



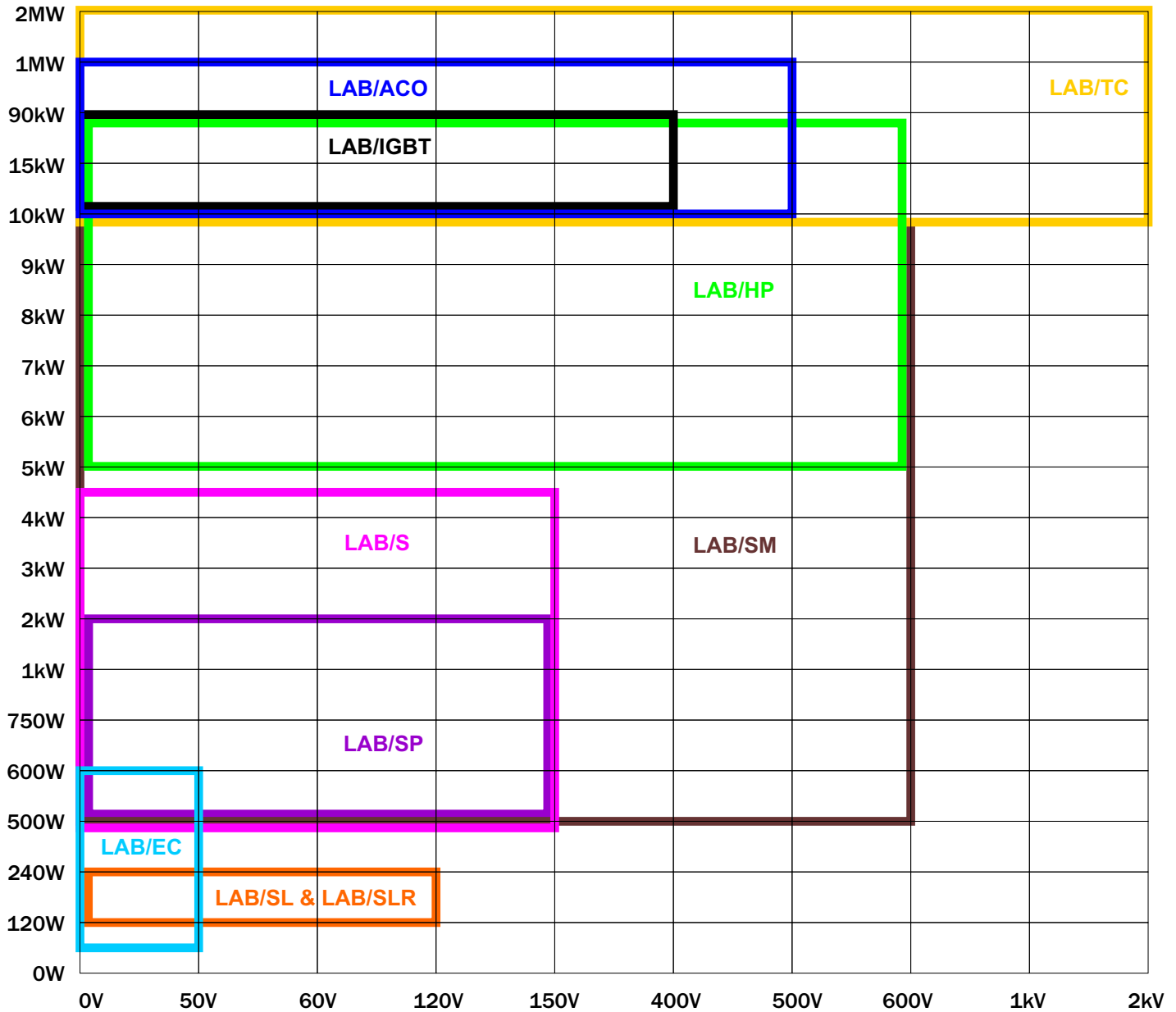
DC Sources

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S a l e s : 0 8 0 0 6 1 2 9 5 7 5**



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DC Source Selection Matrix



	LAB/ECO	LAB/SL LAB/SLR	LAB/SP	LAB/S	LAB/SM	LAB/HP	LAB/IGBT	LAB/ACO	LAB/TC
Max Voltage	50V	120V	150V	150V	600V	600V	400V	500V	2kV
Min Power	90W	120W	500W	500W	500W	5kW	10kW	10kW	10kW
Max Power	600W	240W	2kW	4.5kW	12kW	90kW	90kW	1MW	2MW
Image									

The table above illustrates the standard voltage and power outputs for the standard product families. If your outputs ranges are not covered please contact our office for a modified or custom solution. Remember to check our High Voltage Range for units between 600Vdc & 80kVdc.



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LAB-EC

Low Cost DC Power Supply

Description



- Constant Current & Constant Voltage Modes
- Stabilised and Short Circuit Proof
- The Economical Alternative
- Low Ripple Linear Topology
- Compact Design

Selection Table

Part Number	Power	Output/Source	Current	Dimensions (Width x Height x Depth)	
LAB-EC 303	90W	0 - 30 VDC	0 - 3 A	135 x 160 x 275mm	
LAB-EC 305	150W	0 - 30 VDC	0 - 5 A	135 x 160 x 275mm	
LAB-EC 505	250W	0 - 50 VDC	0 - 5 A	135 x 310 x 265mm	
LAB-EC 3010	300W	0 - 30 VDC	0 - 10 A	310 x 135 x 265mm	
LAB-EC 3020	600W	0 - 30 VDC	0 - 20 A	310 x 135 x 290mm	
	Power	Output 1	Output 2	Output 3	
LAB-EC 2303	195W	0 - 30 VDC/ 3 A	0 - 30 VDC/ 3 A	5 VDC/ 3 A	360 x 165 x 265mm
LAB-EC 2305	365W	0 - 35 VDC/ 5 A	0 - 30 VDC/ 5 A	5 VDC/ 3 A	360 x 165 x 265mm

Technical Data

Input voltage, switchable.....	115/230 VAC ±10%
LED display voltage.....	3½-digit ±1% + 2 digit
LED display current.....	3½-digit ±2% + 2 digit
Source regulation (CV mode).....	1 x 10 ⁻⁴ + 500 µV
Source regulation (CC mode).....	5 x 10 ⁻³ + 1 mA
Load regulation (CV mode).....	<1 x 10 ⁻⁴ + 2 mV
Load regulation (CC mode).....	<5 x 10 ⁻³ + 3 mA
Ripple (CV mode).....	<1 mVrms
Ripple (CC mode).....	<5 mArms
Operating temperature.....	0-50 °C
Operating humidity.....	0-90% (non condensing)
Power derating 50-70 °C.....	-2%/ °C
Storage temperature.....	45 to + 85 °C
Storage humidity.....	0-95% (non condensing)
Vibration.....	10-55Hz / 1min/2G XYZ
Shock.....	Less than 20 G

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LAB-SL DC Power Supply with Electronic Load

Description

The LAB-SL offers both DC source and load functions within a single instrument. When used as a DC source a precise output with a very low ripple is produced due to the linear controlled output stage. A very fast setting time of typically 250µs can be achieved. In both constant voltage and constant current operation the voltage and current can be preset and read on the digital display. The OVP level can also be preset and read. The instrument can be used as a constant current load by simple push button selection. A wide selection of interfaces are available should the unit need to be operated remotely. 0-5Vdc or 0-10Vdc Isolated analogue interfaces can be integrated along with all the most popular methods of computer control.



