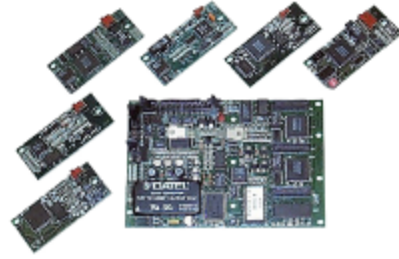


MultiCom III/s

Multi-Purpose Vehicle Interface Adapter for Serial Connection to PC



EnGenius' MultiCom III/s is a flexible solution that provides **simultaneous** access to multiple vehicle networks as well as digital and analog input/output. (**Custom protocols** can also be supported.) MultiCom III/s interfaces to a PC via RS232, RS422, or RS485.

MultiCom III/s' unique design consists of a set of Physical Interface Modules (PIMs) that plug into its base platform. Each PIM (standard or custom designed) contains the specific interface circuits that allow MultiCom III/s to connect to external devices. The PIMs and the base platform can all function **simultaneously**. This multi-purpose vehicle interface adapter provides a powerful, yet flexible, solution to meet a wide range of needs. MultiCom III/s can be packaged in an optional 7.75" x 5.75" x 2.75" aluminum enclosure.

Interface Capabilities

MultiCom III/s is capable of supporting ISO 9141, ISO 9141-2, ISO 14230, ISO 11519-4, ISO 15765, ISO 11898, SAE J1850 PWM, SAE J1850 VPW, CAN, SAE J2411, SAE J2284, Ford's DCL, RS485/RS422, Ford's UBP, SAE J1939, SAE J1708, and others (including custom protocols).

Applications

- ▲ Engineering development or in-vehicle use
- ▲ Protocol translation
- ▲ Network monitoring
- ▲ Module validation, test fixtures
- ▲ Diagnostics
- ▲ Heavy truck
- ▲ Light and medium duty vehicles

Base Platform Features

- ▲ RS232, RS422, or RS485 serial connection to host (RS-232 up to 230K baud, RS-422/RS-485 up to 1M baud)
- ▲ 3 Physical Interface Module (PIM) slots
- ▲ ISO 9141
- ▲ SAE J1850 PWM (using an HBCC)
- ▲ 7 channel 12 bit A/D inputs (2 for 5VDC, 2 for 20VDC, 2 are PIM accessible, and 1 is available for remote-sensing)
- ▲ 5–18 VDC 100mA software-controlled variable output voltage source
- ▲ 8 digital inputs
- ▲ 8 digital outputs
- ▲ 2 16552 UART channels are PIM accessible
- ▲ 9–18 VDC input required (1A max.) with on-board isolated switching power supply for voltage regulation
- ▲ 40MHz 80C196NU microcontroller
- ▲ 128K RAM
- ▲ 256K Flash ROM
- ▲ 4" x 6" x 1" board size

Optional Physical Interface Modules

- ▲ SAE J1850 PWM (using an HBCC)
- ▲ SAE J1850 VPW (using an MC68HC56)
- ▲ CAN (Single Wire, High Speed, and Fault Tolerant)
- ▲ Ford's DCL
- ▲ RS485/RS422
- ▲ Ford's UBP
- ▲ SAE J1939*
- ▲ ISO 9141*
- ▲ SAE J1708*

* indicates PIM is under development

Software & Documentation

- ▲ User's manual provides a description of the hardware and application library interface
- ▲ DLLs for 16 bit Windows 3.x
- ▲ DLLs for 32 bit Windows 95/98/NT/2000/XP



Technical Data for MultiCom III/s Physical Interface Modules

ISO 9141

- ▲ K and L line support
- ▲ 5–115.2K baud supported
- ▲ Selectable line termination
- ▲ Timestamping available with byte stream or ISO 9141-2 message modes
- ▲ Configurable inter-byte and inter-message times
- ▲ Configurable timed interval transmission of up to 10 user-defined messages
- ▲ Jumper selectable ISO 9141 circuit voltage (on-board or external)
- ▲ Software configurable loop back

SAE J1850 PWM

- ▲ Uses Ford/Motorola Hosted Bus Controller Chip (HBCC)
- ▲ 10.4K, 20.8K, 41.6K, and 83.3K baud supported
- ▲ Selectable line termination
- ▲ Message timestamping
- ▲ Configurable inter-message times
- ▲ Configurable timed interval transmission of up to 10 user-defined messages

SAE J1850 VPW

- ▲ Uses Motorola's MC68HC56
- ▲ 10.4K and 41.6K baud supported
- ▲ Selectable line termination
- ▲ Message timestamping
- ▲ Configurable message filtering at the board level
- ▲ Configurable inter-message times
- ▲ Configurable timed interval transmission of up to 10 user-defined messages
- ▲ Software configurable loop back

Ford's UBP

- ▲ Uses Ford's recommended discrete circuit
- ▲ Selectable line termination
- ▲ Message timestamping
- ▲ Configurable inter-message times
- ▲ Configurable timed interval transmission of up to 10 user-defined messages
- ▲ Software configurable loop back
- ▲ Supports up to 255 data bytes per message
- ▲ Supports a completely passive monitor mode

CAN

- ▲ Uses Intel's 82527 with either Single Wire, High Speed, or Fault Tolerant transceiver
- ▲ 15,625-1M baud supported
- ▲ Configurable 11 and 29 bit CAN identifiers
- ▲ Selectable line termination
- ▲ Message timestamping
- ▲ Configurable message filtering at the board level
- ▲ Configurable inter-message times
- ▲ Configurable timed interval transmission of up to 10 user-defined messages
- ▲ 12 configurable remote transmit objects

Ford's DCL

- ▲ Uses 16552 Dual UART
- ▲ 2.4K, 4.8K, 9.6K, and 19.2K baud supported
- ▲ Link master, link slave, and UART stream modes supported
- ▲ Byte stream or frame timestamping
- ▲ Automatic Frame parsing with vertical parity nibble validation for link master or link slave modes
- ▲ Software configurable loop back for UART stream mode

RS485/RS422

- ▲ Uses 16552 Dual UART
- ▲ 2.4K, 4.8K, 9.6K, and 19.2K baud supported (Other data rates available.)
- ▲ Byte stream timestamping
- ▲ Software configurable loop back