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5B Series Backplanes and Mounting Cards

[5B Series Overview](#) | [5B Series Model Definitions](#) | [Available 5B Series Modules](#) | [5B Series Power Supplies](#) | [5B Series Accessories](#)
| [5B Series Configuration Guide](#) | [5B Series Custom Configuration Ranges](#)

Introduction

To address diverse applications, the 5B Series includes a family of backplanes and mounting cards which provide a complete signal conditioning solution. Two 16-channel (models 5B01 and 5B02) and two 8-channel backplanes (models 5B08 and 5B08-MUX) can be mounted in a 19" x 3.5" panel space, providing different system configuration options. The models 5B03 and 5B04, one and two channel cards, allow an economical means to handle a few signals. A single-channel card, model AC1360, is also available for evaluation or test of any 5B Series module.

All backplanes and sockets provide four screw terminals per channel for all field connections. These connections satisfy all transducer inputs, process current outputs and provide transducer excitation when necessary. A cold junction temperature sensor (model [AC1361](#)) sensor is also supplied on each channel to accommodate thermocouple input modules. A pair of pin sockets permits installation of the [AC1362](#) current sensing resistor used with the 5B32 current input module. On all 16-channel and 8-channel backplanes, a 26-pin system interface connector provides high level I/O for all channels. All 5B Series backplanes and sockets require a regulated +5 Vdc external power source.

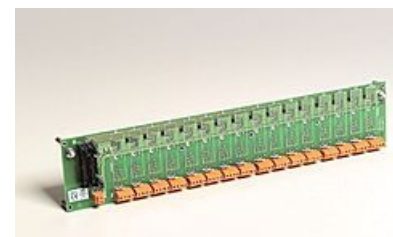
Features

- Mix and Match 5B Series I/O
- Module Capability
- Factory Mutual (FM) Approved: Approved for Use in Class I, Division 2, Groups A, B, C and D Locations
- CE Certified: EMC Directive in Heavy Industrial Applications
- 1500 V rms Channel/Channel and Input/Output Isolation
- Four Backplanes and Three Mounting Card Options: 1 -, 2 -, 8 -, 16 - Channels
- -25°C to +85°C Temperature Range
- Single Threaded Insert for module Hold Down

Models

Model 5B01

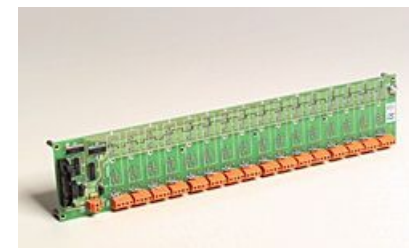
The 16-channel model 5B01 provides sixteen single ended input/output pins on the system connector. It is pin compatible with Analog Devices 3B Series applications. (Note, however, that the 5B Series modules provide a ± 5 V output range rather than the ± 10 V range provided by the 3B Series modules).



16-Channel Model 5B01
[Order Now](#)

Model 5B02

The 16-channel model 5B02 incorporates an input and output bus which takes advantage of the internal series output switches in the input modules and the track-and-hold in the output modules. Designers integrating the 5B02 into a measurement and control system do not need external multiplexers and can use a single digital to analog or analog to digital converter to serve numerous output or input channels.



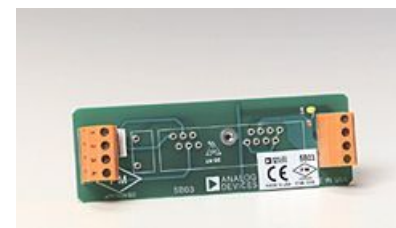
16-Channel Model 5B02

Order Now**Models 5B08 and 5B08-MUX**

The 8-channel models 5B08 and 5B08-MUX backplanes are identical in operation to the 16 channel 5B01 and 5B02 (respectively). A family of eight 3-pin jumpers allows the user to assign the 5B08 I/O to either the upper eight I/O pins or to the lower eight I/O pins of each 16-channel bank.

8-Channel Models
5B08 and 5B08-MUX**Order Now****Models 5B03 and 5B04**

For smaller applications, the models 5B03 and 5B04 mounting cards are available for one and two 5B Series modules, respectively. These module cards may be clustered for groups of three or more signals. They are DIN rail compatible using Phoenix Universal Module UM elements.



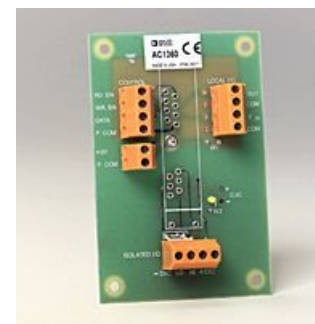
Model 5B03

Order Now

Model 5B04

Order Now**Model AC1360**

The model AC1360 is a single channel test or evaluation card that can be either DIN rail mounted, using Phoenix Universal Module UM Elements, or bench top/wall mounted using four standoffs provided. Screw terminals are provided for all the module's input, output, control and power connections.



