Sorensen XPH Series

175-420 W

115

Compact High Power Bench DC Power Supplies

18-75 V

2 - 20 A

230

- 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)
- Variable 1.5 -5V output on triple output model
- · Switchable remote sense

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

The XPH Series uses combined switchmode preregulation 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 or 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 variable auxilary output of 1.5 volts to 5 volts with a minimum of 5A current capabilities.

Output voltages up to 150 volts

The XPH75-2D is a dual-output 300-watt power supply with multi-mode capability. This enables it to operate as a dual power supply with two independent and isolated outputs, or as a single power supply of double the power. As a dual, each output provides 0 to 75 volts at 0 to 2 amps (mode A). As a single the output can be selected as either 0 to 75 volts at 0 to 4 amps (mode B) or 0 to 150 volts at 0 to 2 amps (mode C). In single modes, the unused half of the unit becomes completely inoperative and its displays are blanked.



Higher currents and remote sense

The XPH-R series are single-output power supplies similar in size and weight to the standard XPH series but offering higher output currents. To match their higher current capability, XPH-R models include switchable remote sensing and XPH extended voltmeter resolution.

Suitable for 42-volt automotive

The XPH 42-20 provides 420 watts of power within a highly compact and lightweight unit. It can provide current of up to 10 amps at voltages up to 42 volts in both constant voltage and constant current modes. The choice of 42 volts enables it to be used as a test source for the new generation of automotive electrical parts which will use 42 volts (18-cell batteries) instead of 14 volts (six-cell batteries), thus reducing currents and hence wiring losses. Switchable remote sense is provided to remove the effects of connection lead resistance at high current.

