

THURLBY THANDAR INSTRUMENTS

QPX1200L



1200 watt *PowerFlex* dc power supply - 60V, 50A max.

- ▶ *PowerFlex* design gives variable voltage/current combinations
- ▶ Up to 60 volts and up to 50 amps within a power envelope
- ▶ Linear final regulation provides very low output noise
- ▶ Setting by direct numeric entry or by spin wheel
- ▶ High setting resolution of 1mV in up to 60 volts
- ▶ Multiple non-volatile setting memories
- ▶ Bench or rack mounting with front and rear terminals
- ▶ Analog, RS232, USB & LAN (LXI) interfaces standard, GPIB optional

QPX1200L 1.2kW PowerFlex dc power supply - 60V, 50A max.

Unrivalled Flexibility

The QPX1200L offers users a level of flexibility that can not be achieved with conventional laboratory power supplies.

With a current capability of 20 amps at the maximum output of 60 volts, its PowerFlex design offers increasing output current with reducing output voltage. The QPX1200L can therefore perform the task of many different power supplies.

Example voltage/current combinations include 60V/20A, 48V/25A, 37.5V/30A, 26V/40A, and 20V/50A.

High precision

With setting controlled by an instrumentation quality 16 bit DAC, the QPX1200L offers high accuracy and stability.

Low noise

Mixed mode regulation with a linear output stage gives the QPX1200L exceptionally low output noise for a unit of this power, and ensures good transient response.

Bench or rack mounting

Unlike most higher power laboratory PSUs, the QPX1200L is equally suited to bench or rack-mount applications.

Output and sense terminals are provided on both the front and rear panels. The case has integral tilt feet, and a 3U rack mount is available as an option.

A wide range of interfaces

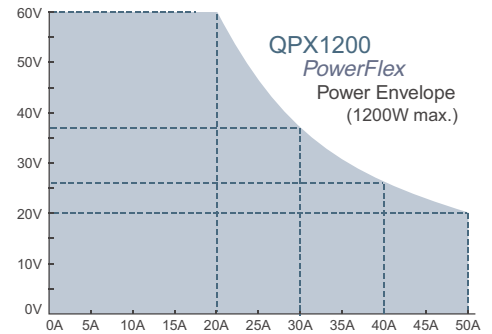
The QPX1200 has analog, RS-232, USB and LAN interfaces as standard, the latter conforming with the LXI standard. An optional GPIB interface can be specified at time of order.

OUTPUT SPECIFICATIONS

Voltage Range:	0V to 60V.
Current Range:	0A to 50A.
Power Range:	Up to 1200W - see PowerFlex power envelope graph.
Operating Mode:	Constant voltage or constant current with automatic cross-over and mode indication.
Voltage Setting:	By floating point numeric entry or rotary jog wheel; resolution 1mV.
Current Setting:	By floating point numeric entry or rotary jog wheel; resolution 10mA.
Setting Accuracy:	Voltage - 0.1% ± 2mV. Current 0.3% ± 20mA
Setting Stores:	Up to 10 set-ups can be saved and recalled via the keyboard or remote interfaces.
Load regulation:	<0.01% +5mV for a 90% load change.
Line regulation:	<0.01% +5mV for a 10% line voltage change.
Ripple & Noise:	Typically <3mV rms, <20mV pk-pk, (20MHz bandwidth).
Transient Response:	<250µs to within 50mV of set level for 90% load change.
Temp. Coefficient:	Typically <100ppm/°C.
Output Protection:	Forward protection by OVP trip; maximum voltage that should be applied to the terminals is 70V. Reverse protection by diode clamp.
Protection Functions:	Power Limiter, over-voltage, over-current and temperature trips.
Status Indication:	Display indication of Output On, CV, CI and Power Limit. Message on display for over-voltage trip.
Output Switch:	Push switch operating electronic power control. LED indication of On state
Output Terminals:	Front and rear output and sense terminals. Safety terminals accepting 6mm wire diameter, 6mm plugs or 8mm spades at 50 Amps max, or 4mm plugs at 30 Amps max.
Sensing:	Selectable local or remote sensing.

POWER ENVELOPE

The maximum current at any voltage settings is limited by the power envelope which is set to give 20A at 60V rising to 50A at 20V under all ac supply conditions. At lower output voltages the power is restricted by the 50 amps current maximum.



OUTPUT PROTECTION

Output Protection:	Output will withstand forward voltages of up to 70V a. Reverse protection by diode clamp.
Fault Condition Trip:	The output will be shut down if any of the four trip conditions listed below occur
Over Voltage (OVP):	Settable 2V to 65V in 0.1V steps
Over Current (OCP):	Settable 2A to 55A in 0.1A steps
Over Temperature:	Monitors internal temperature rise to protect against excess ambient temperature or blocked ventilation slots.
Sense Error:	Monitors the voltage between the remote sense terminals and output terminals to protect against mis-wiring.

METERING

Display Type:	Large dot-matrix black-on-white backlit LCD.
Meter Function:	5 digit voltage meter and 4 digit current meter. Display of limits values, memory contents etc. Wide range of alpha-numeric messages.
Limits Display:	Limits settings can be displayed simultaneously with measurements.
Meter Resolution:	Voltage: 1mV. Current: 10mA
Meter Accuracy:	Voltage: 0.1% of reading ± 2 digits Current: 0.3% of reading ± 2 digits

BUS INTERFACES

Quasi-Analog:	Voltage or current, 0 - 5V or 0 - 10V. (Digitised)
USB:	Standard USB hardware connection.
RS-232:	Variable baud rate 19,200 max.
LAN:	Conforming to Ethernet standard and LXI standard.
GPIB (Option G):	Conforming with IEEE-488.1 and IEEE-488.2.

N.B. All bus interfaces incorporate full control, readback and status reporting.

Bus Type Selection:	From front panel (RS232/USB/LAN/GPIB).
Address Selection:	From front panel (1 to 31).
Baud Selection:	RS-232 only. From front panel (600 to 19200 baud).
Setting Resolution:	Voltage - 1mV, Current 1mA.
Readback Resolution:	Voltage - 10mV, Current 10mA.
Accuracy:	See specifications under Outputs and Metering.

GENERAL

AC Input:	110V to 240V AC ±10%, 50/60Hz. Installation Category II.
Power Consumption:	1600VA 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 2.
Safety:	Complies with EN61010-1.
EMC:	Complies with EN61326.
Size:	350 x 130 x 413mm (WxHxD) (3U height) .
Weight:	9.2kg (20lb).
Benchtop Operation:	Folding legs are incorporated that can be used to angle the front panel upwards when required.
Rack Mount Option:	19 inch 3U rack mount.

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

Designed and manufactured in Europe by:



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