

# LAB-SMS-E Essential Ultra Compact DC Source

## Description

The LAB-SMS-E is a series of programmable DC Sources with a variety of interface options. Each unit operates in constant voltage and constant current modes. Each LAB-SMS-E system has an RS-232 and isolated analogue interface, which allows the user to select the analogue voltage range to be 0-5Vdc or 0-10Vdc. Additionally, any combination of RS-485, IEEE 488.2 (GPIB), USB and LAN interfaces be optionally specified. While front panel control and display is provided as standard, the LAB-SMS-E can also be built with a blank panel for applications that require only remote control. A soft interlock circuit allows users to connect the unit to an external safety device such as an emergency stop. This feature requires a high signal (+10V) to be present between two pins, otherwise the output will be shutdown. The LAB-SMS-E product family has models providing up to 1500Vdc. High current versions are also available. An extraordinary power density of up to 10kW is provided in just a 2U high rackmounting case. A choice of voltage inputs ensures the LAB-SMS-E is suitable for any location.



- Constant Current and Constant Voltage Modes
- Compact Design with up to 10kW in Only 2U
- Single Phase Input Option up to 5kW
- Master / Slave Operation
- Worldwide Input Options

## Options Table

Code	Description
/3P208.....	Input Voltage is 3 x 208 (187 - 229) VAC
/3P400.....	Input Voltage is 3 x 400 (360 - 440) VAC
/3P440.....	Input Voltage is 3 x 440 (396 - 484) VAC
/3P480.....	Input Voltage is 3 x 480 (432 - 528) VAC
/400HZ.....	400Hz input frequency
/DC.....	Any nominal in the DC input range 250-750VDC $\pm 10\%$ (eg. 500VDC $\pm 10\%$ = 450 - 550VDC input)
/1P.....	Input voltage is 230VAC $\pm 10\%$ (for models with outputs of 4kW or 5kW only)
/ATE.....	ATE mode only, no front panel
/LT.....	IEEE 488.2 interface
/LTRS485.....	RS485 interface
/LAN.....	Ethernet interface
/USB.....	USB interface
/KFZ12.....	Output follows a 12Vdc automotive cranking curve
/KFZ24.....	Output follows a 24Vdc automotive cranking curve
/OPT.....	Output follows a user specific curve
/SCS.....	Metal cover set with cable glands for input and output terminals



# LAB-SMS-E Essential Ultra Compact DC Source

## Selection Table

Part Number	Power (kW)	Voltage (V <sub>OUT</sub> )	Current (I <sub>OUT</sub> )	Part Number	Power (kW)	Voltage (V <sub>OUT</sub> )	Current (I <sub>OUT</sub> )
LAB-SMS-E 315	3	0 - 15	0 - 200	LAB-SMS-E 615	6	0 - 15	0 - 400
LAB-SMS-E 335	3	0 - 35	0 - 90	LAB-SMS-E 620	6	0 - 20	0 - 300
LAB-SMS-E 345	3	0 - 45	0 - 70	LAB-SMS-E 635	6	0 - 35	0 - 175
LAB-SMS-E 370	3	0 - 70	0 - 45	LAB-SMS-E 645	6	0 - 45	0 - 140
LAB-SMS-E 3100	3	0 - 100	0 - 30	LAB-SMS-E 670	6	0 - 70	0 - 90
LAB-SMS-E 3150	3	0 - 150	0 - 20	LAB-SMS-E 6100	6	0 - 100	0 - 60
LAB-SMS-E 3300	3	0 - 300	0 - 10	LAB-SMS-E 6150	6	0 - 150	0 - 40
LAB-SMS-E 3600	3	0 - 600	0 - 5	LAB-SMS-E 6300	6	0 - 300	0 - 20
LAB-SMS-E 3800	3	0 - 800	0 - 4	LAB-SMS-E 6600	6	0 - 600	0 - 10
LAB-SMS-E 31000	3	0 - 1000	0 - 3	LAB-SMS-E 6800	6	0 - 800	0 - 7.5
LAB-SMS-E 31200	3	0 - 1200	0 - 2.6	LAB-SMS-E 61000	6	0 - 1000	0 - 6
LAB-SMS-E 31500	3	0 - 1500	0 - 2	LAB-SMS-E 61200	6	0 - 1200	0 - 5
				LAB-SMS-E 61500	6	0 - 1500	0 - 4
LAB-SMS-E 420	4	0 - 20	0 - 200	LAB-SMS-E 820	8	0 - 20	0 - 440
LAB-SMS-E 435	4	0 - 35	0 - 115	LAB-SMS-E 825	8	0 - 25	0 - 320
LAB-SMS-E 445	4	0 - 45	0 - 90	LAB-SMS-E 835	8	0 - 35	0 - 230
LAB-SMS-E 470	4	0 - 70	0 - 60	LAB-SMS-E 845	8	0 - 45	0 - 180
LAB-SMS-E 4100	4	0 - 100	0 - 40	LAB-SMS-E 870	8	0 - 70	0 - 115
LAB-SMS-E 4150	4	0 - 150	0 - 30	LAB-SMS-E 8100	8	0 - 100	0 - 80
LAB-SMS-E 4300	4	0 - 300	0 - 15	LAB-SMS-E 8150	8	0 - 150	0 - 55
LAB-SMS-E 4600	4	0 - 600	0 - 7	LAB-SMS-E 8300	8	0 - 300	0 - 30
LAB-SMS-E 4800	4	0 - 800	0 - 5	LAB-SMS-E 8600	8	0 - 600	0 - 15
LAB-SMS-E 41000	4	0 - 1000	0 - 4	LAB-SMS-E 8800	8	0 - 800	0 - 10
LAB-SMS-E 41200	4	0 - 1200	0 - 3.4	LAB-SMS-E 81000	8	0 - 1000	0 - 8
LAB-SMS-E 41500	4	0 - 1500	0 - 2.7	LAB-SMS-E 81200	8	0 - 1200	0 - 6.7
				LAB-SMS-E 81500	8	0 - 1500	0 - 5.4
LAB-SMS-E 525	5	0 - 25	0 - 200	LAB-SMS-E 1020	10	0 - 20	0 - 500
LAB-SMS-E 535	5	0 - 35	0 - 150	LAB-SMS-E 1035	10	0 - 35	0 - 350
LAB-SMS-E 545	5	0 - 45	0 - 120	LAB-SMS-E 1045	10	0 - 45	0 - 250
LAB-SMS-E 570	5	0 - 70	0 - 75	LAB-SMS-E 1070	10	0 - 70	0 - 175
LAB-SMS-E 5100	5	0 - 100	0 - 50	LAB-SMS-E 10100	10	0 - 100	0 - 100
LAB-SMS-E 5150	5	0 - 150	0 - 35	LAB-SMS-E 10150	10	0 - 150	0 - 75
LAB-SMS-E 5300	5	0 - 300	0 - 17	LAB-SMS-E 10300	10	0 - 300	0 - 40
LAB-SMS-E 5600	5	0 - 600	0 - 8.5	LAB-SMS-E 10600	10	0 - 600	0 - 17
LAB-SMS-E 5800	5	0 - 800	0 - 6.25	LAB-SMS-E 10800	10	0 - 800	0 - 13
LAB-SMS-E 51000	5	0 - 1000	0 - 5	LAB-SMS-E 101000	10	0 - 1000	0 - 10
LAB-SMS-E 51200	5	0 - 1200	0 - 4.2	LAB-SMS-E 101200	10	0 - 1200	0 - 8.4
LAB-SMS-E 51500	5	0 - 1500	0 - 3.4	LAB-SMS-E 101500	10	0 - 1500	0 - 7

