



ADwin-Pro

- Modular cabinet in 4, 7 and 16 slot versions
- Analog input and output modules
- Digital Input and Output modules
- Counter timer modules
- Filter modules
- Isolation and Signal Conditioning modules
- RS-232/485, CAN bus and Profibus interface modules



The **ADwin-Pro** is a modular data acquisition system housed in a bench top or rack mountable enclosure. Different I/O boards and expansion modules allow the **ADwin-Pro** to be configured for specific uses. Communication with the host PC can be done through either a USB, Ethernet or dedicated ADlink connection. Plug-in boards support Analog and Digital I/O, Counter/Timers, PWM signal I/O, thermocouples and RTD's, 5B or MB input modules, Serial, CAN, and Fieldbus communication.

The on-board processor with its own local memory handles system management, data acquisition, on-line processing and control of outputs. Processing of each measurement can occur immediately after acquisition. The ADbasic control language allows users to program mathematical operations and functions which are executed immediately after each sampling step even at sampling rates as high as 1.25 MHz. More than one processor can be used in the system for applications that demand the highest possible throughput.

The **ADwin** software environment can be used under Windows (95/98/ME/NT/2000/XP) and Linux, or as a **stand-alone data acquisition system**. Also, **ADwin** has drivers for many of the popular programming environments including Visual Basic, Visual C/C++, LabVIEW/LabWindows, TestPoint and others.

ADwin-Pro Mainframe Chassis						
	ADwin-Pro	ADwin-Pro- DC	ADwin-Pro-light	ADwin-Pro-mini	ADwin-Pro-mini-2	ADwin-Pro-mini-3
Size (w x h)	19" x 5 1/4"	19" x 5 1/4"	9" x 5 1/4"	4 3/4" x 5 1/4"	4 3/4" x 5 1/4"	4 3/4" x 5 1/4"
Slots	16	16	7	4	4	4
Input Voltage	115/230 VAC 50/60 Hz	8 - 35 VDC	115/230 VAC 50/60 Hz	5 VDC	10 - 18 VDC	20 -36 VDC

ADwin-Pro Processor Modules			
	Pro-CPU-T10-ENET	Pro-CPU-T9-ENET	Pro-CPU-T9-USB
Processor	ADSP 21160	ADSP 21062	ADSP 21062
Clock Speed	80 MHz	40 MHz	40 MHz
Interface	Ethernet	Ethernet	USB
Standard Memory	128 MB DRAM, 512 kB local RAM	4 MB DRAM, 256 kB local RAM	4 MB DRAM, 256 kB local RAM
Optional Memory	-	16, 32, 64 MB	16, 32, 64 MB

Analog Input Modules								
	Input Channels	No. of ADC	Resolution (Bits)	Conversion Time	Gain	Accuracy	Measurement Range	Over-Voltage Protection
Pro-Ain-8/12	8	1	12	1 μ s	1, 2, 4, 8	± 1 LSB	± 10 V	± 35 V
Pro-Ain-32/12	16 diff/32 SE	1	12	1 μ s	1, 2, 4, 8	± 1 LSB	± 10 V	± 25 V
Pro-Ain-8/16	8	1	16	10 μ s min.	1, 2, 4, 8	± 2 LSB	± 10 V	± 35 V
Pro-Ain-F-4/16	4	4	16	10 μ s	1	± 2 LSB	± 10 V	± 35 V
Pro-Ain-F-8/16	8	8	16	10 μ s	1	± 2 LSB	± 10 V	± 35 V
Pro-Ain-F-4/14	4	4	14	0.5 μ s	1, 2, 4, 8	± 2 LSB	± 10 V	± 35 V
Pro-Ain-F-8/14	8	8	14	0.5 μ s	1, 2, 4, 8	± 2 LSB	± 10 V	± 35 V
Pro-Ain-F-4/12	4	4	12	0.8 μ s	1	± 1 LSB	± 10 V	± 35 V
Pro-Ain-F-8/12	8	8	12	0.8 μ s	1	± 1 LSB	± 10 V	± 35 V

ADwin-Pro Specifications

Analog Output Modules		
	<i>Pro-AOut-4/16</i>	<i>Pro-AOut-8/16</i>
Output Channels	4 single ended	8 single ended
Resolution	16 Bits	16 Bits
Settling Time to .01%	25 μ s	25 μ s
Voltage Range	± 10 V, 0 - 10 V, ± 5 V	± 10 V, 0 - 10 V, ± 5 V
Differential non-linearity	± 2 LSB	± 2 LSB
Integral nonlinearity	± 2 LSB	± 2 LSB
Offset Drift	$\pm 10\mu$ V/ $^{\circ}$ C	$\pm 10\mu$ V/ $^{\circ}$ C
Output Current	Max 5 mA/channel	Max 5 mA/channel