- Constant voltage/current, presetable and readable
- Extremely fast setting response (approx. 250 µs)
- Optional analogue and computer interfaces
- Two quadrants operation; source and load
- Desktop or 21HP x 6U cassette
- Linear controlled
- Very low ripple

Selection Table

Part Number	Power	Output/Source	Load	Current	Dimensions (Width x Height x Depth)
LAB-SL 8	120W	0 - 8 VDC	1 - 8 VDC	0 - 15A	112 x 222 x 360mm
LAB-SL 15	120W	0 - 15 VDC	1 - 15 VDC	0 - 8A	112 x 222 x 360mm
LAB-SL 30	120W	0 - 30 VDC	1 - 30 VDC	0 - 4A	112 x 222 x 360mm
LAB-SL 60	120W	0 - 60 VDC	1 - 60 VDC	0 - 2A	112 x 222 x 360mm
LAB-SL 120	120W	0 - 120 VDC	1 - 120 VDC	0 - 1A	112 x 222 x 360mm
LAB-SL 28	240W	0 - 8 VDC	1 - 8 VDC	0 - 30A	224 x 222 x 360mm
LAB-SL 215	240W	0 - 15 VDC	1 - 15 VDC	0 - 16A	224 x 222 x 360mm
LAB-SL 230	240W	0 - 30 VDC	1 - 30 VDC	0 - 8A	224 x 222 x 360mm
LAB-SL 260	240W	0 - 60 VDC	1 - 60 VDC	0 - 4A	224 x 222 x 360mm
LAB-SL 2120	240W	0 - 120 VDC	1 - 120 VDC	0 - 2A	224 x 222 x 360mm

Different output ranges and application/user specific options are possible. Please contact ET to discuss your requirements.



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LAB-SL DC Power Supply with Electronic Load

Options Table

Code	Description
/ATE.....	Without display and manual operation
/LT.....	IEEE488.2 interface with both listener and talker functions (12 bit resolution)
/LTRS232.....	RS 232, interface, listener and talker
/LTRS485.....	RS 485 interface, listener and talker
/LT+LTRS232.....	IEEE 488.2 & RS 232 listener and talker
/LT+LTRS485.....	IEEE 488.2 & RS 485 listener and talker
/AI-5.....	0 - 5 VDC Analogue interface for control and measurement
/AI-10.....	0 - 10 VDC Analogue interface for control and measurement
/ATI-5.....	Isolated 0 - 5 VDC analogue interface for control and measurement
/ATI-10.....	Isolated 0 - 10 VDC analogue interface for control and measurement
/CAN.....	CAN Interface with listener and talker functions
/USB.....	USB Interface with listener and talker functions
/ETH.....	Ethernet interface with listener and talker functions over a LAN
/TG.....	Carrying handle
/10POT.....	Potentiometer with scale
/AF.....	Adjustable Foot
/ECT.....	19" x 6 U Unit frame for up to 4 desktop units
/ECS6.....	19" x 6 U rack for up to 4 euro cassettes
/EP21.....	6U x 21HP grey blanking plate
/EP42.....	6U x 42HP grey blanking plate
/6HE.....	Unit built into a 21HP x 6U eurocassette

Technical Data

Input voltage, switchable.....	115/230 VAC \pm 10%
Isolation.....	3700 VAC; 4250 VDC
Line regulation.....	(\pm 10%) CV: 0.0125%
Line regulation.....	(\pm 10%) CC: 0.02%
Load regulation.....	(10-90%) CV: 0.0125%
Load regulation.....	(10-90%) CC: 0.02%
Programming accuracy.....	< \pm 0.5%
Offset.....	< \pm 4.0 mV
Ripple (Vpp) CV.....	<4.0 mV
Ripple (Vrms) CC.....	<4.0 mA (<8.0 mA LAB/SL 8)
Temperature coefficient.....	25 ppm/ $^{\circ}$ C
Transient response time.....	<100 μ s
Response time.....	<500 μ s (typ. <250 μ s)
Sense (V/line).....	1.0 V (2.0 V LAB/SL 8)
Display.....	3.5 digits for V and I
Protection.....	OC / OV / OT / OP
Analogue interface.....	0-5(10)V
Isolated analogue interface.....	0-5(10)V
Interface RS232/RS485/USB.....	12 Bit
Interface CAN.....	12 Bit
Interface IEEE 488.2.....	12 Bit
Operating temperature.....	0-50 $^{\circ}$ C
Operating humidity.....	0-90% (non condensing)
Power derating 50-70 $^{\circ}$ C.....	-2%/ $^{\circ}$ C
Cooling 120/240 W.....	Forced air front to back
Storage temperature.....	-45 to + 85 $^{\circ}$ C
Storage humidity.....	10-95% (non condensing)

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LAB-SLR DC Power Supply with Automatic Ranging

Description

The LAB-SLR provides a great deal of functionality in a compact desktop case. Not only is it a Linear DC Source the LAB-SLR also has a load function built in. There are 2 ranges with automatic crossover which allow higher voltage with lower current or lower voltage with higher current operation. When used as a constant current electronic load the unit will allow double the rated power to be taken for up to 5 minutes. In source mode the unit exhibits very fast setting times of typically 250µs. As with the majority of ET instruments voltage and current limits can be preset and read before releasing the output. Adjustable overvoltage protection is also standard. When the sink or source operation is considered with the automatic ranging feature a single LAB-SLR can save the investment of up to 4 separate units.



- Double current or voltage through automatic range switching
- Analogue & computer interfaces available
- Desktop or 6U cassettes for rack mounting
- Two quadrants operation source and load
- V & I preset function

Selection Table

Part Number	Power	Range 1	Current 1	Range 2	Current 2	Dimensions (Width x Height x Depth)
LAB-SLR 30-15	120W	0 - 30 VDC	0 - 4A	0 - 15 VDC	0 - 8A	112 x 222 x 360mm
LAB-SLR 60-30	120W	0 - 60 VDC	0 - 2A	0 - 30 VDC	0 - 4A	112 x 222 x 360mm
LAB-SLR 120-60	120W	0 - 120 VDC	0 - 1A	0 - 60 VDC	0 - 2A	112 x 222 x 360mm
LAB-SLR 230-215	240W	0 - 30 VDC	0 - 8A	0 - 15 VDC	0 - 16A	224 x 222 x 360mm
LAB-SLR 260-230	240W	0 - 60 VDC	0 - 4A	0 - 30 VDC	0 - 8A	224 x 222 x 360mm
LAB-SLR 2120-260	240W	0 - 120 VDC	0 - 2A	0 - 60 VDC	0 - 4A	224 x 222 x 360mm

Different output ranges and application/user specific options are possible. Please contact ET to discuss your requirements.



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LAB-SLR DC Power Supply with Automatic Ranging

Options Table

Code	Description
/ATE.....	Without display and manual operation (includes AI-5)
/LT.....	IEEE488.2 interface with both listener and talker functions (12 bit resolution)
/LTRS232.....	RS 232, interface, listener and talker
/LTRS485.....	RS 485 interface, listener and talker
/LT+LTRS232.....	IEEE 488.2 & RS 232 listener and talker
/LT+LTRS485.....	IEEE 488.2 & RS 485 listener and talker
/AI-5.....	0 - 5 VDC Analogue interface for control and measurement
/AI-10.....	0 - 10 VDC Analogue interface for control and measurement
/ATI-5.....	Isolated 0 - 5 VDC analogue interface for control and measurement
/ATI-10.....	Isolated 0 - 5 VDC analogue interface for control and measurement
/CAN.....	CAN Interface with listener and talker functions
/USB.....	USB Interface with listener and talker functions
/ETH.....	Ethernet interface with listener and talker functions over a LAN
/6HE.....	Units built into 6U eurocassettes (120W are 21HP) (240W are 42HP)
/TG.....	Carrying handle
/10POT.....	Potentiometer with scale
/AF.....	Adjustable foot
/ECT.....	19" x 6 U Unit frame for up to 4 desktop units
/ECS6.....	19" x 6 U rack for up to 4 eurocassettes
/EP21.....	Blank plate 6 U x 21 HP, grey
/EP42.....	Blank plate 6 U x 42 HP, grey

Technical Data

Input voltage, switchable.....	115/230 VAC \pm 10%
Isolation.....	3700 VAC; 4250 VDC
Line regulation.....	(\pm 10%) CV: 0.0125%
Line regulation.....	(\pm 10%) CC: 0.02%
Load regulation.....	(10-90%) CV: 0.0125%
Load regulation.....	(10-90%) CC: 0.02%
Programming accuracy.....	< \pm 0.5%
Offset.....	< \pm 4.0 mV
Ripple (Vpp) CV.....	<4.0 mV
Ripple (Vrms) CC.....	<4.0 mA
Temperature coefficient.....	25 ppm/ $^{\circ}$ C
Transient response time.....	<100 μ s
Response time.....	<500 μ s (typ. <250 μ s)
Sense (V/line).....	1.0 V
Display.....	3.5 digits for V and I
Protection.....	OC / OV / OT / OP
Analogue interface.....	0-5(10)V
Analogue isolated interface.....	0-5(10)V
Interface RS 232/RS485/USB.....	12 Bit
Interface CAN.....	12 Bit
Interface IEEE 488.2.....	12 Bit
Operating temperature.....	0-50 $^{\circ}$ C
Operating humidity.....	0-90% (non condensing)
Power derating 50-70 $^{\circ}$ C.....	-2%/ $^{\circ}$ C
Cooling 120/240 W.....	Forced air front to back
Storage temperature.....	-45 to + 85 $^{\circ}$ C
Storage humidity.....	0-95% (non condensing)

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LAB-SP

Primary Switched Benchtop DC Source

Description

The LAB-SP family provides a wide range of outputs in a convenient desktop format. These primary switched DC Sources enable the user to preset voltage and current limits prior to releasing the output. A useful feature is the adjustable over voltage protection. This provides an extra safeguard for sensitive loads in addition to the normal voltage limit. These units are also built with a sensing function to automatically compensate for voltage drops in the output lines. Active power factor correction of 0.99 is provided as standard. If rack mounting is required then these units can be optionally built as 6U euro cassettes. A variety of analogue and computer interfaces are available for remote control.



