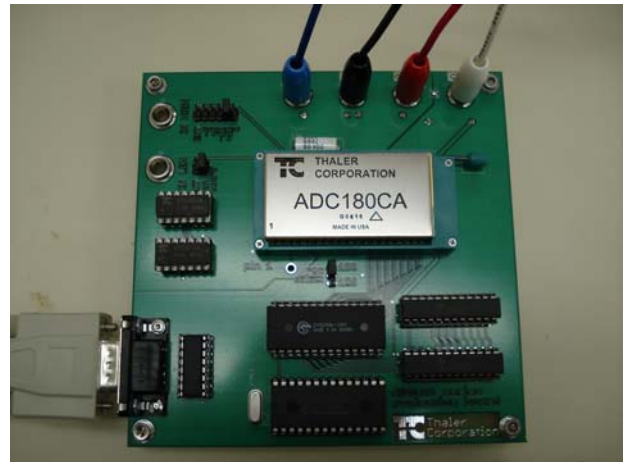# ACE100

Evaluation Kit For
ADC100 Series A/D Converters

THALER CORPORATION • 2015 N. FORBES BLVD. • TUCSON, AZ. 85745 • (520) 882-4000

FEATURES

o MENU DRIVEN DEMONSTRATION SOFTWARE

o BENCHTOP EVALUATION BOARD (5" X 5")

o SERIAL COMMUNICATION PORT

o ASSEMBLY DRAWINGS AND SCHEMATIC

o ON BOARD RAM FOR DATA COLLECTION

o 2 HIGH PRECISION DC REFERENCES
   INCLUDED, ± 5V AND ± 10V

DESCRIPTION:

The ACE100 is a complete, easy to use system for evaluation of Thaler's ADC100 series of Analog to Digital Converters.

ADC100

ADC150

ADC180

By eliminating bread-boards and prototypes, evaluation and design-in cycle times are reduced.

Connections to the evaluation board include a DB9 serial cable, power supply inputs (+5, +15, -15, GND), and analog inputs to the ADC (IN HIGH / IN LOW).

The evaluation board has 2 high precision Thaler ± 5 V and ± 10 V references that can be used as inputs to the ADC or the user can supply their own DC source.

The evaluation board also has on-board RAM for storing up to 8k ADC readings which can then be transferred to the PC and displayed on the screen or stored in a file.

The ACE100 Evaluation Kit includes the following items:

1)   ACE100 Evaluation Board.

2)   DB9 serial cable.

3)   CD-ROM containing the ACExxx_Eval program, the MCCOMM32 file for the serial communication port, and this datasheet.

The power supply inputs require banana plugs to mate with the jacks on the evaluation board.

The evaluation software is provided on a CDROM.

