MetraBus Family Concept

ISA, PCI, CPCI or PC/104 computer

MDB64 series driver board

MetraBus Cable

Up to 512 I/O points

One or more MetraBus I/O boards

Introduction

The MetraBus is a powerful, low-cost, easily expandable data acquisition, control, test, and monitoring solution. Ideal for systems that are too large for standard plug-in board solutions, but price sensitive enough to require board-level pricing. The MetraBus offers a wide variety of analog and digital I/O boards, and is compatible with most common, small computer architectures. The simple and robust MetraBus is extremely flexible and is ideally suited to a huge variety of applications.

The System Concept

The MetraBus concept is simple. Combine your computer, a MetraBus MDB64 series driver board, a cable, and one or more MetraBus I/O boards to form a complete computer-based system. Each MDB64 series driver board will interface to as many as 512 I/O points (up to 256 analog). Additional driver boards allow MetraBus systems with thousands of I/O points.

The MetraBus is an ideal solution in many smaller systems since the I/O boards are external to the computer, and can be installed up to 100 feet from the host computer. This allows your computer to reside in a control room, while the I/O boards are installed close to the actual device(s) being monitored and controlled.

The MetraBus was originally developed by MetraByte Corp. (now Keithley MetraByte). ComputerBoards' MetraBus boards are new designs, but remain compatible with the original MetraByte system. In fact, you're free to mix and match boards from both vendors within a system. If you would like to migrate your existing MetraBus system to the PCI, CPCI, or PC/104 bus, our driver boards will do the trick. Keithley MetraBus components are also supported by Computer-Boards' Universal Library. You can now create MetraBus systems based on our modern and comprehensive software library.

Computer Interface & Driver Boards

With driver boards for ISA, PCI, cPCI, and PC/104, the MetraBus is compatible with most common computer architectures. The PCI (part number PCI-MDB64) and cPCI (CPCI-MDB64) driver boards are fully plug-and-play and do not require any user hardware configuration. The ISA (ISA-MDB64) and PC/104 (P104-MDB64) driver boards require the user to set a single base address switch. The PCI- and CPCI-MDB64 also provide an on-board crystal controlled counter/timer that can be used to set system update timing, or may be used in watchdog timer implementations. For details on the MetraBus driver boards, please refer to their respective data sheets included in this website.

I/O Boards

ComputerBoards' MetraBus family currently consists of five digital I/O boards and three analog I/O boards. Other boards are in development and are expected to be released during 2000.

If you need to put your system together before our new boards are available, you may mix boards between the two vendors. Choose the ComputerBoards' MetraBus boards that are available, and feel free to use Keithley MetraBus boards for functions we have yet to release.

MetraBus Power Distribution & Cabling

All MetraBus driver boards provide up to 1 amp of power at +5V. Small systems utilizing the MII-32 (250 mA), MIO-32 (650 mA), and/or MSSR-24 (400 mA) will not require an MBUS-PWR as the system will require less than 1 amp.

The MBUS-PWR is a 100-watt power supply. It is used to supply power to larger systems. A single MBUS-PWR provides enough power for all but the largest of systems. Additional MBUS-PWR boards may be added in very large systems where required.

The MetraBus cable connects all MetraBus I/O boards to the MDB64 driver board. Cables are in the form M-XX-YY-ZZ where XX is the total cable length in feet, YY is the number of I/O connectors installed and ZZ is the connector spacing in inches. Order custom cables using this numbering scheme, or provide a sketch with your order.

Software

The MetraBus is fully supported by ComputerBoards' powerful Universal Library software. Universal Library is a full-featured driver that provides high-level intuitive I/O functions that make programming simple. Universal Library support also ensures that the MetraBus system is fully supported by a wide variety of application packages including SoftWIRE, DAS Wizard, HP VEE, HP VEE Lab and LabVIEW.

For those who choose to write register-level programs, the MetraBus is extremely straightforward. Simply write an I/O board address to the MDB64 driver board base address +1, then read/write your data from/to the MDB64's base address +0.

MetraBus Mounting Options

The MetraBus is supported by a wide variety of chassis and mounting options. From 19" racks to NEMA enclosures, from table-top systems to DIN Rail systems the MetraBus offers the rugged, low-cost, easy-to-install and high-density mounting system you need.