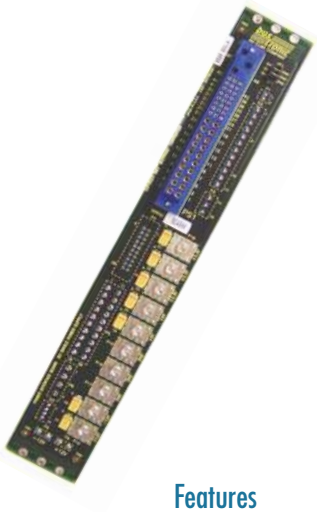
6U Power Interface Boards (PIB)



Description

The Power Interface Boards are separate boards for the power section of the backplane. They are used to facilitate pluggable power supplies, headers, and utility connectors. Elma Bustronic's standard backplane lines utilize power taps and power studs, which are wired to the power supplies. With the PIBs, customers will be able to choose between Elma Bustronic's standard power interface and pluggable modules. The power boards come in standard 6U height (see separate datasheet for 3U versions) and contain one or two 47-pin Positronic hot-pluggable power supply connectors (Positronic PCIH47F9300A1-246.0), and a 16-pin header for voltage sense/share. There are also two 20-pin headers, one for IPMB interface (Thomas & Betts 609-2037 or equivalent) and various voltages and an ATX connector (Molex 39-28-1203 or equivalent.) Two power taps are for +5V, two for 3.3V, and four for GND. Press nuts (6-32) are optional. There are also two Fast-on blades each for –12V and +12V (AMP 63650-1 or equivalent). The PIB interfaces to the backplane via power bugs with 6/32 screws. The design also includes mounting holes, allowing the PIB to be securely fixed to the chassis.

Features

- Designed to comply with power interface specification PICMG 2.11 Rev. 1.0
- Designed to comply with IEEE 1101.10 mechanical specification
- One or two pluggable 47-pin power connectors
- Interface to backplane via power bugs with 6/32 screws
- Header for voltage sense, current share (2 ps connector version) and IPMB interface compliant to system management specification PICMG 2.9 Rev. 1.0
- Power taps for +5V, 3.3V, GND and faston blades for +12V, -12V
- Utility (20-pin), aux/disk drive, and power switch connectors
- Geographical Addressing on the power supply connector is selectable

Board Specifications

- 6-layer stripline design
- 1 oz. copper outer layers, 2 oz. copper inner layers
- PCB UL recognized 94V-0
- PCB FR-4 or equivalent
- PCB .115" thick
- Stiffener to prevent bowing

Mechanical Specifications

- 6U Height Single or Dual Power Supply PIB
- 10.32" X 1.54" board (single ps connector version)
- 10.32" X 3.13" board (dual ps connectors version)

Dual ps connector version

Single ps connector version - back

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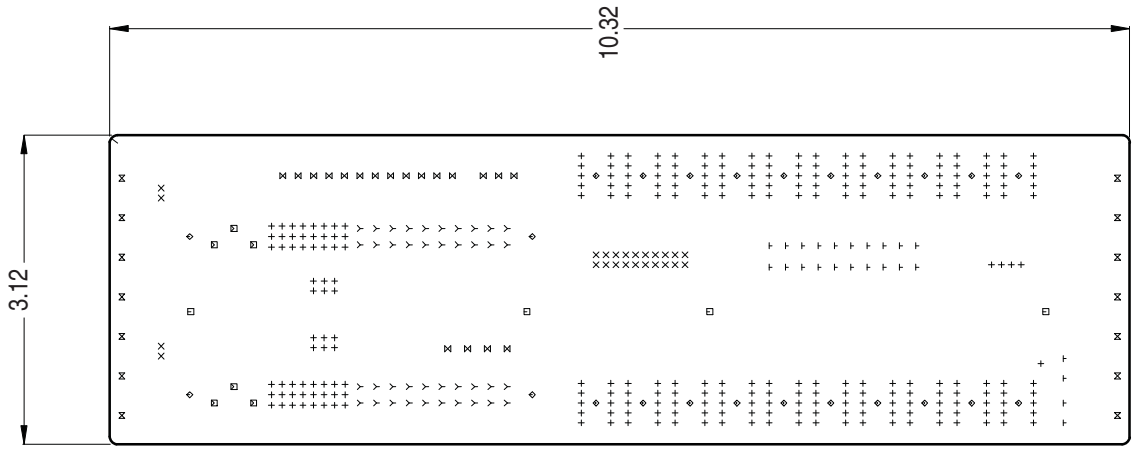
Line Drawing



ORDER INFORMATION

Height	Width (in.)	Power Supply Connectors	Part Number
6U	1.54"	1	69-BPIBM601
6U	3.13"	2	69-BPIBM602