- Analogue & computer interfaces
- Active power factor correction
- Voltage and current presets
- High power density
- Primary switched

Selection Table

Part Number	Power	Output	Current	Dimensions (Width x Height x Depth)
LAB-SP 515	500W	0 - 15 VDC	0 - 35 A	112 x 222 x 360mm
LAB-SP 535	500W	0 - 35 VDC	0 - 15 A	112 x 222 x 360mm
LAB-SP 570	500W	0 - 70 VDC	0 - 7.5 A	112 x 222 x 360mm
LAB-SP 5150	500W	0 - 150 VDC	0 - 3.5 A	112 x 222 x 360mm
LAB-SP 715	750W	0 - 15 VDC	0 - 50 A	112 x 222 x 360mm
LAB-SP 735	750W	0 - 35 VDC	0 - 25 A	112 x 222 x 360mm
LAB-SP 770	750W	0 - 70 VDC	0 - 12 A	112 x 222 x 360mm
LAB-SP 7150	750W	0 - 150 VDC	0 - 5 A	112 x 222 x 360mm

Different output ranges and application/user specific options are possible. Please contact ET to discuss your requirements.



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LAB-SP

Primary Switched Benchtop DC Source

Options Table

Code	Description
/ATE.....	Without display and manual operation
/LT.....	IEEE488.2 interface with both listener and talker functions (12 bit resolution)
/LTRS232.....	RS 232, interface, listener and talker
/LTRS485.....	RS 485 interface, listener and talker
/LT+LTRS232.....	IEEE 488.2 & RS 232 listener and talker
/LT+LTRS485.....	IEEE 488.2 & RS 485 listener and talker
/AI-5.....	0 - 5 VDC Analogue interface for control and measurement
/AI-10.....	0 - 10 VDC Analogue interface for control and measurement
/ATI-5.....	Isolated 0 - 5 VDC analogue interface for control and measurement
/ATI-10.....	Isolated 0 - 10 VDC analogue interface for control and measurement
/CAN.....	CAN Interface with listener and talker functions
/USB.....	USB Interface with listener and talker functions
/ETH.....	Ethernet interface with listener and talker functions over a LAN
/PFC.....	Active PFC>0.97 for 2kW units (PFC of 0.99 is standard for 500W/750W)
/6HE.....	Units built into 6U eurocassettes (500W/750W are 21HP, 2kW is 42HP)
/TG.....	Carrying handle
/10POT.....	Locking potentiometer with scale
/AF.....	Adjustable feet
/ECT.....	19"x 6U frame for up to 4 desktop units
/ECS6.....	19"x 6U rack for up to 4 eurocassettes
/EP21.....	21HP grey blanking plate
/EP42.....	42HP grey blanking plate

Technical Data

Input voltage.....	115/230Vac switchable
Input frequency.....	47-63Hz
Harmonics.....	EN61000-3-2 A14
Isolation (input to output).....	3000 VAC
Isolation class.....	1
Safety.....	EN 60950
Emission.....	EN 61000-6-4
Immunity.....	EN 61000-6-2
Voltage regulation.....	± 0.05%+2mV
Current regulation.....	± 0.1%+2mA
Response time.....	<0.5ms
Ripple.....	<0.2%
Stability.....	0.05%
Overvoltage protection.....	5-110% Vmax
Sense compensation.....	2V at <35V / 5V at >35V
Display.....	3.5 digits for V and I
Protection.....	OC / OV / OT / OP
Analogue interface.....	0-5(10)V
Isolated analogue interface.....	0-5(10)V
Interface RS232/RS485/USB.....	12 bit
Interface CAN.....	12 bit
Interface IEEE 488.2.....	12 bit
Operating temperature.....	0-50 °C
Operating humidity.....	0-90% (non condensing)
Power derating 50-70 °C.....	-2%/ °C
Cooling.....	Forced air front to back
Storage temperature.....	-45 to + 85 °C
Storage humidity.....	0-95% (non condensing)
Vibration.....	10-55Hz / 1min/2G XYZ

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LAB-S Rackmounting Linear DC Power Supplies

Description

The LAB-S range of DC Sources are ideal for use in applications where high power coupled with fast and precise regulation is paramount. A thyristor pre-regulation circuit provides the DC to the linearly controlled MOS output stage ensuring a very low ripple. This results in a unit that is smaller, lighter and more efficient than many other linear supplies. The LAB-S range features a standby function so that the voltage and current output can be preset and then instantaneously applied. All units are fitted with thermal overload protection and adjustable over voltage protection. Sense terminals are provided to counter voltage losses in the output cables.

Computer interfaces can be optionally fitted to your chosen unit. USB, IEEE 488.2 and RS232 or RS485 capability is offered with both listener and talker functions. Isolated or normal analogue interfaces with 2 voltage ranges are also offered. The choice of interfaces combined with the /ATE option (no front panel control or display) ensures that this range is ideal for system integration. The design of this series of DC Sources allows non-standard output voltages, currents and powers to be accommodated for. On request units can be built up to 250A, 500V at a maximum of 12kW.



- Optional Computer and Analogue Interfaces
- Voltage and current can be preset and read
- Very low ripple and fast response times
- Constant voltage and current operation
- Output galvanically isolated from input
- Standard Range up to 4.5kW
- Floating Outputs

Technical Data

Insulation.....	3700VAC, 425 VDC
Input voltage.....	230VAC \pm 10% 50/60Hz (<1500W), 3 x 400VAC 50/60Hz (>2kW)
Voltage Regulation.....	0.05%
Current Regulation.....	0.1%
Ripple.....	0.01% + 4mVrms
Programming Accuracy.....	< \pm 0.5%
Sense (Remote).....	1.0V
Display.....	3.5 Digits for V and I
Protection.....	OC/OV/OT/OP
Response Time.....	Typically <100 μ S
Operating Temperature.....	0°C - 50°C
Operating Humidity.....	0 - 90% (non condensing)
Operating Modes.....	Constant voltage and constant current
Analogue Interface Option.....	0 - 5VDC or 0 - 10VDC
Power Derating (50-70°C).....	-2%/°C

Selection and Options Table Overleaf

Different output ranges and application/user specific options are possible. Please contact ET to discuss your requirements.