The software is menu driven and provides the user with a complete selection of options for evaluating the A/D converter. Data collection to a text file is a software selectable option for individuals who prefer to use external software packages for data analysis.
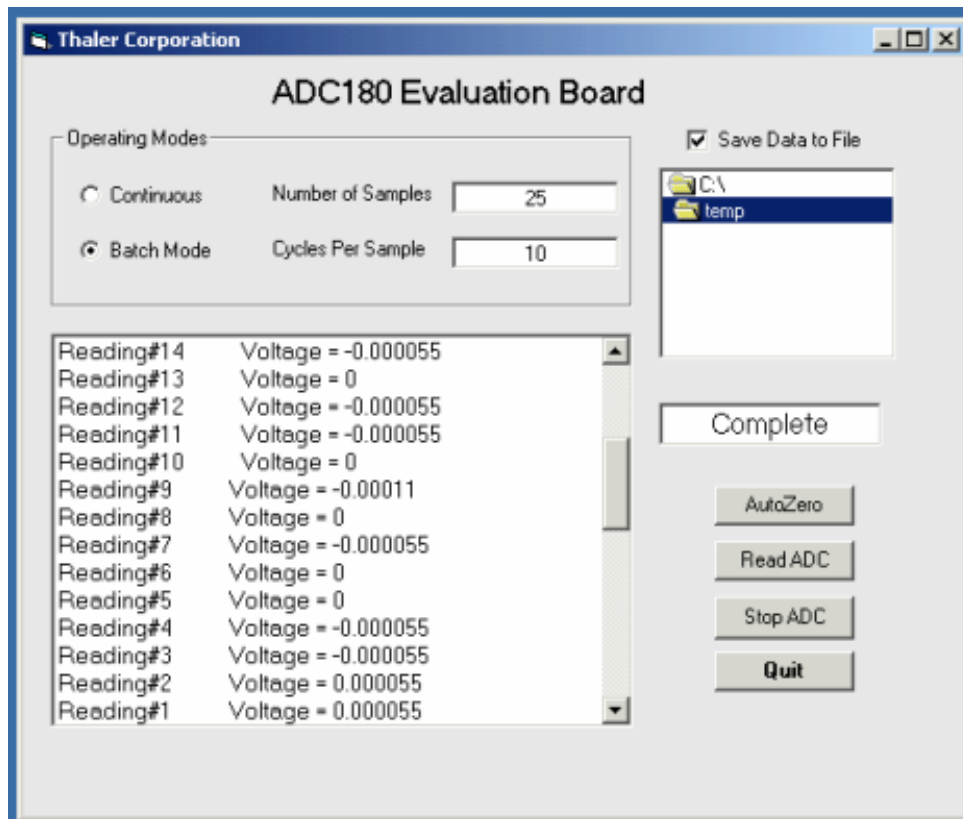
ACE100DS REV. E JAN 2007

GETTING STARTED

ACE100 QUICK START:

1) Connect the power supply inputs to the ACE100.

2) Connect the DB9 serial cable to the COM1 connector on your PC.

3) Set the jumpers on the board for the analog input signal to be "External" or "On Board". If external, the input signal should be connected to the IN LOW and IN HIGH terminals. If the input signal is from the on board references, set the voltage jumper to the desired voltage.

4) Set the ADC select jumper to ADC150 for ADC100 and ADC150 operation, or to ADC180 for ADC180 operation.

5) Copy files from the CD to a local directory. The files to run the program are the ACE1xx_Eval.exe and the MSCOMM32.OCX. The MSCOMM32 file is the file for the serial communication port and need to be in the same directory as the ACE1xx_Eval file.

6) Turn on the power supply and let the ACE100 warm up for 5 minutes.

