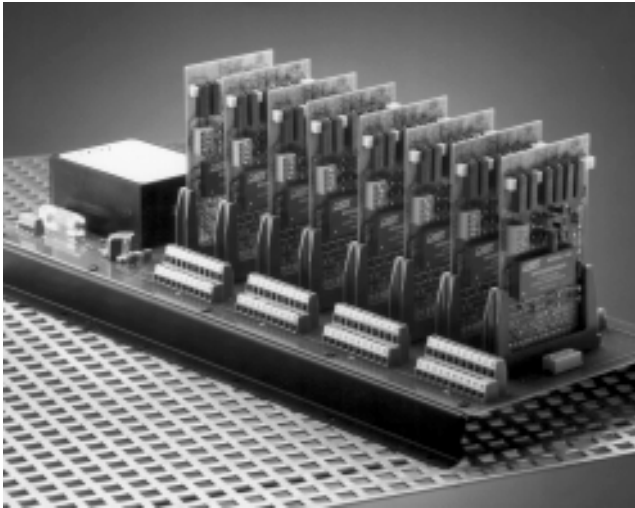


# Model 8610 Backplane



## Features

- Eight Printed Circuit Card Edge Connectors
- 0.156" Pin Spacing
- AC or DC Operation
- Screw Clamp Terminal Blocks
- On Board Noise Filters

## Description

The CALEX model 8610 Backplane is a convenient mounting system for up to eight CALEX signal conditioners, alarms and/or controls. The backplane measures 7.5" x 16.5" and can be mounted into a variety of standard 19" relay rack enclosures. All connections are easily made with a screwdriver. The screw terminal blocks will accept AWG wire sizes 22 to 16.

The 8610 board is available with either an AC line or a DC input power supply. The AC line model is available with either 100, 115, 220, 230 or 240 Volt 50/60 Hz input. The DC option is available for 10 to 36 Volts DC input or 24 to 72 Volts DC. For noise suppression, power supply input and output common mode choke filters are on the 8610DC models and a common mode choke filter is on the output of the 8610AC models.

