOTH WITH COVER.
  5. POWER SUPPLY CAN BE MOUNTED ON STANDARD 19 INCH 3.44" HIGH EITHER ALONE OR 2 SUPPLIES PER FRAME. ASK FOR RACK ADAPTOR RA-1 OR RA-2 (REMOVE NUMBER FEET).
  6. OVER VOLTAGE PROTECTION AVAILABLE AS OPTIONAL FEATURE MUST BE SPECIFIED AT TIME OF ORDER.
  7. FRONT & REAR OUTPUT TERMINALS SUPPLIED ON ALL SETS AS STANDARD FEATURE.



**ELECTRONIC MEASUREMENTS INC.**

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"Specialists In Power Conversion"

Call 908-922-9300  
Fax 908-922-9334

HCR REV 3 ZK 7/93