DYNALOAD® Liquid Cooled Electronic Loads

THE XBL® GEN2 LIQUID COOLED ADVANTAGE

Testing Tomorrow's Power Today

TDI POWER

DEMANDING APPLICATIONS DEMAND TDI POWER

OVERVIEW

DYNALOAD® ® GEN2 LIQUID COOLED SERIES ELECTRONIC LOADS

TDI Power recognizes the importance of reliability and performance, having supplied high power density electronic loads for over 40 years. The DYNALOAD® XBL® Liquid Cooled series is a reliable, precision controlled, high speed load use in for large dynamic load requirements.

The XBL® Liquid Cooled DYNALOAD® Series features 12 KW Master and 12 KW Slave models with wide range voltage inputs and sophisticated computer programming via GPIB, Ethernet, or RS232. These units feature an integrated web page for local system operation and control.

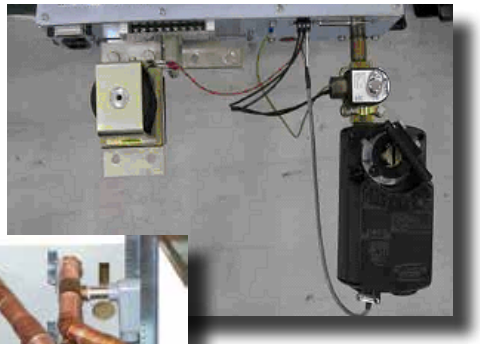
Individual models are available for specialized low voltage high current applications. All models include seamless and synchronous master slave paralleling capabilities, as well as convenient closed box calibration. The XBL® Liquid Cooled DYNALOAD® Series ***can be paralleled up to 120kW in a single rack*** system.

12 KW MASTER

12 KW SLAVE

120 KW SYSTEM

Coolant control & anti-condensation kit (part# 403499)



Custom water cooling systems

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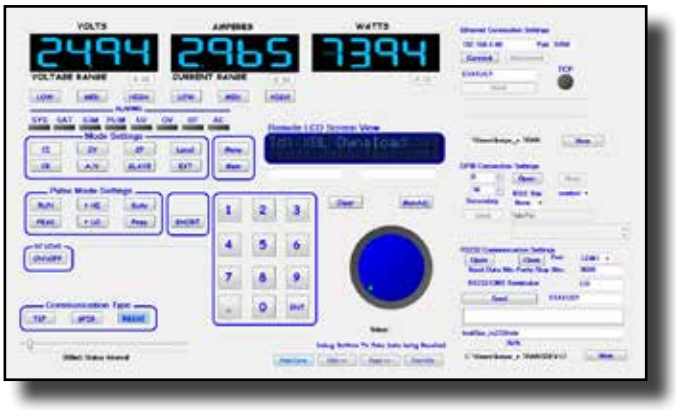
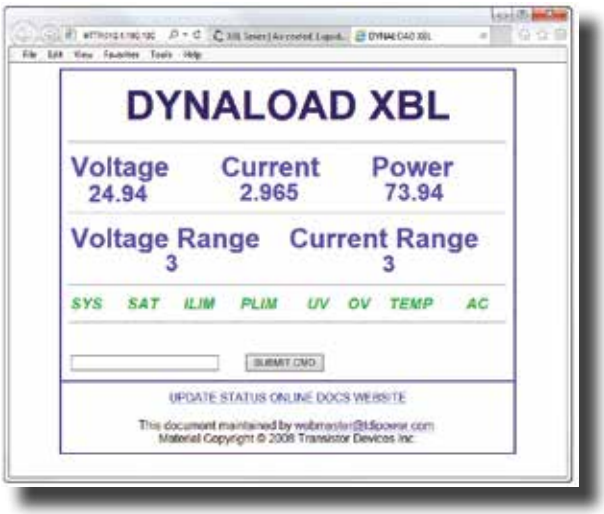
FEATURES & BENEFITS