7) Double Click on the ACE1xx_Eval.exe file to start the program.
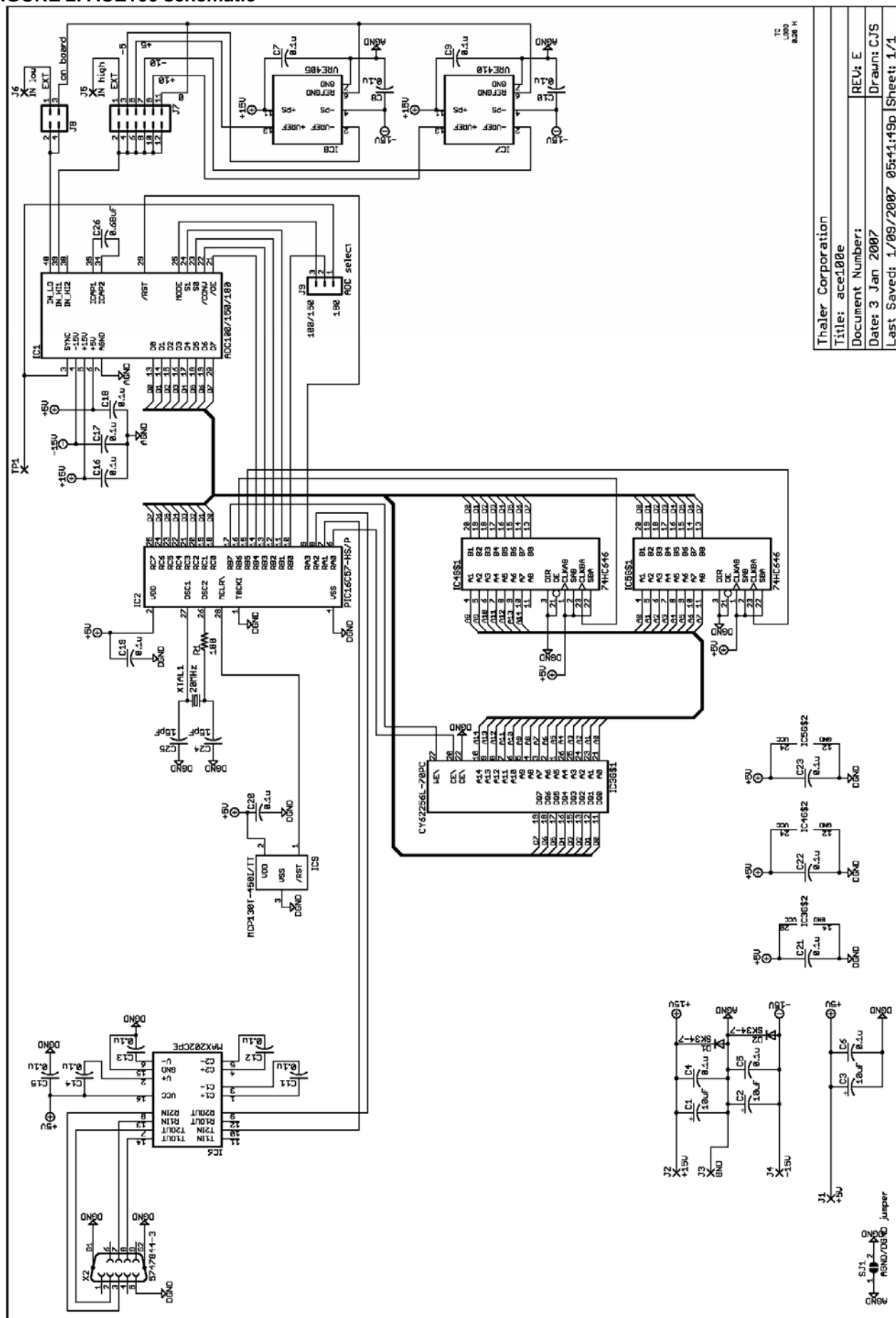
8) AutoZero the converter to remove any offset drift.

Running the ADC180:

1) If the continuous operating mode is selected, the data samples are sent to the program display. The batch mode first collects the samples to the on-board RAM and then transfers the data to the display. Due to the limited speed of the RS-232 com link, the continuous mode may not display all of the samples if the conversion rate is too fast for the com link (the number of integration cycles is too small). By writing the data to the RAM, higher conversion rate data can be collected.

2) The number of samples and cycles per sample must be filled out. The number of cycles per sample will determine the resolution and conversion rate of the converter. See the ADC180 datasheet for more details.

3) To save the data to a file, check the box and select the directory. The data will be stored as a text file named ADCdat.txt.

Thaler Corporation

ADC180 Evaluation Board

Operating Modes

- ○ Continuous — Number of Samples: 25
- ● Batch Mode — Cycles Per Sample: 10

☑ Save Data to File

📁 C:\
📁 temp

Reading#14	Voltage = -0.000055
Reading#13	Voltage = 0
Reading#12	Voltage = -0.000055
Reading#11	Voltage = -0.000055
Reading#10	Voltage = 0
Reading#9	Voltage = -0.00011
Reading#8	Voltage = 0
Reading#7	Voltage = -0.000055
Reading#6	Voltage = 0
Reading#5	Voltage = 0
Reading#4	Voltage = -0.000055
Reading#3	Voltage = -0.000055
Reading#2	Voltage = 0.000055
Reading#1	Voltage = 0.000055

Complete

AutoZero

Read ADC

Stop ADC

Quit

FIGURE 1. Top view of ACE100

FIGURE 2. ACE100 schematic

FIGURE 2. ACE100 schematic