

# SM 3000 Series

3000 WATTS PROGRAMMABLE DC SUPPLY

## Features

- Constant voltage and constant current operation
- Parallel operation master/slave
- EMC standard EN61204-3
- CE marked
- Optional ethernet, RS232, IEEE 488 programming
- IEEE 488 programming option
- Ethernet, RS232 option



## Specifications

### INPUT

Input voltage	342-457Vac 3 phase.
Frequency	48Hz–62Hz
Inrush current	5.8A @ 400Vac input.
Isolation	I/P to O/P: 3750V rms (8mm creepage), I/P – Case: 2500V rms, O/P – Case: 600VDC

### OUTPUT

Output voltage	See table.
Output voltage adjustment	0%–100%
Output current	See table.
Output current adjustment	0%–100%
Resolution	0.03% voltage and current control with 10 turn potentiometers.
Overvoltage protection	Yes. Trip range user adjustable 0%–115% of V max.
Overload protection	Yes
Short Circuit protection	Yes
Temperature coefficient	CV: $10 \times 10^{-6}$ to $35 \times 10^{-6}$ / °C, CC: $20 \times 10^{-6}$ to $60 \times 10^{-6}$ / °C.
Load regulation	0%–100% load see table
Line regulation	Line $\pm 10\%$ – see table
Ripple & Noise	See table
Stability	CV: 2.10-5 to 4.10-5, CC: 3.10-5 to 10.10-5
Output impedance (0-100kHz)	SM15-200D: < 25m $\Omega$ , SM30-100D: < 20m $\Omega$ SM45-70D: < 60m $\Omega$ , SM70-45D: < 60m $\Omega$ SM120-25D: < 150m $\Omega$ , SM300-10D: < 800m $\Omega$ .
Recovery time	(50%–100% load step): 100 $\mu$ s
Remote sense	2V max. per lead compensation (SM 3004 has no remote sense)

## OPERATING

Efficiency	87%–91%
Switching frequency	100kHz
Thermal protection	Yes
Programming	Analogue Programming of voltage and current by 0-5V. IEEE488 programming with external interface controller PSC44M
Programming speed	See table
Master/Slave operation	Parallel and series operation with equal current and voltage sharing. In this way two or more SM-units can together be used as one high power unit. Voltage and current of the units is controlled by the master (by potentiometers or by programming). Series operation up to 600V
Metering	Digital meters standard
Indicators	CV/CC mode, OVP triggered LEDs

## BATTERY CHARGING

The CV/CC regulated power supplies are very suitable for battery charging. Ask for the special datasheet "BATTERY CHARGING WITH SM-series POWER SUPPLIES". This datasheet contains information about protective measures against accidental battery reversing.

## ENVIRONMENTAL

Operating temperature	-20°C to 50°C
Cooling	Low noise blower, fan speed adapts to temperature of internal heatsink. (from left to right).

## STANDARDS AND APPROVALS

Safety standards	EN60950 / EN61010
EMC standards	EN61204-3, EN61000-6-2
EMI standards	EN61000-6-3 (EN55022B)

## MECHANICAL

Mounting	Bench or 19" rack mounting
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## Selection Table

MODEL NUMBER	OUTPUT VOLTAGE (0V TO)	OUTPUT CURRENT (0A TO)	RIPPLE & NOISE		PROGRAMMING SPEED	LOAD REG. 0%–100%		LINE REG. 200–264VAC	
			CV	CC		CV	CC	CV	CC
SM15-200D	15V	200A	12mV pk-pk	250mA pk-pk	7mS	5mV	50mA	5mV	50mA
SM30-100D	30V	100A	8mV pk-pk	60mA pk-pk	7mS	5mV	25mA	5mV	25mA
SM45-70D	45V	70A	17mV pk-pk	60mA pk-pk	7mS	5mV	15mA	5mV	15mA
SM70-45D	70V	45A	12mV pk-pk	25mA pk-pk	7mS	10mV	10mA	5mV	10mA
SM120-25D	120V	25A	25mV pk-pk	25mA pk-pk	7mS	10mV	10mA	10mV	10mA
SM300-10D	300V	10A	50mV pk-pk	10mA pk-pk	7mS	15mV	3mA	10mV	3mA

## OPTIONS

Screwdriver adjustment - option P001

Master / slave operation

Battery charging

Increased max. output voltage / current - option P069

Enforced secondary isolation 1000V - option P089

High speed programming - SM15-200: P104, SM30-100: P031, SM45-70: P105, SM70-45: P032, SM125-25: P106, SM300-10: P061.

Power sink for 2 quadrant operation - SM15-200: P127, SM30-100: P128, SM45-70: P129, SM70-45: P130.

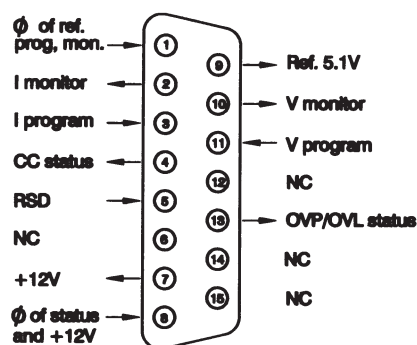
Built-in ISO AMP CARD for isolated analog programming - option P145

Built-in ethernet power supply controller - option P149

Built-in RS232 power supply controller - option P146

Built-in IEEE488 power supply controller - option P164

## Technical Illustrations



connections programming connector

CV= Constant Voltage  
 CC=Constant Current  
 OVP=Over Voltage Protector  
 OVL=Over Voltage Limit (Protection)

Specifications measured at  
 $t_{amb} = 25 \pm 5 \text{ }^\circ\text{C}$  and  $V_{in} = 3 \times 380\text{V AC}$ ,  
 50 Hz unless otherwise noted.