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Other Options

Other features include two auxiliary/disk drive connector (TYCO 350424-1 or equivalent), and one or two power switch headers (AMP/TYCO 640456-2 or equivalent). The sense lines help the power supply better regulate the power at the load end. The function header allows remote or local sense. For optimal power regulation, remote sense is recommended. The current share lines allow multiple power supplies to share current, either on one PIB (with two power supply connectors) or between multiple PIBs. The current share lines have to be connected if using more than one PIB. The Geographical Addressing is configurable through jumpers, with GAO, GA1, and GA2. (The 2 ps version has two sets of these jumpers.) The IPMB interface is compliant to system management specification PICMG 2.9 Rev. 1.0. The PIB is also designed to comply with the power interface specification PICMG 2.11 Rev. 1.0 and with the IEEE 1101.10 mechanical specification.

Connectors

Function Headers (2 ps. connector version)

Contact Material:	Copper Alloy
Housing Flammability Rating:	UL 94V-0
Housing Material:	Polyester
Mating Connector Lock Type:	Friction Lock
Post Size (mm [in]):	0.64 [.025] Sq.
Voltage Rating:	250 VAC
Termination Post Length (mm [in]):	3.56 [.140]

Pin	Signal	Pin	Signal
01	EN2	02	EN1
03	DEG 2	04	DEG1
05	INH2	06	INH1
07	FAL2	08	FAL1
09	GND	10	GND
11	PS-ON	12	+5V
13	PWROK	14	-3.3V
15	+12V	16	I_SCL
17	IPMB_SDA	18	I_PWR
19	-12V	20	NC

For the 1 ps version, positions 1-4 (EN2, DEG2, INH2, and FAL2) are all NC instead.

ATX Connector

Voltage:	600 A
Current (used with 16 AWG):	9A per contact
Contact Insertion Force:	1.5kg max.
Contact Retention to Housing:	3.0kg min.
Contact Resistance:	10 µ....max.
Dielectric Strength:	1500V AC
Insulation Resistance:	1000 Mega....min.
Normal Force:	200g min.
Temperature:	-40°C to +105°C

Pin	Signal	Pin	Signal
01	+3V	11	+3V
02	+3V	12	-12V
03	GND	13	GND
04	+5V	14	PS-ON
05	GND	15	GND
06	+5V	16	GND
07	GND	17	GND
08	PWROK	18	NC
09	NC	19	+5V
10	+12V	20	+5V

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Sense/Share Connector

Type:	AMP 1-644752-6 or equivalent
Contact Material:	Copper Alloy
Housing Flammability Rating:	UL 94V-0
Housing Material:	Polyester
Current Rating (Amps):	7 Amperes Max.
Mating Connector Lock Type:	Friction Lock
PCB Thickness (mm [in]):	2.36-3.18 [.093-.125]
Post Size (mm [in]):	1.14 [.045] Sq.
Voltage Rating:	600 VAC
Termination Post Length (mm [in]):	4.45 [.175]
Environmental Temperature Range, Storage:	-55°C to 125°C
Temperature Range, Operating:	-25°C to 85°C
Humidity:	90% R.H. non-condensing
Shock and Vibration:	Exceeds ETS 300-019-2-5

Pin	Signal
01	V3_SHR
02	V3_SNSR
03	V3_SNS
04	V2_SHR
05	V2_SNSR
06	V2_SNS
07	V1_SHR
08	V1_SNSR
09	V1_SNS
10	S-RTN
11	GND
12	GND
13	-
14	+12V
15	+3.3V
16	+5V

Drive Connector (small)

Pin	Signal
01	+12V
02	GND
03	GND
04	+5V

Power Switch 1 Connector

Pin	Signal
01	EN1
02	EN2

Drive Connector (large)

Pin	Signal
01	+12V
02	GND
03	GND
04	+5V

Power Switch 2 Connector
(2 ps connector PIB only)

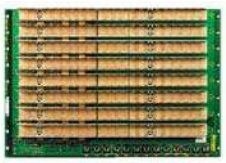
Pin	Signal
01	EN1
02	GND

Geographical Addressing Jumpers

JP1	Pin 1	GA0	Pin 2	GND
JP2	Pin 1	GA1	Pin 2	GND
JP3	Pin 1	GA2	Pin 2	GND

Related Products from Elma Electronic:

- CompactPCI Backplanes in various sizes and configurations.
- CompactPCI Load Board and other test accessories.



Did you know we also offer with this Power Interface Board:

- AdvancedTCA, CompactPCI/2.16, MicroTCA, VME, VME64x, VXI, OpenVPX/VPX, and VXS backplanes
- Thermal or backplane simulation/test, paint/silkscreen, customization, integration