- Programmable Microprocessor smart control -16 bit A/D and D/A architecture for superior control and resolution
- True Compatibility of GPIB commands to its predecessor the WCL Series
- Fast Response Master/Slave Communications via reliable CANbus and Auto-Sync makes mating and load balancing seamless
- AutoHunt in CP and CR mode, automatically compensates for cable IR drop until power matches the selected value - with no operator involvement
- High Accuracy Pulse mode for all modes of operation: CC, CV, CP and CR
- Programmable Slew Rates with high speed and accuracy
- Intuitive front panel controls with acceleration mode encoder offers quick set point control and ease of use
- Closed Box Calibration for end user calibration saves money, limits downtime
- Individual FET protection - isolates power stages
- OV, OC, OP and OT Fast self protection safeguards the unit for enhanced reliability
- Anti-Condensation are offered via external Controls, NOT internal to the unit
- Ultra-Low compliance voltage (0.3V) even @1200A! (50V models), additional loads can reduce this voltage further
- Three Full Scale Voltage and Three Full Scale Current Ranges
- More standard interfaces: Ethernet (LAN), GBIB/ IEEE488 and RS-232
- ATE friendly with LabVIEW drivers and SCPI Command Set
- Front Panel Lockout (remote or local)
- Three methods of Remote Control - Ethernet or GPIB (TCP, Web Browser* or Virtual Front Panel Application)
- XM Plus Command enables sinusoidal signal injection for impedance characterization
- Current Interrupt Feature
- Master and Slave Functionality enables single rack system size upwards to 120KW.
- 0 – 10Vdc External Analog Programmable

GRAPHIC USER INTERFACE





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SPECIFICATIONS

OPERATING MODES

Constant Current: 0 to selected full scale current
Prog. Accuracy: 0.1% of setpoint ±5mA
Resolution: .0015% of selected full scale

Constant Resistance: operates in Ohms or Amps/Volt (selectable)
Prog. Accuracy: ±1% of setpoint
Resolution: .0015% of full scale

Constant Voltage: 0 to selected full scale voltage
Prog. Accuracy: 1% of setpoint ±250mV
Regulation: ±0.15% of full scale
Resolution: .0015% of selected full scale

Constant Power: 0 - 12K Watts
Prog. Accuracy: ±1% of setpoint ±2 Watts
Resolution: .0015% of full scale power

ANALOG MODE

External Prog: 0 to 10 Volts input yields 0 to selected full scale current in constant current mode

PULSE MODE

Frequency: 0.1Hz to 10kHz
Duty Cycle: 0 - 100%
Minimum Pulse Width: 50µS

Adjustable Slew Rate:
50µS - 0.4 second

OUTPUT SIGNALS

Current Sample Output:
Scaling: 10 Volts = selected full scale current
Accuracy: 0.5% of full scale

Sync Output:
Timing: Synchronous with pulse generator
Output: Sink with 10K ohm pull up to +15VDC

PROGRAMMABLE PROTECTION

Current Limit:
Range: 0-105% of selected full scale
Resolution: 0.004 of selected full scale

Voltage Limit:
Range: 0-105% of selected full scale
Resolution: 0.004 of selected full scale

Power Limit:
Range: 0-105% of selected full scale
Resolution: 49 Watts

Thermal: Load disconnect at internal temperature of 70°C

Under voltage: Load inhibited at less than set-point, user selectable 0-105% of selected full scale

COMMUNICATION READ-BACK

Current:
Resolution: .0015% of selected full scale
Accuracy: ±0.1%, ±10A

Voltage:
Resolution: .0015% of selected full scale
Accuracy: ±0.1%, ±10mV

Power:
Resolution: .0015% of selected full scale
Accuracy: ±1%, ±2W

Communication Modes:
IEEE488
RS232
Ethernet (HTTP and TCP)
CANbus (for master/slave operation only)

SAFETY & COMPLIANCE

IEC/EN 61010-1, IEC 61010-2-030; US: UL 61010-1 ; Canada: CSA 61010-1 (pending)

MISCELLANEOUS

AC Input: User Selectable 115VAC, 230VAC, ±10%, 48 - 62Hz, 350W

Ambient Temp: 0°C to 40°C

Min. Compliance Voltage:
Less than 0.3V at 1200A

Display: Three four digit LEDs (Voltage, Amps, Watts)
Two line alpha numeric menu display

Warranty: 1 year parts and labor

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SAFE OPERATING AREA & SPECIFICATIONS

