

SM 700 Series

600-700 WATTS PROGRAMMABLE DC SUPPLY

Features

- Constant voltage and constant current operation
- Parallel operation master/slave
- EMC standard EN61204-3
- Excellent response to load change
- CE marked
- Optional ethernet, RS232, IEEE 488 programming
- Natural convectional cooling



Specifications

INPUT

Input voltage	90-132/185-265VAC
Frequency	48Hz–62Hz
Inrush current	6.5A @ 230Vac, 30A @ 110Vac.
Insulation	Input – Output: 3750V rms (8mm creepage) Input – Case: 2500V rms Output – 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	SM1540-D: 0-17V, SM7020-D: 0-80V, SM3004-D: 0-350V.
Overload protection	Yes
Short circuit protection	Yes
Temperature coefficient	CV: 5×10^{-5} per °C, CC: 1×10^{-4} per °C.
Load regulation	0%–100% load see table.
Line regulation	Line $\pm 10\%$ – see table.
Ripple & Noise	See table.
Stability	CV: 3×10^{-4} CC: 1×10^{-3}
Output impedance (0-100kHz)	SM1540: $< 40\text{m}\Omega$, SM7020: $< 60\text{m}\Omega$, SM3004: $< 700\text{m}\Omega$.
Recovery time	(50%–100% load step): 100 μ S; 150 μ S for SM 7020.
Remote sense	2V max. per lead compensation.

OPERATING

Efficiency	87%–89% .
Switching frequency	100kHz
Thermal protection	Yes
Programming	Analogue Programming of voltage and current by 0-5V.
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
MTBF	500,000hrs

BATTERY CHARGING

The CV/CC regulated power supplies are 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
Humidity	95% RH max, non condensing, up to 40 °C. 75% RH max, non condensing, up to 50 °C.
Storage temperature	-40°C to 85°C
Cooling	Natural convection

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 (OV TO)	OUTPUT CURRENT (OA TO)	RIPPLE & NOISE		PROGRAMMING SPEED (OV TO V MAX.)	LOAD REG. 0%-100%		LINE REG. 200-264VAC	
			CV	CC		CV	CC	CV	CC
SM 1540D	15V	40A	10mV pk-pk	25mA pk-pk	18mS	5mV	25mA	5mV	25mA
SM 7020D	35V	20A	15mV pk-pk	15mA pk-pk	12mS(0-35V)	5mV	12mA	5mV	12mA
	70V	10A			40mS(0-70V)				
SM 3004D	150V	4A	50mV pk-pk	3mA pk-pk	14mS(0-150V)	20mV	3mA	20mV	3mA
	300V	2A			60mS(0-300V)				

OPTIONS

Screwdriver adjustment - option P001

Master / slave operation

Battery charging SM7020-D: P021, SM3004-D: P022.

Increased max. output voltage / current - option P069

Enforced secondary isolation 1000V - option P089

Power sink for 2 quadrant operation - option P140 / 141

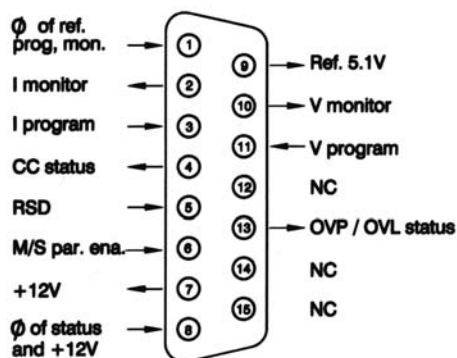
External ISO AMP for isolated analog programming - ISO AMP Module

External ethernet power supply controller - option PSC ETH EXT

External RS232 power supply controller - option PSC 232 EXT

External IEEE488 power supply controller - PSC 488 EXT

Technical Illustrations



Connections programming connector

CV= Constant Voltage
 CC=Constant Current
 OVL=Over Voltage Limit=
 OVP=Over Voltage Protection

Specifications measured at
 $t_{amb} = 25 \pm 5 \text{ }^\circ\text{C}$ and $V_{in} = 230 \text{ V AC}$,
 50 Hz unless otherwise noted.

