RTD Embedded Technologies, Inc.
An AS9100 and ISO 9001 Certified Company

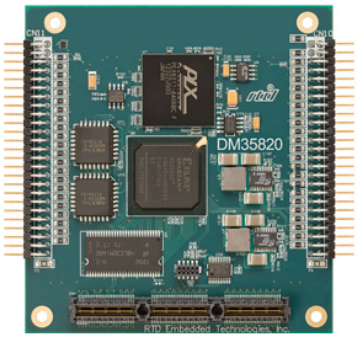
DM35820HR

PCIe/104 High-Speed Digital I/O DAQ Module

*Operating Temperature **-40°** to **+85°**C*

Key Features

- PC/104 form factor
- PCIe/104 stackable bus structure [click here for PCI/104-Express]
  - PCIe universal expansion bus (Type 1 or Type 2)
- PCIe x1 interface
- 48 Diode protected I/O lines
- 2 MB Input FIFO buffer onboard
- Standard outputs: -24mA / +24mA (source / sink)
- On-board 25 MHz clock
- Compatible with DMR & DOP expansion boards
- Mating Connector
  - Two Standard 0.1 inch spaced 2 x 25
- Available in stackable, rugged enclosures



DM35820 High-Speed DAQ Module

Description

The DM35820 is a high-speed digital I/O data module in a PCIe/104 format. This module includes many features such as pulse width modulators (PWM), incremental encoders, and advanced interrupts.

Technical Details

- Digital I/O
  - 48 Diode protected I/O lines
  - 24 mA source and sink current
  - Compatible with DMR and DOP expansion boards
  - Deep FIFOs with DMA
  - Two 2M-Word FIFOs
  - Each FIFO is attached to a separate DMA channel
  - 25 MHz bursted throughput
  - 12.5 MHZ continuous throughput
  - FIFO can be looped
- Pulse Width Modulators
  - Eight PWM outputs
  - Single-ended or Differential Outputs
  - 16-bit resolution
  - Separate period and width clocks provide full resolution at low duty cycles
  - Optional Interrupt generations
- Incremental Encoders
  - Four Incremental Encoder channels
  - Single-ended or Pseudo-differential Inputs
  - Variable frequency input filtering
  - Max input speed of 40ns per transition
  - 16-bit resolution
  - Two channels can be combined for 32-bit resolution
  - Connect to FIFO for position sampling
- Advanced Interrupts
  - Two Advanced Interrupt Modules
  - Interrupt on Match, Change, or Strobe
  - All 48 bits are captured when the interrupt is generated
  - Any combination of the 48 bits can be monitored
- Programmable Clocks
  - Four programmable clocks
  - Maximum frequency of 25 MHz
  - Can be started and stopped by an interrupt or another clock

Rugged IDAN configurations available

Product modifications available upon request

- Continuous or One-Shot Operation
- Can be cascaded

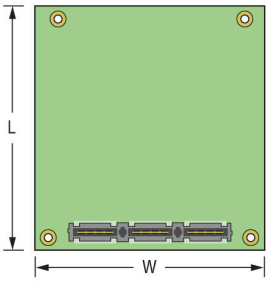
- 82C54 Timer/Counters
  - Six Timer/Counter Channels
  - Fully programmable
  - Input clock and gate driven from internal or external source
  - 10 MHz maximum input

Software

- Includes software packages for the following Operating Systems:
  - DOS
  - Windows XP, Windows 7 (32/64 bit), and Windows 10 (32/64 bit)
  - Linux 2.4.x and 2.6.x
- Source code provided for easy porting to other platforms, including RTOSes
- Data acquisition toolkits such as LabVIEW and MATLAB may be used with the Windows drivers
- Example programs with source code provide a starting point for developing custom applications

Recommended Accessories

- XT50: 3 foot, 50-pin, twisted-pair cable
- TB50: 50-pin screw terminal board
- XB50: 50-pin screw terminal board with prototyping area
- DMR24: mechanical relay output board
- DOP24: Opto-isolated input board



Physical Attributes

- Dimensions
  - Length (L): 3.775 inches (95.89 mm)
  - Width (W): 3.550 inches (90.17 mm)
  - Stand-off Height: 0.600 inches (15.24 mm)
- Weight: Approximately 0.44 lbs. (0.20 Kg)
- Standard Operating Temperature, 90% humidity non-condensing: -40 to +85°C
- Storage Temperature: -55 to +125°C
- Input Power Requirements: +5 VDC
- Typical Power Consumption: 1.5 W