AMETEK Programmable Power 9250 Brown Deer Road San Diego, CA 92121-2267 USA



XPH Series : Product Specifications

XPH 33-5 0-35 V 0-5 A 175 W 1 XPH 33-6							
XPH 18-10							
XPI 20 20 0 20 V		Output Voltage (Output Current	Output Power	Outputs		
APP 35-5	XPH 18-10	0-18 V)-10 A	180 W	1		
APPI 35-41	XPH 20-20	0-20 V)-20 A	400 W	1		
APP 435-4T	XPH 35-5	0-35 V)-5 A	175 W	1		
RPH 42-10	XPH 35-4D	0-35 V)-4 A	280 W	2		
Amm "touch proof" binding posts/terminals on 0.75"/19mm pitch. Suitable for bare wire, hook terminals or plugs.	XPH 35-4T	0-35 V)-4 A	305 W	2 + Aux		
Output Terminals Standard 4mm "touch proof" binding posts/terminals on 0.75"/19mm plich. Suitable for bare wire, hook terminals or plugs. Remote Sense 5witch selectable as Local or Remote (main outputs only) Thought AC Input 10-240 V ± 10%, 50/60 Hz (XPH 35-5, XPH 35-4D, XPH 35-4T, XPH 75-2D) Factory set: 110-120 Vac ± 10% or 220-240 Vac ± 10% 50/60 Hz (XPH 18-10, XPH 20-20, XPH 42-10) Installation Category II 40 Vac (XPH 35-5, XPH 18-10) 500 VA (XPH 35-4D, XPH 35-4T, XPH 75-2D) 500 VA (XPH 35-4D, XPH 36-4T, XPH 75-2D) 500 VA (XPH 35-4D, XPH 36-4T, XPH 75-2D) 500 VA (XPH 35-4D, XPH 36-4T, XPH 75-2D) 500 VA (XPH 36-4D, XPH 20-4D) 600 VALES Setting 8y single logarithmic control 000 VALES Setting 9y single logarithmic cont	XPH 42-10	0-42 V)-10 A	420 W	1		
Standard 4mm "touch proof" binding posts/terminals on 0.75"/19mm pitch. Suitable for bare wire, hook terminals or plugs. Remote Sense Switch selectable as Local or Remote (main outputs only) Imput AC Input 110-240 V ± 10%, 50/60 Hz (XPH 35-5, XPH 35-4D, XPH 35-4D, XPH 35-4T, XPH 75-2D) Factory set: 110-120 Vac ± 10% or 220-240 Vac ± 10% 50/60 Hz (XPH 18-10, XPH 20-20), XPH 42-10) Installation Category II Consumption 400 VAX (XPH 35-5, XPH 18-10) (XPH 35-5, XPH 35-4D) Installation Category II General Specifications Constant Voltage or constant current with automatic cross-over and indication Voltage Setting By single logarithmic control Overating Mode Constant voltage or constant current with automatic cross-over and indication Voltage Setting By single logarithmic control Output Impedance Typically < 5 mt in constant voltage mode. Typically output on XPH35-4T course only) Line regulation < 0.01% of max. output for a 10% line voltage mode. Typically > 50 kΩ (XPH35-4, XPH75-2D). > 20 kΩ (XPH35-5, XPH42-10), > 10 kΩ (XPH18-10) in constant current mode. Load regulation < 0.01% of max. output for a 10% line voltage change. < 0.1% (XPH35-4) XPH20-20 & XPH 22-10 CV mode (20 MHz bandwidth) Transient Response < 2.00 yes to within 50 mV of set level for 90% load change. < 0.1% (XPH35-5) XPH32-10 CV mode (20 MHz bandwidth) <td>XPH 75-2D</td> <td>0-75 V</td> <td>)-2 A</td> <td>300 W</td> <td>2</td>	XPH 75-2D	0-75 V)-2 A	300 W	2		
Remote Sense Switch selectable as Local or Remote (main outputs only) Input AC Input 110-240 V ± 10%, 50/60 Hz (XPH 35-5, XPH 35-40, XPH 35-47, XPH 75-20) Factory set: 110-120 Vac ± 10% or 220-240 Vac ±10* 50/60 Hz (XPH 18-10, XPH 20-20, XPH 42-10) Installation Category II Consumption 400 Vx (XPH 35-5, XPH 18-10) 500 Vx (XPH 35-5, XPH 35-40) 500 Vx (XPH 35-40) 500 Vx (XPH 35-5, XPH 35-40) 500 Vx (XPH 35-5,	Output Terminals						
AC Input 110-240 V ± 10%, 50/60 Hz (XPH 35-5, XPH 35-4D, XPH 35-4D, XPH 35-4D) Factory set: 110-120 Vac ± 10% or 220-240 Vac ± 10% 50/60 Hz (XPH 18-10, XPH 20-2D, XPH 42-10) Installation Category II Consumption 400 VA (XPH 35-5, XPH 18-10) 500 VA (XPH 35-4D, XPH 35-4D, XPH 75-2D) 800 VA (XPH 35-4D, XPH 35-4D, XPH 35-4D, XPH 75-2D) 800 VA (XPH 35-4D, XPH	Standard	4mm "touch proof" binding posts/terminals on 0.75"/19mm pitch. Suitable for bare wire, hook terminals or plugs.					
