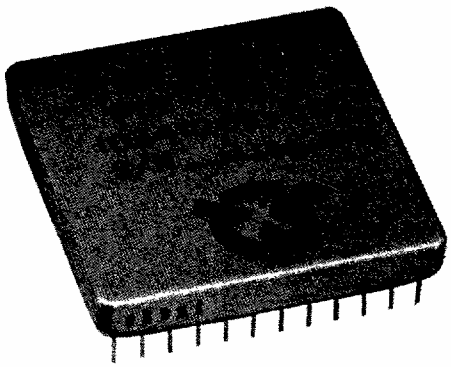
AYDIN VECTOR

MODEL PDF-246 PROGRAMMABLE SIGNAL CONDITIONER

FEATURES

- 2 Differential Channels
- 6 Pole Low Pass Filter per Channel
  - Any Characteristic Response from 12 Hz to 11 kHz
- 1 Pole High Pass Filter for AC or DC Input Coupling each Input
- 4 Digitally Programmable Gains per Channel
- 2 Independently Controllable Sample-Hold Amplifiers
- High Input Impedance Power On and Power Off
- Input Overvoltage Protection to ± 35V
- Output Analog Line Drivers



The PDF-246 is an Analog Signal Conditioning Module that is intended for use in a multi-channel data acquisition environment. The module is designed to fully condition transducer signals for analog multiplexing and analog-to-digital conversion.

The PDF-246 input is compatible with all voltage and current biased transducers in both bridge and direct drive configurations.

Each channel of the module has four gains which are digitally programmable. The digital inputs are TTL/HCMOS compatible.

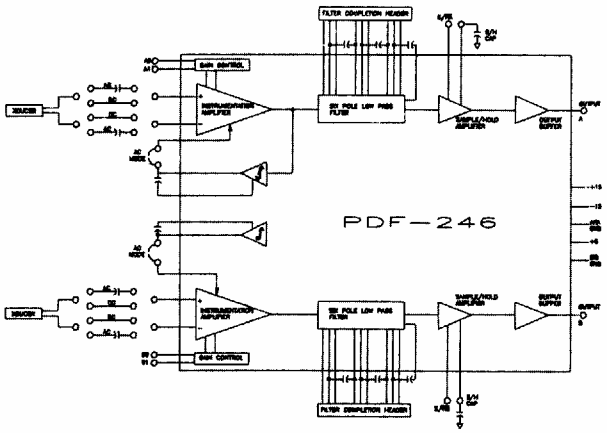
The PDF-246 provides six-pole low-pass anti-aliasing filters which are resistor programmable to provide all filter shape characteristics from Bessel to Chebyshev or a custom equalization filter if the user so desires.

The PDF-246 output is capable of driving non-linear loads such as analog switches. The output is also capable of driving capacitive loads both charged and discharged.

Twin, independent Sample/Hold amplifiers provide the flexibility of either sequential or simultaneous sampling formats.

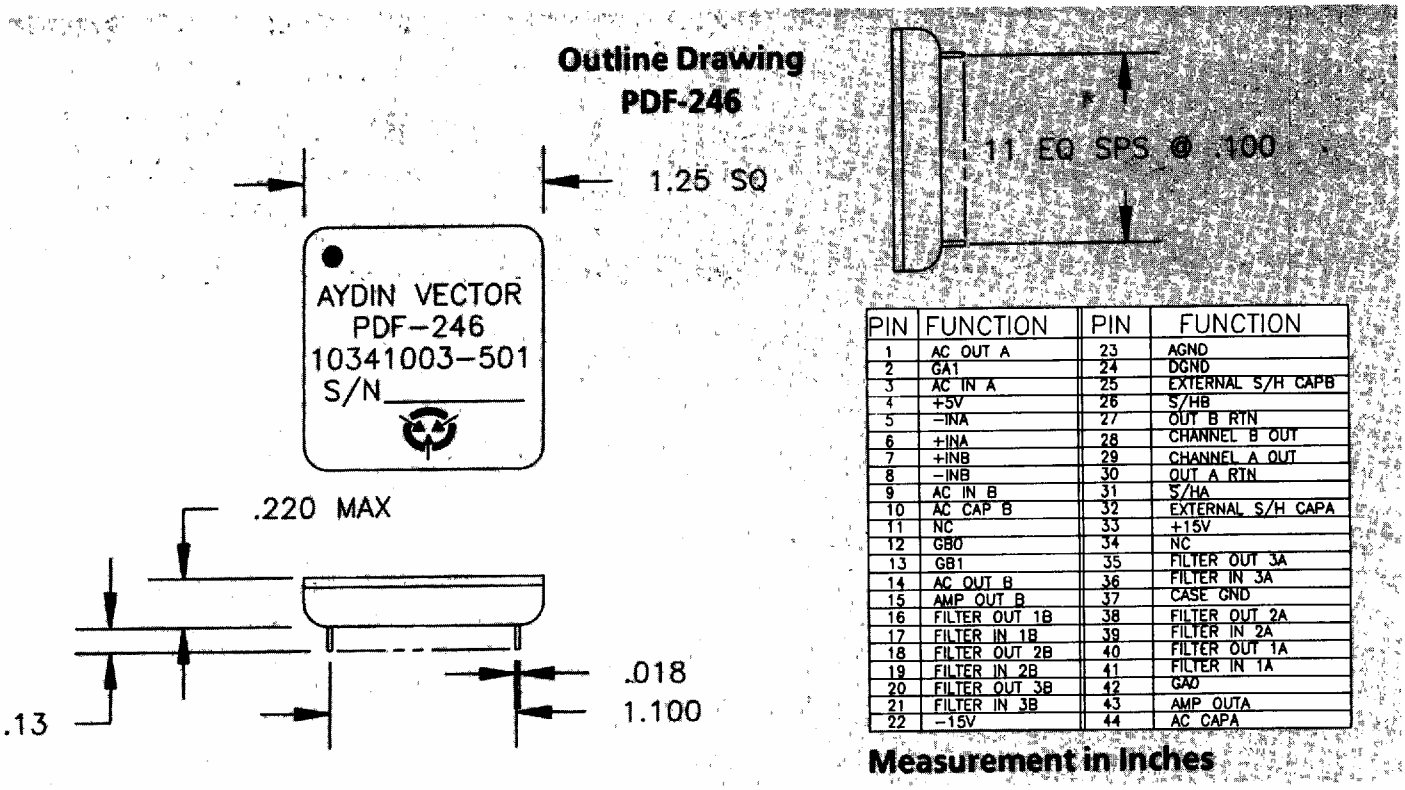
The PDF-246 is mechanically designed to perform in the most severe and hostile environments. Typical applications include:

