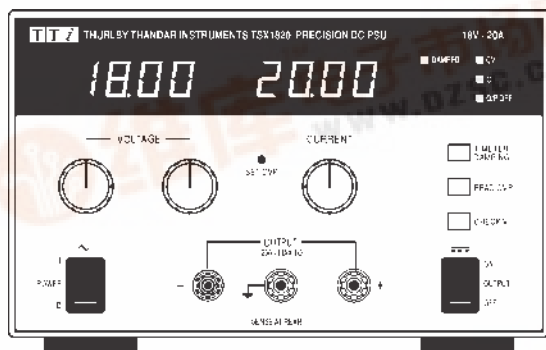


TTi THURLBY THANDAR INSTRUMENTS

TSX series High Current Laboratory Power Supplies [More Info>](#)



- High power levels in a compact & lightweight casing
- 35V-10A & 18V-20A models with more to come
- Bench or rack mounting, front & rear terminals
- Very low noise, excellent transient response
- CV & CC operation with automatic crossover
- Comprehensive protection including variable OVP trip
- High setting resolution, remote sense terminals
- High accuracy digital meters, current meter damping
- Keyboard/Rotary setting of all parameters (TSX-P)
- Watts display, non-volatile storage of 25 settings (TSX-P)
- Fully programmable with bus readback of V and I (TSX-P)
- GPIB (.2) & RS232 interfaces (TSX-P)

Model Range:

TSX1820 - Single output, 0 to 18V at 0 to 20A.

TSX3510 - Single output, 0 to 35V at 0 to 10A.

TSX1820P - 0 to 18V at 0 to 20A, GPIB & RS-232 interfaces.

TSX3510P - 0 to 35V at 0 to 10A, GPIB & RS-232 interfaces.

OUTPUT SPECIFICATIONS

Operating modes:	Constant voltage or constant current with automatic crossover.
Voltage range:	0V to 35V (TSX3510/TSX3510P). 0V to 18V (TSX1820/TSX1820P).
Current range:	0A to 10A (TSX3510/TSX3510P). 0A to 20A (TSX1820/TSX1820P).
Overvoltage protection:	10% to 110% of max. output voltage.
Setting resolution:	10mV, 10mA.
Load regulation:	<0.01% of max. O/P for 90% change.
Line regulation:	<0.01% of max. O/P for 10% change.
Output impedance:	<1mΩ in constant voltage mode. >5kΩ in constant current mode.
Ripple & noise:	<1mV RMS typical in constant voltage. <3mA RMS typical in constant current.
HF common mode noise:	Typically <3mV RMS, <10mV pk.
Transient load response:	<20μs to within 50mV of set level for 90% load change.
Temperature coefficient:	typically <100ppm/°C.
Overvoltage protection delay:	<200μs.
Protection functions:	Overvoltage trip, Regulator overtemperature Sense miswiring.
Status indication:	Output on/off lamp, Constant voltage mode lamp Constant current mode lamp, Trip message.
Output switch:	Electronic.
Output terminals:	4mm output terminals at front, screw terminals for output and sense at rear.
Output protection:	Full forward and reverse protection via OVP and diode clamp.

INPUT SPECIFICATIONS

Input voltage range:	180V to 270V RMS, 90V to 135V RMS, 47 to 63Hz.
Power requirement:	750VA max.
Voltage range selection:	Rear panel slide switch.

Note: This is a faxable data sheet. a colour brochure is also available.

METER SPECIFICATIONS

Meter types:	Separate 4 digit meters for voltage and current with 12.5mm (0.5") LED displays.
Meter resolutions:	10mV, 10mA.
Meter accuracies:	Voltage $\pm(0.2\% + 1 \text{ digit})$ Current $\pm(0.5\% + 1 \text{ digit})$.

MECHANICAL & ENVIRONMENTAL

Electrical safety:	Complies with EN61010-1.
EMC:	Complies with EN50081-1 and EN50082-1.
Temperature:	+5°C to +40°C operating, 20% to 80% RH, -40°C to +70°C storage.
Size:	210 x 130 x 350mm (WxHxD) (half rack width x 3U height), optional rack mounting kit available.
Weight:	5.0kg (TSX versions). 5.5kg (TSX-P versions).

FRONT PANEL CONTROLS (standard versions)

Voltage setting:	Via single rotary controls for coarse and fine control.
Current setting:	Via single turn semi-logarithmic rotary control.
Overvoltage setting:	Via screwdriver adjustable preset potentiometer.
Output On/Off:	Via large paddle lever switch.

FRONT PANEL CONTROLS (P versions)

Voltage setting:	Direct keyboard entry or quasi-analogue rotary control.
Current setting:	Direct keyboard entry or quasi-analogue rotary control.
Overvoltage setting:	Direct keyboard entry.
Output On/Off:	Push button with dual indicator lamps.

Note: all voltage and current levels set via the keyboard are displayed on a separate 0.3" 4 digit display. This entry preview system ensures that the user can observe the value entered before it is effected thus avoiding possible error. The display is also used for setting additional functions and for displaying watts.

Additional keyboard functions:	Increase or decrease voltage or current in user-selectable steps (delta mode). Store/recall voltage, current & OVP levels from non-volatile memory (25 memories). Set digital interface type (RS232 or GPIB), set baud rate, set address.
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DIGITAL INTERFACES (P versions)

RS232:	Variable baud rate, 9600 baud maximum, 9 pin D connector (male). Fully compatible with standard RS232 or TTI addressable RS232 system (ARC).
IEEE-488 (GPIB):	Conforming with IEEE488.1 & IEEE488.2.
Operational functions:	Set voltage; set current; set OVP; set output On/Off; read output voltage/current.
Setting resolution:	Voltage - 10mV; Current - 10mA.
Setting accuracy:	Voltage - $\pm(0.1\% + 10\text{mV})$; Current - $\pm(0.2\% + 20\text{mA})$.
Response times:	Interface - <15ms (single command); PSU - Depends on Load conditions, typically 150ms to within 0.1% of final value (except for voltage reduction with low load current which will be longer).
Readback resolution:	Voltage - 10mV; Current - 10mA.
Readback accuracy:	Voltage - $\pm(0.1\% + 1 \text{ digit})$; Current - $\pm(0.5\% + 1 \text{ digit})$.
Operating software:	Software for operating the PSUs under GPIB or RS232 control is available including a Labwindows* driver and ARC-TALK software for a PC.

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

Designed and built in the EEC by:



Thurlby Thandar Instruments Ltd.

Glebe Road, Huntingdon. Cambs. PE18 7DX England

Tel: +44 (0)1480 412451 Fax: +44 (0)1480 450409

e-mail: sales@ttinst.co.uk Web: <http://www.ttinst.co.uk>