AC Input 110-240 V ± 10%, 50/60 Hz (XPH 35-54, XPH 35-40, XPH 35-47, XPH 75-2D) Factory set: 110-120 Vac ± 10% or 220-240 Vac ± 10% 50/60 Hz (XPH 18-10, XPH 20-20, XPH 42-10), installation Category II Consumption 400 VA (XPH 35-40, XPH 35-42, XPH 35-42, XPH 75-2D) 800 VA (XPH 35-40, XPH 35-47, XPH 75-2D) SOVA (XPH 35-40, XPH 35-41, XPH 75-2D) SOVA (XPH 35-50, XPH 35-41, XPH 75-2D) SOVA (XPH 35-50, XPH 35-40, XPH 35-41, XPH 75-2D) SOVA (XPH 35-50, XPH 35-40, XPH 35-41, XPH 75-2D) SOVA (XPH 35-50, XPH 35-40, XPH 35-41, XPH 75-2D) SOVA (XPH 35-50, XPH 35-40, XPH 35-41, XPH 75-2D) SOVA (XPH 35-50, XPH 35-40, XPH 35-41, XPH 75-2D) SOVA (XPH 35-50, XPH 35-40, XPH 35-41, XPH 75-2D) SOVA (XPH 35-40, XPH 35-41, XPH 35-41, XPH 75-2D) SOVA (XPH 35-40, XPH 35-41, XP	Remote Sense	Switch selectable as Local or Remote (main outputs only)					
AC Input 110-240 V ± 10%, 50/60 Hz (XPH 35-54, XPH 35-40, XPH 35-47, XPH 75-2D) Factory set: 110-120 Vac ± 10% or 220-240 Vac ± 10% 50/60 Hz (XPH 18-10, XPH 20-20, XPH 42-10), installation Category II Consumption 400 VA (XPH 35-40, XPH 35-42, XPH 35-42, XPH 75-2D) 800 VA (XPH 35-40, XPH 35-47, XPH 75-2D) SOVA (XPH 35-40, XPH 35-41, XPH 75-2D) SOVA (XPH 35-50, XPH 35-41, XPH 75-2D) SOVA (XPH 35-50, XPH 35-40, XPH 35-41, XPH 75-2D) SOVA (XPH 35-50, XPH 35-40, XPH 35-41, XPH 75-2D) SOVA (XPH 35-50, XPH 35-40, XPH 35-41, XPH 75-2D) SOVA (XPH 35-50, XPH 35-40, XPH 35-41, XPH 75-2D) SOVA (XPH 35-50, XPH 35-40, XPH 35-41, XPH 75-2D) SOVA (XPH 35-50, XPH 35-40, XPH 35-41, XPH 75-2D) SOVA (XPH 35-40, XPH 35-41, XPH 35-41, XPH 75-2D) SOVA (XPH 35-40, XPH 35-41, XP	Input						
S00 VA (XPH 35-4D, XPH 35-4T, XPH 75-2D)	AC Input	110-240 V ± 10%, 50/60 Hz (XPH 35-5, XPH 35-4D, XPH 35-4T, XPH 75-2D) Factory set: 110-120 Vac ± 10% or 220-240 Vac ±10%, 50/60 Hz (XPH 18-10, XPH 20-20, XPH 42-10), Installation Category II					
Operating Mode Constant voltage or constant current with automatic cross-over and indication Voltage Setting By coarse and fine controls (auxiliary third output on XPH35-4T course only) Current Setting By single logarithmic control Output Impedance Typically 5 mΩ in constant voltage mode. Typically > 50 kΩ (XPH35-4, XPH75-2D), > 20 kΩ (XPH35-5, XPH42-10), > 10 kΩ (XPH35-10) in constant current mode. 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% (XPH75-2D in Mode C) Ripple & Noise Typically < 2 mVrms < 10 mVpk-pk, < 15 mV (XPH75- 2D), < 20mVpk-pk for XPH 20-20 & XPH 42-10 CV mode (20 MHz bandwidth) Transient Response < 200 µs to within 50 mV of set level for 90% load change (mode A only XPH75-2D) Temperature Coefficient Typically < 100 ppm °C Output Protection Outputs will withstand forward voltages up to 40 V (XPH 35-5. XPH 35-4D, XPH 35-4T) or 85V/170V (XPH 75-2D) or 22V (XPH 18 or 48V (XPH 42-10) Status Indication Output On I amps. Constant current mode lamps Output Switch Electronic. Preset voltage/current displayed with output off. Regulatory CF-marked to: ENG1010-1 and ENG1326 Auxillary Logic Output (XPL30-2T only) Voltage Variable <1.5V to >5V by front panel control. <td>Consumption</td> <td colspan="5">500 VA (XPH 35-4D, XPH 35-4T, XPH 75-2D)</td>	Consumption	500 VA (XPH 35-4D, XPH 35-4T, XPH 75-2D)					
