

1088	QASM7/AIO/INV	All-in-one DAQ system for shock testing and equipment control. Features 3+1 channels for accelerometers , IDAS software, control board with embedded A/D converter, compact enclosure, and integrated inverter. Includes Laptop PC.
------	---------------	---



Typical installation on the base of a shock testing machine

Overview & Description :

The QASM7 is a complete control board designed for a wide range of embedded applications. It offers a broad set of industrial-grade peripherals, including digital I/O, analog I/O, communication interfaces, external storage, and internal memory. The board is based on a SODIMMF7 module featuring an STM32F7 MCU. This high-end 32-bit ARM Cortex-M7 microcontroller is suitable for both real-time applications and the management of complex peripherals, including displays with modern graphical user interfaces.

Technical Specifications

Key features of QASM7:

- **Processor:** ST Microelectronics STM32F746NG
- **Flash:** 1024 kB
- **RAM:** 320 kB
- **CPU Clock:** Up to 216 MHz
- **External Memory:** 128 Mbit SDRAM and 256 Mbit NOR flash
- **MAC Address:** On-board 2kbit I2C EEPROM with preconfigured EUI-48 Node Identity
- **Ethernet:** 10/100 Mbps Ethernet
- **Wireless:** Socket for Digi XBee module supporting 802.15.4, ZigBee, DigiMesh, and BLE
- **USB:** 1 USB 2.0 Type-B full-speed device port and 1 USB 2.0 Type-A full-speed host port
- **SD Card:** SD card host interface
- **RTC:** Integrated, with Supercap backup power
- **Communication Interfaces:** 1 RS232, 1 half-duplex RS485, 1 I2C 400 kHz, 1 SPI, and 1 CAN
- **Motors:** 2 microstepping stepper motor drivers
- **Analog Input:** 8-channel, 18-bit with 1st-order anti-aliasing filter @ 10kHz
 - *Maximum Sampling Frequency:* 100 kHz for 4 synchronous channels or 50 kHz for 8 synchronous channels
 - *Available Configurations:* 8 channels $\pm 10V$; 3 channels with trimmer-adjustable gain from $\times 1$ to $\times 31$; 3 constant-current channels for piezoelectric sensors; 2 photodiode channels with transconductance amplifier; 1 high-speed photocell input channel for signal synchronization; 2 12-bit channels for NTC 10K temperature probes
- **Analog Output:** 2-channel, 12-bit configurables as 0–10V or $\pm 10V$
- **Digital I/O:**
 - 8 fast optocoupled inputs with 1st-order filter @ 33kHz (configurable as 8 fast inputs or 2 quadrature encoders)
 - 8 optocoupled inputs with 1st-order filter @ 330Hz
 - 10 relay outputs, NO/NC contacts rated up to 5A @ 230VAC / 30VDC
 - 2 NPN outputs
 - 2 PWM PNP outputs
 - 4 PNP outputs
- **Main Power Supply:** +24 VDC input
- **Auxiliary Power Outputs:** +24V (4A), +12V (1A), and +5V (1.5A)

Remarks:

The measuring system, including the drop assembly, features a frequency response in accordance with CFC 1000 and CFC 600 as well as other required filters as defined in ISO 6487.

The remote control system enables height and speed adjustment, test initiation, system operation, access to pre-programmed settings, and includes an emergency stop function.

Fully compatible with sensors installed in EN 960 and 17950 headforms as well as load cells.