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AIM104-386EX

386EX PC/104 Single Board Computer

The AIM104-386EX is a low cost PC/104 format single board computer, based on the Intel 386EX embedded processor. The module includes 1Mbyte of onboard SRAM (which can be battery-backed from an off board source), plus 1Mbyte of factory-fitted Flash memory (supplied with ROMDOS and Flash Filing system software), four serial ports and a real time clock.

Datalight's ROM-DOS is a low-cost 'workalike' of MS-DOS 6.22, with extra features for the embedded environment. The PC/104 format is an industrial form factor measuring 3.8" x 3.5" (96mm x 90mm).

Features

3 year product warranty

Extended temperature 33MHz i386EX CPU, configured for PC-compatibility

1MB SRAM (off-board battery-backed)

1MB Flash memory - including Flash filing system

ROM-DOS operating system and Arcom Flash Filing System (AFFS) - both supplied pre-installed in Flash

3 x RS232 ports; 1 x non-isolated RS485 port

16-bit PC/104 expansion interface

Real-Time Clock (off-board battery-backed); Event timer/Watchdog timer

Enhanced 5V monitor/reset

50-way ribbon cable header for serial I/O; 10-way TTL I/O header

One user-assigned jumper link input, and two LED outputs

Driver utilities disks

Specification

Processor	i386EX embedded processor
Operating System	Datalight ROM-DOS pre-installed
Memory	1MB SRAM; 1MB Flash
BIOS	Embedded Datalight BIOS (Millennium compliant)
PC/104 form factor	96mm (3.8 in) high by 90mm (3.5 in) wide
PC/104 interface	16-bit PC/104 (IEEE996) bus
Connectors	50-way IDC header; 10-way header for TTL I/O
Comms Ports	3 x RS232; 1 x RS485
RTC	Dallas DS1302
Watchdog Timer	Power-up start-up or software trigger
Event Timer	Fixed 500msec clock
MTBF	155,000 hrs
Power requirements	500mA @ + 5V (150mA in power-down mode)
Software	'C' example code
Operating temp.	-40 to +75°C

Standard peripheral I/O ports on the module include a 16-bit PC/104 interface; a 50-way right-angle ribbon header for serial I/O and battery connections; and a 10-way header for TTL I/O (eg keypad).

Onboard peripheral functions include four serial comms ports - configured as three RS232 ports (two 16450 and one 16550), plus one non-isolated RS485 port (16550). The maximum supported rate is 115Kbaud. The AIM104-386EX also includes a 10-way header for TTL I/O for connection to simple push-button keypads or alpha-numeric displays.

For time and date, AIM104-386EX has a Dallas DS1302 Real-Time Clock, which can be backed-up by an off-board battery (typically 1µA at 3.6V). RTC operation under ROM-DOS is Y2K-compliant. The on-board 500millisec event timer is used to interrupt power-down mode. It can trigger periodic recovery from power-down mode, allowing a low average current consumption. The onboard programmable watchdog timer is used for general reset. System reset will occur if the watchdog timer is allowed to time-out. The time-out period is set to 6 seconds. An enhanced 5V monitor/reset circuit provides full power-down and brown-out protection. A user-assigned jumper link provides a simple level of configuration for the application software.

The utility disks, supplied with the module, includes 'C' library routines for setting-up and controlling the module for users who prefer not to use the ROM-DOS environment.

Ordering Information

AIM104-386EX

AIM104-386EX-R5