

# Torridon Mini SAS Cable Pull Module



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Hot-Swap automation for Mini SAS Cables

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## Reduce Time to Market

Cut time to market by 20% for new products by automating manual test procedures

## Reduce Capital Costs

Faster and more detailed testing with Torridon means fewer test systems are required in the lab

## Reduce Human Error

Removing human intervention during tests increases consistency and results in far fewer mistakes. Test scripting provides logging and 100% repeatability

## Increase Product Reliability

Advanced techniques, such as bounds testing and fault injection provide a higher level of confidence and reduced field returns

### **Torridon Cable Pull Modules:**

Automated solution for Cable Pull / Push and Fault Injection. Cable Pull Modules vastly reduce test duration and introduce a level of repeatability and precision that is impossible during manual tests.

### **Complete Automation:**

Any test that requires manual intervention to pull or plug a drive can now be fully automated.

### **Simple Integration:**

The Torridon System works with your existing automated test setup and integrates with minimal effort. A simple command set allows for easy scripting. Quarch provides full support as standard while you get started

### **Who Can Benefit?**

- Enclosure Manufacturers
- RAID Developers
- Storage System Integrators
- Drive Qualification Labs
- Silicon Manufacturers
- Software/Driver Designers

# Torridon Mini SAS Cable Pull Module

## Interface Specification

### Power

- ▶ Supplied from Torridon Interface Card or Array Controller

### Comms

- ▶ USART Serial - DB9
- ▶ USART Serial - RJ45(RS232D)
- ▶ USB

## Cable Compatability

### Sizes

- ▶ Compatible with 4 lane 26 pin Mini SAS cables (SFF8088).

### Speeds

- ▶ Supports 3Gb and 6Gb\* data rates

## Switching

### Switches

- ▶ High Speed RF switches
- ▶ Low insertion loss

### Switched Pins

- ▶ All 16 SAS Data Pins may be switched individually

## Physical Dimensions

### QTL1253

- ▶ Length 84.0 mm
- ▶ Width 63.5 mm
- ▶ Height 30.0 mm

## Timing Specification

### Timers

- ▶ 6 Independent timers for multi stage hot-swap

### Timing resolution

- ▶ 1mS

### Pin-bounce resolution

- ▶ 10uS

### Pin-bounce modes

- ▶ Constant Frequency
- ▶ User defined 100 bit pattern

### Manual Mode

- ▶ Full manual connection control for fault injection and bugged hardware generation

## Glitching

### Timing

- ▶ Glitch any combination of signals with pulses down to 50nS

### Sequences

- ▶ Run glitches in sequences and PRBS patterns

## Fault Injection

### SAS Errors

- ▶ Create Framing Errors
- ▶ Force SAS Identify Sequence
- ▶ Fault one side of a pair
- ▶ Fault entire lanes
- ▶ Create random disruption

## Support and Utilities

Phone and email support direct to the engineers as standard

'TestMonkey' GUI for rapid test prototyping, script generation and bench testing

## Ordering Information

QTL1253 - Single Unit

QTL1285 - Quad Unit in 19in Rack Panel

### Single units

- ▶ Ideal for bench testing, debugging and evaluation

### Multiple units

- ▶ Run from a Torridon Array Controller for synchronized testing of large disk arrays

## Sales

### Serial Cables, LLC

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SKYPE: serialcablesco



<http://www.quarch.com>

<http://www.serialcables.com>

\*For long cable lengths at 6Gb, system performance should be verified before purchase