

XPH Series

175 to 420 W Laboratory DC Power Supply



XPH 18-10
Single Output



XPH 35 4T
Triple Output

Compact high power bench DC power supplies

The Xantrex XPH Series provides 175 to 420 watts of power. The XPH is a compact, high performance low cost power supply suited for benchtop applications.

The XPH Series uses combined switch-mode pre-regulation with linear post-regulation to provide performance comparable with an all linear design. The XPH features excellent line and load regulation with low noise and good transient response. The XPH Series is available in a single, dual and triple output for benchtop use.

The XPH dual output models have two independent and isolated outputs with its own on-off switch. The outputs can be wired in either series or parallel to provide higher voltage and higher current output. All outputs are intrinsically short circuit proof, and are protected against external voltages and reverse currents. The XPH triple output model has the same features as the dual output model with an additional switchable fixed output of 3.3V and 5V.

Product Features

- ▶ Low noise
- ▶ Excellent line/load regulation
- ▶ Coarse and fine voltage controls
- ▶ Constant voltage or constant current operation with automatic crossover and mode indication
- ▶ Individual ON/Off switch per output (not including fixed output)
- ▶ Switchable 3.3V/5V output on triple output model
- ▶ Switchable remote sense (XPH 18-10 and XPH 42-10 models)

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Electrical Specifications

Models	18-10	35-5	35-4D	35-4T	42-10	75-2D
Output Ratings:						
Output Voltage	0-18V	0-35V	0-35V	0-35V	0-42V	0-75V
Output Current	0-10A	0-5A	0-4A	0-4A	0-10A	0-2A
Outputs	1	1	2	3	1	2
Output Power	180W	175W	280W	305W	420W	300W
Operating Mode	Constant voltage or constant current with automatic cross-over and indication					
Voltage Setting	By coarse and fine controls					
Current Setting	By single logarithmic control					
Output Impedance	Typically <5mΩ in constant voltage mode. Typically >50kΩ (XPH 35-4, XPH 75-2D), >20kΩ (XPH 35-5, XPH 42-10), >10kΩ (XPH 18-10)					
Line Regulation	<0.01% of max. output for a 10% line voltage change					
Load Regulation	<0.01% of max. output for a 90% load change, <0.1% (XPH 75-2D in Mode C)					
Ripple and Noise	Typically <2 mV rms, <10 mV pk-pk, <15 mV (XPH 75-2D), CV mode (20 MHz bandwidth)					
Transient Response	<200μs to within 50mV of set level for 90% load change (mode A only XPH 75-2D)					
Temperature Coefficient	Typically <100ppm /°C					
Output Protection	Outputs will withstand forward voltages up to 40V (XPH 35-5, XPH 35-4D, XPH 35-4T) or 85V/170V (XPH 75-2D)					
Status Indication	Output ON lamps. Constant current mode lamps					
Output Switch	Electronic. Preset voltage/current displayed with output off.					
Output Terminals	4mm terminals on 19mm (0.75") pitch. Special safety terminals on XPH 75-2D					
Meters (main outputs)						
Meter Types	Separate 3 digit meters for voltage and current with 14mm (0.56") LED displays. Reading rate 4/sec (4 digit voltmeter on XPH 75-2D)					
Meter Resolutions	100 mV, 10mA					
Meter Accuracy:						
Voltage	0.3% ± 1 digit					
Current	0.6% ± 1 digit					

XPH 18-10, XPH 42-10 Model

Output Protection	As XPH series but with limits of 22V (XPH 18-10) and 48V (XPH 42-10). Over-temperature trip on XPH 42-10.
Remote Selection	Switch selectable as Local or Remote
Connection	Remote sense connections via spring loaded connectors
Meter Types	Separate 4 digit meters for voltage and current with 14 mm (0.56") LED displays. Reading rate 4/sec.
Meter Resolutions	10mV, 10mA
Meter Accuracies	Voltage 0.3%± 2 digit. Current 0.6% ± 2 digit

Logic Output (X35-4T only)

Voltage	5V or 3.3V, selectable by front panel switch
Voltage Accuracy	± 2%
Current limit	5A minimum
Load regulation	<0.5% for a 90% load change
Line Regulation	<0.1% for a 10% line voltage change
Ripple and Noise	Typically <2mV rms, <10mV pk-pk (20MHz bandwidth)
Output Protection	Output will withstand up to 7V forward voltage. Diode clamp reverse protection for currents to 3A
Output Terminals	4 mm terminals on 19mm (0.75") pitch
Status Indication	Current limit lamp

Multi-Mode Operation (XPH 75-2D only)

Three modes of operation can be selected via rotary switch:	
Mode A:	Two independent and isolated outputs (75V/2A each)
Mode B:	One output of double the current capability (75V/4A). Unused output is disabled and its displays are blanked
Mode C:	One output of double the voltage capability (150V/2A). Unused output is disabled and its displays are blanked.

General Specifications

AC Input	110V to 240V ± 10%, 50/60 Hz (XPH 35-5, XPH 35-4D, XPH 35-4T, XPH 75-2), Factory set: 110 to 120 VAC ± 10% or 220-240 VAC ±10%, 50/60Hz Installation Category II (XPH 18-10, XPH 42-10)
Cooling	Convection (Fan assisted for XPH 42-10)
Output Terminals:	
Standard Type	4mm "binding post" terminals suitable for plugs or wires
XPH 75-2D only	As above but with fully "touch proof" construction
Optional (all models)	4 mm safety sockets, suitable for shrouded plugs
Consumption	400 VA (XPH 35-5, XPH 18-10), 500 VA (XPH 35-4D, XPH 35-4T, XPH 75-2D), 800 VA (XPH 42-10).
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
Dimensions (HxWxD)	6.3 x 5.5 x 12.6" (160 x 140 x 320 mm) (XPH 35-5, XPH 18-10, XPH 42-10), 6.3 x 10.2 x 12.6" (160 x 260 x 320 mm) (XPH 35-4D, XPH 35-4T, XPH 75-2D)
Unit Weight	6.2 lb/2.8 kg (XPH 35-5, XPH 18-10), 7.9 lb/3.6 kg (XPH 42-10), 9.5 lb/4.3 kg (XPH 35-4D, XPH 35-4T, XPH 75-2D)
Warranty	3 years
Approvals	CE-marked units meet: EN61010-1 and EN61326

Note: Specifications are subject to change without notice.