

AD4-B

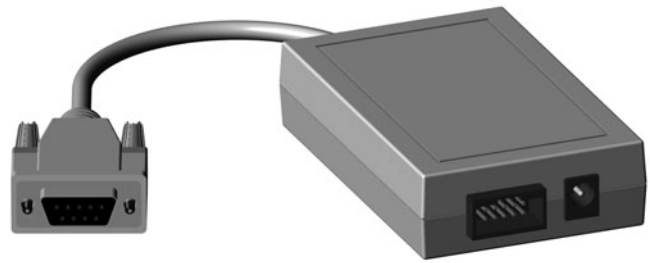
Quadrature to RS232 Adapter

Description:

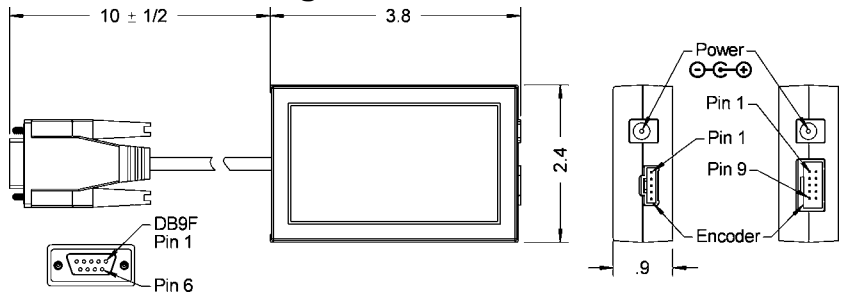
The **AD4-B** adapter provides a simple plug-in method for connecting a single-ended or differential quadrature encoder directly to an RS232 serial com port. One end of the **AD4-B** plugs into a standard serial port, while the other end plugs into a quadrature encoder. A quadrature counter (**LS7166**) inside the **AD4-B** keeps track of encoder position, while a microprocessor provides a serial interface allowing the user to query the counter for encoder position. A Windows library is provided to give the user simple access to **AD4-B** functions, and a sample program in Visual Basic provides a template for the user's custom application. The encoder interface IC used in this product can be purchased separately. See the **LS7166** data sheet for complete information.

The **AD4** communicates with a host computer using an eight bit binary format; binary format, while not readable as ASCII text, minimizes communication latency and makes data storage compact. The equipment connected to an **AD4** must support eight bit data transfer at a baud rate between 1200 and 115k baud.

US Digital warrants its products against defects in materials and workmanship for two years. See complete warranty for details.



Mechanical Drawing:



Differential Pin-out:

Pin	Description
1	Ground
2	Ground
3	Index-
4	Index+
5	A- channel
6	A+ channel
7	+5VDC power
8	+5VDC power
9	B- channel
10	B+ channel

Single-ended Pin-out:

Pin	Description
1	Ground
2	Index
3	A channel
4	+5VDC power
5	B channel

Absolute Maximum Ratings:

Parameter	Min.	Max.	Units
Storage Temperature	-40	100	°C
Operating Temperature	0	70	°C
Humidity (non-condensing)	0	95	%
120 VAC Power Supply Input Power	-	6	Watts

Compatible Cables & Connectors:

Finger-latching:		
5-pin	10-pin	Description
CON-FC5-22*	CON-FC10	Connector
CA-3133-1FT	-	Connector on one end with 4 12" wires
CA-3132-1FT	-	Connector on one end with 5 12" wires
CA-3131-6FT	CA-4217-6FT	Connector on one end of a 6' shielded round cable
CA-3620-6FT	CA-3619-6FT	Connectors on both ends of a 6' shielded round cable

* 22 AWG is standard. 24, 26 and 28 AWG are also readily available.

Attention:

- > Specify cable length when ordering.
- > Custom cable lengths are available. See the **Cables & Connectors** data sheet for more information.

Electrical Characteristics:

Parameter	Min.	Typ.	Max.	Units
Supply Voltage (into AD4-B)	6.0	9.0	16	Volts
Supply Current (without encoders)	-	-	65	mA
RS232 Output High (RXD)	5.0	8.0	-	Volts
RS232 Output Low (RXD)	-	-8.0	-5.0	Volts
RS232 Input High (TXD)	3.5	-	15	Volts
RS232 Input Low (TXD)	-15	-	0.4	Volts
Current Supply to Encoder	-	-	120	mA
Voltage Supply to Encoder	4.8	5.0	5.25	Volts
Quadrature Input Frequency	0	-	1.2	MHz
Quadrature Encoder Inputs				
Logic Low	-0.6	0.4	1.8	Volts
Logic High	2.0	3.0	5.7	Volts

- > Specifications apply over entire operating temperature range.
- > Typical values are specified at Vcc=12V and 25°C.

Ordering Information:

Price:
 \$140 / 1
 \$124 / 10
 \$116 / 50
 \$108 / 100
 \$101 / 500
 \$ 96 / 1000

Part #:
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Interface:
 S = Single-ended
 D = Differential

Options:
 NP = No power supply

Cost Modifiers:

- Add \$15 for **D**-interface (differential)
- Subtract \$5 for **NP**-option (no power supply)

Includes:

- > PS-9V (power supply)
- > USD-SW (software)

Technical Data, Rev. 04.02.03, April 2003
 All information subject to change without notice.