ETPS
ELECTRONIC TEST & POWER SYSTEMS

LAB-TCH

ADVANCED HIGH POWER DC SOURCES

POSITIVE PROBLEM SOLVING

High power stacks between 40kW to 256kW are available using LAB-TC Modules. The digital architecture of the product family enables operation in to the Megawatt range.

Up to 12 stacks can be connected together to provide over 3MW. The dedicated inter-unit BUS ensures active load sharing. Even at high power the already impressive dynamic response is barely affected when the optional Multi Rack Controller is used. Systems can be easily expanded, reconfigured or split to provide a number of outputs. It only takes a few minutes to pull out a 32kW module and use it in stand alone mode.

- Stacks can be Operated in Parallel up to 3MW
- Embedded Function Generating Engine
- Full Cabinet Integration Available
- Adjustable Internal Resistance
- Excellent Dynamic Response
- Full Digital Regulation

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FURTHER DETAILS

A host of options and accessories are available. These include computer interfaces, approved converters, air filters and remote control boxes.

In addition to the standard software provided there is the option of an embedded function generator. A separate GUI dedicated to simulating photo-voltaic arrays is also offered.

Other application areas include laboratory R&D, drives and power train testing, battery simulation, production and bulk DC distribution.

HIGHLIGHTED FEATURES

RUGGEDISED ADAPTATIONS

Ruggedisation of units to military standards is possible for shipborne & vehicle projects. This ensures suitability in harsh conditions by providing protection against shock, vibration & humidity.

FUNCTION GENERATOR

Complex DC waveforms can be implemented through an embedded function generator. Standard square, sawtooth, sine & user defined shapes can be plotted against time. V/I & V/W relationships can also be programmed.

CABINET INTEGRATIONS

Our design specialists will look to find elegant solutions to integrate systems into set cabinet dimensions. Flight case integrations are also possible to provide mobile power equipment.

INTERFACES

A variety of interfaces are available providing unrivalled flexibility for users. Each system can be configured with multiple interfaces.

TECHNICAL DATA

GENERAL	
Operating Modes	Constant Voltage (0 - 100% of $_{VMAX}$) Constant Current (0 - 100% of I_{MAX}) Constant Power (5 - 100% of P_{MAX})
Input Voltage	3 × 360 - 440 VAC
Line Frequency	48 - 62Hz
Mains Connection Type	3L + PE (no neutral)
Internal Resistance Range	AdjustableΩ_{MAX} = (V_{NOM} / I_{NOM})
Interfaces	Analogue & RS-232
Remote Sense	0 - V_{MAX} + 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 V_{MAX}
Over Current Protection	0 - 110% of I_{MAX}
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
Temperature Coefficient (CV)	<0.02% of full scale value per°C
Temperature Coefficient (CC)	<0.03% of full scale value per°C
Individual module specific technical summaries are available on request	

