Key benefits summary

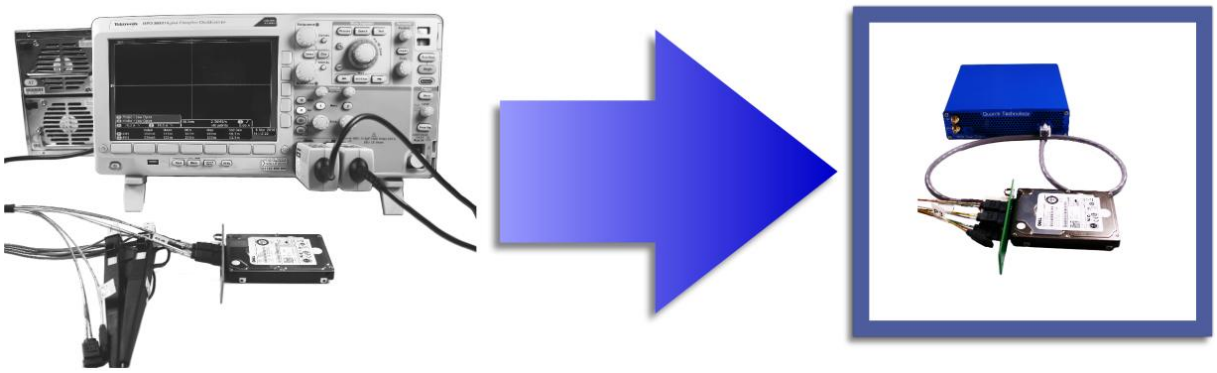
Quarch Programmable Power Modules

What you can do with a PPM

- Replace your bench power supplies, scope and current probes with a compact, single device that's **easy to set up and use**.
- Get **reliable test data**—including waveforms, raw data, and statistics—**faster than ever before**.
- Use simple automation features to **speed up testing and run unattended or overnight tests**.
- Control your Programmable Power Module using our **free software**, or **automate control easily** from your own scripted automation system using our useful script examples.

Use one device to replace many

Full power testing using traditional methods requires multiple pieces of separate equipment, making it costly and difficult to arrange. **A single Quarch Programmable Power Module (PPM) can replace a dual output power supply, oscilloscope and two current probes.** PPMs are easy to set up and can be easily integrated into your existing automated test architecture.



Performance comparison tests

See the results of tests comparing the performance of the Quarch XLC Programmable Power Module with that of a traditional drive power testing method:

- Overview
- Detailed results.

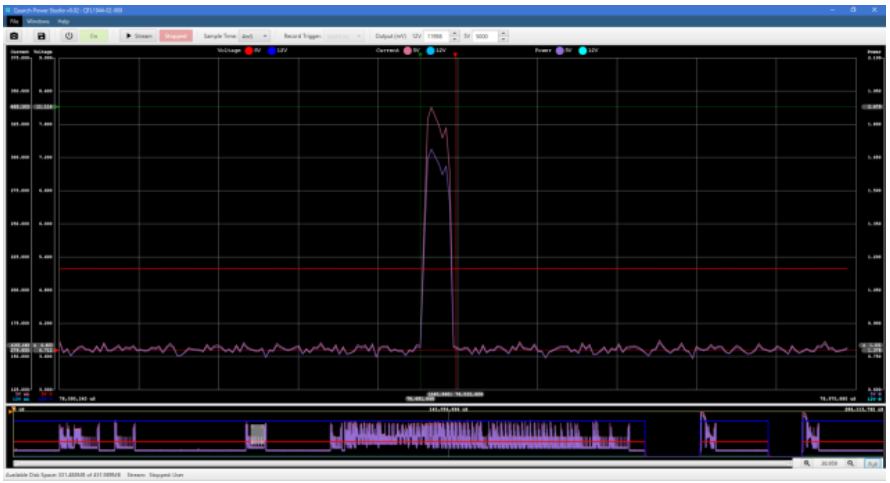
Easy access to reliable data

A scope can capture an image easily, but getting access to the raw power data can be difficult. Most scopes have very limited recording memory which prevents long-term, detailed recordings. Others provide limited means of accessing the raw trace data.

Using a PPM gives you **easy access to raw data** via simple scripts. Data can be streamed indefinitely to a PC or stored onboard for shorter durations.

- **Run tests for long periods of time and continuously record power use**; run a drive workload simulation lasting for hours or longer, recording high resolution data.

- **Use the advanced Quarch Power Studio (QPS) software**, with built-in tools for capturing and analyzing large traces, to test your drives over multiple days. Record the results and examine the smallest detail of a single event.



Example: Extreme zoom in to a small power spike, using Quarch Power Studio software

Simple, effective automation

Traditional power measurement techniques depend heavily on manual intervention and are hard to automate in a useful way.

Quarch Programmable Power Modules (PPMs) are **fully programmable power supply and measurement tools** with 12V, and 5V or 3V3 outputs. They are simple to set up, and test results—including waveforms, raw data, and statistics—are easy to obtain. Use your PPM's simple automation features to speed up testing and run unattended or overnight tests.

