MLDAQ

GENERAL PURPOSE
DATA ACQUISITION

Key Features

✓ **GENERAL PURPOSE**

Supports a wide range of available sensors including Vibrating Wire, MEMs, SDI-12 and 4-20mA

✓ **EXTENSIBLE**

Option for additional multiplexers for channel extension

✓ **EASY CONFIGURATION**

Easy channel configuration and system programming using our MultiLogger® software

✓ **DURABLE**

NEMA 4/12 enclosure for long-term durability and protection

The **Canary Systems® MLDAQ** is a powerful, rugged and reliable wireless data acquisition station for general purpose use.

The MLDAQ supports measurements from a **wide range of available sensors**, including vibrating wire, load cells, micro-electro-mechanical (MEMs) sensors, flowmeters, linear potentiometers, thermocouples, thermistors, SDI-12 sensors, 4-20mA sensors, weather instruments such as wind sets, rain gages, temperature and humidity.

At the heart of the system is the CR6 Measurement and Control Module. This MCU features very flexible programming and communications, along with large internal data storage and provides for reading all commercially available vibrating wire instrumentation including piezometers, strain gages, crack or displacement meters, in-place inclinometers and load cells. Expansion of the number of measurement channels available per station with a Canary Systems® MiniMux.

The 50AHr battery (MLDAQ-50A/50S) supports applications requiring high power consumption communication or measurement peripherals. The system is supplied with AC powered battery chargers as well as solar panels.

MLDAQ

The MLDAQ base station is designed from the outset for operation in demanding environments using a NEMA 4/12 rated painted steel enclosure. Mil-spec connectors and industrial cable glands additionally protect against harsh conditions and the elements.

Optional uni-strut mounting kits are available to provide for pipe mounting of the enclosures. The enclosures are easily wall-mounted using the integrated enclosure mounting tabs. The MLDAQ comes with a 1-year limited warranty

Specifications MLDAQ

Datalogger CR6

- Universal Channels:
  12 individually configured inputs for analog or digital functions
- Analog Resolution: 24 Bits
- Input Voltage Range: +/-5V
- Pulse Count Channels:
  16 (C1 to P4 and U1 to U12)
- Excitation Channels: 12
- Digital Ports: 16
- Communications:
  Ethernet, USB, CS I/O, RS-232, CPI, RS-485, SDI-12
- Power (CHG): 16 to 32VDC
- Power (BAT): 10 to 16VDC
- Power Consumption
  (quiescent): <1mA
- Power Consumption
  (active, no communications): ~3mA
- Power Consumption
  (active, communication): ~67mA
- Data Memory: 4MB SRAM
- Program Memory: 72 MB flash
- OS Memory: 128 MB Flash

Physical

- Operating Temperature: -40 to +70° C
  (-40 to +160° F)

MiniMux Multiplexer *(optional)*

- Channels: (16) 4-channel or
  (32) 2-channel (switch selectable)
- Control Inputs: 2
- Control Input Range: 5-16V
- Power: 10-16VDC
- Power Consumption (quiescent): <0.1μA
- Power Consumption (active): ~42mA
- Relay Contacts: Gold clad silver alloy
- Contact Resistance: 75mΩ
- Contact Isolation: 1500V
- Soil Resistance: 1028Ω
- Relay Operate Time: ~2ms
- Relay Release Time: ~1ms
- Relay Max Voltage: 125VAC, 110VDC
- Relay Max Switching: 2A
- Relay Life (minimum): 10^8 Cycles
- Transient Protection Threshold: 75V
- Transient Current Limit: 1kA

Solar Panel

MLDAQ-50S
- Output Voltage: 18VDC maximum
  (loaded)
- Output Power: 2.25A maximum (40W)

AC Adaptor

- Output Voltage: 18VDC
- Output Power: 1A maximum

System Power

MLDAQ-50A/50S:
- Battery: 12V 50AHr sealed lead-acid

MLTB-OVP

- Voltage Range: 9-16VDC (unregulated), 12VDC nominal
- Maximum current: 1100mA (per circuit)
- Analog signals: 6
- 5V Control Signal TVS Clamp 6.8 Volts
- Analog Signal TVS Clamp 16.7V
- Gas Discharge Tube DC Spark Over 90V
- Impulse Discharge Current 5.0Ka
  (8/20uSec)
- AC Discharge (Nominal) 5A
- Analog Signal Series Inductance
  10μH ±20%.
- Analog Signal Series Resistance
  35mΩ ±20%.
- Analog Signal Current 3.8A Maximum

Model	MCU	Enclosure Type	Size (LxWxH)	Weight (lbs)	Battery	Solar	Receiving	Transmitting	MLTB-OVP	Options
MLDAQ-12A	CR6	FRP	18x16x10	34	12AHr	-	RS-232	No	Yes	MiniMux (up to 1)
MLDAQ-12S	CR6	FRP	18x16x10	34	12AHr	20W	RS-232	No	Yes	MiniMux (up to 1)
MLDAQ-50A	C6	Steel	24x20x10	98	50AHr	-	RS-232	No	Yes	MiniMux (up to 2)
MLDAQ-50S	CR6	Steel	24x20x10	98	50AHr	40W	RS-232	No	Yes	MiniMux (up to 2)