

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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XPH Series

175 to 420 W Laboratory DC Power Supply

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.