

THURLBY THANDAR INSTRUMENTS CPX200



PowerFlex 350 watt twin dc power supply

- Dual isolated outputs, 0-35V, 0-10A, 175 watts max. per output
- PowerFlex design gives variable voltage/current combinations
- 5A capability at 35 volts rising to 10A for 12 volts and below
- Separate digital voltage and current meters for each output
- High setting resolution, remote sense, variable OVP trips
- Compact half-rack 3U case size for bench or rack use

CPX200 PowerFlex twin 175W DC power supply (350W total)

A new type of bench PSU

The CPX200 is a new type of bench power supply designed to meet the need for flexibility in the choice of voltage and current. Todays engineers often need the voltage range capability of a 35V PSU and the current capability of 10A PSU. Normally, how-

ever, the maximum voltage and maximum current are not required simultaneously.

A conventional bench PSU has a fixed current limit giving a power capability that reduces directly with the output voltage.

PowerFlex design

The TTi PowerFlex design of the CPX200 enables higher currents to be generated at lower voltages within an overall power limit envelope.

Each output can provide 35 Volts at a maximum current of 5 Amps. As the voltage setting is reduced the output current capability increases up to a maximum of 10 Amps.

This is achieved by using the latest switch-mode technology. Advanced techniques are used to achieve noise and RFI figures comparable with good linear PSUs. As a result the CPX200 can be used with confidence in sensitive environments.

Compact and convenient

OUTPUT SPECIFICATIONS (each output)

The CPX200 is housed in a compact and robust steel case which is half-rack width and takes up very little bench space.

It is lightweight to transport and generates much less heat than a conventional PSU of similar power. The design requires no fan thus reducing unwanted noise.

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Voltage Range:	0V to 35V.
Current Range:	UA to TOA.
Power Range.	Op to 175W - see FowerFlex power envelope graph.
Operating Mode.	cross-over and mode indication
OVP Setting:	Via screwdriver adjustable preset on front panel
OVP range:	10% to 110% of maximum output voltage
Voltage Setting:	By coarse and fine controls
Current Setting:	By single logarithmic control
Load regulation:	< 0.01% for a 90% load change
Line regulation:	<0.01% for a 10% line voltage change
Output impedance:	Typically $<$ 5mQ in constant voltage mode. Typically $>$ 5kQ in
o alp at impodation	constant current mode. (voltage limit at max.).
Ripple & Noise:	Typically <2mV rms, <20mV pk-pk, (20MHz bandwidth) both outputs fully loaded (7A @ 25V).
Transient Response:	<2ms to within 100mV 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 50V. Reverse protection
	by diode clamp for reverse currents up to 3A.
Protection Functions:	Overvoltage trip.
Status Indication:	LED indication of Output On, CV, CI and Power Limit.
Output Curitoby	Message on display for over-voltage trip.
Output Switch:	voltage and current are displayed when the output is off
Output Terminals:	Amm terminals on 10mm (0.75") nitch 154 max, rating
Sensing:	Remote sensing via a front panel terminal block or local
Contoinig.	sensing (at output terminals). Selection by slide switch.

METER SPECIFICATIONS (each output)

Meter Types: Separate 4 digit meters for voltage and current with 14mm (0.56") LED displays. Reading rate 4/second. Meter Resolutions: 10mV, 10mA. Meter Accuracies: Voltage 0.2% ±1 digit. Current 0.5% ±1 digit.

Designed and manufactured in Europe



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Twin independent outputs

The CPX200 is a dual output PSU with two completely independent and isolated outputs each with a 175W capability. The outputs operate in constant voltage or constant current mode with automatic crossover and mode indication. Each output has its own on-off switch.

If required, the outputs can be wired in series or parallel to achieve voltages up to 70V or currents up to 20A.

Precision adjustment and metering

The CPX200 incorporates separate high resolution voltage and current meters for each output using large bright LED displays.

Coarse and fine controls permit the output voltage to be set within 10mV. The current limit control is logarithmic to give good resolution at low current settings.

When each output switch is set to 'OFF', the meters display the set levels. This enables voltage and current levels to be set accurately before connection to the load.

Switchable remote sense terminals are provided to allow the effects of connection lead resistance to be eliminated.

Safety and protection

The CPX200 is designed and manufactured to meet the latest safety and EMC standards.

It incorporates full active power factor correction (PFC) which substantially reduces the levels of harmonic current taken from the ac line supply.

Comprehensive protection includes an adjustable overvoltage trip for each output. This can be accurately set anywhere in the range 3.5V to 38.5V.

POWER ENVELOPE (each output)

The maximum current at any voltage settings is limited by the power envelope which is set to give 5A at 35V rising to 10A at 12V under all ac supply conditions (both outputs loaded). At lower output voltages the power is restricted by the 10 amps current maximum.



GENERAL

AC Input:	Internally set for 230V AC or 115V AC, 50/60Hz. Operating range ±14% of setting. 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, EN50082-1 and EN61000-3-2.
Size:	210 x 130 x 350mm (WxHxD) half rack width x 3U height .
Weight:	5kg (11lb).
Options:	Rack mounting kit.

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