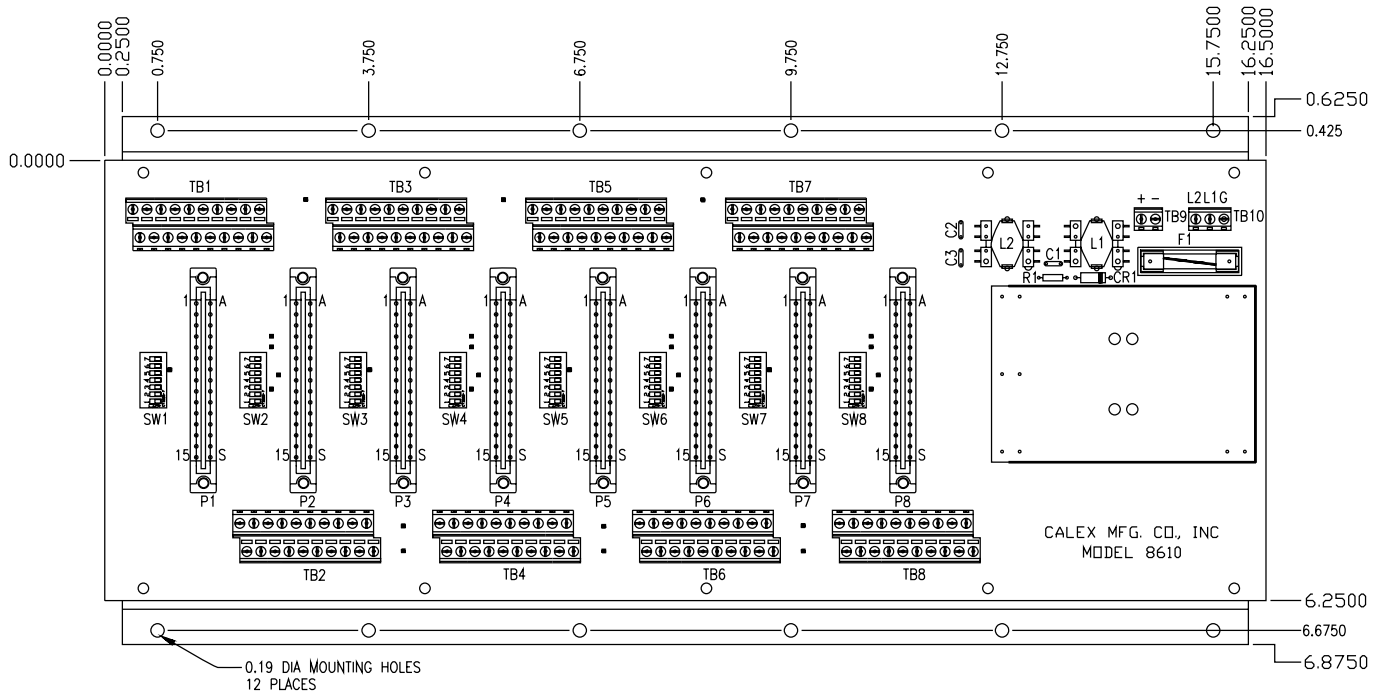


Figure 1.

Notes: Unless Otherwise Specified

1. This drawing is a dimensional reference document to be used as an aid for locating mounting holes.
2. Mounting Rail is 0.050 thick.

# Model 8610 Backplane

## Specifications

Model	8610DC-24	8610DC-48	8610AC-115	8610AC-230
Input Range	10-36VDC	24-72VDC	115 VAC	230 VAC
Power Supply	24D15.400	48D15.400	2.15.350-115	2.15.350-230
Frequency			50/60 Hz	50/60 Hz
Temperature	Operating 0°C to +55°C			
Size	7.5" W x 16.5" L x 6.0"H			
Weight	1 lb. 6 oz.	1 lb. 6 oz.	3.018 lbs.	3.018 lbs.

Note: State the desired input voltage range when ordering.

## DC Operation

The DC input models use a CALEX DC/DC converter to provide the  $\pm 15$  Volt power for all eight channels. The input power supply negative lead is tied to the 8610  $\pm 15$  Volt common bus through a 1 megohm resistor and a 0.1 $\mu$ F/100V capacitor. Input and output common mode filters are provided on the board to limit high frequency noise. The positive input is fused with a slow blow fuse and has a series diode to prevent damage from reverse polarity.

The 8610 Backplane is designed to be used with the CALEX Mounting Kits listed in figure 2. Up to 8 units will not fully load the DC/DC converter.

Below 10 Volts input, the converter will continue to operate and the input current will rise above 1 Amp before the current begins to decrease. See the 24D INPUT CURRENT Vs LINE INPUT (Figure 3). Note from the curves that it is possible for an under rated input power source to lock up at a voltage too low to operate the DC/DC converter. Also note that the series diode is rated for 1.5 Ampere and that a fully loaded 24D15.400 will draw close to 2.5 Amp as the input voltage drops below 10 Volts. Hence operation at full load and low line should be avoided.

The input power source can have 120 Hertz ripple up to 1 Volt peak to peak at 10 Volts and 2 Volts peak to peak above 12 Volts input.

The 8610 is also available with a 48D15.400 DC/DC converter which operates from 24 to 72 Volts input. The input currents will be proportionally less. See the 48D INPUT CURRENT Vs LINE INPUT (Figure 3).

## Wiring Tips

Two terminals on each of the screw terminal blocks are tied to the common bus for connection to shields or other points that must be connected to signal common. The positive 15 Volt supply is tied to pin A on all eight card connectors.

The power supply common, which is also the signal common, is connected to pin B. The negative 15 Volt supply is brought out to each dip switch at switch 6 and 7. This allows the connection of the -15 Volts to either pin C or Pin E of the card edge connector, which is required for most Instrumentation Modules. See figure 2 for which pin and CALEX Modules require -15 Volts.

