

EL 2000 HS Series

40W



High Speed
Electronic
DC Loads

INTEPRO
SYSTEMS

THE POWER TEST EXPERTS

EL 2000 HS Series

40W



Product Overview



EL 2000 HS

The EL 2000 HS Series is a high speed modular DC load providing point of load (POL) connections and point of use (POU) for high slew rate DC loading. The EL 2000 HS is a stand alone load module for testing one device or group modules together for multi device testing. The smart on-board load head minimizes inductance, resistive losses and noise associated with typical loads that use wires to connect the device under test (DUT) to the load. With the increasing demand for high speed semiconductors, operating voltages are decreasing for minimizing the heat dissipation in devices. The EL 2000 HS is designed for sub 1V testing to meet the demands of low voltage devices.

Featured Benefits

- *Smart on-board load head (minimizes inductance)*
- *High speed slew rates*
- *High speed digitizer for high sampling rates*
- *4 modes of operation; CC, CR, CP and CV*
- *Ethernet control and read back*
- *Standard and custom solutions available*
- *Modular standalone design*
- *High speed transient response loading*
- *Sinks full rated current with only 0.3V applied to load head*

Flexibility

This standalone modular POU design along with the smart on-board load head POL allows for positioning the load to DUT without the need for customization. Intepro offers custom EL 2000 HS modules for applications that require other than the standard off the self load models. Custom solutions utilize our standard proven topology repackaged to meet your test requirements.

Standard Features

The standard load modules have four programmable modes of operation, constant current, constant resistance, constant power and constant voltage. All EL 2000 HS have a 50-MHz measurement bandwidth with a 150-MS/s, 14-bit digitizer. Measurements include volts, current, power, noise, settling time, and overshoot/undershoot for both V and I. The standard 20V/20A/40 Watt module can sink 20A with only 0.3V applied to the load head for sub 1 volt loading. In constant current mode the module achieves 40-A/ μ s rise time with a 20A load for high speed pulse loading for real load simulation of high bandwidth devices. Ethernet control allows for easy operation no matter if you're using Intepro's PowerStar software package or third party software. Intepro's Webcomm interface is also available for simple connectivity.

Testing VRM, VRD, Semiconductors and Similar Devices

The EL 2000 HS provides a platform that is flexible using its smart on-board head design and modular load modules for positioning POL connections for minimizing inductance that will reduce the speed of current transitions, rate of change of current in that path (di/dt) ($V = L \cdot di/dt$), faster current demands or pulses result in higher voltage drops for a given inductance. When you add the benefits of high speed control and sampling our loads offer full functionality for your testing needs.

Sample VRM is easily mounted to the load via a smart on-board POL head

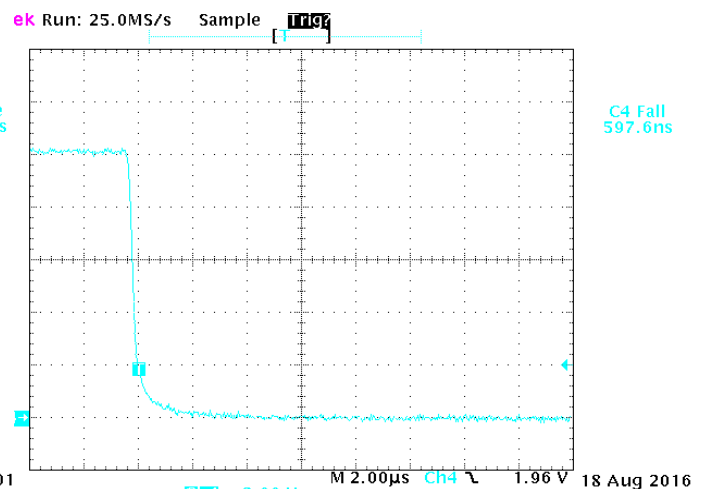
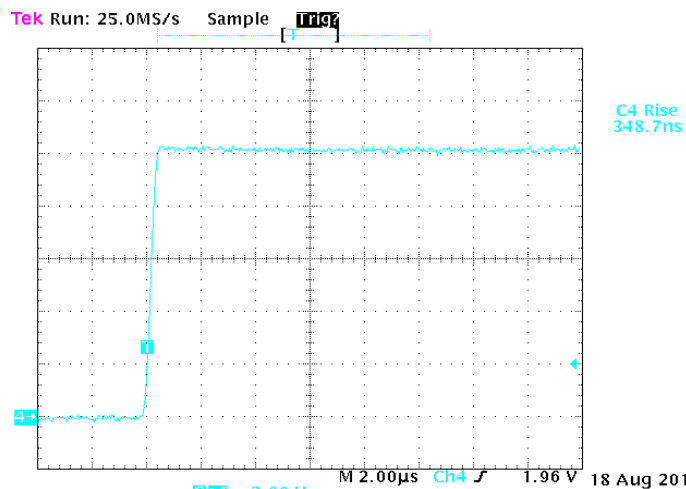