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LAB-S

DC Linear Laboratory Power Supplies

Selection Table

Part Number	Power	Voltage	Current	Height
LAB-S 05-35	500W	35 VDC	14 A	19" x 4U x 434mm
LAB-S 05-70	500W	70 VDC	7 A	19" x 4U x 434mm
LAB-S 05-150	500W	150 VDC	3 A	19" x 4U x 434mm
LAB-S 07-35	750W	35 VDC	21 A	19" x 4U x 434mm
LAB-S 07-70	750W	70 VDC	10 A	19" x 4U x 434mm
LAB-S 07-150	750W	150 VDC	5 A	19" x 4U x 434mm
LAB-S 10-35	1000W	35 VDC	28 A	19" x 4U x 434mm
LAB-S 10-70	1000W	70 VDC	14 A	19" x 4U x 434mm
LAB-S 10-150	1000W	150 VDC	6 A	19" x 4U x 434mm
LAB-S 15-35	1500W	35 VDC	42 A	19" x 4U x 434mm
LAB-S 15-70	1500W	70 VDC	20 A	19" x 4U x 434mm
LAB-S 15-150	1500W	150 VDC	10 A	19" x 4U x 434mm
LAB-S 20-35	2000W	35 VDC	56 A	19" x 6U x 434mm
LAB-S 20-70	2000W	70 VDC	28 A	19" x 6U x 434mm
LAB-S 20-150	2000W	150 VDC	12 A	19" x 6U x 434mm
LAB-S 25-35	2500W	35 VDC	71 A	19" x 6U x 434mm
LAB-S 25-70	2500W	70 VDC	35 A	19" x 6U x 434mm
LAB-S 25-150	2500W	150 VDC	16 A	19" x 6U x 434mm
LAB-S 30-35	3000W	35 VDC	85 A	19" x 6U x 434mm
LAB-S 30-70	3000W	70 VDC	42 A	19" x 6U x 434mm
LAB-S 30-150	3000W	150 VDC	20 A	19" x 6U x 434mm
LAB-S 35-35	3500W	35 VDC	100A	19" x 6U x 434mm
LAB-S 35-70	3500W	70 VDC	50 A	19" x 6U x 434mm
LAB-S 35-150	3500W	150 VDC	23 A	19" x 6U x 434mm
LAB-S 40-70	4000W	70 VDC	57 A	19" x 10U x 434mm
LAB-S 40-150	4000W	150 VDC	26 A	19" x 10U x 434mm
LAB-S 45-70	4500W	70 VDC	64 A	19" x 10U x 434mm
LAB-S 45-150	4500W	150 VDC	30 A	19" x 10U x 434mm

Options Table

Code	Description
/ATE.....	No front panel control or display. Analogue Interface provided as standard
/AI-5.....	0-5V Analogue Interface for all control and measurement functions
/AI-10.....	0-10V Analogue Interface for all control and measurement functions
/ATI-5.....	Isolated 0-5V Analogue Interface for all control and measurement functions
/ATI-10.....	Isolated 0-10V Analogue Interface for all control and measurement functions
/LT.....	IEEE 488.2 Interface with listener and talker functions
/LTRS232.....	RS232 Interface with listener and talker functions
/LTRS485.....	RS485 Interface with listener and talker functions
/LT+LTRS232.....	IEEE 488.2 and RS232 Interfaces with listener and talker functionality
/LT+LTRS485.....	IEEE 488.2 and RS485 Interfaces with listener and talker functionality
/CAN.....	CAN Interface with listener and talker functions
/USB.....	USB Interface with listener and talker functions
/ETH.....	Ethernet interface with listener and talker functions over a LAN
/3P.....	3 Phase Input (standard for 2kW and above)
/10POT.....	Potentiometer with scale

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LAB-SM

Switch Mode DC Power Supply

Description

The LAB-SM series of Laboratory DC Sources provides power outputs up to 12kW. A wide array of voltage and current ranges are available at each power rating. Constant voltage and constant current operating modes are provided. Constant power and constant resistance modes are optionally available making the unit ideal for simulating batteries. PFC of 0.98 is standard across the entire range. A further advantage of this power supply is the automatic ranging combined with automatic power control. This often saves the acquisition of a second unit. The LAB-SM also allows the voltage and current outputs to be preset and read before applying them to the load. Additional features include adjustable over voltage protection, remote sense, stand by and thermal overload protection. To enable remote control a number of optional analogue and/or computer interfaces can be specified. LabVIEW drivers are also available for GPIB computer control and system integration. These PSU's are found in a wide variety of fields from automotive applications and general lab work to battery charging and automatic test systems. The LAB-SM design is exceptionally flexible and allows ET to offer virtually any output required. Please contact our office if you require any changes from the standard specification or any specific modifications.



- Power factor correction as standard
- Extremely compact 100kHz design
- Analogue and computer interfaces
- Both current and voltage presets
- CV/CC operating modes

Options Table

Code	Description
/ATE.....	No front panel control or display. Analogue Interface provided as standard
/AI-5.....	0-5V Analogue Interface for all control and measurement functions
/AI-10.....	0-10V Analogue Interface for all control and measurement functions
/ATI-5.....	Isolated 0-5V Analogue Interface for all control and measurement functions
/ATI-10.....	Isolated 0-10V Analogue Interface for all control and measurement functions
/LT.....	IEEE 488.2 Interface with listener and talker functions
/LTRS232.....	RS232 Interface with listener and talker functions
/LTRS485.....	RS485 Interface with listener and talker functions
/LT+LTRS232.....	IEEE 488.2 and RS232 Interfaces with listener and talker functionality
/LT+LTRS485.....	IEEE 488.2 and RS485 Interfaces with listener and talker functionality
/CAN.....	CAN Interface with listener and talker functions
/USB.....	USB Interface with listener and talker functions
/ETH.....	Ethernet interface with listener and talker functions over a LAN
/WIPFC.....	90-264Vac input with active PFC (only available for 500W/750W units)
/PFCX.....	185-264Vac input with active PFC (only available for 800W & 1 to 4kW)
/PFCZ.....	90-135Vac input with active PFC for (only available for 800W & 1 to 4kW)
/3P.....	3 * 400Vac input for 2kW to 12kW units
/3P+N.....	3 * 400Vac input + Neutral (standard for units 4-12kW)
/R.....	Constant resistance mode (only available on units =>800W)
/P.....	Constant power mode (only available on units =>800kW)
/KFZ12.....	Output follows a 12Vdc automotive cranking curve
/KFZ24.....	Output follows a 24Vdc automotive cranking curve
/KFZXX.....	Output follows a user specific curve
/OCP.....	Adjustable over current protection in addition to the standard current limit
/AF.....	Power output on the front panel (standard 500W / 750W)
/AR.....	Power output on the rear panel (standard =>800W)

Different output ranges and application/user specific options are possible. Please contact ET to discuss your requirements.



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LAB-SM

Switch Mode DC Power Supply

Selection Table

Part Number	Power (kW)	Voltage (V _{OUT})	Current (I _{OUT})	Height (U)	Part Number	Power (kW)	Voltage (V _{OUT})	Current (I _{OUT})	Height (U)
LAB-SM 0515	0.5	0 - 15	0 - 33	2	LAB-SM 420	4	0 - 20	0 - 200	4
LAB-SM 0535	0.5	0 - 35	0 - 14	2	LAB-SM 435	4	0 - 35	0 - 140	4
LAB-SM 0570	0.5	0 - 70	0 - 8	2	LAB-SM 445	4	0 - 45	0 - 100	4
LAB-SM 05150	0.5	0 - 150	0 - 3.5	2	LAB-SM 470	4	0 - 70	0 - 70	4
LAB-SM 0715	0.75	0 - 15	0 - 50	2	LAB-SM 4150	4	0 - 150	0 - 30	4
LAB-SM 0735	0.75	0 - 35	0 - 25	2	LAB-SM 4300	4	0 - 300	0 - 16	4
LAB-SM 0770	0.75	0 - 70	0 - 12	2	LAB-SM 620	6	0 - 20	0 - 300	6
LAB-SM 07150	0.75	0 - 150	0 - 5	2	LAB-SM 635	6	0 - 35	0 - 210	6
LAB-SM 105	1	0 - 5	0 - 150	1	LAB-SM 645	6	0 - 45	0 - 150	6
LAB-SM 108	1	0 - 8	0 - 125	1	LAB-SM 670	6	0 - 70	0 - 105	6
LAB-SM 120	1	0 - 20	0 - 50	1	LAB-SM 6150	6	0 - 150	0 - 45	6
LAB-SM 135	1	0 - 35	0 - 35	1	LAB-SM 6300	6	0 - 300	0 - 24	6
LAB-SM 145	1	0 - 45	0 - 30	1	LAB-SM 820	8	0 - 20	0 - 400	8
LAB-SM 170	1	0 - 70	0 - 20	1	LAB-SM 835	8	0 - 35	0 - 280	8
LAB-SM 1150	1	0 - 150	0 - 10	1	LAB-SM 845	8	0 - 45	0 - 200	8
LAB-SM 1300	1	0 - 300	0 - 6	1	LAB-SM 870	8	0 - 70	0 - 140	8
LAB-SM 1500	0.8	0 - 500	0 - 1.6	1	LAB-SM 8150	8	0 - 150	0 - 60	8
LAB-SM 1600	1.2	0 - 600	0 - 2	2	LAB-SM 8300	8	0 - 300	0 - 32	8
LAB-SM 220	2	0 - 20	0 - 100	2	LAB-SM 1010	10	0 - 10	0 - 1000	10
LAB-SM 235	2	0 - 35	0 - 70	2	LAB-SM 1020	10	0 - 20	0 - 500	10
LAB-SM 245	2	0 - 45	0 - 50	2	LAB-SM 1035	10	0 - 35	0 - 350	10
LAB-SM 270	2	0 - 70	0 - 35	2	LAB-SM 1045	10	0 - 45	0 - 250	10
LAB-SM 2150	2	0 - 150	0 - 15	2	LAB-SM 1070	10	0 - 70	0 - 175	10
LAB-SM 2300	2	0 - 300	0 - 8	2	LAB-SM 10150	10	0 - 150	0 - 75	10
LAB-SM 2600	2	0 - 600	0 - 4	4	LAB-SM 10300	10	0 - 300	0 - 40	10
LAB-SM 320	3	0 - 20	0 - 150	4	LAB-SM 1220	12	0 - 20	0 - 600	12
LAB-SM 335	3	0 - 35	0 - 100	4	LAB-SM 1235	12	0 - 35	0 - 420	12
LAB-SM 345	3	0 - 45	0 - 75	4	LAB-SM 1245	12	0 - 45	0 - 300	12
LAB-SM 370	3	0 - 70	0 - 50	4	LAB-SM 1270	12	0 - 70	0 - 210	12
LAB-SM 3150	3	0 - 150	0 - 20	4	LAB-SM 12150	12	0 - 150	0 - 90	12
LAB-SM 3300	3	0 - 300	0 - 12	4	LAB-SM 12300	12	0 - 300	0 - 48	12