Voltage Setting By coarse and fine controls (auxiliary third output on XPH35-4T course only) Current Setting By single logarithmic control Output Impedance Typically < 5 mC in constant voltage mode. Typically > 50 kΩ (XPH35-4, XPH75-2D), > 20 kΩ (XPH35-5, XPH42-10), > 10 kΩ (XPH18-10) in constant current mode. 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% (XPH75-2D in Mode C) Ripple & Noise Typically < 2 mVrms, < 10 mVpk-pk, < 15 mV (XPH75-2D), < 20mVpk-pk for XPH 20-20 & XPH 42-10 CV mode (20 MHz bandwidth) Transient Response < 200 µs to within 50 mV of set level for 90% load change (mode A only XPH75-2D) Temperature Coefficient Typically < 100 ppm /°C Output Protection Output on Voltage vill withstand forward voltages up to 40 V (XPH 35-5, XPH 35-4T) or 85V/170V (XPH 75-2D) or 22V (XPH 18 or 48V (XPH 42-10) Status Indication Output ON lamps. Constant current mode lamps Output Switch Electronic. Preset voltage/current displayed with output off. CE-marked to: EN61010-1 and EN61326 Auxiliary Logic Output (XPL30-2T only) Woltage Variable < 1.5V to >5V by front panel control. Meter Voltage Accuracy 0.3% ± 4 digits Output will withstand up to 7V forward voltage. Diode clamp reverse protection for currents up to 3A Ripple & Noise (20MHz Bandwidth) Typically z-2mVrms, < 10mVpk-pk (20MHz bandwidth) Load Regulation < 0.5% for 90% load change Line Regulation	General Specifications						
Current Setting By single logarithmic control Output Impedance Typically < 5 mΩ in constant voltage mode. Typically > 50 kΩ (XPH35-4, XPH75-2D), > 20 kΩ (XPH35-5, XPH42-10), > 10 kΩ (XPH38-10) in constant current mode. Line regulation < 0.01% of max. output for a 10% line voltage change	Operating Mode	Constant voltage or constant curre	nt with automatic cross-over an	d indication			
Output Impedance Typically × 5 mΩ in constant voltage mode. Typically > 50 kΩ (XPH35-4, XPH75-2D), > 20 kΩ (XPH35-5, XPH42-10), > 10 kΩ (XPH18-10) in constant current mode. Line regulation <0.01% of max. output for a 90% load change, < 0.1% (XPH75-2D in Mode C) Ripple & Noise Typically Transient Response <0.00 yes to within 50 mV of set level for 90% load change (mode A only XPH75-2D) Temperature Coefficient Typically < 100 ppm /°C Output Protection Outputs will withstand forward voltages up to 40 V (XPH 35-5, XPH 35-4T) or 85V/170V (XPH 75-2D) or 22V (XPH 18 or 48V (XPH 42-10) Status Indication Output ON lamps. Constant current mode lamps Electronic. Preset voltage/current displayed with output off. CE-marked to: EN61010-1 and EN61326 Auxiliary Logic Output (XPL30-2T only) Meter Voltage Accuracy Current Limit Output Protection Output Protection Output Will withstand up to 7V forward voltage. Diode clamp reverse protection for currents up to 3A Ripple & Noise (20MHz Bandwidth) Typically < 4 digits Current Limit Output Protection Output will withstand up to 7V forward voltage. Diode clamp reverse protection for currents up to 3A Ripple & Noise (20MHz Bandwidth) Typically < 2mVrms, <10mVpk-pk (20MHz bandwidth) Load Regulation 1 on 1% for 10% line voltage change. Status Indication UNREG Iamp. Meter Kingin outputs) Meter Types Separate four-digit meters for voltage and three-digit meter current with 14 mm (0.56") LED displays. Reading rate 4/sec Meter Resolutions 10 mV, 1 mA (25V output), 10mA (18V, 20V, 42V, 75V Outputs Meter Accuracy Voltage 0.3% ± 3 digits	Voltage Setting	By coarse and fine controls (auxiliary third output on XPH35-4T course only)					
20 kG (XPH35-5, XPH42-10), > 10 kG (XPH18-10) in constant current mode.	Current Setting	By single logarithmic control					
Load regulation	Output Impedance						
