

QSwitch firmware release notes

FW 2.0 Release date 2025-03-17

Features and changes to functionality

- As a consequence of fixing the unstable ethernet communication (see below) the following commands have been discontinued: SYSTem:COMMunicate:LAN:TIMEout, :REStart, :CLOSe
- The firmware updater software has been modified slightly to be more robust. This implies that the device now has to be power-cycled by the user as part of updating.

Bug fixes

- Fixed unstable ethernet communication by switching communication protocol from TCP/IP to UDP.
- Fixed issue with instrument halting when unplugging the USB cable.

Manual

- Updated according to the new ethernet communication protocol. Including removing the descriptions of commands SYST:COMM:LAN:TIMEout, : REStart, : CLOSe.
- As the SYSTem:BEEPer:STATE? query has never been implemented, the description has been removed from the manual
- Added detailed description of the updating process using the new firmware updater software.

Other

- The Python wrapper has been updated to utilize UDP communication instead of TCP/IP over the ethernet interface, including handshaking when relay switch commands are sent to the instrument to ensure that they have been received and executed.
- To make it easier for users to control the QSwitch without having to deal with the low level SCPI commands, a Python driver equivalent to the QCoDeS driver is now available.
- The QCoDeS driver has been updated to use the UDP protocol instead of TCP/IP. Until it has been officially incorporated into qcodes_contrib_drivers, the new driver can be obtained from the related pull-request or from the QM downloads website.

<https://docs.quantum-machines.co/latest/docs/Hardware/QSwitch/>

FW 1.3 Release date 2024-01-30

Features and changes to functionality

- Implemented user-defined LAN connection timeout: The SYSTem:COMMunicate:LAN:TIMEout command can be used to set or query when an inactive TCP connection will time out. The value is in seconds, or zero if disabled, which is the default setting.

- Implemented *TST? command that reports 1 if any hardware problem has been observed (Self-Test, IEEE common command).

FW 0.187 Release date 2023-12-18

Features and changes to functionality

- Implemented *OPC? command to wait for QSwitch to be ready to receive more commands (Operation Complete, IEEE common command).
- Implemented SYSTem:COMMunicate:LAN:CLOSe command to forcefully close an open ethernet connection.
- Implemented SYSTem:COMMunicate:LAN:REStart to forcefully restart (clean) the ethernet interface (after close).
- USB communication latency improved.
- Throttle internal communication to increase responsiveness.

Bug fixes

- Eliminate relay state glitch during REStart when using AUTosave.
- More stable power led and buzzer behavior when using SYSTem:BEEPer.

Manual

- Added descriptions for new commands.
- Added new links to firmware update page

FW 0.155 2023-09-01

Initial beta release