## Technical Data

Standard Input Voltage (3kW).....	230VAC ± 10%	Operating Temperature.....	0 - 50 °C
Standard Input Voltage (4 - 10kW).....	3 x 400VAC ± 10%	Storage Temperature.....	-20 °C to +70 °C
Optional Input Voltage.....	see options table	Humidity.....	<80%
Input Frequency.....	47 - 63Hz	Display.....	4 digits
Efficiency.....	Up to 94%	Safety.....	EN 60950
Leakage Current.....	<35mA	Emission.....	EN 61000-6-4:2007
Cos Phi.....	>0.7	Immunity.....	EN 61000-6-2:2005
Isolation (Between Output & Earth).....	500VDC (models ≤300V)	Harmonics.....	EN 61000-1:2010
Isolation (Between Output & Earth).....	2000VDC (models ≥600V)	Maximum V <sub>SENSE</sub> (0 to V <sub>MAX</sub> ).....	5% of F.S. (models ≤600V)
Isolation (Between Primary & Earth).....	2150VDC	Maximum V <sub>SENSE</sub> (Operating Over V <sub>MAX</sub> ).....	±1% of F.S. (models ≤600V)
Isolation (Between Primary & Secondary).....	3000VAC	Relative Voltage Sense Accuracy.....	±0.5% V <sub>MAX</sub>
Static Regulation.....	±0.1% of F.S.	Dynamic Response (10 - 90%).....	<3ms typical
Current and Voltage Line Regulation.....	±0.02% of F.S.	Protection.....	OC / OV / OT
Voltage Load Regulation.....	±0.05% of F.S. ± 2mV	Over Voltage Protection.....	0 to 120% V <sub>MAX</sub>
Current Load Regulation.....	±0.05% of F.S. ± 20mA	Analogue Interface (Isolated).....	0 - 5V/10V
Relative Voltage Accuracy.....	±0.25% of V <sub>MAX</sub>	Computer Interface Resolution.....	12 Bit
Relative Current Accuracy.....	±0.4% of I <sub>MAX</sub>	Cooling.....	Forced air, front to back
Current Ripple (p-p).....	<0.5 % of F.S.	Case Size (3 - 5kW).....	19" x 2U x 440mm
Current Ripple (rms).....	<0.4 % of F.S.	Case Size (6 - 10kW).....	19" x 2U x 600mm
Fall Time (No Load).....	5s ≤50V	Weight.....	18kg (≤5kW) / 25kg (≥6kW)