Ripple & Noise Typically Camyrms, < 10 mVpk-pk, < 15 mV (XPH75- 2D), < 20mVpk-pk for XPH 20-20 & XPH 42-10 CV mode (20 MHz bandwidth) Transient Response Campyrms, < 10 mVpk-pk, < 15 mV (XPH75- 2D), < 20mVpk-pk for XPH 20-20 & XPH 42-10 CV mode (20 MHz bandwidth) Transient Response Campyrms, < 10 mVpk-pk, < 15 mV (XPH75- 2D), < 20mVpk-pk for XPH 20-20 & XPH 42-10 CV mode (20 MHz bandwidth) Transient Response Campyrms, < 10 mVpk-pk, < 15 mV (XPH75- 2D), < 20mVpk-pk for XPH 20-20 & XPH 42-10 CV mode (20 MHz bandwidth) Typically < 100 ppm /°C	Line regulation	< 0.01% of max. output for a 10% line voltage change					
Transient Response < 200 µs to within 50 mV of set level for 90% load change (mode A only XPH75-2D) Temperature Coefficient Typically < 100 ppm /°C Output Protection Outputs will withstand forward voltages up to 40 V (XPH 35-5. XPH 35-4D, XPH 35-4T) or 85V/170V (XPH 75-2D) or 22V (XPH 18 or 48V (XPH 42-10) Status Indication Output ON lamps. Constant current mode lamps Output Switch Electronic. Preset voltage/current displayed with output off. Regulatory CE-marked to: EN61010-1 and EN61326 Auxiliary Logic Output (XPL30-2T only) Voltage Variable <1.5V to >5V by front panel control. Meter Voltage Accuracy 0.3% ± 4 digits Current Limit 5A minimum Output Protection Output will withstand up to 7V forward voltage. Diode clamp reverse protection for currents up to 3A Ripple & Noise (20MHz Bandwidth) Typically <2mVrms, <10mVpk-pk (20MHz bandwidth) Load Regulation <0.5% for 90% load change Line Regulation <0.1% for 10% line voltage change. Status Indication UNREG lamp. Meters (main outputs) Meter Types Separate four-digit meters for voltage and three-digit meter current with 14 mm (0.56") LED displays. Reading rate 4/sec Meter Resolutions 10 mV, 1 mA (25V output), 10mA (18V, 20V, 42V, 75V Outputs Meter Accuracy Voltage 0.3% ± 3 digits	Load regulation	< 0.01% of max. output for a 90% load change, < 0.1% (XPH75-2D in Mode C)					
Temperature Coefficient Typically < 100 ppm /°C Output Protection Output will withstand forward voltages up to 40 V (XPH 35-5. XPH 35-4D, XPH 35-4T) or 85V/170V (XPH 75-2D) or 22V (XPH 18 or 48V (XPH 42-10)) Status Indication Output ON lamps. Constant current mode lamps Output Switch Regulatory CE-marked to: EN61010-1 and EN61326 Auxiliary Logic Output (XPL30-2T only) Meter Voltage Variable <1.5V to >5V by front panel control. Meter Voltage Accuracy O.3% ± 4 digits Current Limit Output Protection Output will withstand up to 7V forward voltage. Diode clamp reverse protection for currents up to 3A Ripple & Noise (20MHz Bandwidth) Load Regulation Line Regulation Voltage Separate four-digit meters for voltage and three-digit meter current with 14 mm (0.56") LED displays. Reading rate 4/sec Meter Yupes Separate four-digit meters for voltage and three-digit meter current with 14 mm (0.56") LED displays. Reading rate 4/sec Meter Resolution 10 mW, 1 mA (25V output), 10mA (18V, 20V, 42V, 75V Outputs Meter Accuracy Voltage O.3% ± 3 digits	Ripple & Noise Typically	< 2 mVrms, < 10 mVpk-pk, < 15 m	V (XPH75- 2D), <20mVpk-pk fo	r XPH 20-20 & XPH 42-10 CV mod	de (20 MHz bandwidth)		
Output Protection Output S will withstand forward voltages up to 40 V (XPH 35-5. XPH 35-4D, XPH 35-4T) or 85V/170V (XPH 75-2D) or 22V (XPH 18 or 48V (XPH 42-10) Status Indication Output ON lamps. Constant current mode lamps Output Switch Electronic. Preset voltage/current displayed with output off. Regulatory CE-marked to: EN61010-1 and EN61326 Auxiliary Logic Output (XPL30-2T only) Voltage Variable <1.5V to >5V by front panel control. Meter Voltage Accuracy Output will withstand up to 7V forward voltage. Diode clamp reverse protection for currents up to 3A Ripple & Noise (20MHz Bandwidth) Load Regulation Status