XBL-50-1.2K-12K-LM XBL-50-1.2K-12K-LS				XBL-100-1K-12K-LM XBL-100-1K-12K-LS				XBL-400-1K-12K-LM XBL-400-1K-12K-LS			
OPERATING RANGES (FULL SCALES)											
Voltage:		10 Volts, 20 Volts, 50 Volts		Voltage:		10 Volts, 50 Volts, 100 Volts		Voltage:		20 Volts, 200 Volts, 400 Volts	
Current:		120 Amps, 600 Amps, 1200 Amps		Current:		100 Amps, 500 Amps, 1000 Amps		Current:		100 Amps, 500 Amps, 1000 Amps	
Amps Power:		12000 Watts		Amps Power:		12000 Watts		Amps Power:		12000 Watts	
CONSTANT RESISTANCE RANGES											
High Ohms Mode:											
Range:	120A	600A	1200A	**Range:**	100A	500A	1000A	**Range:**	100A	500A	1000A
10V	0-6 A/V	0-30 A/V	0-60 A/V	**10V**	0-5 A/V	0-25 A/V	0-50 A/V	**20V**	0-2.5 A/V	0-12.5 A/V	0-25 A/V
20V	0-3 A/V	0-15A/V	0-30 A/V	**50V**	0-1 A/V	0-5 A/V	0-10 A/V	**200V**	0-.25 A/V	0-1.25 A/V	0-2.5 A/V
50V	0-1.2 A/V	0-6.0 A/V	0-12 A/V	**100V**	0-.5 A/V	0-2.5 A/V	0-5 A/V	**400V**	0-.125 A/V	0-.625 A/V	0-1.25 A/V
Low Ohms Mode:											
Range:	120A	600A	1200A	**Range:**	100A	500A	1000A	**Range:**	100A	500A	1000A
10V	0-60 A/V	0-300 A/V	0-600 A/V	**10V**	0-50 A/V	0-250 A/V	0-500 A/V	**20V**	0-25 A/V	0-125 A/V	0-250 A/V
20V	0-30 A/V	0-150 A/V	0-300 A/V	**50V**	0-10 A/V	0-50 A/V	0-100 A/V	**200V**	0-2.5 A/V	0-12.5 A/V	0-25 A/V
50V	0-12 A/V	0-60 A/V	0-120 A/V	**100V**	0-5 A/V	0-25 A/V	0-50 A/V	**400V**	0-1.25 A/V	0-6.25 A/V	0-12.5 A/V
MECHANICAL - MASTER UNIT											
Size:		19"W x 5.25"H x 24"D 483mm W x 133mm H x 610mm D Rack Mountable		**Size:**		19"W x 5.25"H x 24"D 483mm W x 133mm H x 610mm D Rack Mountable		**Size:**		19"W x 5.25"H x 24"D 483mm W x 133mm H x 610mm D Rack Mountable	
Weight:		65 lbs. / 29.54kg		**Weight:**		65 lbs. / 29.54kg		**Weight:**		65 lbs. / 29.54kg	
MECHANICAL - SLAVE UNIT											
Size:		19"W x 3.50"H x 24"D 483mm W x 89mmH x 610mm D Rack Mountable		**Size:**		19"W x 3.50"H x 24"D 483mm W x 89mmH x 610mm D Rack Mountable		**Size:**		19"W x 3.50"H x 24"D 483mm W x 89mmH x 610mm D Rack Mountable	
Weight:		55 lbs. / 24.95kg		**Weight:**		55 lbs. / 24.95kg		**Weight:**		55 lbs. / 24.95kg	

CHARACTERISTICS: See chart (pg.6)

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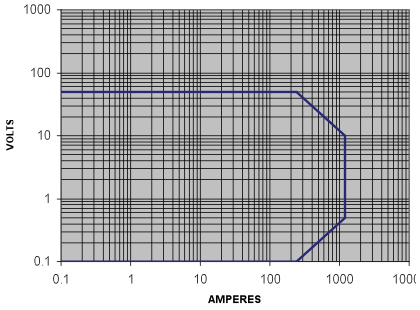
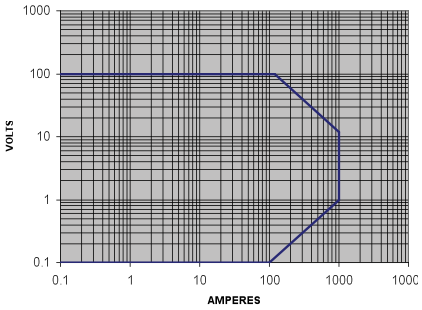
CHARACTERISTICS & OUTLINE DRAWINGS

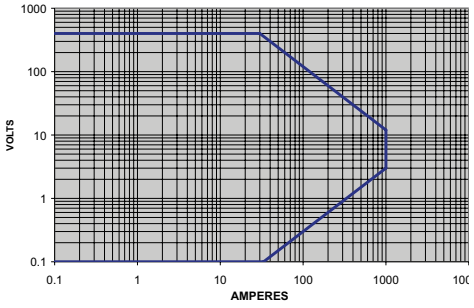
XBL-50-1.2K-12K-LM
(Low Voltage Operation)



