

SM3300 Series

LABORATORY POWER SUPPLY

FEATURES

- 3300W Laboratory Supply
- Ranges 0-18V to 0-660V and 0-220A to 0-5.5A
- Designed for long life at full power
- Excellent dynamic response to load changes
- Protected against all overload and short circuit conditions
- EMC surpasses CE requirements
- Low audible noise - fans are temperature controlled
- Available options: Software control and interfaces
- High Speed Programming
- Two-Quadrant Output - PowerSink Operation on single and three phase input voltages Large user display
- menu driven operations
- Durable digital encoders for voltage and current adjustment
- Plug and play optional interfaces



SPECIFICATIONS

INPUT

Input voltages	180-528Vac (1ph or 3ph)
Input Frequency	48 - 62Hz
Power Factor	0.99
Internal Fuse	7.5A rms, 25AT

OUTPUT

Output Voltage Range	0-16V to 0-660V Auto ranging models See Selection Table
Output Current Range	0-220A to 0-5.5A Auto ranging models See Selection Table
Output Power Range	0 to 3300W See Selection Table

ENVIRONMENTAL

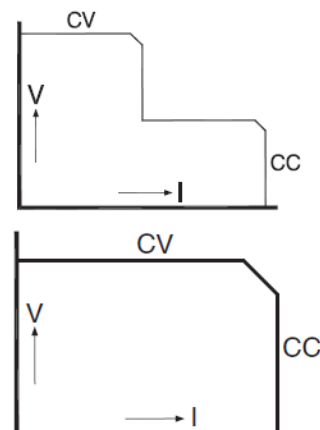
Operating Temperature	-20°C to +50°C (100% load) Derate output to 75% at 60°C
Temperature coefficient	0.02%/°C
Storage temperature	-40°C to 85°C.
Thermal Protection	Output shuts down in case of insufficient cooling
Humidity	max 95% RH, non condensing, up to 40C max 75% RH, non condensing, up to 50C

MECHANICAL

Mounting	Stacking of units allowed, air flow is from left to right.
Input Connector	Screw Terminals for cable 2.5-4mm, 3phase + earth (no neutral required)
Output Terminals	M8 bolts
Programming Connector	RJ45 connector for Ethernet (LAN) at rear panel
Interlock	Input for contact at rear panel
Enclosure	IP20 Protection
Dimensions	86 x 433 x 455mm Behind front panel (feet removed) 88.1 x 483mm, Front panel (19" 2U)
Weight	15kg

STANDARDS & APPROVALS

Safety	cTUVus/EN60950 / EN61010
EMC	EN61204-3 Power Supply Standard EN61000-6-3 (EN55022B) Generic Emission EN61000-6-2 Generic Immunity



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SPECIFICATIONS

STANDARD FEATURES	
Digital voltage and Current Setting	Reliable, longlife digital encoders are implemented at the front panel. Includes total front panel lock (also for CV/CC knobs) and a coarse of fine pitch adjustment depending on the turning speed
Ethernet Controller	A 16 bit Ethernet interface for programming and monitoring
Sequencer	Arbitrary waveform generator or stand alone automation
High voltage isolation	A higher output isolation allows series operation up to 1320V
USB-Input	Front panel USB-input for exchange of settings and wave forms (host)

AVAILABLE OPTIONS	
High Speed Programming	A 10 to 20 times higher programming speed (down to 0.2ms rise time at full load) and lower output capacitance. Excellent for laser applications, test systems or as current source with low parallel capacitance as used in plasma chambers
Software Control and Interfaces	<ul style="list-style-type: none"> - Isolated Analog Programming - Serial RS232, RS485, RS422, USB (host) - Digital I/O - Master/Slave - Isolated contacts - PROFIBUS - CANBUS

OPERATING	
Remote ShutDown	> with +5V, 1mA or relay contact
Interlock	Contact at rear of panel
Indicators	Voltage meter, Amp meter, AC-Fail, DC-Fail, Over Temperature, Power Sink Overload, Remote Shutdown, Remote-CV, Remote-CC, Output On,CV-limite, CV- and CC- mode
Controls	Mains on/off switch, CV and VV potmeter, CV and CC limit potmeter, Display Settings button, Display limits button, Remote/Local button, Output On/off button, Fron panel lock button
Series Operation	Max total voltage 600V Master / Slave oeration yes
Parallel Operation	Max total current - No limit Master / Slave operation - max 4 units (including master)
Remote Sensing	Max volt, drop per load lead: 2V
Limits	Voltage adjust range: 0 - 102% Current adjust range: 0 - 102%
Potentiometers & Encoders	From front panel: Standard .03% Screw driver adj: Option P001 (at front panel) Digital Encoders: Option P220
Efficiency	87% Typical
Isolation	Input - Output: 3750Vrms(1 min) Creepage clearance; 8mm Input - Case: 2500Vrms Output - Case: 600VDC
MTBF	500,000hrs

