PicoSight X1 | ULTRA-PRECISE POWER SUPPLY MODULE

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SUMMARY:

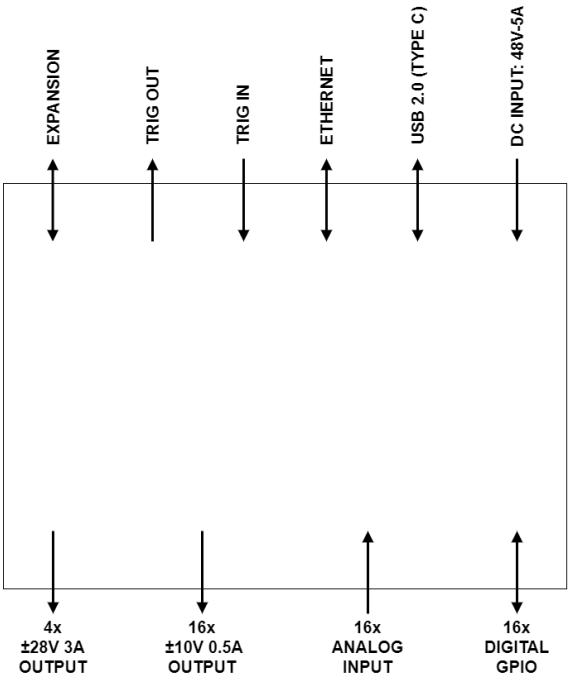
This powerful and flexible instrument provides microvolt control of 16 bipolar ±10V-500mA supplies and 4 ±28V-3A supplies. The unit has 16 analog inputs ±20V and 16 fully configurable digital GPIO pins. Multiple instruments can be replaced by this single unit, currents can be measured over high dymamic range (pA to Amps) and resistances to greater than 10-GigaOhm can be measured. Powerful onboard processing and software compatibility allows fast control via USB or Ethernet using C, LabView and MatLab for easy integration into your existing automated test setup.

USE CASES:

- Transistor Measurements
- Semiconductor Measurement
- Transistor Biasing
- Automated Test
- Flying Probe
- RF Development
- Board and Demo Board Bringup
- On-Wafer Testing
- Scientific Measurements
- High Precision Current Control
- Quantum Computing

KEY FEATURES:

- **DC Outputs:** 16x ±10V 500mA Supplies.
  2x 30V 3A Supplies.
  2x 28V 3A Supplies.
  All outputs are low noise & RF Filtered
- **DC Step Size:** 300µV Step Size on Voltage Outputs.
- **DC Accuracy:** XFET Reference, MAX 3ppm/C, ±0.05%.
- **Current Measurement:** 50pA to 500mA with pA Scale Accuracy.
- **Sample Rate:** Simultaneous measurement of all currents and analogue inputs, up to 10kSPS.
- **Analog Inputs:** ±20V Range with up to 32bit Resolution.
- **Digital Ports:** 16 Reconfigurable pins as I/O, I2C, RS232, SPI, etc. Power Rail Configurable between 2.0V and 5.5V. 4MHz Digital IO Speed per pin.
- **Control Options:** Control via Ethernet or USB.
- **Power:** 48V – 5A Max. Total Power Output: 240W.
- **Weight/Dimensions:** 3kg. 37cm x 28cm x 4.4cm.



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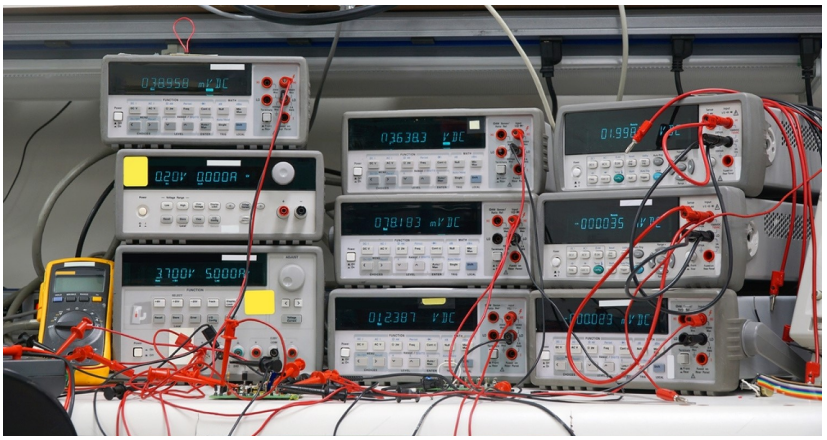
DETAILED DESCRIPTION:

The module can replace 20 power supplies and multimeters with an integrated higher performance system at a tiny fraction of the cost that a comparable desktop setup would be. Not to mention all those cables with current loops eradicated. The module features onboard filtering to remove noise that can couple around circuits and cables. The power supply is also isolated eradicating the mains noise that often appears from the standard setup shown to the right. A common interface means a quick measurement of any type can be made as all supplies are controlled simultaneously.