Technical Data

Input Voltage (0.5kW - 3kW).....	230V _{AC} ± 10%	Harmonics.....	EN61000-3-2 A14
Input Voltage (Output =>4kW).....	3 x 400V _{AC} ± 10%	Safety.....	EN 60950
Input Frequency.....	47-63Hz	Emission.....	EN 61000-6-4
Insulation (Input / Output).....	3000V _{AC}	Immunity.....	EN 61000-6-2
Power Factor Correction.....	0.98	Protection.....	OC / OV / OT / OP
Typical Efficiency.....	85%	Remote Sense (<35V).....	2V _{MAX}
Voltage Regulation.....	±0.05% + 2mV	Remote Sense (>35V).....	5V _{MAX} (no sense V _{OUT} ≥ 500Vdc)
Current Regulation.....	±0.1% + 2mA	Isolation Class.....	1
Response Time (10%-90%).....	<0.5ms	Computer Interface Resolution.....	12 Bit
Over Voltage Protection.....	0 to 110% V _{MAX}	Cooling (500W&750W).....	Front to Back
Ripple.....	<0.2% RMS	Cooling (1kW).....	Back to Back
Stability.....	0.05%	Cooling (2-12kW).....	Front to Back
Operating Temperature.....	0 - 50°C	Vibration.....	10-55Hz/1min/2G XYZ
Storage Temperature.....	-45°C to +85°C	Shock.....	Less than 20G
Temperature Coefficient.....	0.02% per°C	Case Size (500W & 750W).....	0.5 * 19" x 2U x 360mm
Derating 50°C-70°C.....	2% per°C	Case Size (0.8kW - 12kW).....	19"x H(U) x 434.5mm

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LAB-HP

High Power DC Source

Description

The LAB-HP provides up to 15kW of power in just a 3U high case. The active parallel mode enables up to 6 identical units to be operated together supplying an output of up to 90kW. The high visibility LED display and 10 turn potentiometers allow for straight forward front panel operation. Voltage & current values can be preset and read prior to releasing the output. RS232 and 0-10Vdc analogue interfaces are built in as standard. 0-5Vdc, RS485, GPIB, USB and CAN interfaces are optionally available. The LAB-HP's compact design delivers high efficiencies of up to 94%. Adjustable internal resistance and optional car starting curves make this range ideal for automotive simulation as well as general laboratory and production work. LabVIEW Drivers and ATE options are offered for system integration. Fused output terminals on the front panel are useful for low power operation enabling up to 10A to be taken. ET's legendary flexibility allows non-standard outputs and customer specific options to be provided ensuring the LAB-HP is suitable for the widest variety of applications.



- Simple Front Panel Operation
- Optional Computer Interfaces
- CV, CC modes (CP & CR opt.)
- Ultra Compact 3U Design
- Worldwide Input Options

Selection Table

Part Number	Power (kW)	Voltage (V _{OUT})	Current (I _{OUT})	Dimensions (Width x Height x Depth)	Weight (kgs)
LAB-HP 540	5	0 - 40	0 - 125	19" x 3U x 600mm	19
LAB-HP 580	5	0 - 80	0 - 65	19" x 3U x 600mm	19
LAB-HP 5100	5	0 - 100	0 - 50	19" x 3U x 600mm	19
LAB-HP 5150	5	0 - 150	0 - 35	19" x 3U x 600mm	19
LAB-HP 5300	5	0 - 300	0 - 17	19" x 3U x 600mm	19
LAB-HP 5600	5	0 - 600	0 - 8.5	19" x 3U x 600mm	19
LAB-HP 1040	10	0 - 40	0 - 250	19" x 3U x 600mm	26
LAB-HP 1080	10	0 - 80	0 - 130	19" x 3U x 600mm	26
LAB-HP 10100	10	0 - 100	0 - 100	19" x 3U x 600mm	26
LAB-HP 10150	10	0 - 150	0 - 70	19" x 3U x 600mm	26
LAB-HP 10300	10	0 - 300	0 - 34	19" x 3U x 600mm	26
LAB-HP 10600	10	0 - 600	0 - 17	19" x 3U x 600mm	26
LAB-HP 1540	15	0 - 40	0 - 375	19" x 3U x 600mm	33
LAB-HP 1580	15	0 - 80	0 - 195	19" x 3U x 600mm	33
LAB-HP 15100	15	0 - 100	0 - 150	19" x 3U x 600mm	33
LAB-HP 15150	15	0 - 150	0 - 100	19" x 3U x 600mm	33
LAB-HP 15300	15	0 - 300	0 - 50	19" x 3U x 600mm	33
LAB-HP 15600	15	0 - 600	0 - 25	19" x 3U x 600mm	33



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LAB-HP

High Power DC Source

Options Table

Code	Description
/3P208.....	3 Phase Input of 3 * 208 (187 - 229Vac), 50/60Hz
/3P400.....	3 Phase Input of 3 * 400 (360 - 440Vac), 50/60Hz
/3P440.....	3 Phase Input of 3 * 440 (396 - 484Vac), 50/60Hz
/3P480.....	3 Phase Input of 3 * 480 (432 - 528Vac), 50/60Hz
/ATE.....	No front panel control or display. Analogue Interface provided as standard
/AI-5.....	0-5V Analogue Interface for all control and measurement functions
/ATI-5.....	Isolated 0-5V Analogue Interface for all control and measurement functions
/ATI-10.....	Isolated 0-10V Analogue Interface for all control and measurement functions
/LF.....	Improved output rise time to 3µs/A. (ripple & noise doubles with option /LF)
/OCP.....	Adjustable over current protection in addition to the standard current limit
/USB.....	USB Interface with both listener and talker functions (replaces RS232 port)
/LT.....	IEEE 488.2 Interface with both listener and talker functions
/RS485.....	RS485 Interface with both listener and talker functions
/CAN.....	CAN Interface with both listener and talker functions
/ETH.....	Ethernet interface with listener and talker functions over a LAN
/KFZ12.....	Output follows a 12Vdc automotive cranking curve
/KFZ24.....	Output follows a 24Vdc automotive cranking curve
/KFZXX.....	Output follows a user specific curve
/CP.....	Constant power operation
/CR.....	Constant resistance operation