Indication VINREG lamp. Meters (main outputs) Meters (main outputs) Meter Accuracy Output will withstand up to 7V forward voltage. Diode clamp reverse protection for currents up to 3A Ripple & Noise (20MHz Bandwidth) Typically <2mVrms, <10mVpk-pk (20MHz bandwidth) Load Regulation Status Indication VINREG lamp. Meters (main outputs) Meter Accuracy Voltage Output will withstand up to 7V forward voltage. Diode clamp reverse protection for currents up to 3A Ripple & Noise (20MHz Bandwidth) Typically <2mVrms, <10mVpk-pk (20MHz bandwidth) UNREG lamp. Meters (main outputs) Meter Accuracy Voltage Output will withstand up to 7V forward voltage. Diode clamp reverse protection for currents up to 3A Ripple & Noise (20MHz Bandwidth) Typically <2mVrms, <10mVpk-pk (20MHz bandwidth) UNREG lamp. Meter Accuracy Voltage	Transient Response	< 200 μs to within 50 mV of set level for 90% load change (mode A only XPH75-2D)					
or 48V (XPH 42-10) Status Indication Output ON lamps. Constant current mode lamps Output Switch Regulatory CE-marked to: EN61010-1 and EN61326 Auxiliary Logic Output (XPL30-2T only) Woltage Meter Voltage Accuracy Current Limit Output Protection Output will withstand up to 7V forward voltage. Diode clamp reverse protection for currents up to 3A Ripple & Noise (20MHz Bandwidth) Load Regulation Line Regulation Status Indication VNREG lamp. Meters (main outputs) Meter Accuracy Output Protection for voltage and three-digit meter current with 14 mm (0.56") LED displays. Reading rate 4/sec Meter Accuracy Voltage Output Output Protection in the voltage of the voltage and three-digit meter current with 14 mm (0.56") LED displays. Reading rate 4/sec Meter Accuracy Voltage Output Protection in the voltage of the voltage	Temperature Coefficient	Typically < 100 ppm /°C					
Output Switch Regulatory CE-marked to: EN61010-1 and EN61326 Auxiliary Logic Output (XPL30-2T only) Weter Voltage Voltage Voltage Variable <1.5V to >5V by front panel control. Meter Voltage Accuracy O.3% ± 4 digits Current Limit Output Protection Output will withstand up to 7V forward voltage. Diode clamp reverse protection for currents up to 3A Ripple & Noise (20MHz Bandwidth) Load Regulation Line Regulation Status Indication VONREG lamp. Meter Types Separate four-digit meters for voltage and three-digit meter current with 14 mm (0.56") LED displays. Reading rate 4/sec Meter Resolutions Meter Accuracy Voltage 0.3% ± 3 digits	Output Protection	Outputs will withstand forward voltages up to 40 V (XPH 35-5. XPH 35-4D, XPH 35-4T) or 85V/170V (XPH 75-2D) or 22V (XPH 18-10)					
Regulatory Auxiliary Logic Output (XPL30-2T only) Voltage Voriable <1.5V to >5V by front panel control. Meter Voltage Accuracy O.3% ± 4 digits Current Limit Output Protection Output will withstand up to 7V forward voltage. Diode clamp reverse protection for currents up to 3A Ripple & Noise (20MHz Bandwidth) Typically <2mVrms, <10mVpk-pk (20MHz bandwidth) Load Regulation Line Regulation Status Indication VNREG lamp. Meters (main outputs) Meter Types Separate four-digit meters for voltage and three-digit meter current with 14 mm (0.56") LED displays. Reading rate 4/sec Meter Resolutions Meter Accuracy Voltage 0.3% ± 3 digits	Status Indication	Output ON lamps. Constant current mode lamps					
Auxiliary Logic Output (XPL30-2T only) Voltage	Output Switch	Electronic. Preset voltage/current displayed with output off.					