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SELECTION TABLE

Part Number	Voltage Range	Max. Power	Current Range	Part Number	Voltage Range	Max. Power	Current Range
LAB-TCH 40-52	0 - 52V	40kW	0 - 1000A	LAB-TCH 40-500	0 - 500V	40kW	0 - 100A
LAB-TCH 64-52	0 - 52V	64kW	0 - 1400A	LAB-TCH 64-500	0 - 500V	64kW	0 - 160A
LAB-TCH 96-52	0 - 52V	96kW	0 - 2100A	LAB-TCH 96-500	0 - 500V	96kW	0 - 240A
LAB-TCH 128-52	0 - 52V	128kW	0 - 2800A	LAB-TCH 128-500	0 - 500V	128kW	0 - 320A
LAB-TCH 256-52	0 - 52V	256kW	0 - 5600A	LAB-TCH 256-500	0 - 500V	256kW	0 - 640A
LAB-TCH 40-65	0 - 65V	40kW	0 - 770A	LAB-TCH 40-600	0 - 600V	40kW	0 - 80A
LAB-TCH 64-65	0 - 65V	64kW	0 - 1200A	LAB-TCH 64-600	0 - 600V	64kW	0 - 128A
LAB-TCH 96-65	0 - 65V	96kW	0 - 1800A	LAB-TCH 96-600	0 - 600V	96kW	0 - 192A
LAB-TCH 128-65	0 - 65V	128kW	0 - 2400A	LAB-TCH 128-600	0 - 600V	128kW	0 - 256A
LAB-TCH 256-65	0 - 65V	256kW	0 - 4800A	LAB-TCH 256-600	0 - 600V	256kW	0 - 512A
LAB-TCH 40-100	0 - 100V	40kW	0 - 500A	LAB-TCH 40-800	0 - 800V	40kW	0 - 64A
LAB-TCH 64-100	0 - 100V	64kW	0 - 800A	LAB-TCH 64-800	0 - 800V	64kW	0 - 100A
LAB-TCH 96-100	0 - 100V	96kW	0 - 1200A	LAB-TCH 96-800	0 - 800V	96kW	0 - 150A
LAB-TCH 128-100	0 - 100V	128kW	0 - 1600A	LAB-TCH 128-800	0 - 800V	128kW	0 - 200A
LAB-TCH 256-100	0 - 100V	256kW	0 - 3200A	LAB-TCH 256-800	0 - 800V	256kW	0 - 400A
LAB-TCH 40-200	0 - 200V	40kW	0 - 250A	LAB-TCH 40-1000	0 - 1000V	40kW	0 - 50A
LAB-TCH 64-200	0 - 200V	64kW	0 - 400A	LAB-TCH 64-1000	0 - 1000V	64kW	0 - 80A
LAB-TCH 96-200	0 - 200V	96kW	0 - 600A	LAB-TCH 96-1000	0 - 1000V	96kW	0 - 120A
LAB-TCH 128-200	0 - 200V	128kW	0 - 800A	LAB-TCH 128-1000	0 - 1000V	128kW	0 - 160A
LAB-TCH 256-200	0 - 200V	256kW	0 - 1600A	LAB-TCH 256-1000	0 - 1000V	256kW	0 - 320A
LAB-TCH 40-320	0 - 320V	40kW	0 - 160A	LAB-TCH 40-1200	0 - 1200V	40kW	0 - 40A
LAB-TCH 64-320	0 - 320V	64kW	0 - 250A	LAB-TCH 64-1200	0 - 1200V	64kW	0 - 66A
LAB-TCH 96-320	0 - 320V	96kW	0 - 375A	LAB-TCH 96-1200	0 - 1200V	96kW	0 - 99A
LAB-TCH 128-320	0 - 320V	128kW	0 - 500A	LAB-TCH 128-1200	0 - 1200V	128kW	0 - 132A
LAB-TCH 256-320	0 - 320V	256kW	0 - 625A	LAB-TCH 256-1200	0 - 1200V	256kW	0 - 264A
LAB-TCH 40-400	0 - 400V	40kW	0 - 126A				
LAB-TCH 64-400	0 - 400V	64kW	0 - 200A				
LAB-TCH 96-400	0 - 400V	96kW	0 - 300A				
LAB-TCH 128-400	0 - 400V	128kW	0 - 400A				
LAB-TCH 256-400	0 - 400V	256kW	0 - 800A				

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

OPTIONS

CODE	DESCRIPTION
/4062	Ruggedisation specification for vehicle mount projects
/480	Input voltage range of 3 × 432-528Vac, 48-62Hz (for models ≥16kW)
/WR	Wide input of 3 × 360-528Vac, 50/60Hz (only available for 1kV units at 20kW or 32kW)
/HMI	Front panel control and display
/LCAL	Integrated liquid cooling of the power stage
/ISR	Integrated safety relay for shutdown to EN954-1 Cat 3/4
/IRXTS	Maximum adjustable internal resistance range extended to 12,000mΩ
/TFE	Integrated function generating engine with application area (parametric) programming
/SAS	Solar array simulation GUI (includes TFE option)
/BATSIM	GUI simulating battery characteristics with adjustable parameters
/CAPSIM	GUI simulating the electrical characteristics of capacitors with adjustable parameters
/CANCABLE	Connecting cable for multi-unit operation
/RCU	Remote control unit with up to 40m of cable
/PACOB	Protection against accidental contact of output current bars
/RS232REAR	RS-232 on front and rear panel (time shared mode with RS-232 on front)
/RS422	Differential serial interface (time shared mode with RS-232)
/IEEE	Integrated IEEE488.2 (GPIB) interface. (RS-232 only possible on rear panel)
/CANOPEN	Integrated CAN/CANopen interface. (RS-232 only possible on rear panel)
/CANMP	Integrated CANmp interface. (RS-232 only possible on rear panel)
/OPTOLINK	Rear panel integrated fibre optic interface. (RS-232 only possible on rear panel)
/USB	Integrated USB interface. (RS-232 only possible on rear panel)
/ETH	Ethernet interface with listener and talker functions over a LAN (RS232REAR required)
/FILTER	Input air filter
/CAN+USB	Combined CAN and USB interface
/RPP	Protection against reverse polarity of the load
/RMB	Remote Measure Box for higher dynamics in multi-unit operation
/EMIFILTER	EMI filter for DC output

Every effort is made to ensure that the information provided within this technical summary is accurate. However, ETPS Ltd 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. ETPS Ltd 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.

“WE ARE POSITIVE PEOPLE”

ETPS engineer electronic power supply and testing systems. Our problem solving skills provide the spark of innovation to some of the world’s leading technology brands.

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