- PPMs can be controlled over USB and Ethernet, with a free GUI or using simple scripting.
- Data can be streamed indefinitely to a PC or stored on-board for shorter durations.
- Output voltages are programmable for margining and power up/down tests and complex patterns.

Tech tip: Setting up a PPM is incredibly easy—no more hassle trying to clamp probes in awkward places—and your choice of set-up configurations is extensive. Check out some of the options—download Simple set-up & maximum flexibility.

Controlling your module with free software from Quarch

- Control your PPM manually, using our advanced Power Studio software or the TestMonkey GUI, or
- Automate control easily from your own scripted automation system.

All the software you need is provided free with your PPM. Get started with:

- Quarch Power Studio for recording high-resolution test results over extended time periods
- The TestMonkey GUI
- Easy-to-use automation examples and the Quarch Instrument Server.

Capturing and analyzing large traces with QPS

Use Quarch Power Studio's built-in tools to capture and analyze large traces. QPS works with a PPM to **record very high-resolution results continuously over extended periods**, at the same time allowing you to **zoom in to examine the smallest detail**.

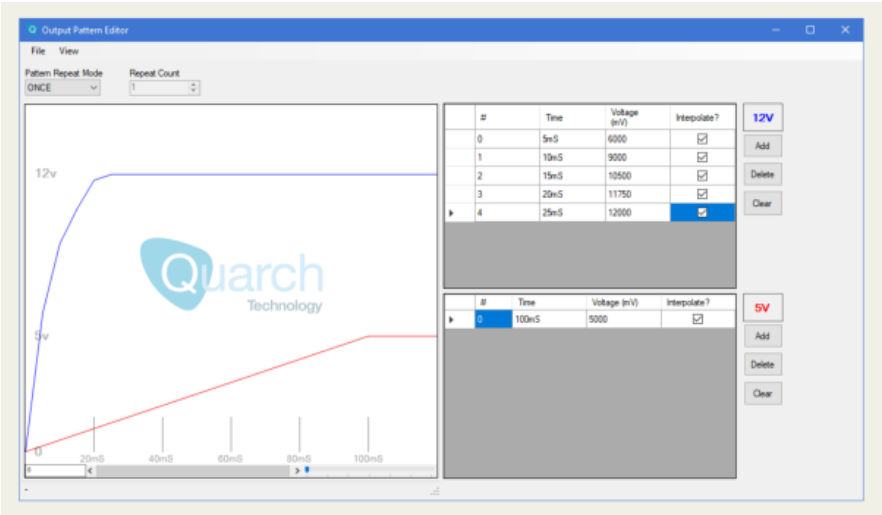
You can share data with your team by annotating traces, saving individual trace sections and capturing screen shots.

Example: Annotating a trace, using Quarch Power Studio

- Discover Quarch Power Studio

Evaluation and manual testing with TestMonkey

Use the TestMonkey GUI to control your PPM manually from any standard windows PC, for **evaluation and manual testing**.



Example: TestMonkey custom ramp patterns

➤ See a preview of the TestMonkey GUI

Easy scripted automation

A simple script can capture data from your PPM and process it in real-time and/or store it to a CSV file for use later. Example scripts are provided.

Quarch provide you with a simple Java application—the Quarch Instrument Server—to handle communication with your PPM. Using QIS gives you easy scripted automation with no need for additional drivers. Communication is via a TCP socket, so QIS can be used for both local and remote automation.

PPMs at a glance

Quarch HD PPMs: ***single output bench version*** *and* ***rack-mounted 1U version with 6 outputs***

- Easy measurement of voltage, current, and power
- Full range, dual rail, power margining
- Programmable output waveforms
- Flexible power margining
- High-speed measurement and recording
- Simultaneous sampling of voltage and current on both outputs
- Accurate power consumption measurement, from 100uA to 9A
- Fast sampling (250k/second) rate, faster than a multi-meter or even many expensive Source Measure Units (SMUs)
- External triggering option available, allowing synchronization with third-party equipment, e.g., analyzers
- Simultaneous multi-device testing, with the multi-port, rack-mounted HD PPM
- Simple test automation from any standard scripting language.

Who uses Quarch PPMs?

Storage companies

Quarch power modules are used by most of the leading SSD companies, in the US and worldwide.

Drive reviewers

Myce use Quarch power modules as part of their review process for both enterprise and consumer drives.

The SSD Review and AnandTech both use Quarch modules for their reviews of storage devices.

Find out what users say about Quarch tools

Find out why test labs, drive reviewers and test equipment manufacturers use Quarch tools.

PPM technical specifications

- Summary technical specification (all PPMs)
- XLC PPM
- HD PPM

Arrange a free evaluation or a quote

Depending on your requirements, we can normally supply you with free evaluation kit for a short period of time. To apply, or to arrange a quote, email sales@quarch.com or contact one of our skilled regional resellers.

Need more information?

- Get in touch with us for answers to your questions
- Find out about support available from our website
- Download more information from the list below.

Downloads

Datasheet – Programmable Power Modules

Comprehensive power-testing

Simple set-up & maximum flexibility

Cost-effective power testing

Programmable Power Module Vs Scope

QIS Python Control of Power Modules

Controlling a PPM with the TestMonkey GUI