Technical Data

Input voltage.....	See table
Input frequency.....	47 to 63Hz
Harmonics.....	EN61000-3-2 A14
Isolation (Input / Output).....	3000Vac
Isolation class.....	1
Safety.....	EN60950
Emissions.....	EN61000-6-4
Immunity.....	EN61000-6-2
Voltage regulation.....	±0.05% + 2mV
Current regulation.....	±0.1% + 2mA
Response time (10%-90%).....	<0.5ms (typ)
Ripple & noise.....	<0.025% mV _{RMS} FS
Stability.....	0.05% V _{MAX}
Overvoltage protection.....	0 - 110% V _{MAX}
Remote sense capability (<35V).....	2V
Remote sense capability (>35V).....	5V
Display.....	3½ digits for V & I
Protections.....	OC / OV / OT / OP
Built in analogue interface.....	0 - 10Vdc (option 0-5Vdc)
Built in RS232 interface.....	12 Bit
Adjustable internal resistance.....	0 to 15Ω
Operating temperature.....	0 to +50 °C
Storage temperature.....	-45 °C to +85 °C
Operating/Storage humidity.....	0 to 95% (non condensing)
Derating 50 °C - 70 °C.....	-2% per °C
Cooling.....	Forced air
Air flow.....	Front to back
Vibration.....	10-55Hz /1min/2G XYZ
Shock.....	Less than 20G

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LAB-TC

Advanced High Power DC Sources

Description

The LAB-TC range is a highly advanced series of Programmable DC Power Supplies. The units are built into 19" racks and are available in 10kW, 16kW, 20kW and 32kW modules. Constant voltage, current and power operating modes are provided. The internal resistance can be adjusted making the LAB/TC range ideal for battery simulation. Remote sense is provided to compensate for the voltage drop in the load lines. These DC Sources can be fitted with front panel control and an LCD display. Analogue and RS232 Interfaces are provided as standard. An easy to use, stand alone software program is also included. GPIB, CAN, RS422 and USB are optionally available. LabVIEW and C/C++ is supported if required. All regulation, monitoring and communication tasks are conducted by high performance micro-controllers and digital signal processors. This provides exceptional accuracy, reproducibility and long term stability. The PID parameters of the power supply's controllers can be configured to the needs of particular Loads. A built in function generator option is offered with application area programming allowing the output to properly simulate actual devices such as solar panels, rotating generators, power stacks and fuel cells. Bipolar and bidirectional functionality with mains recycling options can also be specified. By employing the latest IGBT technology and innovative nano-crystalline transformers an excellent efficiency of up to 95% is achieved.



- Parallel, Series & MultiLoad Operation
- Can be Optimised for Individual Loads
- Output Power from 10kW to 2MW+
- Output Voltage from 50V to 2000V
- Adjustable Internal Resistance
- Unique Full Digital Regulation

Selection Table

Part Number	Power (kW)	Voltage (V _{OUT})	Current (I _{OUT})	Height (U)	Part Number	Power (kW)	Voltage (V _{OUT})	Current (I _{OUT})	Height (U)
LAB-TC 10-52	10	0-52	0-250	19" x 6	LAB-TC 20-52	20	0-52	0-500	19" x 9
LAB-TC 10-60	10	0-60	0-193	19" x 6	LAB-TC 20-60	20	0-60	0-385	19" x 9
LAB-TC 10-65	10	0-65	0-193	19" x 6	LAB-TC 20-65	20	0-65	0-385	19" x 9
LAB-TC 10-100	10	0-100	0-125	19" x 6	LAB-TC 20100	20	0-100	0-250	19" x 9
LAB-TC 10-200	10	0-200	0-63	19" x 6	LAB-TC 20-200	20	0-200	0-125	19" x 9
LAB-TC 10-400	10	0-400	0-31	19" x 6	LAB-TC 20-400	20	0-400	0-63	19" x 9
LAB-TC 10-500	10	0-500	0-25	19" x 6	LAB-TC 20-500	20	0-500	0-50	19" x 9
LAB-TC 10-600	10	0-600	0-20	19" x 6	LAB-TC 20-600	20	0-600	0-40	19" x 9
LAB-TC 10-800	10	0-800	0-16	19" x 6	LAB-TC 20-800	20	0-800	0-32	19" x 9
LAB-TC 10-1000	10	0-1000	0-13	19" x 6	LAB-TC 20-1000	20	0-1000	0-25	19" x 9
LAB-TC 16-52	16	0-52	0-400	19" x 6	LAB-TC 32-52	32	0-52	0-700	19" x 9
LAB-TC 16-60	16	0-60	0-308	19" x 6	LAB-TC 32-60	32	0-60	0-600	19" x 9
LAB-TC 16-65	16	0-65	0-308	19" x 6	LAB-TC 32-65	32	0-65	0-600	19" x 9
LAB-TC 16-100	16	0-100	0-200	19" x 6	LAB-TC 32-100	32	0-100	0-400	19" x 9
LAB-TC 16-200	16	0-200	0-100	19" x 6	LAB-TC 32-200	32	0-200	0-200	19" x 9
LAB-TC 16-400	16	0-400	0-50	19" x 6	LAB-TC 32-400	32	0-400	0-100	19" x 9
LAB-TC 16-500	16	0-500	0-40	19" x 6	LAB-TC 32-500	32	0-500	0-80	19" x 9
LAB-TC 16-600	16	0-600	0-32	19" x 6	LAB-TC 32-600	32	0-600	0-64	19" x 9
LAB-TC 16-800	16	0-800	0-25	19" x 6	LAB-TC 32-800	32	0-800	0-50	19" x 9
LAB-TC 16-1000	16	0-1000	0-20	19" x 6	LAB-TC 32-1000	32	0-1000	0-40	19" x 9

Different output ranges and application/user specific options are possible. Please contact ET to discuss your requirements.



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LAB-TC

Advanced High Power DC Sources

Options Table

Code	Description
/HMI.....	Front panel control and display
/LCAL.....	Integrated liquid cooling of the power stage
/RS422.....	Differential serial interface
/IRXTS.....	Internal resistance range extension (max. 12,000mΩ)
/TFE.....	Integrated function generating engine with application area programming
/CANCABLE.....	Connecting cable for multi-unit operation
/RCU.....	Remote control unit with up to 40m of cable
/RCU19.....	Remote control unit built into 19"x3Ux290mm (WxHxD) rack
/RCUDT.....	Remote control unit provided as a desktop unit measuring 355x100x290mm (WxHxD)
/RMB.....	Remote Measure Box for Higher Dynamics in Multi-Unit Operation
/PACOB.....	Protection against Accidental Contact of Output Current Bars
/IEEE.....	Integrated IEEE488.2 interface (SCPI)
/CANOPEN.....	Integrated CAN/CANopen interface
/USB.....	Integrated USB interface
/PROFIBUS.....	Field Bus to RS232 Interface
/INTERBUS.....	Field Bus to RS232 Interface
/DEVICENET.....	Field Bus to RS232 Interface
/ETH.....	Ethernet interface with listener and talker functions over a LAN
/FILTER.....	Input air filter

Technical Data

Input voltage.....	3 x 360-440 VAC
Input frequency.....	48 - 62Hz
Mains Connection Type.....	3L + PE (no neutral)
Operating Modes.....	Constant Voltage (0 - 100% of Vmax) Constant Current (0 - 100% of Imax) Constant Power (5 - 100% of Pmax)
Internal Resistance Range.....	0 - 1,000mΩ (option 0 - 12,000mΩ)
Interfaces.....	Analogue & RS232
Remote Sense.....	0 - Vmax + 2%
Efficiency.....	Up to 95%
Load Regulation (CV, CC).....	<±0.1%
Line Regulation (CV, CC).....	<±0.1%
Response time (10-90%).....	<2ms
Over Voltage Protection.....	0 - 110% of Vmax
Over Current Protection.....	0 - 110% of Imax
Output Ripple (300Hz Vrms).....	<0.4%
Output Noise (40kHz-1MHz).....	<0.1 Vrms
Stability (CV, CC).....	<±0.05%
Operating Temperature.....	5 - 40 °C
Temperature Coefficient (CV).....	0.02% per °C
Temperature Coefficient (CC).....	0.03% per °C

Individual unit specific technical summaries are available on request



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LAB-IGBT

High Power DC Source Cabinets

Description

The LAB-IGBT is a robust range of switch mode power sources based on IGBT technology. These units are ideal for medium to high power application where full adjustability of voltage and current limit is required. Front panel control and display is provided as standard. For remote control your chosen unit can be built with either standard or isolated analogue interfaces. A wide range of computer interfaces are also optionally available. On request additional filtering can be built into the unit to drastically reduce the output ripple to <1%. Forced air cooling is standard although convection cooling can be specified. Series and parallel operation is possible ensuring your organisation's investment is safeguarded should your power requirements change. A host of safety features are provided including V, I & W limits along with overtemperature and fast acting fuses. If a unit from the standard range is not ideal then please let us know your requirement. Almost any output of up to 400Vdc, 5,000A at a maximum power of 90kW is possible with this platform.