The hardware is designed in such a way that it can be reconfigured with new processing algorithms and given its interconnected nature various SMART operations can be carried out. The hardware can be used as a basic PSU, current sense and IO card, or it can be configured to control amplifier bias, measure transistors IV curves, measure leakage currents into integrated circuits and the detection of potential static damage.

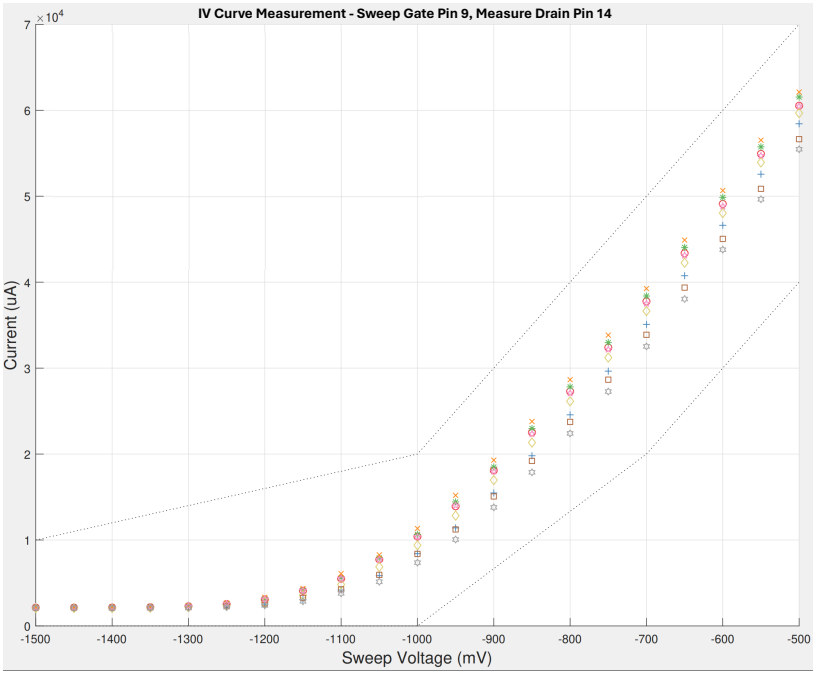
The hardware can collect data from many different sources and the interface protocol allows this to be transferred simultaneously. The unit features an audible alarm that can be configured to alert to over current, specific input voltages or digital events.
LEDs show the status of all external connections for easy viewing of module status.



Avoid the headache and mess of multiple Supplies / Meters

The module can be used in the lab environment as a complete replacement for power supplies, multi-meters, digital and analogue I/O cards, and is all you need to set to work most PCBs. The card is RF filtered to 20 GHz and can therefore be used to power RF hardware such as MMICs, test boards, amplifiers, etc, enabling quick and easy set to work. The digital I/O can be used to program chip interfaces such as I2C, SPI, RS232. The module for example, can be used with a VNA to measure efficiency of a power amplifier with varying bias conditions. Multiple bias lines can be controlled at the same time allowing optimization or calculation of efficiency.
The front panel connections are conventional D-Type compatible with standard off the shelf low-cost cable systems. All power pins can configured to use remote sense eliminating cable drop.

Measure Diode & Transistor IV Curves from nA to Amps on all pins simultaneously.
Ultra-Fast Sweep – 10,000 Samples/Sec



EECL SERVICES:

We can implement new custom firmware commands to enable you to take custom measurements at the hardware level.

If you require an end solution similar to this product, please do not hesitate to contact us; we have lots of experience in making bespoke solutions for a variety of customers.

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SPECIFICATION:

	Min	Typ	Max
GENERAL			
Operating Temperature	10°C		40°C
Humidity	10%		80%
DC Jack Input Voltage	36V		48V
Idle Power Consumption		20W	
Output Power, max continuous		100W	
Output Power, max peak		240W	

	Min	Typ	Max
16 x BIPOLAR SUPPLIES			
Output Voltage	-10.0V		10.0V
Output Voltage Resolution		50µV	
Current	0		500mA
Current Measurement Resolution		50pA	
Current Measurement Range	50pA		500mA

	Min	Typ	Max
4 x HIGH POWER SUPPLIES			
2 x Positive Supplies - Output Voltage	0.0V		30.0V
2 x Positive Supplies - Current	0A		3A
2 x Negative Supplies - Output Voltage	-28.0V		0.0V
2 x Negative Supplies - Current	0A		3A
Output Voltage Resolution		50µV	
Current Measurement Resolution		500nA	
Current Measurement Range	500nA		3A