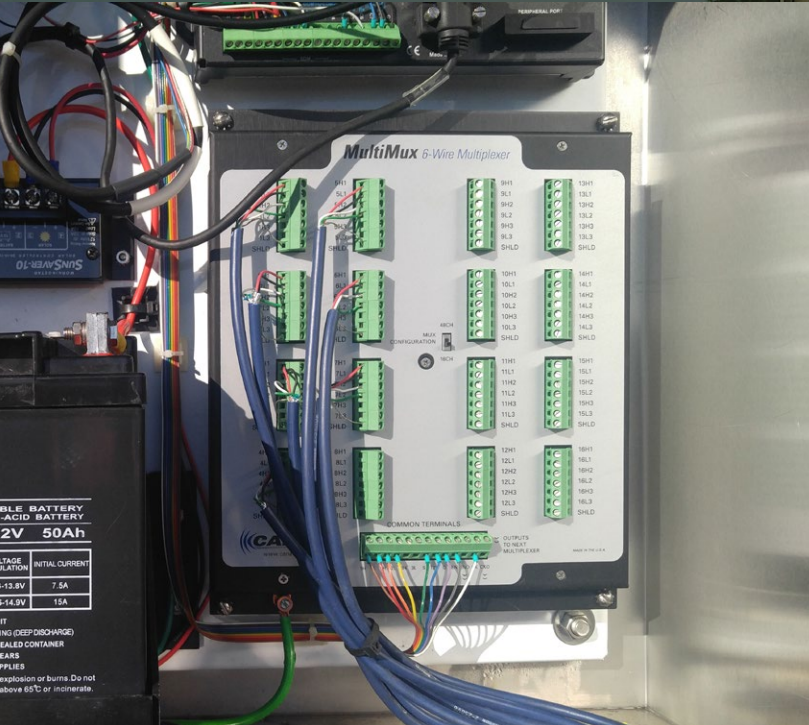# CANARY SYSTEMS®

MultiMux

Overview

The **MultiMux multiplexer** is designed to expand the number of instruments that can be read by a compatible automatic data acquisition system (ADAS). The MultiMux is available in two versions: one that provides 16-channel by 4-wire switching (or 32-channel by 2-wire switching), and a second that provides 16-channel by 6-wire switching (or 48-channel by 2-wire switching). Both products include integrated over voltage protection (OVP) on all channels, thereby providing increased system reliability in areas prone to lightning or other transients. The channel switching mode is controlled by a board-mounted switch.

Low contact resistance relays provide compatibility with a **wide range of instruments**, including vibrating wire, resistance strain gage, thermocouples, linear potentiometers, and 4-20 mA, among others.

System Details

Two control inputs are responsible for activating the MultiMux and then advancing through the channels. Logic levels for either the enable or clocking input can utilize 5V to 12V logic input, with a maximum input of 16V. The control inputs are **compatible with a wide variety of control modules**. Contact Canary Systems to verify measurement and control unit (MCU) support from other manufacturers.

Transient protection on the control inputs provides high reliability from electrical transients, whether from electrostatic discharge (ESD) or lightning. The power inputs are also equipped with transient protection and reverse-polarity protection.

All components have been selected for **ultra-high reliability** and function in demanding environments that may include high heat, humidity, and/or dust. The components are rated to standard long term temperature range of -40 to +70 °C (−40 to +160 °F).

| $ COST EFFECTIVE | WIDE RANGE COMPATIBILITY | LIGHTNING PROTECTION |

Connectivity

The MultiMux also includes support for daisy-chain operation, where control inputs are shared amongst several MultiMux multiplexers (up to 8). The sequence of each MultiMux in the daisy-chain is configured using a board-mounted switch and Canary Systems' MLWebHardware browser-based programming system.

The MultiMux may be packaged directly into an ADAS enclosure or installed in a variety of standard enclosures. Contact Canary Systems for enclosure and cable entry options.

MLWebHardware
2021.1.0.26

HOME | MLDAQ | MLDAQ-1 | PROGRAM | MULTIPLEXERS | **ADD MULTIPLEXER**

Save   Cancel   ⚙ Configure Channels

New Mux

Active	☑
Mux Type	CAN MultiMux
Channels	16 (4 wires)
Enable	C1
Clock	C2

Specifications

General

- Power Requirements: 9-16VDC (unregulated)
- Quiescent Current: 100μA
- Channel Activated Current (2 or 4-wire): 40mA
- Channel Activated Current (6-wire): 50mA
- Control Line Input Impedance: 10KΩ
- Control Line Input Levels: TTL or RS-232 (<9VDC)
- Transient Protection: 17VDC, 1500W transient voltage suppressor

Physical

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

OVP Components

- Type: Tripolar plasma surge arrestor
- Nominal DC Breakdown Voltage: 250V
- Surge Life: 400 (10/1000 ms pulse at 500A)
- Maximum Surge Current: 10kA per side (8/20μs pulse)
- Insulation Resistance: 10,000MΩ

Relays

- Power: 11mA (at 12VDC, 140mW)
- Contact Type: Gold-clad silver alloy
- On Resistance: 50mΩ
- Maximum Switching Voltage (Resistive Load): 1A at 30VDC, 0.5A at 125VAC
- Maximum Switching Power (Resistive Load): 30W
- Operate Time: ~2 milliseconds
- Release Time: ~1 millisecond
- Initial Contact Bounce: ~1 millisecond
- Surge Withstand (Between Open Contacts): 1,500V
- Switching Life (Mechanical): 100,000,000 operations