Kernel driver aquacomputer-d5next

Supported devices:

- Aquacomputer D5 Next watercooling pump
- Aquacomputer Farbwerk 360 RGB controller

Author: Aleksa Savic

Description

This driver exposes hardware sensors of listed Aquacomputer devices, which communicate through proprietary USB HID protocols.

For the D5 Next pump, available sensors are pump and fan speed, power, voltage and current, as well as coolant temperature. Also available through debugfs are the serial number, firmware version and power-on count. Attaching a fan to it is optional and allows it to be controlled using temperature curves directly from the pump. If it's not connected, the fan-related sensors will report zeroes.

The pump can be configured either through software or via its physical interface. Configuring the pump through this driver is not implemented, as it seems to require sending it a complete configuration. That includes addressable RGB LEDs, for which there is no standard sysfs interface. Thus, that task is better suited for userspace tools.

The Farbwerk 360 exposes four temperature sensors. Depending on the device, not all sysfs and debugfs entries will be available.

Usage notes

The devices communicate via HID reports. The driver is loaded automatically by the kernel and supports hotswapping.

Sysfs entries

temp[1-4]_input	Temperature sensors (in millidegrees Celsius)
fan[1-2]_input	Pump/fan speed (in RPM)
power[1-2]_input	Pump/fan power (in micro Watts)
in[0-2]_input	Pump/fan voltage (in milli Volts)
curr[1-2]_input	Pump/fan current (in milli Amperes)

Debugfs entries

serial_number	Serial number of the device
firmware_version	Version of installed firmware
power_cycles	Count of how many times the device was powered on