

# DL-DAQ-501 Technical Specification

## Distributed Strain Signal Testing and Analysis System

Distributed strain signal acquisition system for scattered measurement points, supporting 8 or 16 channels per module, 24-bit conversion, 1 Hz to 1 kHz per-channel sampling, DC to 35 Hz frequency response, full-bridge, half-bridge, and three-wire quarter-bridge strain measurement, voltage acquisition, and Ethernet system communication.

System Category	DL-DAQ
Signal Type	Distributed strain
Measurement Range	8 or 16 strain channels per module
Sampling / Response	1 Hz to 1 kHz per channel
Communication	RS485 module network and Ethernet computer communication
Protection / Enclosure	Field enclosure required by project
Power Supply	External DC power with optional PoE switching
Installation	Distributed field module installation

### Key Features

- Distributed modules reduce wiring complexity for scattered strain measurement points.
- Supports bridge strain measurement and voltage acquisition with 24-bit conversion.
- NTP synchronization, bridge self-check, and Ethernet communication support multi-module testing.
- Technical basis may reference GB/T 6587 environmental requirements.

### Typical Use Cases

- Civil and mechanical testing with scattered strain points.
- Bridge and building structural tests requiring distributed quasi-dynamic strain acquisition.

### Deployment Notes

- Confirm module count, bridge mode, sampling rate, RS485 topology, and Ethernet gateway position.
- Use bridge self-check and lead compensation before formal acquisition.
- Remove original supplier model numbers and report/certificate images from public-facing materials.

### Technical Highlights and Standards

- 8 or 16 channels per module
- 24-bit conversion
- 1 Hz to 1 kHz per channel
- DC to 35 Hz response

- RS485 plus Ethernet
- GB/T 6587 reference

Branding, supplier names, phone numbers, email addresses, physical addresses, logos, customer lists, prices, and original supplier model identifiers have been intentionally excluded from this public specification.