Meter Voltage Accuracy O.3% ± 4 digits Current Limit Output Protection Output will withstand up to 7V forward voltage. Diode clamp reverse protection for currents up to 3A Ripple & Noise (20MHz Bandwidth) Load Regulation Line Regulation Status Indication VNREG lamp. Meters (main outputs) Meter Types Separate four-digit meters for voltage and three-digit meter current with 14 mm (0.56") LED displays. Reading rate 4/sec Meter Accuracy Voltage 0.3% ± 3 digits	Regulatory						
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Ripple & Noise (20MHz Bandwidth) Load Regulation Line Regulation Status Indication Meters (main outputs) Meter Types Separate four-digit meters for voltage and three-digit meter current with 14 mm (0.56") LED displays. Reading rate 4/sec Meter Resolutions 10 mV, 1 mA (25V output), 10mA (18V, 20V, 42V, 75V Outputs Meter Accuracy Voltage 0.3% ± 3 digits							
Load Regulation < 0.5% for 90% load change Line Regulation < 0.1% for 10% line voltage change. Status Indication UNREG lamp. Meters (main outputs) Meter Types Separate four-digit meters for voltage and three-digit meter current with 14 mm (0.56") LED displays. Reading rate 4/sec Meter Resolutions 10 mV, 1 mA (25V output), 10mA (18V, 20V, 42V, 75V Outputs Meter Accuracy Voltage 0.3% ± 3 digits		Output Protection	Output Protection Output will withstand up to 7V forward voltage. Diode clamp reverse protection for currents up to 3A				
Line Regulation < 0.1% for 10% line voltage change. Status Indication UNREG lamp. Meters (main outputs) Meter Types Separate four-digit meters for voltage and three-digit meter current with 14 mm (0.56") LED displays. Reading rate 4/sec Meter Resolutions 10 mV, 1 mA (25V output), 10mA (18V, 20V, 42V, 75V Outputs Meter Accuracy Voltage 0.3% ± 3 digits							
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Meters (main outputs) Meter Types Separate four-digit meters for voltage and three-digit meter current with 14 mm (0.56") LED displays. Reading rate 4/sec Meter Resolutions 10 mV, 1 mA (25V output), 10mA (18V, 20V, 42V, 75V Outputs Meter Accuracy Voltage 0.3% ± 3 digits							
Meter Types Separate four-digit meters for voltage and three-digit meter current with 14 mm (0.56") LED displays. Reading rate 4/sec Meter Resolutions 10 mV, 1 mA (25V output), 10mA (18V, 20V, 42V, 75V Outputs Meter Accuracy Voltage 0.3% ± 3 digits		Status IlluicatiOII	Office diffp.				
Meter Resolutions 10 mV, 1 mA (25V output), 10mA (18V, 20V, 42V, 75V Outputs Meter Accuracy Voltage 0.3% ± 3 digits	, , ,						
Meter Accuracy Voltage 0.3% ± 3 digits	Meter Types	Separate four-digit meters for voltage and three-digit meter current with 14 mm (0.56") LED displays. Reading rate 4/sec					
Voltage 0.3% ± 3 digits	Meter Resolutions	10 mV, 1 mA (25V output), 10mA (18V, 20V, 42V, 75V Outputs					
	Meter Accuracy						
Current $0.6\% \pm 3$ digits	Voltage	0.3% ± 3 digits					
	Current	0.6% ± 3 digits	digits				

Environmental	· · · · · · · · · · · · · · · · · · ·
Liiviioiiiileiitai	
Operating Temperature	5 to 40°C
Storage Temperature	- 40 to 70°C
Humidity Range	20% to 80% RH
Cooling	Convection (Fan assisted for XPH 42-10 and XPH 20-20)
Environmental	Indoor use at altitudes to 2000 m, Pollution Degree 2
Physical	
Dimensions (H x W x D)	6.3 x 5.5 x 12.6" (160 x 140 x 320 mm) (XPH 35-5, XPH 18-10, XPH 20-20, 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)
Weight	6.2 lb (2.8 kg) (XPH 35-5, XPH 18-10) 7.9 lb (3.6 kg) (XPH 20-20, XPH 42-10) 9.5 lb (4.3 kg) (XPH 35-4D, XPH 35-4T) 9.7 lb (4.4 kg) (XPH 75-2D)
Model Number Description Series -	XPH 18 - 10 (XXX) Voltage Options Blank - Single Output D - Dual Output T - Triple Output
Options and Accessories	

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