- Flight Test
- Spaceflight
- Geological Testing
- Marine and Submarine Systems
- Hazardous Material Measurement Systems
- Atmospheric Probes
- Crash Testing



PDF-246 BLOCK AND TYPICAL CONNECTION DIAGRAM

Outline Drawing
PDF-246



PIN	FUNCTION	PIN	FUNCTION
1	AC OUT A	23	AGND
2	GA1	24	DGND
3	AC IN A	25	EXTERNAL S/H CAPB
4	+5V	26	S/HB
5	−INA	27	OUT B RTN
6	+INA	28	CHANNEL B OUT
7	+INB	29	CHANNEL A OUT
8	−INB	30	OUT A RTN
9	AC IN B	31	S/HA
10	AC CAP B	32	EXTERNAL S/H CAPA
11	NC	33	+15V
12	GB0	34	NC
13	GB1	35	FILTER OUT 3A
14	AC OUT B	36	FILTER IN 3A
15	AMP OUT B	37	CASE GND
16	FILTER OUT 1B	38	FILTER OUT 2A
17	FILTER IN 1B	39	FILTER IN 2A
18	FILTER OUT 2B	40	FILTER OUT 1A
19	FILTER IN 2B	41	FILTER IN 1A
20	FILTER OUT 3B	42	GA0
21	FILTER IN 3B	43	AMP OUTA
22	−15V	44	AC CAPA

Measurement in Inches

SPECIFICATIONS

Channels	2, Independent
Inputs (Each Channel)	
Type	Differential
Impedance	
Power On	10 Megohm Minimum
Power Off	1 Megohm Minimum
Overvoltage Protection	
Power On	± 70V Differential ± 35V Common Mode
Power Off	± 70V Differential ± 35V Common Mode
Coupling	AC or DC
Filter (AC Mode)	1 Pole High Pass
Compliance range (linear)	± 5 Volts
Amplifier (Each Channel)	
Type	Instrumentation
Gains	4
Programming	Digital, 2 Bits TTL/HCMOS Compatible
Accuracy	± 0.1% Full Scale
Anti-Aliasing Filter	
Type	Low Pass
Order	6 Poles
Frequency Range (Fc)	12 Hz to 11 kHz
Characteristic Response	All Implementations Possible
Programming	Resistor Completion
Sample/Hold Amplifier	
Droop Rate	Adjustable: 100 mV per second Maximum at the acquisition times given below
Acquisition Time (5 Volt Step)	10 μs to 0.1% FS 15 μs to 0.07% FS
Output Driver	
Output Drive	± 10 mA‖1000 Picofarads
Settling Time	0.1% FS in less than 5 μs from ± 1000 pico coloumb initial charge, 5 Volt step.
Power Requirements	
+ 15V Quiescent	30 mA maximum
-15V Quiescent	-30 mA maximum
+ 5V	4 μA maximum
Temperature	Operating: -55°C to + 75°C

ORDERING INFORMATION

Please contact your local Aydin Vector representative for further information or call the factory at (215) 968-4271.

Bulletin No. 10341003/8-92/Printed in the USA

AYDIN VECTOR DIVISION
NEWTOWN INDUSTRAL COMMONS • P.O. BOX 328, NEWTOWN, PA 18940-0328 • (215) 968-4271 • TWX:510-667-2320 • FAX:215-968-3214
AYDIN INTERNATIONAL U.K. 1-3 HUNTING GATE, HITCHIN, HERTS SG4 OTJ ENGLAND • TEL:44-0462-43455 • FAX:44-0462-420727