



USB 26/30C 16-bit 250 KHz Data Acquisition

* general description

The USB 26/30C is a 16-bit analog data acquisition device. The device can have either 16 or 32 analog input channels and has the option of 4 analog output channels. All analog channels have 16-bit resolution. Every device comes standard with 24 digital I/O lines.

The analog inputs support a channel list for streaming up to 250 KHz.



* features

- USB Bus 1.1 (Full Speed) and 2.0 (High Speed) Compliant
- Internal / External clock.
- Internal / External gate.
- Single-ended or differential-ended input configurable.
- Analog input streaming via configurable channel list, up to 250 KHz.
- Supplied with and powered by external power supply.
- Dimensions:
 - (16 channel): 45(H) x 80(W) x 148(L) mm
 - (32 channel): 62(H) x 80(W) x 148(L) mm

* ordering information

Device	Analog Inputs	Analog Outputs	Digital IO	Tempe Range	Bus Type
USB 26C16	16	0	24	0°C-70°C	USB 1.1 / 2
USB 30C16	16	4	24	0°C-70°C	USB 1.1 / 2
USB 26C32	32	0	24	0°C-70°C	USB 1.1 / 2
USB 30C32	32	4	24	0°C-70°C	USB 1.1 / 2
USB 26C16-BNC	16	0	24	0°C-70°C	USB 1.1 / 2
USB 30C16-BNC	16	4	24	0°C-70°C	USB 1.1 / 2

* absolute maximum ratings

Parameter	Symbol	Condition	Rating	Unit
Digital Input Voltage	V _{di}	T _a = 25°C with respect to ground	-0.5 to 5.5	V
Digital Output Voltage	V _{do}		-0.5 to 5.5	V
Digital Output Current	V _{doc}		±2.0	mA
Analog Input Voltage	V _{ai}		±12	V
Analog Output Voltage	V _{ao}		±10	V
Analog Output Current	V _{ao}		±2.0	mA
Storage Temperature	T _{stg}	-	-50 to 150	°C
Operating Temperature	T _{stg}	-	0 to 70	°C
Power Dissipation	P _d	T _a = 25°C	10.0	W

* digital I/O characteristics

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Input High	V _{ih}	T _a = 25°C with respect to ground	2.2		5.3	V
Input Low	V _{il}		-0.3		0.8	V
Output High	V _{oh}		3.7	5.0		V
Output Low	V _{ol}			0.0	0.4	V
Output Source/Sink Current	I _o				2.0	mA
Input Source/Sink Current	I _i		-1		1	µA
Acquisition Speed			2		4	mS

* analog input

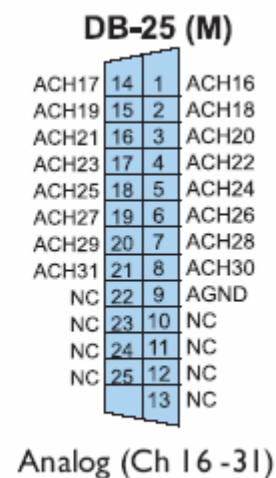
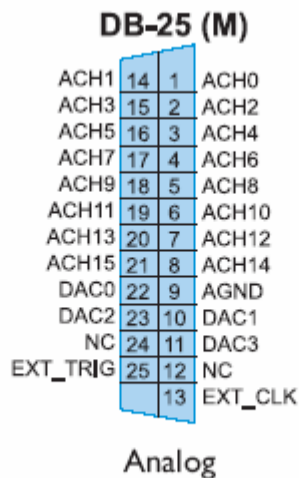
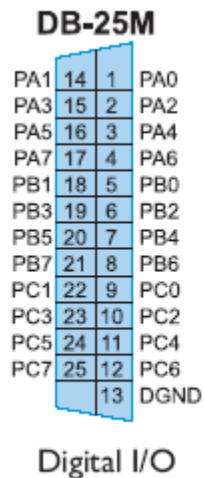
Parameter	Condition	Spec	Unit
Resolution	T _a = 25°C	16-bit	bit
Input range		±10	V
Input impedance		2	MΩ
Relative Accuracy		±2	LSB
Clock Source		Internal or external	
Gate source		Software or external	
Acquisition Speed (Streaming)		250	KHz
Acquisition Speed (Single value)		4	mS

*** analog output**

Parameter	Condition	Spec	Unit
Number of channels	Ta = 25°C with respect to analog ground	4 (USB 30C only)	-
Resolution		16	bit
Maximum Output		+10	V
Output current		±5	mA
Zero offset error		2	LSB
Full scale error		2	LSB
Settling time		2	µS
Power On State		0	V
Acquisition Speed		4	mS

*** operation**

The diagram below shows the pin assignment for the devices. Communication and control is done via USB and the user access to the analog and digital channels are done via DB25 male connectors. A range of accessory adaptors is available for easy connection and protection.



* optional accessories

ADPT-25-S	Short MicroDAQ mini Screw Terminal Adaptor
ADPT-25-M	Medium MicroDAQ mini Screw Terminal Adaptor
DB25M/F	DB25 (M) to DB25 (F) Multi-core Screened Cable
ADPT-2526	DB25 (F) & IDC26 (M) to 27way Screw Terminal Adaptor
PC-52A2	Multi I/O Adaptor (2x) 8ch; (4x) 4ch Analog I/P; (1x) 4ch Analog O/P
PC-43A2	Multi I/O Adaptor (1x) 16ch; (3x) 8ch Digital I/O
PC-37D	8 Channel Opto-22 Solid State Relay Module
PC-37E	16 Channel Opto-22 Solid State Relay Module
PC-37F	24 Channel Opto-22 Solid State Relay Module
PC-38X	24 Channel I/O Driver Module
PC-43E	8Channel Digital Opto-Isolator I/P Module
PC-43B	16 Channel Digital Opto-Isolator I/P Module
PC-43C	24 Channel Digital Opto-Isolator I/P Module

* software support

All μ DAQ products are supported by the EDR Enhanced Software Development Kit and have operating system drivers for Windows and Linux. The EDR Enhanced SDK provides many examples for all popular programming environments.

Development support

- C++
- Borland Delphi
- Borland C++ builder
- Visual Studio .NET
- Testpoint
- Labview
- Agilent VEE



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* document history

The table below lists the document history. A minor revision change will indicate document errors that are edited. A major revision change will indicate an update or change to the document contents or structure.

Revision	Date	Comments
1.0	27/10/2005	Original Release.

* disclaimer

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