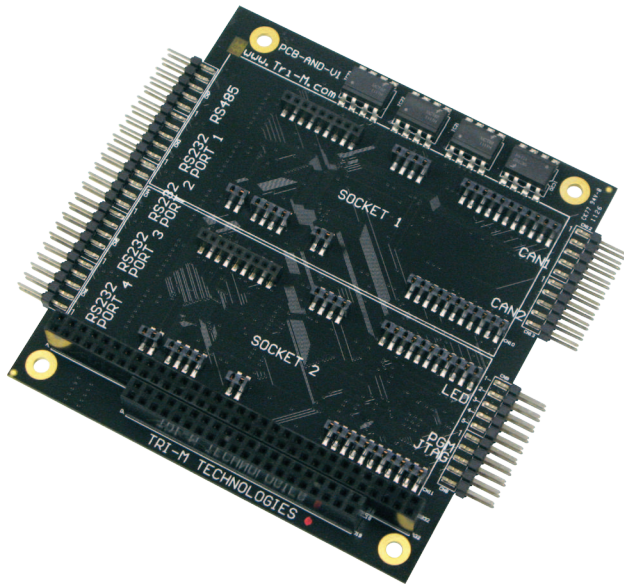# TCB1000 Series

Communication Solution

POWER OS TRI-M TECHNOLOGIES INC.

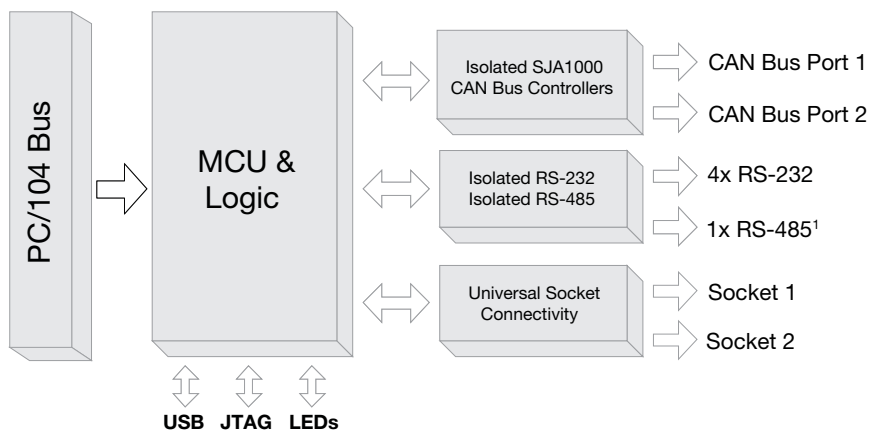## CAN Bus, Serial Ports & Socket Modems

The TCB1000 series is a new and innovative PC/104 board, integrating CAN Bus, serial ports, and wired/wireless communication into a single solution.

This high density design significantly reduces the size, weight, and cost in any COTS application, while increasing performance and functionality, perfect for system builders seeking flexibility and reliability. This unprecedented board truly is an all-in-one versatile communication solution.

With an extended operating temperature and security configuration settings, the TCB1000 series is well suited for operating in harsh environments where temperature, shock, and vibration are factors.

Block Diagram

[1] The RS-485 port can be configured as J1708.

[2] For more information, see the Certificate of Compliance available at **www.tri-m.com**.

Key Specifications

- **2 Isolated CAN Bus Ports**
  2500V protection, 1Mbp/s
- **4 Isolated RS-232 Ports**
  2500V protection, 921Kbp/s
- **1 Isolated RS-485 Port**
  2500V protection, 921Kbp/s
- **2 SocketModems®**
  GPS, Wi-Fi, CDMA & more
- **Embedded Configuration**
  No jumpers required
- **Extended Temperature**
  -40°C to +85°C / -40°F to +185°F

Advantages

- **Integrated Functionality**
  CAN Bus, serial ports & COM ports
- **Reduced Ownership Cost**
  High density communication board
- **Rugged Design**
  Tested to MIL-STD-810G[2]
- **Streamlined Configuration**
  Reconfigure without disassembling
- **Increased Protection**
  System isolation & secure settings

