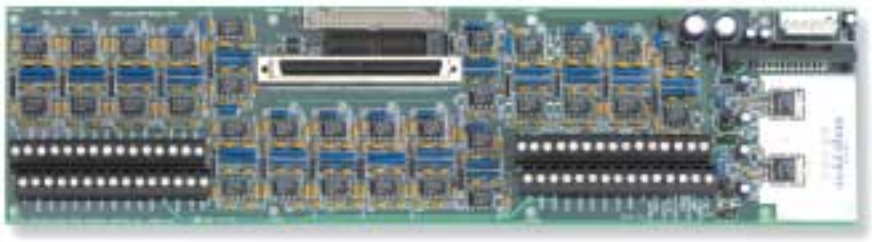
PowerDAQ Active Screw-Terminal Panel



16-channel active screw-terminal panel (PD-ASTP-16)

General Description

The PD-ASTP-16 is a 16-channel signal-conditioning screw terminal panel. It provides everything needed to make low-level and/or high-impedance measurements such as when working with thermocouples or strain gauges. Users can individually configure each channel, which contains a dedicated differential-input instrumentation amplifier, for gains ranging from 1 to 1000 in ten steps with 0.035% typical gain error. Custom gain settings are also available.

At the time of order customers specify the desired values of gain-setting resistors, and they can also specify capacitor values to achieve the desired cutoff frequencies on optional lowpass filters. These cutoffs typically range from 10 Hz to 200 kHz. UEI guarantees ultra-low offsets and temperature drift over the specified temperature range and the lifetime of the product. Further, because these resistors and capacitors are socketed, users can change their values in the field.

The PD-ASTP-16 panel interfaces directly to PowerDAQ II MF(S) series boards and PDXI-MF(S) boards, and users can connect as many as four of these panels to any 64-channel PowerDAQ card. For users who need more than 16 channels of conditioning, UEI offers a connector that interfaces the PD-ASTP-16 to a variety of 5B signal-conditioning modules or breakout panels.

Technical Specifications

Analog Input	
Number of Channels	16
Voltage Gain Settings	G = 1 to 1000 with the following settings: 1,2,5,10,20,50,100,200,500,1000
Input Coupling	DC, differential
Maximum Supply Voltage	±18V
Accuracy	±0.35% (±1LSB)
Transfer Characteristics	
Nonlinearity	Better than 0.02%
Gain Error	±0.035% of setting max
Offset Error	±0.5V x gain (after amplification in PGA)

Amplifier Characteristics	
Input Impedance	> 1 GΩ
Input Bias Current	±0.5 nA max
Input Offset Current	±0.5 nA max
Filter Characteristics	
Lowpass Filter Type	RC, in three 1st order stages
Filter Cutoff Frequencies	10 Hz, 30 Hz, 1 kHz, 10 kHz, 100 kHz, 200 kHz
Physical	
Dimensions	50 x 90 x 345 mm (2.0x3.5x13.5")
Operating Temperature	0–70°C
Relative Humidity	10–90% noncondensing

Ordering Information

PD-ASTP-16 .....16-channel AIn active screw-terminal panel. Gain of 1 (0.01%), 6-dB cutoff @ 100 kHz
PD-ASTP-16X .....16-channel ASTP panel with 2 AOut excitation voltage channels
PD-ASTP-16SG .....Precision version of PD-ASTP-16X with gain of 100 and cutoff @ 10Hz for use with strain gages & thermocouples
PD-ASTP-RES.....20-piece precision resistor set. Select from gains of 1, 2, 5, 10, 20, 50, 100
PD-ASTP-CAP .....20-piece X7R thruhole capacitor set. Select from 100 pF, 500 pF, 1 nF, ... 1 µF values