



November 23, 2021

TRACER-DIO-5VIO

The TRACER-DIO-5VIO is the toughest COTs low power PC/104 DIO module on the market today!

The TRACER-DIO-5VIO is a high current PC/104 digital I/O and counter/timer module. It is designed for use in systems where high reliability is of utmost importance while operating in harsh environments. The module provides 48-lines of 8255 compatible general purpose I/O and three 16-bit 8254 compatible counter/timers.

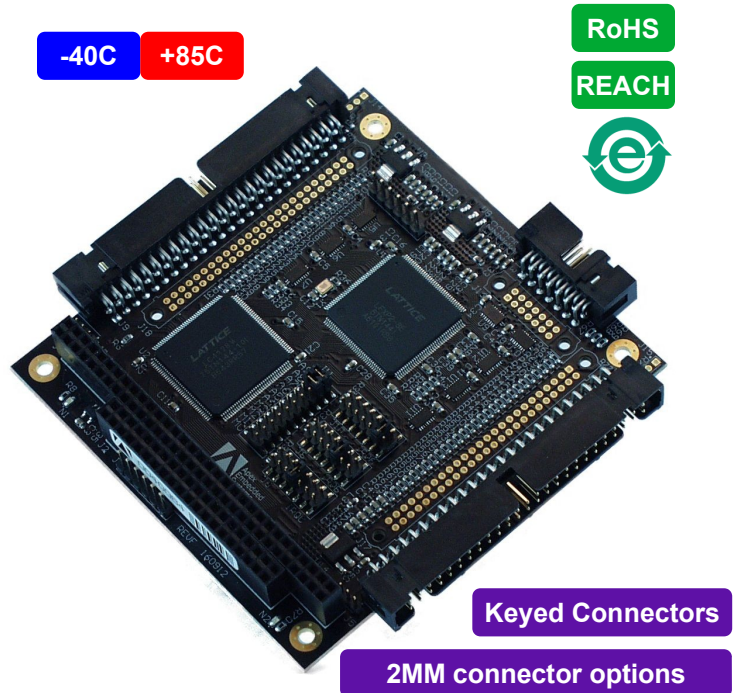
This product is an update from our classic Tracer-E. This version provides true 5 volt output swings and accepts 5 volt inputs as well.

Digital Inputs/Outputs

- **Interface:** Two 8255s.
- **Channels:** 48 total, with three groups of 8 channels per connector.
- **Inputs:** Each input has a 10K pull up resistor.
- **High-Current Outputs** can sink 32 milliamps, and source 32 milliamps. This is true even while operating at high temperatures.
- **Direct Interfacing to OPTO-22's isolated I/O racks.** Digital I/O connector is organized to allow direct connection to OPTO-22's isolated I/O racks that use the G4 serial of I/O modules, the PB16-H, PB16-J, PB16-K, PB16-L, PB8H and the PB24HQ.

General

- **Legacy compatibility:**
- **Environmental:** Wide operating temperature from **-40°C** to **+85°C**.
- **Out-gassing and fire avoidance:** no tantalum or electrolytic capacitors used in any products.
- **Reliability:** MTBF of 724,559 hours per MIL-HDBK-217F ground benign at 25°C.
- **Polarized Connectors** prevent incorrect cable installations.
- **LED Status:** An LED displays valid card activity which is useful for both product development and field status. A wide variety of signals can be routed to the LED via software selection.
- **Single +5V Operation:** Power 500 milliwatts typical.
- **Connector option:** Optional 2mm connectors high shock/vibe applications or applications that require more wiring flexibility.



Support

- **Long Term Commitment:** We are committed to delivering long product life and dedicated to ongoing product updates and improvements to enhance long product life.
- **Customer Service:** We are committed to serving our customers. We offer 24/7 online ordering with a variety of payment and shipping options for quick and hassle free ordering.
- **Production:** Designed and Manufactured in Wisconsin, USA, utilizing an ISO 9001 manufacturing facility.
- **Software Drivers:** Linux, Windows and DOS drivers are available as well as other third party software tools (legacy compatibility with many other cards).
- **Individual Customer Assistance:** We will do whatever we can to assist you in designing in our products.

Accessories

- **Cable.** Flat ribbon cable, 50-pin w/3M polarized IDC sockets and pull tab, 18-inches in length.
- **Optional 2mm pin to wire connectors,** contact factory.
- **50-Pin Terminal Breakout Board.**
- **New:** Connector 2mm pin-to-wire options, contact factory.

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Technical Specifications

Digital I/O

Functionality: 82C55A compatible, mode 0 only.

Number of digital I/O: 24 TTL compatible, grouped into three 8-bit registers. All digital I/O have 10K pull up resistors to +5 volts.

Input voltage:

Compatibility: CMOS, TTL(*)

Logic input low maximum (Vil): 1.5 volts

Logic input high minimum (Vih): 3.5 volts

Range: 0.0 to 5.0 volts (full 5 volt range!)

(*) Note: additional pull-up may be required depending on capacitive load.

Input current: Input current due to 10K pull-up resistor to 5 volts.

Logic 0: -510 uA maximum at 0.0 volts

Logic 1: -600 uA maximum at 3.5 volts

Output voltage:

Compatibility: TTL

Logic output low maximum (Vol): 0.55 volts @ 64 mA

Logic output high minimum (Voh): 2.0 volts @ -32 mA

2.4 volts @ -3 mA

5.0 volts @ -0 mA

Range: 0.0 to 5.0 volts as an output (full 5 volt range!)

Tristate voltage:

If load is tied to 5 volts it will float to 5 volts

If no load, then I/O will remain at previous value (due to bus hold)

Buffer transceiver used: SN74LVCH8T245 with I/O operating with 5.0V supply.

Software Compatibility

Software compatibility providing additional third party support.

The TRACER-DIO-5VIO is compatible with many 8255 compatible DIO cards.

Apex Linux driver available.

General

Operating temperature range: -40°C to +85°C

Storage temperature range: -55°C to 125°C

Factory Calibration: Full NIST Traceable

Humidity: 0 to 95% non-condensing

Power Supply: 5VDC \pm 5%; 500 milliwatts (inputs/outputs unloaded) **improved!**

Interface: PC/104 8-bit.

Weight: 0.2 lbs (91 grams), excluding spacers.

Ordering Information

Description: RUGGEDIZED PC/104 High Drive 48 Line DIO and Counter/Timer Module, true 5 volt I/O.

SKU: TRACER-DIO-5VIO

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