8610 Backplane Pin Out for -15 VDC			
Model	Switch 6	Switch 7	Pin
162MK	off	ON	E
163MK	ON	off	C
MK216/217/218	ON	off	C
MK276	ON	off	C
MK278	ON	off	C
MK296	off	off	Not Used
MK298	off	off	Not Used
MK376/377/378/379	ON	off	C

FIGURE 2.

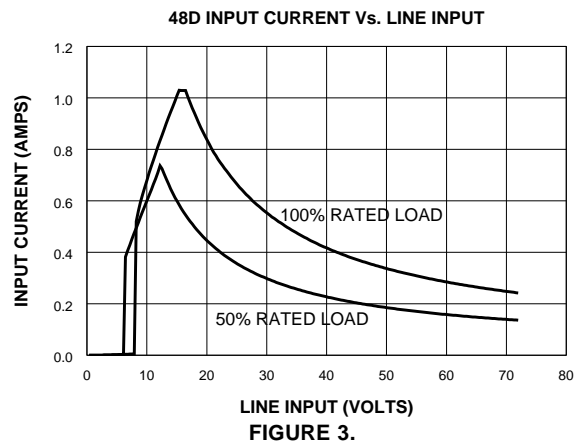
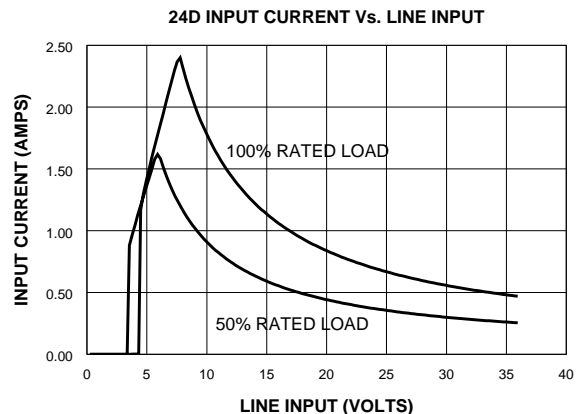


FIGURE 3.

# Model 8610 Backplane

## Edge Connector & Dip Switch

Dip switches 1 - 5 either short or open connections between the edge connector to convert it from a 15 pin connector to a 30 pin connector, which the 163MK Bridgesensor requires. With switches 1 - 5 ON, the edge connector is configured as a 15 pin connector for all CALEX Mounting Kits with the exception of the 163MK Bridgesensor (See figure 4). With switches 1 - 5 OFF, the edge connector is configured as a 30 pin connector for the 163MK Bridgesensor (See figure 5).

Pin Assignments (Dip Switches 1 - 5 ON)			
Terminal Block Pin	Edge Connector Pin	Terminal Block Pin	Edge Connector Pin
1	C	11	B = CMN
2	D	12	K
3	D	13	L
4	E	14	M
5	F	15	N
6	H	16	P
7	H	17	R
8	J	18	R
9	K	19	S
10	B = CMN	20	S

**FIGURE 4.**  
Pin out Assignments for All CALEX Modules except the 163MK.

Pin Assignments (Dip Switches 1-5 OFF)		
Terminal Block Pin	Edge Connector Pin	Jumper Wire Via Dip Switch
1	C & 3	
2	D	Dip Switch 1 ON will short D & 4
3	4	
4	E & 5	
5	F & 6	
6	H	Dip Switch 2 ON will short H & 7
7	7	
8	J & 8	
9	K	Dip Switch 3 ON will short K & 9
10	B & 2 = CMN	
11	B & 2 = CMN	
12	9	Dip Switch 3 ON will short K & 9
13	L & 10	
14	M & 11	
15	N & 12	
16	P & 13	
17	R	Dip Switch 4 ON will short R & 14
18	14	
19	S	Dip Switch 5 ON will short S & 15
20	15	

**FIGURE 5.**  
Pin out Assignments for 163MK.

## Model 8610 Schematic - Typical 1 of 8 Connectors