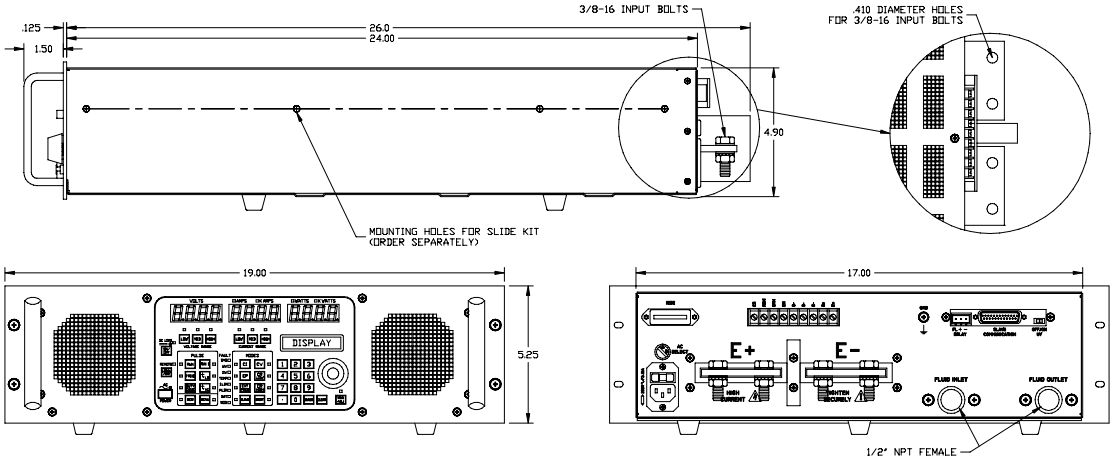
XBL-100-1K-12K-LM



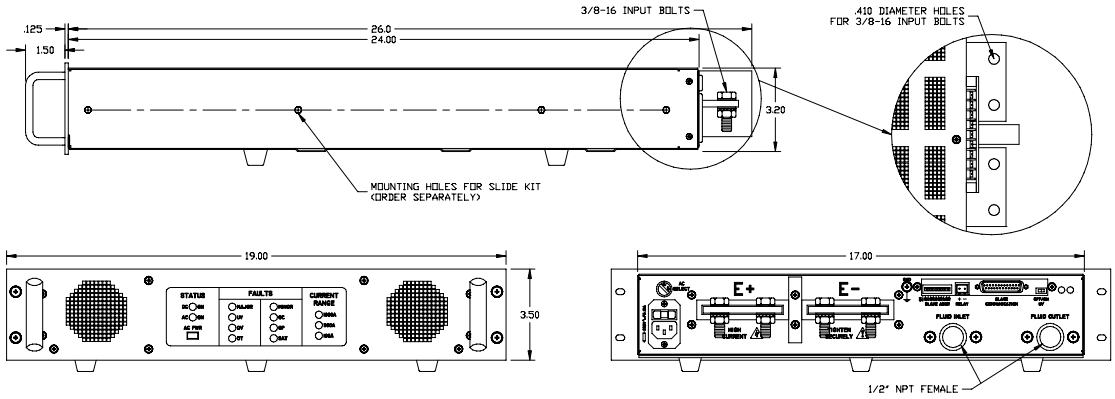
XBL-400-1K-12K-LM



XBL® LIQUID COOLED MASTER OUTLINE



XBL® LIQUID COOLED SLAVE OUTLINE



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REV 5-3-2014

ABOUT TDI POWER

TDI Power is a leading, private manufacturer of highly reliable and technologically advanced electrical power solutions. Built on a 50 year history of engineering innovation, TDI is recognized as a market driven organization that focuses on our competitive strengths to meet our customers' needs. Our diverse capabilities allow us to serve the automotive, military/aerospace, industrial, medical and test and measurement markets. Our commitment is to deliver high-end, problem solving solutions where and when needed.

From our state-of-the-art shop floor manufacturing control system, to our philosophy of conservative design practices, TDI Power's very structure is built around creating the highest possible quality products. Design Verification Testing, Highly Accelerated Life Testing (HALT), Highly Accelerated Stress Screening (HASS) and internal labs for solar and EMI testing add to our analytical capabilities and dedication to continuous improvement, higher reliability, and lower overall program costs.

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