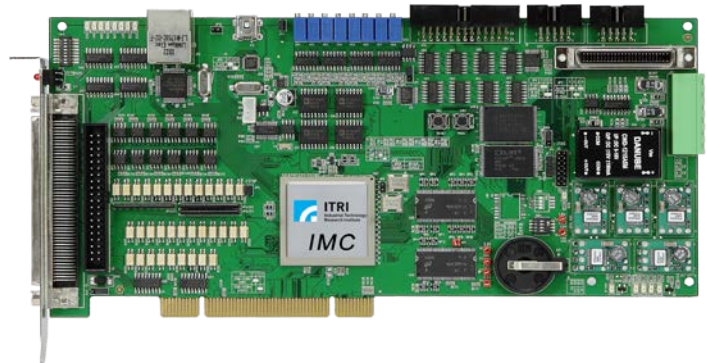


IMP-2

Intelligent Motion Control Platform

Features

- Built-in microprocessor and real-time OS
- Support A+PC mode and standalone mode
- Support full digital servo driver
- Support multi-axis synchronous motion trajectory planning
- Support articulated robot arm trajectory planning (Software optioned)
- Provide servo control interface software



Introduction

The intelligent motion control platform (IMP-2) developed by the MSL of ITRI has two motion control modes: A+PC mode and standalone mode. The IMP-2 supports synchronous motion of 8-axis servo motor for open loop or closed loop control. It also provides the hardware PID and FeedForward control algorithm so as to solve the tracking error and steady-state error.

The IMP-2 has a built-in microprocessor (PowerPC 440) and a real-time operating system (VxWorks RTOS) to execute the motion control commands in standalone mode. Its integration with several interfaces such as the PCI-Bus, Ethernet (A+PC mode) and RS232 (standalone mode) enables the user to send commands and monitor in different modes.

It provides a general servo bus (GSB) for the user to send command and monitor by connecting to the different serial servo communication protocols (Mitsubishi SSCNET III and Yaskawa MECHATROLINK III) and full digital servo driver. Besides, it also provides servo control interface software to allow the user to design its own motion command control algorithm.

Specifications

■ Motion:

- | | |
|--------------------------------|--|
| ◆ Encoder Input | 32 bits x 8 Axes (16M Counts/s) |
| ◆ Pulse Generator | 32 bits x 8 Axes (10MHz) |
| ◆ A/D Converter | 14 bits x 8 Axes (28.8ksps) |
| ◆ D/A Converter | 16 bits x 8 Axes (800k/s) |
| ◆ Closed-Loop Position Control | 8 Axes (PID & FeedForward Control) |
| ◆ Local Input /Output | 42 Input /Output (OT+, OT-, HOME, SVON, LED) x 8 sets, PRDY, ESTOP |
| ◆ Remote Input /Output | 32 Sets IMP-ARIO (Each set of IMP-ARIO provides 16In/16Out) |
| ◆ Power Requirement | 5V (3A max.) / 12V (500mA max.) |

■ Peripheral:

- | | | | |
|-------------------------|-------|-------------|-------|
| ◆ RS232 | 1 Set | ◆ DDR SDRAM | 128MB |
| ◆ Ethernet (10/100Mbps) | 1 Set | ◆ Flash | 32MB |
| ◆ USB (USB2.0) | 1 Set | | |

■ Bus Interface:

- | | |
|-----------|---|
| ◆ PCI BUS | 32bit-33MHz |
| ◆ GSB BUS | Support full digital servo driver (Mitsubishi SSCNET III, Yaskawa MECHATROLINK III) |

Software Support

- Supported IDDL (IMP Series Device Driver Library) Windows 98se / 2000 / XP / 7
- Supported MCCL (Motion Control Command Library) Windows 98se / 2000 / XP / 7
- Development Environment Visual C++ / Basic / C# in A+PC mode
- Provide Integrated Development Environment (Wind River Workbench 3.2) in Standalone Mode