- Constant Voltage & Current Operation
- Optional Computer Interfaces
- Optional Analogue Interfaces
- Series & Parallel Operation
- Switch Mode Platform
- Efficiencies up to 89%
- Voltages up to 400Vdc
- Currents up to 5,000A
- Low Ripple Option

Technical Data

Input Voltage.....	3 x 400VAC (50/60Hz)
Isolation (input to output).....	3000VAC
Safety.....	EN60950
Emission.....	EN61000-6-4
Immunity.....	EN61000-6-2
CEM Standards.....	89/336 CEE
Low Voltage.....	73/23 CEE
Response Time.....	<50ms
Ripple.....	<5% (1% option)
Stability.....	<1%
Display.....	3.5 digits for V & I
Protection.....	OC/OT/OP
Analogue Interface.....	0 - 5V (10V option /AI-10)
Isolated Analogue Interface.....	0 - 5V (10V option /ATI-10)
Interface RS232.....	option /LTRS232
Interface IEE488.2.....	option /LT
Operating Temperature.....	-10 °C to +40 °C
Storage Temperature.....	-40 °C to +60 °C
Operating Humidity.....	< 80% (non condensing)



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Selection Table

Part Number	Power (kW)	Voltage (V _{OUT})	Current (I _{OUT})	Part Number	Power (kW)	Voltage (V _{OUT})	Current (I _{OUT})
LAB-IGBT 10-1000	10	0 - 10	0 - 1000	LAB-IGBT 10-5000	50	0 - 10	0 - 5000
LAB-IGBT 30-333	10	0 - 30	0 - 333	LAB-IGBT 30-1666	50	0 - 30	0 - 1666
LAB-IGBT 60-166	10	0 - 60	0 - 166	LAB-IGBT 60-833	50	0 - 60	0 - 833
LAB-IGBT 80-125	10	0 - 80	0 - 125	LAB-IGBT 80-625	50	0 - 80	0 - 625
LAB-IGBT 125-80	10	0 - 125	0 - 80	LAB-IGBT 125-400	50	0 - 125	0 - 400
LAB-IGBT 200-50	10	0 - 200	0 - 50	LAB-IGBT 200-250	50	0 - 200	0 - 250
LAB-IGBT 300-33	10	0 - 300	0 - 33	LAB-IGBT 300-166	50	0 - 300	0 - 166
LAB-IGBT 400-25	10	0 - 400	0 - 25	LAB-IGBT 400-125	50	0 - 400	0 - 125
LAB-IGBT 10-1500	15	0 - 10	0 - 1500	LAB-IGBT 12-5000	60	0 - 12	0 - 5000
LAB-IGBT 30-500	15	0 - 30	0 - 500	LAB-IGBT 30-2000	60	0 - 30	0 - 2000
LAB-IGBT 60-250	15	0 - 60	0 - 250	LAB-IGBT 60-1000	60	0 - 60	0 - 1000
LAB-IGBT 80-187	15	0 - 80	0 - 187	LAB-IGBT 80-750	60	0 - 80	0 - 750
LAB-IGBT 125-120	15	0 - 125	0 - 120	LAB-IGBT 125-480	60	0 - 125	0 - 480
LAB-IGBT 200-75	15	0 - 200	0 - 75	LAB-IGBT 200-300	60	0 - 200	0 - 300
LAB-IGBT 300-50	15	0 - 300	0 - 50	LAB-IGBT 300-200	60	0 - 300	0 - 200
LAB-IGBT 400-37	15	0 - 400	0 - 37	LAB-IGBT 400-150	60	0 - 400	0 - 150
LAB-IGBT 10-2000	20	0 - 10	0 - 2000	LAB-IGBT 14-5000	70	0 - 14	0 - 5000
LAB-IGBT 30-666	20	0 - 30	0 - 666	LAB-IGBT 30-2333	70	0 - 30	0 - 2333
LAB-IGBT 60-333	20	0 - 60	0 - 333	LAB-IGBT 60-1166	70	0 - 60	0 - 1166
LAB-IGBT 80-250	20	0 - 80	0 - 250	LAB-IGBT 80-875	70	0 - 80	0 - 875
LAB-IGBT 125-160	20	0 - 125	0 - 160	LAB-IGBT 125-560	70	0 - 125	0 - 560
LAB-IGBT 200-100	20	0 - 200	0 - 100	LAB-IGBT 200-350	70	0 - 200	0 - 350
LAB-IGBT 300-66	20	0 - 300	0 - 66	LAB-IGBT 300-233	70	0 - 300	0 - 233
LAB-IGBT 400-50	20	0 - 400	0 - 50	LAB-IGBT 400-175	70	0 - 400	0 - 175
LAB-IGBT 10-3000	30	0 - 10	0 - 3000	LAB-IGBT 16-5000	80	0 - 16	0 - 5000
LAB-IGBT 30-1000	30	0 - 30	0 - 1000	LAB-IGBT 30-2666	80	0 - 30	0 - 2666
LAB-IGBT 60-500	30	0 - 60	0 - 500	LAB-IGBT 60-1333	80	0 - 60	0 - 1333
LAB-IGBT 80-375	30	0 - 80	0 - 375	LAB-IGBT 80-1000	80	0 - 80	0 - 1000
LAB-IGBT 125-240	30	0 - 125	0 - 240	LAB-IGBT 125-640	80	0 - 125	0 - 640
LAB-IGBT 200-150	30	0 - 200	0 - 150	LAB-IGBT 200-400	80	0 - 200	0 - 400
LAB-IGBT 300-100	30	0 - 300	0 - 100	LAB-IGBT 300-266	80	0 - 300	0 - 266
LAB-IGBT 400-75	30	0 - 400	0 - 75	LAB-IGBT 400-200	80	0 - 400	0 - 200
LAB-IGBT 10-4000	40	0 - 10	0 - 4000	LAB-IGBT 18-5000	90	0 - 18	0 - 5000
LAB-IGBT 30-1333	40	0 - 30	0 - 1333	LAB-IGBT 30-3000	90	0 - 30	0 - 3000
LAB-IGBT 60-666	40	0 - 60	0 - 666	LAB-IGBT 60-1500	90	0 - 60	0 - 1500
LAB-IGBT 80-500	40	0 - 80	0 - 500	LAB-IGBT 80-1125	90	0 - 80	0 - 1125
LAB-IGBT 125-320	40	0 - 125	0 - 320	LAB-IGBT 125-720	90	0 - 125	0 - 720
LAB-IGBT 200-200	40	0 - 200	0 - 200	LAB-IGBT 200-450	90	0 - 200	0 - 450
LAB-IGBT 300-133	40	0 - 300	0 - 133	LAB-IGBT 300-300	90	0 - 300	0 - 300
LAB-IGBT 400-100	40	0 - 400	0 - 100	LAB-IGBT 400-225	90	0 - 400	0 - 225

Different output ranges and application/user specific options are possible. Please contact ET to discuss your requirements.

Options Table

Code	Description
/ATE.....	No front panel control or display. Analogue Interface provided as standard
/AI-5.....	0-5V Analogue Interface for all control and measurement functions
/AI-10.....	0-10V Analogue Interface for all control and measurement functions
/ATI-5.....	Isolated 0-5V Analogue Interface for all control and measurement functions
/ATI-10.....	Isolated 0-10V Analogue Interface for all control and measurement functions
/LT.....	IEEE 488.2 Interface with listener and talker functions
/LTRS232.....	RS232 Interface with listener and talker functions
/LTRS485.....	RS485 Interface with listener and talker functions
/LT+LTRS232.....	IEEE 488.2 and RS232 Interfaces with listener and talker functionality
/LT+LTRS485.....	IEEE 488.2 and RS485 Interfaces with listener and talker functionality
/CAN.....	CAN Interface with listener and talker functions
/USB.....	USB Interface with listener and talker functions
/ETH.....	Ethernet interface with listener and talker functions over a LAN
/LR.....	Ripple improved to 1% of full scale value
/CK.....	Convection Cooling

Every effort is made to ensure that the information provided within this technical summary is accurate. However, ET must reserve the right to make changes to the published specifications without prior notice. Where certain operating parameters are critical for your application we advise that they be confirmed at the time of order. ET specialises in modifying its proven platforms to suit your needs. Please contact our office if your requirement is non-standard. Please note that your actual unit may differ from those shown.