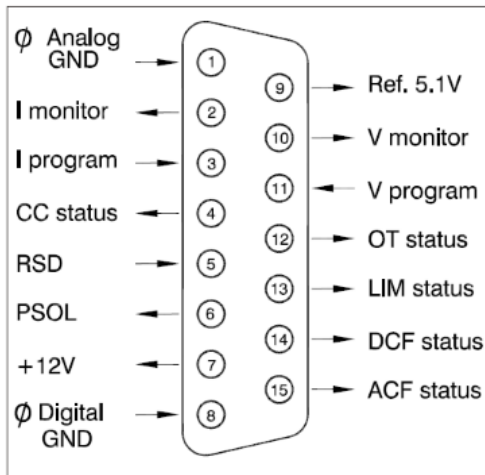
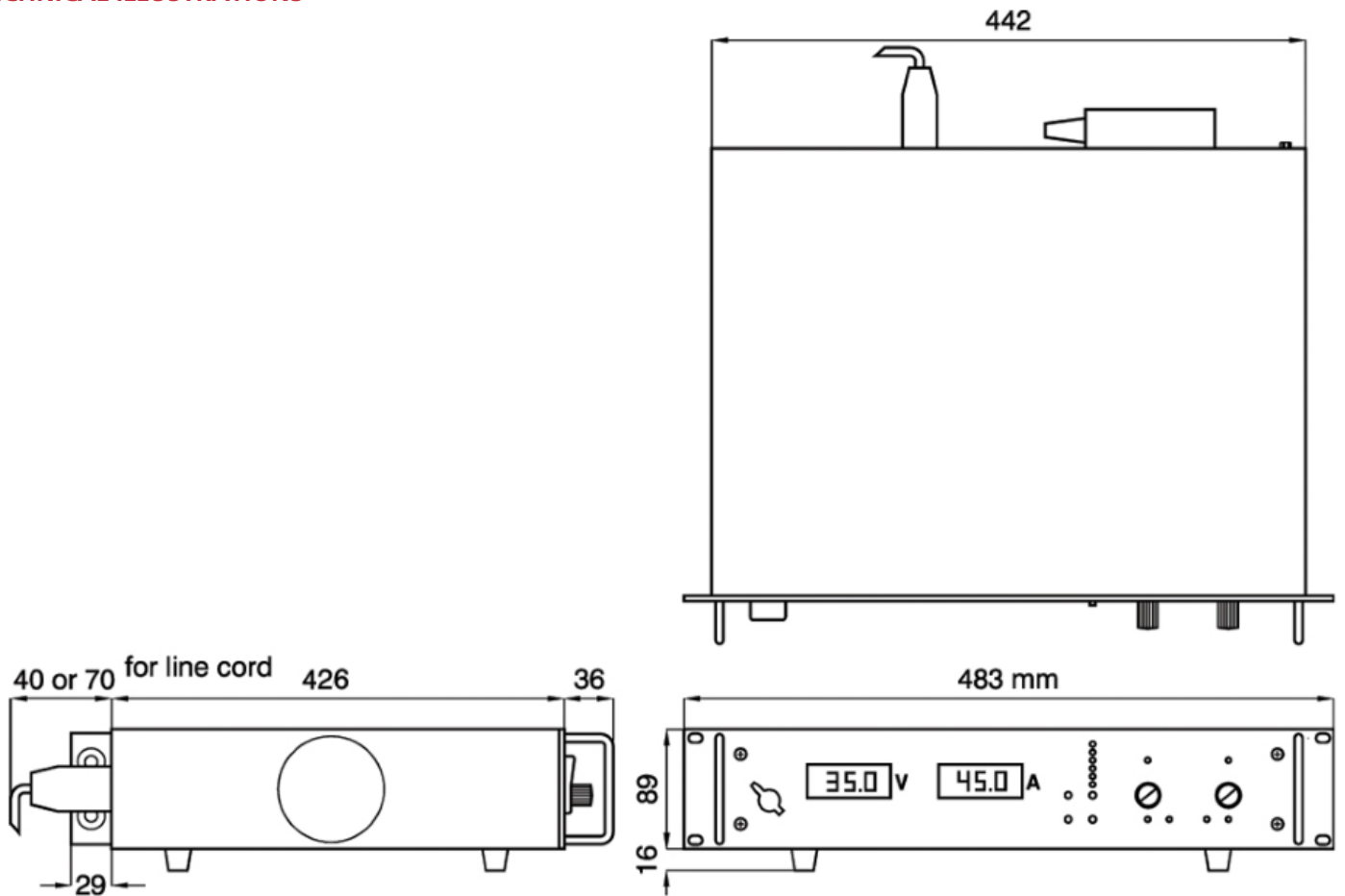
SELECTION TABLE

