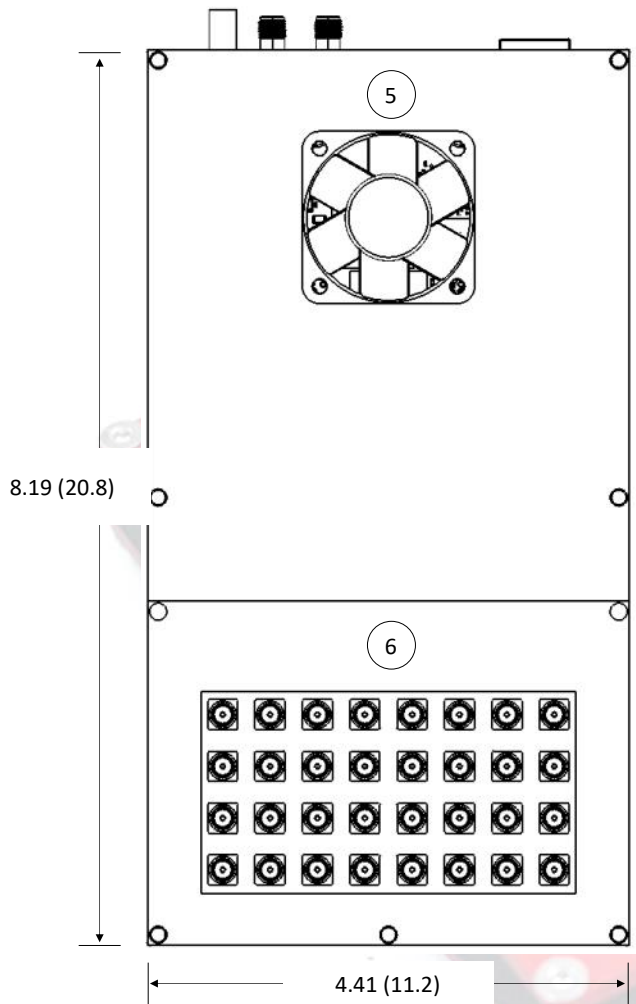


## Compact High Sampling and Frame Rate Data Acquisition (DAQ) System with 32 Parallel Channels

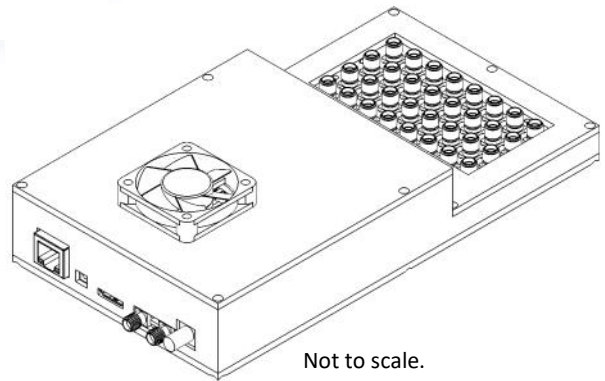
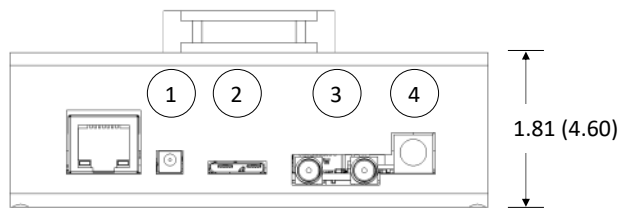


- Compact housing and SMA for easy instrument integration
- Very fast data transmission with up to 6000 fps or 80,000 data points per frame per channel
- Data streaming is limited by USB3 data bandwidth. Higher data rates or bursts can be buffered using 1GB DDR memory buffer.
- Integrated amplifier chips with digitally controlled gain
- 39 dB extra gain from HiZ preamplifiers, up to 93 dB total gain
- Optical and electrical trigger inputs
- Open SDK and access to raw data provided by DAQ software

|                     |   |                                      |  |
|---------------------|---|--------------------------------------|--|
| <b>Channels</b>     | Channels per ADC <sup>(1)</sup>           | 32                                   | <p>(1) All channels fully parallel (simultaneous data acquisition without multiplexing)</p> <p>(2) +39dB with included preamplifier</p> <p>(3) Low Pass programmable filters available</p>   |
|                     | Preamplifier Boards                       | 1                                    |  |
|                     | Channels per Preamp Board                 | 32                                   |  |
| <b>ADC</b>          | Programmable Gain <sup>(2)</sup>          | -4 to 54 dB                          | <p>(4) Selectable by INI file settings (65 MSPS coming in future firmware versions)</p> <p>(5) 6000Hz sustained with 1000 points 12-bit (limited by USB3 data bandwidth)</p> <p>(6) Per frame per channel @ 65Hz trigger 12-bit (higher acquired during bursts)</p> <p>(7) Measured with 50Ω load (actual gain depends on probe capacitance)</p> |
|                     | Bandwidth @ -3 dB <sup>(3)</sup>          | 16 kHz to Nyquist                    |  |
|                     | Sampling Rate & Resolution <sup>(4)</sup> | 80 MSPS @ 12-bit<br>65 MSPS @ 14-bit |  |
|                     | Max Trigger / Frame Rate <sup>(5)</sup>   | 6000 Hz / fps                        |  |
|                     | Max Points <sup>(6)</sup>                 | 80,000                               |  |
| <b>Preamplifier</b> | Amplification <sup>(7)</sup>              | 39 dB                                | <p>(8) Customizable up to 1MΩ (HiZ is the best to minimize noise at high frequencies)</p> <p>(9) Measured using signal generator and oscilloscope with 50Ω input</p>   |
|                     | Input Impedance <sup>(8)</sup>            | 49.9 kΩ                              |  |
|                     | Output Impedance                          | 50 Ω                                 |  |
|                     | Bandwidth @ -6 dB <sup>(9)</sup>          | 40 kHz to 35 MHz                     |  |



1. 12 VDC 2 A (4.2 A power supply included)
2. USB 3.0 port for high data transmission to end-user or PhotoSound provided computer
3. Programmable electrical trigger input and output (isolated SMA connectors)
4. Optical trigger input for connecting 2 mm patch fiber allows precise triggering from the end-user's pulsed laser
5. Silent operation cooling fan and heatsink mounted directly on ADC
6. Industry standard SMA preamplifier input connectors for third-party probe (detachable preamplifier board can be replaced with optional SMA feedthrough board with ESD and overvoltage protection for direct access to ADC32 50 Ω inputs)



All dimensions approximate in inches (cm).

Not to scale.

| Computer* (optional)   | Software   |
|--|--|
| 4+ generation Core i7 Processor<br>Nvidia Graphics Card for CUDA only<br>16+ GB DDR4 Memory<br>500+ GB PCIe Solid-State Drive<br>Windows 10 64-bit | Windows 7/10 64-bit drivers<br>Standalone DAQ Application<br>Software Development Kit<br>(LabView)<br>TDMS data output |

\* End-user or PhotoSound provided

Version DAQ32.003.0919 © 2019

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All specifications are subject to change without notice.

FLASH™ DAQ32 is classified EAR99 and does not require an export license.

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