

EX series dual & triple output bench DC power supplies

High power with high performance

The EX354D and EX354T provide high levels of power (up to 305 watts) in a compact and attractive case style. High resolution controls allow precise setting of voltage and current levels which are indicated on accurate and legible digital meters. Excellent line and load regulation is matched by low noise and good transient response. High power efficiency ensures that the unit remains cool with out any fan noise.

Dual or triple outputs

The EX354D has two independent and isolated outputs each with a 0 to 35V, 0 to 4A capability. The outputs operate in constant voltage or constant current mode with automatic cross over and mode indication. Each output has its own on-off switch. Where higher voltages or currents are required the outputs can be wired in either series or parallel to provide voltages up to 70 volts or currents up to 8 amps. The EX354T has an additional 'logic voltage' output with a 5A current capability. This output can be selected as 5V or 3.3V via a front panel switch. The total power capability is 280 watts for the dual supply and 305 watts for the triple.

Technical specifications

OUTPUT SPECIFICATIONS - MAIN OUTPUTS

Voltage Range:	0V to 35V.
Current Range:	0A to 4A.
Operating Mode:	Constant voltage or constant current with automatic cross-over.
Voltage Setting:	By coarse and fine controls.
Current Setting:	By single logarithmic control.
Load regulation:	<0.01% of max. O/P for a 90% load change.
Line regulation:	<0.01% of max. O/P for a 10% line voltage change.
Output impedance:	Typically <5m Ω in constant voltage mode. Typically >5kΩ in constant current mode, (voltage limit at max.).
Ripple & Noise (20MHz band width):	Typically <2mV rms, <10mV pk-pk, constant voltage mode.
Transient Response:	<200µs to within 50mV of set level for 90% load change.
Temp. Coefficient:	Typically <100 ppm/°C.
Output Protection:	Outputs will withstand up to 40V forward voltage. Reverse protection by diode clamp for currents up to 3A.
Status Indication:	Output ON lamps. Constant current mode lamps.
Output Switch:	Electronic. Preset voltage and current displayed when output is off.
Output Terminals:	4mm terminals on 19mm (0.75") pitch.

METER SPECIFICATIONS (main outputs)

Meter Types:	Separate 3 digit meters for voltage and current with 14mm (0.56") LED displays. Reading rate 4/sec.
Meter Resolutions:	100mV, 10mA.
Meter Accuracies:	Voltage 0.3% ±1 digit. Current 0.6% ±1 digit.

Designed and built in the U.K. by:



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Simultaneous digital metering

The EX series incorporates separate digital voltage and current meters on each output. The meters use bright 14mm (0.56") LED displays and have an update rate of 4 per second providing near instantaneous response. Simultaneous metering of voltage and current provides accurate information "at a glance" and avoids any possibility of misinterpretation. When an output switch is set to "off", the current limit setting is displayed enabling conditions to be set before the load is connected.

Ready for low-voltage logic

To reflect the increasing usage of low-voltage logic devices, the third output of the EX354T can be switched between 5 volts and 3.3 volts.

Safety and reliability

The EX series has been designed to meet the stringent requirements of relevant IEC standards for safety and EMC. All outputs are intrinsically short circuit proof, and are protected against external voltages and reverse currents. Low heat output ensures that no part of the PSU suffers excessive temperature rise.

SPECIFICATIONS - LOGIC OUTPUT (EX354T only)

Voltage:	5V or 3.3V, selectable by front panel switch.
Voltage accuracy:	±2%
Current limit:	5A
Load regulation:	<0.5% for a 90% load change.
Line regulation:	<0.01% for a 10% line voltage change.
Output impedance:	Typically <5m Ω.
Ripple & Noise (20MHz band width):	Typically <2mV rms, <10mV pk-pk; CV mode.
Transient Response:	<200µs to within 50mV of set level for 90% load change.
Temp. Coefficient:	Typically <100 ppm/°C.
Output Protection:	Output will withstand up to 7V forward voltage. Diode clamp reverse protection for currents to 3A.
Output Terminals:	4mm terminals on 19mm (0.75") pitch.
Status Indication:	Current limit lamp.

GENERAL

AC Input:	230V ±14% AC, 50/60Hz; Installation Category II.
Power Consumption:	600VA max.
Operating Range:	+5°C to +40 °C, 20% to 80% RH.
Storage Range:	-40°C to + 70 °C.
Environmental:	Indoor use at altitudes to 2000m, Pollution Degree 1.
Safety:	Complies with EN61010-1.
EMC:	Complies with EN50081-1 and EN50082-1.
Size:	260 x 160 x 320mm (WxHxD).
Weight:	4.3kg.

Thurlby Thandar Instruments Ltd. operates a policy of continuous development and reserves the right to alter specifications without prior notice.



THURLBY THANDAR INSTRUMENTS

EX354D & EX354T



Dual and triple output bench DC power supplies

- Dual isolated outputs of 0 to 35V at 0 to 4A each
- Separate digital voltage and current meters for each output
- Constant voltage or constant current operation
- Isolated 5 Amp 'logic' output, switchable 5V or 3.3V (EX354T)
- Compact and lightweight design with low heat output