Digital I/O and Counter Modules					
	Type	Channels	Input/Output Voltage	Input/Output Current	Isolation
<i>Pro-CNT-8/32</i>	32-Bit Counter	8	5 V TTL	0.55 mA max.	No
<i>Pro-CNT-8/32-I</i>	32-Bit Counter	8	5, 12, 24 V	15 mA max.	Yes/500 V
<i>Pro-CNT-16/16</i>	16-Bit Counter	16	5 V TTL	1.0 mA max.	No
<i>Pro-CNT-16/16-I</i>	16-Bit Counter	16	5, 12, 24 V	15 mA max.	Yes/500 V
<i>Pro-CO4-D</i>	PWM Analysis 32-Bit Up/Down Counter Quadrature Evaluation	4	RS-422/485 Compatible (5 V Differential)	42 mA max.	No
<i>Pro-CO4-I</i>	PWM Analysis 32-Bit Up/Down Counter Quadrature Evaluation	4	5, 12, 24 V	15 mA max.	Yes/500 V
<i>Pro-CO4-T</i>	PWM Analysis 32-Bit Up/Down Counter Quadrature Evaluation	4	5 V TTL	TTL Compatible	No
<i>Pro-DIO-32</i>	TTL-I/O	32	5 V TTL	6 mA/Channel	No
<i>Pro-OPT-16</i>	Opto input	16	5, 12, 24 V	15 mA max.	Yes/500 V
<i>Pro-PWM-4</i>	PWM signal generation	4	5 V TTL	5 mA/Channel	No
<i>Pro-PWM-4-I</i>	PWM signal generation	4	5 - 30 V DC via external supply	100 mA/Channel	Yes/500 V
<i>Pro-REL-16</i>	Relay output	16	MAX 30 V AC/DC	0.5 A/Channel	Yes/500 V
<i>Pro-TRA-16</i>	Transistor output	16	5 - 30 V DC	200 mA max.	Yes/500 V

ADwin-Pro Specifications

Thermocouple and RTD Input Modules					
	<i>Pro-TC-4</i>	<i>Pro-TC-8</i>	<i>Pro-TC-16</i>	<i>Pro-PT100-4</i>	<i>Pro-PT100-8</i>
Type	Thermocouple	Thermocouple	Thermocouple	RTD	RTD
Version	J, K	J, K	J, K	2, 3, or 4 Wire -50 °C - 266 °C	2, 3, or 4 Wire -50 °C - 266 °C
Accuracy	12-Bits	12-Bits	12-Bits	± 0.2 °C	± 0.2 °C
Channels	4	8	16	4	8

Filter Modules				
	<i>Pro-LPSH-4-FI</i>	<i>Pro-LP-8</i>	<i>Pro-LPSH-8</i>	<i>Pro-LPSH-8-FI</i>
Type	Filter and Isolation Amplifier	Filter	Filter	Filter and Isolation Amplifier
Filter	4 th Order Low Pass	4 th Order Low Pass	4 th Order Low Pass	4 th Order Low Pass
Cutoff Frequency	5, 10, 20 kHz (other on request)	5, 10, 20 kHz (other on request)	5, 10, 20 kHz (other on request)	5, 10, 20 kHz (other on request)
Channels	4	8	8	8

Serial , Fieldbus and MB modules				
	Number of ports	Protocol	Max. Speed	Connector
<i>Pro-RS-232-2</i>	2	RS-232	115,200 bits/s	9-Pin D (female)
<i>Pro-RS-232-4</i>	4	RS-232	115,200 bits/s	9-Pin D (female)
<i>Pro-RS-485-2</i>	2	RS-485	1500 kbit/s	9-Pin D (female)
<i>Pro-RS-485-4</i>	4	RS-485	1500 kbit/s	9-Pin D (female)
<i>Pro-CAN-1</i>	1	ISO-11898	1 Mbit/s	9-Pin D (male)
<i>Pro-CAN-2</i>	2	ISO-11898	1 Mbit/s	9-Pin D (male)
<i>Pro-PROFI-DP-SL</i>	1	RS-485	12 Mbit/s	9-Pin D (female)
<i>Pro-PROFI-DP-MA</i>	1	RS-485	12 Mbit/s	9-Pin D (female)
<i>Pro-MB-8</i>	8	Analog Devices 5B or Keithley MB	n/a	Lemo or D-sub

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