Our Capabilities

- **Application Engineering**
- **Rapid Development**
- **Engineered Systems**
- **Custom Software**
- **Industry Standards & Certification**
- **Exceptional Customer Experience**

Specifications

Electrical

Supply Voltage	+5V DC
Aux Port Output Current	200mA per port
Aux Port Output Isolation	2500V maximim

Mechanical

Dimensions	PC/104 compliant
	90 × 96 × 15mm (3.55 × 3.78 × 0.6")
Weight	52.5g (1.83oz)

Environmental

Operating Temperature	-40°C to +85°C (-40°F to +185°F)

Communication

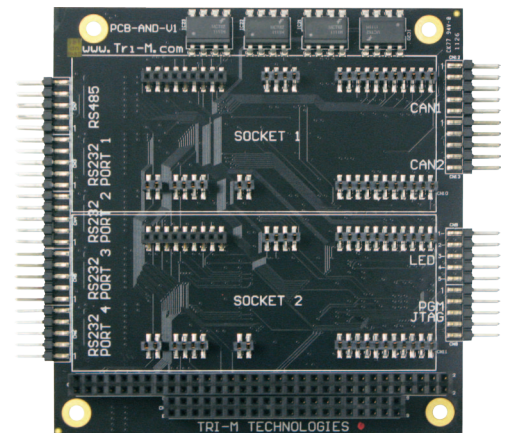|	
CAN Bus Controllers	2x SJA1000, 1Mbp/s max
RS-232 Ports	4x isolated ports, 921Kbp/s maximum
RS-485 Port	1x isolated port, 921Kbp/s maximum
	Can be configured as J1708
Universal Socket Connectivity	2x Multi-Tech® compatible socketModem®
	921Kbp/s Max
Isolated LED Ports	5x program selectable
	Built-in limiting resistors
USB/JTAG Port	1x USB/JTAG port for easy installation setup

Configuration

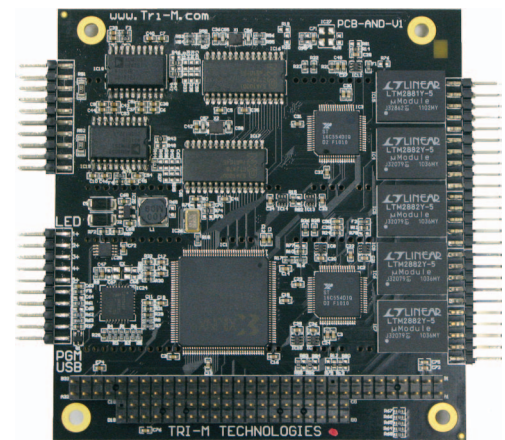|	
Embedded Design	No jumpers required
USB/JTAG Port	Configuration, CPLD & MCU programming
PC/104 through UART2 PORT4	Configuration port
OS Support	Linux kernels 2.6.25 and later

Certifications

Manufactured in
ISO 9001:2008
ISO 14001:2004 &
ANSI/ESD S20.20
Environments

RoHS compliant

Top View

Back View

(i) **Notes**

For information about dimensions, connectors, and pin spacing, please see the TCB1000 Series *User Guide*

Ordering Information

Models

TCB1002[-x][-Cy]-PBF,
Communications board with 2 isolated CAN Bus controllers

TCB1400[-x][-Cy]-PBF,
Communcations board with 4 isolated RS-232 ports

TCB1522[-x][-Cy]-PBF,
2 isolated CAN Bus controllers, 4 isolated RS-232 ports,
1 isolated RS-485 \port, and 2 Multi-Tech Universal Sockets

where [-x] is the optional bus configuration

"-x" is blank, stack through PC/104 bus
    ex: TCB1002-PBF, stack through PC/104 bus

"-x" is "-NS", non-stack through PC/104 bus
    ex: TCB1522-NS-PBF, non-stack through PC/104 bus

Options

where [-Cy] is the optional conformal coating selection

"-CS" is silicon conformal coating

"-CU" is urethane conformal coating

"-CH" is HumiSeal conformal coating
    ex: TCB1400-CH-PBF; Communcations board with
        4 isolated RS-232 ports, stack through PC/104 bus
        HumiSeal conformal coating

CABLESET002
Includes PGM & Config, Serial, CAN Bus and Utility cables