OUTPUT	SM 18-220	SM 66-AR-110	SM 100-AR-75	SM 330-AR-22	SM 660-AR-11
Output Voltage Range	0 - 18V	0 - 66V	0 - 100V	0 - 330V	0 - 660V
Output Current Range	0 - 220A	0 - 110A	0 - 75A	0 - 22A	0 - 11A
Autoranging (2 Ranges)	No	Yes	Yes	Yes	Yes
Max Output Current/Voltage	-	0-33V / 0-110A	0-50V / 0-75A	0-165V / 0-22A	0-330V / 0-11A
	-	0-66V / 0-55A	0-100V / 0-37.5A	0-330V / 0-11A	0-660V / 0-5.5A
Meters	4 digit	4 digit	4 digit	4 digit	4 digit
Scale voltage	0 - 18.00 V	0 - 66.0 V	0 - 100.0 V	0 - 300.0 V	0 - 600 V
Scale current	0 - 220 A	0 - 110.0 A	0 - 75.0 A	0 - 22.0 A	0 - 11.00 A
Accuracy	0.2% + 2 digit	0.2% + 2 digit	0.2% + 2 digit	0.2% + 2 digit	0.2% + 2 digit
PROGRAMMING SPEED STANDARD VERSION	SM 18-220	SM 66-AR-110	SM 100-AR-75	SM 330-AR-22	SM 660-AR-22
RISE TIME (10 - 90%)					
Output voltage step	0 - 15 / 18V	0 - 33 V	0 - 50 V	0 - 165 V	0 - 330 V
Time, (load = 3300W)	4 / 5.5 ms	1.6 ms	3.8 ms	3.8 ms	4.2 ms
Time, (load = 330W)	2.2 / 2.6 ms	1 ms	2 ms	2 ms	2.5 ms
Output voltage step		0 - 66 V	0 - 100 V	0 - 330 V	0 - 660 V
Time, (load = 3300W)	-	7 ms	15 ms	15 ms	15 ms
Time, (load = 330W)		3.7 ms	8 ms	8 ms	7.5 ms
FALL TIME (90 - 10%)					
Output voltage step	15/18V - 0 V	33 - 0 V	50 - 0 V	165 - 0 V	330 - 0 V
Time, (load = 3300W)	7 ms	3 ms	6 ms	6 ms	6 ms
Time, (load 330W)	32 ms	33 ms	65 ms	65 ms	70 ms
Output voltage step		66 - 0 V	100 - 0 V	330 - 0 V	660 - 0 V
Time, (load = 3300W)	-	11 ms	26 ms	25 ms	28 ms
Time, (load = 330W)		100ms	260 ms	250 ms	270 ms

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TECHNICAL ILLUSTRATIONS

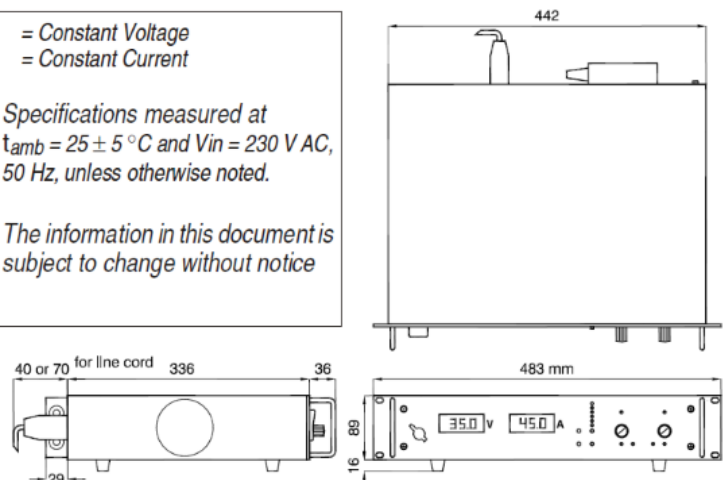


Connections programming connector

CV = Constant Voltage
 CC = Constant Current

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

The information in this document is subject to change without notice



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TECHNICAL ILLUSTRATIONS

