SBS Technologies, Inc.

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# VIPC618

## Four Slot 6U VMEbus IndustryPack Carrier with High Density Shielded I/O Connectors

### Application Information

The VIPC618 VMEbus IndustryPack carrier is part of the IndustryPack family of modular I/O components. As a 6U carier board, the VIPC618 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 VIPC618 is an enhanced version of the popular VIPC616. The VIPC618 uses shielded 50-pin subminiature D connectors as the front panel I/O interface. These shielded connectors offer significant reduction of EMI emissions and include latches that offer highly reliable cable connections, even in severe vibration environments. 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.

IP access acknowledge (ACK) and power check LEDs are provided for visual verification, although unlike the VIPC616 these LEDs are not visible on the front panel. Two power check circuits detect blown fuses and line faults on any IP slot. The VIPC618 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 high-density shielded connectors
- 64 lines of backpanel I/O via P2
- A24 and A32 memory maps available
- Up to 8 Mbytes of memory per slot
- Activity LEDs for each IndustryPack slot
- Power monitor LEDs
- Filtered and fused power rails
- Custom IRQ mapping available via PLD programming
- 100% software compatible with the VIPC616

## Specifications

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| Form Factor | 6U VME |
| VME Conformance | Conforms to IEEE P-1024/D1.2 |
| IndustryPack Specification | ANSI/VITA-4 1995 |
| Number of IndustryPack Slots | Four<br>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<br>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 | HD50: One AMPLIMITE 0.050 series rightangle receptacle headers without rails, with latch blocks, 50 position for each IndustryPack slot. AMP part number 749831-5. |
| 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<br>One green LED to show power to slots A and B<br>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.<br>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<br>+12 VDC, 0 mA typical<br>-12 VDC, 0 mA typical<br>Additional power is consumed by IndustryPack modules |
| Fuses | +5 VDC @ 1A one per IndustryPack slot<br>+12 VDC @ 1A one total<br>-12 VDC @ 1A one total |
| Environmental | Operating temperature: 0 to 70°C<br>Humidity: 5 to 95% non-condensing<br>Storage: –40 to +85°C |

## Order Information

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| VIPC618 | Four slot, 6U VME IndustryPack carrier with front panel HD50 I/O connectors |
| EK-VIPC618 | Engineering Kit for VIPC618. Contains:<br>Printed hardware user manual<br>Bill of materials<br>Circuit schematic<br>Assembly diagram |

The standard VIPC618 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

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| VIPC616 | Four slot, 6U VMEbus IndustryPack carrier with ribbon cable I/O connectors |
| VIPC664-ET | Four slot, 6U VMEbus IndustryPack carrier with rear-panel I/O |
| VIPC664-WL | Four slot, wedge-lcoked 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<br>Industrypack I/O is via the front panel |
| VIPC860-BP | 6U VME MPC860T Single Board Computer with Four IndustryPack Sites<br>Industrypack I/O is via the back panel |
| C-HD50M-HD50M | Six foot, 50 conductor cable, HD50 male to HD50 male |
| IP-TERM-HD50 | Fifty screw terminal block with female HD50 conector |

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