



# **USB Digital Input/Output, Specifications & Installation Guide**

**(stock unit)**

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# 1 Specifications

Typical for 25°C unless otherwise specified.

## 1.1.1 Output specification

Number of outputs: 8

Contact configuration 8 FORM C (SPDT) NO, NC and Common available at connector.

Contact rating 6 amperes (A) @ 240 volts AC (VAC) or 28 volts DC (VDC) resistive

Contact resistance 100 milliohms (m.) max

Operate time 10 milliseconds (ms) max

Release time 5 ms max

Vibration 10 to 55 hertz (Hz) (Dual amplitude 1.5 millimeters (mm))

Shock 10 G (11 ms)

Dielectric isolation 500 V (1 minute)

Life expectancy 10 million mechanical operations, min

Power on RESET state Not energized. NC in contact to Common.

## 1.1.2 Isolated inputs

Number of inputs: 8

Isolation 500 volts (V)

Resistance 1.6K ohms (.) min.

Input high +5.0 VDC min or -5.0 VDC min

Input low +1.5 VDC max. Or -1.5VDC max.

DC

Input range 30 VDC max

Input high 6.0 Vrms min (50-1000 Hz)

Voltage range

AC (with filter)

Input low 1.5 Vrms max (50-1000 Hz)

Time constant 5 ms (200 Hz)



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## 2 Digital I/O Specification / Installation

### 2.1 Description

The digital I/O (DIO) option provides external alarm indicators and accepts input switches that allow users a method of connecting external devices such as footswitch inputs, tolerance/status audible or visual alarms, cutters, sprayers etc. The USB DIO option has 8 Input/Output lines.

This document assumes that the TLaser400 Interface Card and LaserLinc software are installed, a scanner is connected and calibrated, and a measurement is defined. Refer to the *LaserLinc Operator's Manual* for further details.

### 2.2 Installation Procedure

- 1) Plug AC adapter into AC outlet
- 2) Plug the other end of the AC adapter into the USB PDIS08 connector marked "POWER IN".
- 3) Connect the USB cable into "USB IN" connector.
- 4) Connector the other end of USB cable into any available USB input on the PC
- 5) Windows will detect a new Plug-N-Play device, place the Measurement Computing CD or Total Vu CD into the CD drive and let Windows automatically find the driver. Follow the Window's prompts until finished.
- 6) Install the InstaCal Software by browsing to the Measurement Computing CD and executing "SETUP.EXE" or the Total Vu CD and browse to the \Measurement Computing CD 5.56 folder and select "SETUP.EXE".
- 7) After rebooting, execute the InstaCal software; **INSURE THE USB PDIS08 IS DETECTED BY INSTACAL**, then exit.
- 8) If the DIO option was purchased as an "add-on" after the original Total Vu installation, copy the file *TotalVu.bin* and/or *TLAopt.bin* from the CD or floppy to your Total Vu directory (default is c:\program files\LaserLinc\Total Vu). This file enables the DIO option in your software.



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- 9) Execute Total Vu.
- 10) Select the *Configure/Full Configuration* screen and verify the *USB DIO* icon now appears.
- 11) The USB DIO option should now be working.
- 12) Configure an *External Alarm* and “force” an “on” condition, measure continuity across the appropriate terminal-strip contact pair (i.e. IP0A & IP0B) relay output. Verify continuity across the terminal strips.



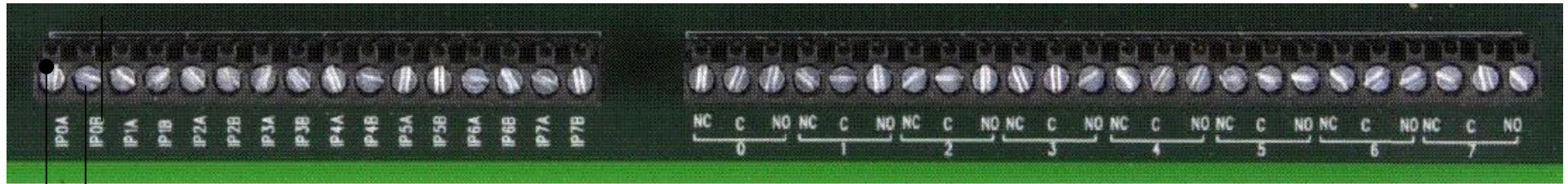
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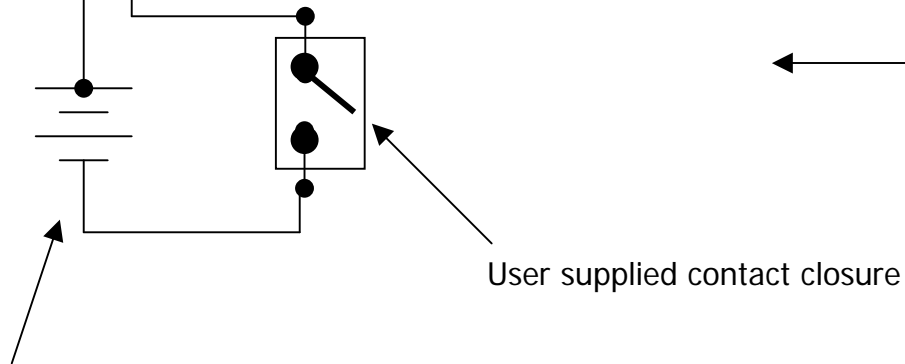
### 3 Reset Footage Counter Example

Eight optically isolated, non-polarized inputs  
5-30 V, AC 50 – 1000 Hz, DC

Form C relay outputs, 12 AWG – 22 AWG, 6A @ 240V  
AC, or 28V DC



USB-PDISO8 screw terminals and signal labels



User supplied voltage source or  
optional DC power jack cable. Plugs  
into rear of unit "POWER OUT"  
connector. **NON-POLARIZED**

Example of how to externally "Reset the  
Footage Counter" in Total Vu™.

Wire as illustrated.  
Now go to Total Vu software.  
Click on Configure, then Full Configure.  
Click on "Digital Inputs".  
Choose any input. For this example, double-  
click on "IP0 undefined".  
Follow and complete the set up wizard to  
assign the "Reset Encoder" to this input pin.  
You're done.



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