

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 & Multi-Load 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 16-52	16	0-52	0-400	19" x 6
LAB-TC 10-60	10	0-60	0-193	19" x 6	LAB-TC 16-60	16	0-60	0-308	19" x 6
LAB-TC 10-65	10	0-65	0-193	19" x 6	LAB-TC 16-65	16	0-65	0-308	19" x 6
LAB-TC 10-100	10	0-100	0-125	19" x 6	LAB-TC 16-100	16	0-100	0-200	19" x 6
LAB-TC 10-200	10	0-200	0-63	19" x 6	LAB-TC 16-200	16	0-200	0-100	19" x 6
LAB-TC 10-400	10	0-400	0-31	19" x 6	LAB-TC 16-400	16	0-400	0-50	19" x 6
LAB-TC 10-500	10	0-500	0-25	19" x 6	LAB-TC 16-500	16	0-500	0-40	19" x 6
LAB-TC 10-600	10	0-600	0-20	19" x 6	LAB-TC 16-600	16	0-600	0-32	19" x 6
LAB-TC 10-800	10	0-800	0-16	19" x 6	LAB-TC 16-800	16	0-800	0-25	19" x 6
LAB-TC 10-1000	10	0-1000	0-13	19" x 6	LAB-TC 16-1000	16	0-1000	0-20	19" x 6
LAB-TC 20-52	20	0-52	0-500	19" x 9	LAB-TC 32-52	32	0-52	0-700	19" x 9
LAB-TC 20-60	20	0-60	0-385	19" x 9	LAB-TC 32-60	32	0-60	0-600	19" x 9
LAB-TC 20-65	20	0-65	0-385	19" x 9	LAB-TC 32-65	32	0-65	0-600	19" x 9
LAB-TC 20100	20	0-100	0-250	19" x 9	LAB-TC 32-100	32	0-100	0-400	19" x 9
LAB-TC 20-200	20	0-200	0-125	19" x 9	LAB-TC 32-200	32	0-200	0-200	19" x 9
LAB-TC 20-400	20	0-400	0-63	19" x 9	LAB-TC 32-400	32	0-400	0-100	19" x 9
LAB-TC 20-500	20	0-500	0-50	19" x 9	LAB-TC 32-500	32	0-500	0-80	19" x 9
LAB-TC 20-600	20	0-600	0-40	19" x 9	LAB-TC 32-600	32	0-600	0-64	19" x 9
LAB-TC 20-800	20	0-800	0-32	19" x 9	LAB-TC 32-800	32	0-800	0-50	19" x 9
LAB-TC 20-1000	20	0-1000	0-25	19" x 9	LAB-TC 32-1000	32	0-1000	0-40	19" x 9
LAB-TC 20-1200	20	0-1200	0-20	19" x 9	LAB-TC 32-1200	32	0-1200	0-33	19" x 9



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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. 12,000m)
/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 - 1,000m (option 0 - 12,000m)
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