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VIPC616

Four Slot 6U VMEbus IndustryPack Carrier

Application Information

The VIPC616 VMEbus IndustryPack carrier is part of the IndustryPack family of modular I/O components. As a 6U carier board, the VIPC616 provides mechanical mounting and the electrical interface from the VME backplane to four single-wide IndustryPacks or up to two double-wide IndustryPacks. The carrier supports I/O, ID, memory, and interrupt functions.

The popular VIPC616 is a basic version of the enhanced VIPC618. The VIPC618 uses shielded 50-pin subminiature D connectors as the front panel I/O interface for significant reduction of EMI emissions and include latches. The VIPC616 features right-angled ribbon cable connectors on its front panel.

In addition to the front panel cabling, most of the I/O signals of the C and D IndustryPacks are also routed to the VMEbus P2 backplane connector. This permits more flexible cabling options in many chassis.

IndustryPack I/O is mapped into the VMEbus A16/D16 space. Both user and supervisor accesses are supported, as are read-modify-write ("test and set") operations. The size of I/O and ID spaces on each IP is fixed by the IndustryPack Specification. Memory is mapped into either A24 or A32 space. The A32 selection supports the full 8 Mbytes of memory per IndustryPAck slot.

Interrupts are fully supported with a simple but powerful architecture. Each of the four IPs is able to generate up to two interrupt requests. These eight request lines are paired with the seven available VMEbus interrupt request levels by a simple jumper block. Alternatively, a user provided PLD may be installed to perform arbitrarily complex interrupt mappings.

Front panel IP access acknowledge (ACK) and power check LEDs are provided for visual verification. Two power check circuits detect blown fuses and line faults on any IP slot. The VIPC616 provides fuse protection, RF filtering and de-coupling capacitance on all IP power lines.

Features

- Four IndustryPacks slots on a 6U VME board
- Supports I/O, ID, memory, and interrupt cycles
- Front panel I/O through unshielded right-angle ribbon connectors
- 64 lines of backpanel I/O via P2
- A24 and A32 memory maps available
- Up to 8 Mbytes of memory per slot
- Front panel activity LEDs for each IndustryPack slot
- Front panel power monitor LEDs
- Filtered and fused power rails
- Custom IRQ mapping available via PLD programming
- 100% software compatible with the VIPC618

Specifications

Form Factor	6U VME
VME Conformance	Conforms to IEEE P-1024/D1.2
IndustryPack Specification	ANSI/VITA-4 1995
Number of IndustryPack Slots	Four Up to two double-wide IndustryPacks may be fitted
I/O Space	A16 space, 128 bytes per IndustryPack slot
ID Space	A16 space, 128 bytes per IndustryPack slot
Memory Space	A24 space: none or 128 Kbytes to 2 Mbytes per IndustryPack slot A32 space: 8 Mbytes per IndustryPack slot fixed
Interrupts	IndustryPack interrupts mapped 1:1 to VME IRQ levels by shunt or PLD selections.
Front Panel I/O Access	One pair of 50-pin right-angled keyed, shrouded ribbon cable connectors with ejection hardware for each pair of IndustryPack slots.
Back Panel I/O Access	All 50 I/O pins from slot D and a configurable selection of 14 pin from slot C routed to VME bus P2 rows A and C.
Indicators	One green LED per slot to show accesses One green LED to show power to slots A and B One green LED to show power to slots C and D
IndustryPack Site Features	8 MHz only. IO cycles, ID cycles, memory cycles, interrupt acknowledge cycles. 32-bit interface and IndustryPack DMA are not supported.
Dimensions	160 mm x 233.35 mm
Weight	0.34 kg (0.81 lb)
Power Requirements	+5 VDC, 610 mA typical +12 VDC, 0 mA typical -12 VDC, 0 mA typical Additional power is consumed by IndustryPack modules
Fuses	+5 VDC @ 3A one per IndustryPack slot +12 VDC @ 3A one total -12 VDC @ 3A one total
Environmental	Operating temperature: 0 to 70°C Humidity: 5 to 95% non-condensing Storage: –40 to +85°C

Order Information

VIPC616	Four slot, 6U VME IndustryPack carrier with front panel ribbon I/O connectors
EK-VIPC616	Engineering Kit for VIPC616. Contains: Printed hardware user manual Bill of materials Circuit schematic Assembly diagram

The standard VIPC616 has each IndustryPack interrupt line mapped to a single VMEbus interrupt level. Versions of the board with custom PLD programming may be ordered with custom interrupt mappings. Contact the factory for details.

Associated Products

VIPC618	Four slot, 6U VMEbus IndustryPack carrier with front panel sheilded high-density I/O connectors
VIPC664-ET	Four slot, 6U VMEbus IndustryPack carrier with rear-panel I/O
VIPC664-WL	Four slot, wedge-locked 6U VMEbus IndustryPack carrier with rear-panel I/O
VIPC664-WL-CC	Four slot, wedge-locked, conduction-cooled 6U VMEbus IndustryPack carrier with rear-panel I/O
VIPC860-FP	6U VME MPC860T Single Board Computer with Four IndustryPack Sites Industrypack I/O is via the front panel
VIPC860-BP	6U VME MPC860T Single Board Computer with Four IndustryPack Sites Industrypack I/O is via the back panel
C-IP50F-IP50F-3	Three foot, 50 conductor ribbon cable
C-IP50F-IP50F-6	Six foot, 50 conductor ribbon cable
IP-TERM	Fifty screw terminal block with ribbon cable connector

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