Model AC1360

Order Now

(typical @ +25°C and $V_s = +5$ V dc)

5B Series Backplane Specifications

Description	5B01	5B02	5B08	5B08-MUX
Channels	16	*	8	**
Isolation				
Input-to-Output, Continuous	1500 V rms, maximum	*	*	*
Channel-to-Channel, Continuous	1500 V rms, maximum	*	*	*
Output-to-Power ¹	N/A	*	*	*
Mechanical Dimensions-with modules	3.5" x 17.4" x 3.2" (88.9 mm x 442 mm x 81.3 mm)	*	3.5" x 10.0" x 3.2" (88.9 mm x 442 mm x 81.3 mm)	*
Weight	11.25 oz. (305 g)	*	7 oz (200 g)	**
Mounting Standoffs	7	*	5	**
Cold Junction Temperature Sensors				
Number provided on backplane	16	*	8	**
Type	Model AC1361	*	*	*
Initial Accuracy @ +25°C	±0.25°C (±0.75°C, maximum)	*	*	*
Accuracy, +5°C to +45°C	±0.5°C (±0.0125°C/°C)	*	*	*
System I/O Connector				
Number	2, 26-pin	1, 26-pin	*	1, 26-pin
Type	Amp 746290-6	*	*	*
Address Enable Inputs				
Max Logic "0"	N/A	+0.8 V	*	+0.8 V
Min Logic "1"	N/A	+2.0 V	*	+2.0 V
Max Logic "1"	N/A	+7.0 V	*	+7.0 V
Power Supply				
Voltage: Operating	+5 V dc ±5%	*	*	*
Voltage: Max Safe Limit-with modules	+6.0 V dc max.	*	*	*
Current - without modules	N/A	32 mA	13 mA	40 mA
Fuse (F1)	4 Ampere Littelfuse(c) Type 252 004	*	*	*
Environmental				
Temperature Range				
Rated Performance	-25°C to +85°C	*	*	*



Operating	-40°C to +85°C	*	*	*
Storage	-40°C to +85°C	*	*	*
Relative Humidity	0 to 95% @ +60°C noncondensing	*	*	*

* Specifications same as model 5B01.

** Specifications same as model 5B08.

¹ 5B module I/O Common is connected to the backplane Power Common through jumper W4.

Specifications subject to change without notice.

5B Series Mounting Cards Specifications

(typical @ +25°C and Vs = +5 V dc)

Description	5B03	5B04	AC1360
Channels	1	2	1
Isolation			
Input-to-Output, Continuous	1500 V rms, maximum	*	*
Channel-to-Channel, Continuous	N/A	1500 V rms, maximum	*
Output-to-Power ¹	N/A	N/A	N/A
Mechanical Dimensions	4.25" x 1.365" (105 mm x 34.7 mm)	*	2.85" x 4.25" (72.4 mm x 108 mm)
DIN Rail Mountable	Yes ²	*	*
Bench Top of Wall Mountable	N/A	*	Yes ³
Weight	0.85 oz. (24.0 g)	1.06 oz (30.2 g)	1.7 oz (48.45 g)
Mounting Standoffs	N/A	*	4
Provision for Mounting AC1362 Resistor	Yes	*	*
Cold Junction Temperature Sensors			
Number provided on card	1	2	*
Type	Model AC1361	*	*
Initial Accuracy @ +25°C	±0.25°C (±0.75°C, maximum)	*	*
Accuracy, +5°C to +45°C	±0.5°C (±0.0125°C/°C)	*	*
Provision to disable on-board CJC	N/A	*	Yes
Field I/O Connector			
Number	1	2	*
Type	4-screw terminals	*	*



Output Switch Enable/Read Inputs	No ⁴	*	Yes
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Power Supply⁵

Voltage: Operating	+5 V dc \pm 5%	*	*
Voltage: Max Safe Limit-with modules	+6.0 V dc max.	*	*
Current - without modules	N/A	*	*
Fuse	N/A	*	*

Environmental

Temperature Range			
Rated Performance	-25°C to +85°C	*	*
Operating	-40°C to +85°C	*	*
Storage	-40°C to +85°C	*	*
Relative Humidity	0 to 95% @ +60°C noncondensing	*	*

* Specifications same as Model 5B03.

¹ 5B module I/O Common is connected to the Power Common through jumper W4.

² DIN rail mounting is achieved using Phoenix Universal Mounting UM modules - not supplied with Mounting Cards. Refer to Application Note AN-533 on 5B Series backplanes and Mounting Cards for additional details.

³ Using mounting standoffs provided with cards.

⁴ Output switch Enable wired to Power Common - switch closed.

⁵ Mounting cards are NOT protected against reverse supply connections. A reversal of power may destroy the installed module.

Specifications subject to change without notice.





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