Testing High Bandwidth Power Supplies

Most conventional electronic loads with cables connections cannot meet the demands of high bandwidth power supplies. This is a very common problem with power supplies for military and commercial applications where the power supply is delivering power to RF modules. The EL 2000 HS is designed for all the factors that contribute to the inductive path to the load's power section by utilizing POL /POU modules and low internal inductance. The overall inductance of the current path is reduced by designing for the following; the connection interface to the power supply under test, the power transmission path, the critical current path inside the electronic load and the component selection along the path inside the electronic load.

As the voltage drop V along a current path is directly proportional to the product of the inductance in that path (L) and the rate of change of current in that path (di/dt) ($V = L \cdot di/dt$), faster current demands or pulses result in higher voltage drops for a given inductance. Therefore, the faster the current demand the greater the voltage drop and hence lower the voltage actually seen across the load device.

Low inductance allows for fast rise and fall times at low voltages. Figure 1 and 2 are typical rise and fall times. Notice that over and undershoot are minimized but the advanced control feedback loops.



Specifications

Model Number	EL 2000 HS
DC Input Power	40W
DC Input Current	20A
DC Input Voltage	20V
Minimum Voltage at Full Current	0.3V@20A
Constant Current	
Range	0~20A
Resolution	300uA
Accuracy	0.025%SET±0.05%FS
Constant Voltage	
Range	0~20V
Resolution	5mV
Accuracy	0.1%Set + 0.1%F.S.
Constant Power	
Range	0~40W
Resolution	6mW
Accuracy	0.2%+0.3%F.S.
Constant Resistance*	
Range	0.015Ω~1KΩ
Resolution	16bit
Accuracy	Derived from Voltage and Current specification
Transient	
T1 & T2	500us~10s / Res:50μs
Accuracy	10us+100ppm
Slew Rate Constant Current Mode	
Current Range	20A
Slew Rate	40 A/μs
Measurement	
Voltage Measurement	
Range	0~20V
Resolution	305uV
Accuracy	0.1%Set + 0.1%F.S.
Current Measurement	
Range	0~20A
Resolution	305uV
Accuracy	0.1%Set + 0.1%F.S.
Power Measurement	
Range	0~40W
Resolution	10mW
Accuracy	Derived from Voltage and Current specification

Short Circuit Feature	
Current (CC)	~20A
AC Input	
AC Input	115V 60Hz or 230V 50Hz ±10%, 100VA
Other Features	
Cooling	Air-Cooled
Storage Temperature	0-60 Deg C
Operation Temperature	0-40 Deg C
Weight	4Kg

Note:

Measurement accuracy is valid for one year, load operation temperature should be between 22 degree C~28 degree C (71 degree F ~ 82 degree F) and relative humidity is up to 80%.

In addition, accuracy specifications are valid after a 30-minute warm-up period.

In CR mode accuracy specifications are only valid for I > 0.5% FS

Connection Overview



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