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LAB-ACO Thyristor Regulated High Power DC Source

Description

The LAB-ACO range is a rugged thyristor regulated DC Source for high power applications. Output currents up to 50kA at powers of up to 1MW are possible. The standard range covers the most common output requirements. Different voltage and current ranges are available on request if one of the standard units is not ideal. The LAB-ACO has front panel control and display with 0-100% adjustment of both voltage and current limit. If remote control is required then analogue interfaces and computer interfaces such as RS232, RS485, CAN, USB and IEEE 488.2 are available for control and measurement. A Remote Control Unit can also be provided with up to 20 meters of cable. Extra filtering can be specified to reduce the standard ripple of 5% down to 1%. The LAB-ACO is an air cooled design ensuring that troublesome water cooling systems need not be installed. The unit benefits from a comprehensive range of safety and protection features including super fast fuses, over current limit, over voltage limit, over power limit and thermal protection.



- Constant voltage & current mode
- Analogue, RS232 & IEEE488.2
- Voltages up to 400VDC
- True thyristor regulated
- Currents up to 50,000A

Technical Data

Input Voltage.....	3 x 400VAC
Isolation (input to output).....	3000VAC
Safety.....	EN60950
Emission.....	EN61000-6-4
Immunity.....	EN61000-6-2
Response Time.....	typically 100ms
Ripple.....	<5% (1% option)
Stability.....	<1%
Display.....	3.5 digits for V & I
Protection.....	OC/OT/OP
Analogue Interface.....	0 - 5V (10V option /AI-10)
Isolated Analogue Interface.....	0 - 5V (10V option /ATI-10)
Interface RS232.....	option /LTRS232
Interface IEE488.2.....	option /LT
Operating Temperature.....	-10 °C to +40 °C
Operating Humidity.....	0 - 90% (non condensing)



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Selection Table

Part Number	Power (kW)	Voltage (V _{OUT})	Current (I _{OUT})	Part Number	Power (kW)	Voltage (V _{OUT})	Current (I _{OUT})
LAB-ACO 10-1000	10	0 - 10	0 - 1000	LAB-ACO 10-20000	200	0 - 10	0 - 20000
LAB-ACO 50-200	10	0 - 50	0 - 200	LAB-ACO 50-4000	200	0 - 50	0 - 4000
LAB-ACO 80-125	10	0 - 80	0 - 125	LAB-ACO 80-2500	200	0 - 80	0 - 2500
LAB-ACO 125-80	10	0 - 125	0 - 80	LAB-ACO 125-1600	200	0 - 125	0 - 1600
LAB-ACO 250-40	10	0 - 250	0 - 40	LAB-ACO 250-800	200	0 - 250	0 - 800
LAB-ACO 400-25	10	0 - 400	0 - 25	LAB-ACO 400-500	200	0 - 400	0 - 500
LAB-ACO 500-20	10	0 - 500	0 - 20	LAB-ACO 500-400	200	0 - 500	0 - 400
LAB-ACO 10-2500	25	0 - 10	0 - 2500	LAB-ACO 10-30000	300	0 - 10	0 - 30000
LAB-ACO 50-500	25	0 - 50	0 - 500	LAB-ACO 50-6000	300	0 - 50	0 - 6000
LAB-ACO 80-312	25	0 - 80	0 - 312	LAB-ACO 80-3750	300	0 - 80	0 - 3750
LAB-ACO 125-200	25	0 - 125	0 - 200	LAB-ACO 125-2400	300	0 - 125	0 - 2400
LAB-ACO 250-100	25	0 - 250	0 - 100	LAB-ACO 250-1200	300	0 - 250	0 - 1200
LAB-ACO 400-62	25	0 - 400	0 - 62	LAB-ACO 400-750	300	0 - 400	0 - 750
LAB-ACO 500-50	25	0 - 500	0 - 50	LAB-ACO 500-600	300	0 - 500	0 - 600
LAB-ACO 10-5000	50	0 - 10	0 - 5000	LAB-ACO 10-40000	400	0 - 10	0 - 40000
LAB-ACO 50-500	50	0 - 50	0 - 1000	LAB-ACO 50-8000	400	0 - 50	0 - 8000
LAB-ACO 80-625	50	0 - 80	0 - 625	LAB-ACO 80-5000	400	0 - 80	0 - 5000
LAB-ACO 125-400	50	0 - 125	0 - 400	LAB-ACO 125-3200	400	0 - 125	0 - 3200
LAB-ACO 250-200	50	0 - 250	0 - 200	LAB-ACO 250-1600	400	0 - 250	0 - 1600
LAB-ACO 400-125	50	0 - 400	0 - 125	LAB-ACO 400-1000	400	0 - 400	0 - 1000
LAB-ACO 500-100	50	0 - 500	0 - 100	LAB-ACO 500-800	400	0 - 500	0 - 800
LAB-ACO 10-7500	75	0 - 10	0 - 7500	LAB-ACO 10-50000	500	0 - 10	0 - 50000
LAB-ACO 50-1500	75	0 - 50	0 - 1500	LAB-ACO 50-10000	500	0 - 50	0 - 10000
LAB-ACO 80-938	75	0 - 80	0 - 938	LAB-ACO 80-6250	500	0 - 80	0 - 6250
LAB-ACO 125-600	75	0 - 125	0 - 600	LAB-ACO 125-4000	500	0 - 125	0 - 4000
LAB-ACO 250-300	75	0 - 250	0 - 300	LAB-ACO 250-2000	500	0 - 250	0 - 2000
LAB-ACO 400-188	75	0 - 400	0 - 188	LAB-ACO 400-1250	500	0 - 400	0 - 1250
LAB-ACO 500-150	75	0 - 500	0 - 150	LAB-ACO 500-1000	500	0 - 500	0 - 1000
LAB-ACO 10-10000	100	0 - 10	0 - 10000	LAB-ACO 15-50000	750	0 - 15	0 - 50000
LAB-ACO 50-2000	100	0 - 50	0 - 2000	LAB-ACO 50-15000	750	0 - 50	0 - 15000
LAB-ACO 80-1250	100	0 - 80	0 - 1250	LAB-ACO 80-9375	750	0 - 80	0 - 9375
LAB-ACO 125-800	100	0 - 125	0 - 800	LAB-ACO 125-6000	750	0 - 125	0 - 6000
LAB-ACO 250-400	100	0 - 250	0 - 400	LAB-ACO 250-3000	750	0 - 250	0 - 3000
LAB-ACO 400-250	100	0 - 400	0 - 250	LAB-ACO 400-1875	750	0 - 400	0 - 1875
LAB-ACO 500-200	100	0 - 500	0 - 200	LAB-ACO 500-1500	750	0 - 500	0 - 1500
LAB-ACO 10-15000	150	0 - 10	0 - 15000	LAB-ACO 20-50000	1000	0 - 20	0 - 50000
LAB-ACO 50-3000	150	0 - 50	0 - 3000	LAB-ACO 60-16666	1000	0 - 60	0 - 16666
LAB-ACO 80-1875	150	0 - 80	0 - 1875	LAB-ACO 80-1250	1000	0 - 80	0 - 1250
LAB-ACO 125-1200	150	0 - 125	0 - 1200	LAB-ACO 125-8000	1000	0 - 125	0 - 8000
LAB-ACO 250-600	150	0 - 250	0 - 600	LAB-ACO 250-4000	1000	0 - 250	0 - 4000
LAB-ACO 400-375	150	0 - 400	0 - 375	LAB-ACO 400-2500	1000	0 - 400	0 - 2500
LAB-ACO 500-300	150	0 - 500	0 - 300	LAB-ACO 500-2000	1000	0 - 500	0 - 2000

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/CAN.....	CAN Interface with listener and talker functions
/USB.....	USB Interface with listener and talker functions
/ETH.....	Ethernet interface with listener and talker functions over a LAN
/LR.....	Ripple improved to 1% of full scale value
/RCU.....	Remote control unit with 20 metre cable
/4-20.....	4 - 20mA isolated interface for control and monitoring