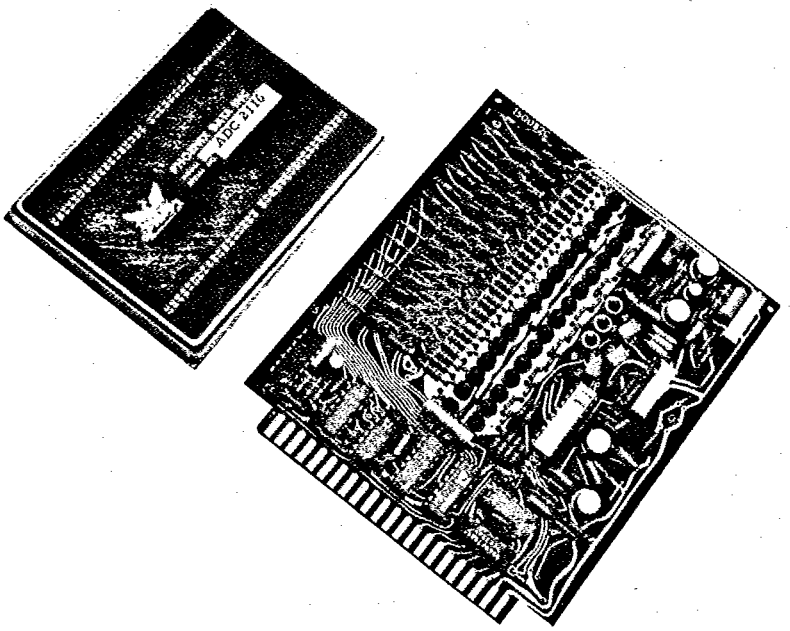
ADC 2000/2100 SERIES

Low Power

16 bit analog-to-digital converter

FEATURES

- ☐ RESOLUTION
  16 Bits; 1 part in 65,535
- ☐ EXTREMELY LOW POWER
  500 mw total
- ☐ HIGH ACCURACY
  ±.004%
- ☐ VERY LINEAR
  ±0.002%
- ☐ HIGH STABILITY
  ±1.5 ppm/°C Temperature Coefficient
- ☐ FULLY MONOTONIC
- ☐ OUTPUT CODE
  Offset Binary



GENERAL DESCRIPTION

Phoenix Data's Model ADC 2000/2100 Series Analog to Digital Converters are specially designed high performance units for stringent applications especially where power requirements are very critical. Performance characteristics include a resolution of one part in 65,535, at an accuracy of ±0.004%, and an overall stability of ±1.5 ppm/°C. Its unique design utilizes the succesive approximation technique and CMOS circuitry, with the total power consumption at an incredibly low 500mw!

The high impedence analog input circuit accepts a full-range ±8.192V signal with optimum system isolation.

All output and control signals are fully CMOS-TTL - LS compatible, with a variety of control signal functions to meet the needs of virtually any system design application.

Each ADC 2000/2100 Series Converter is a fully assembled, tested, and calibrated "System Ready" module, designed for convenient mounting into a standard 44-pin card edge connector.

Simplicity of design, ease of implementation and time-proven reliability has been the trademark of Phoenix Data converters. This coupled with an extensive knowledge of converter technology and wide range of application experience, has made Phoenix Data Converters the choice of discriminating designers everywhere.

ADC 2000/2100 SERIES

Low Power

16 bit analog-to-digital converter

74C 00442 D T-51-10-16

SPECIFICATIONS

☐ ANALOG INPUT SIGNAL	
Range	±8.192V, +8.192V, -8.192V, ±4.096V (Programable)
Impedence	100 Megohm with buffer amplifier, Single ended
Overvoltage	±15V max
Bias Current	30 na, typical
☐ ACCURACY (% of Full Scale Range)	
Gain & Zero	±0.004% FSR (adjustable to Zero)
Linearity	±0.002% FSR (15 & 16 Bits), monotonic ±0.004% FSR (14 Bits), monotonic
☐ TEMPERATURE COEFFICIENT	
Gain & Zero	±5 ppm/° C (±2.5 & ±1.5 ppm/°C optional)
Linearity	±0.9 ppm/°C (±0.6 and ±0.3 ppm/°C optional)
☐ ENCODING	
ADC 2016/ ADC 2116	16 bits; 80 usec conversion time
ADC 2015/ADC 2115	15 bits; 50 usec conversion time
ADC 2014/ADC 2114	14 bits; 40 usec conversion time
☐ DIGITAL INPUTS	
CTC	Leading edge of Positive going pulse
Output Disable	4 lines for tri-state Control
Levels	CMOS (5 to 12V) or TTL depending on Logic Power supplied
☐ DIGITAL OUTPUTS (High True)	
Data	14, 15 or 16 bits; offset binary code
Drive	C-MOS or 1 ea TTL -LS load
Tri-State	May be used as 4-4 bit bytes; 2-8 bit bytes or 1-16 bit byte
Levels	0 & 5V up to 0 & 12V depending on logic power supplied to ADC
Parallel Data	Latched until following EOC
Serial	MSB first
Busy	Low output during conversion & goes true when data has settled on outputs.
☐ ENVIRONMENTAL	
Temperature	
Operating	0°C to +70°C
Storage	-55°C to +100°C
Humidity	0 to 99% Relative, Non Condensing
☐ POWER REQUIREMENTS	
+12V to +15V at 20 ma max	
-12V to -15V at 15 ma max	
+5V for TTL or +12V for CMOS logic at 1 ma max	
☐ PACKAGE SIZE	
ADC 2000 Series	5" x 4.5" x 0.5" Modular P.C. Card
ADC 2100 Series	3" x 4" x 0.4 Encased

Ordering Information

ADC XX XX XX XX XX

- 20 = Modular, 21 = Encased
- 16 = 16 bits, 15 = 15 bits, 14 = 14 bits
- Blank = 0°C to +70°C, MT = -20°C to +85°C, HT = -55°C to +115°C
- Blank = ±5 ppm/°C Gain & Zero*, 25 = ±2.5 ppm/°C Gain & Zero, 15 = ±1.5 ppm/°C Gain & Zero
- Blank = ±0.9 ppm/°C Linearity*, 60 = ±0.6 ppm/°C Linearity, 30 = ±0.3 ppm/°C Linearity

*These TC's Cover the 0°C to +70°C Range; beyond this range the TC doubles.

Phoenix Data, Inc. reserves the right, at any time and without notice, to change specifications presented within this data sheet, and assumes no responsibility for the application or use of products herein described.

For additional information or for your evaluation sample, contact your local Phoenix Data representative or the factory; also please check our short form catalog as advertised in EEM.

Phoenix Data, Inc.

3384 WEST OSBORN ROAD PHOENIX, ARIZONA 85017 PHONE 602/278-8528 TWX 910-951-1364