IDAC-2000 (IDAC-16)

INTELLIGENT DATA ACQUISITION CONTROLLER with PROGRAMMABLE OUTPUT CONTROL

The IDAC-2000 is a combination of a programmable 16-channel signal amplifier / USB interface and a programmable output signal controller for up to 8 digital (event) outputs and 2 analog (+10 - 10 V) control signals.

SPECIFICATIONS:

INPUTS:

* 16 analog signal inputs; 16 bit A/D conversion
* Frequency range: DC - 96kHz
* DC offset control over full input (16 bit) range
* Programmable High and Low pass filter
* 50 (60) Hz notch filter
* Settings stored in configuration files
* Inputs for probes and other active headstages
* Real-time display of all signals
* Auto-trigger and Pre-trigger options
* Direct audio (microphone) recording
* 8 event command (trigger, stimulus, etc.) inputs

OUTPUTS:

* 8 TTL signal outputs
* 2 voltage (-10 to +10V) outputs; dynamically programmable for flow controllers, lights, motors etc.
* Graphical and numerical programming of sequences
* Time resolution 1 ms for all outputs
* Maximum program duration 10 hours
* Output program linked to signal recording
* Complex and fast stimulus sequences possible
* Programs can be stored and edited

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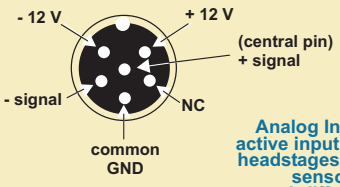
IDAC-2000 (IDAC-16)
front and rear panel receptacles



FRONT VIEW

Analog Input for active input devices: headstages, probes, sensors and *differential* signal sources

Each of the 16 analog input channels is provided with a 6-pin DIN receptacle and a standard BNC input.

The DIN connector is suitable of single ended and differential signals and it has pins for + and - 12V to power active input devices, such as high input impedance headstages and signal conditioning transducers.

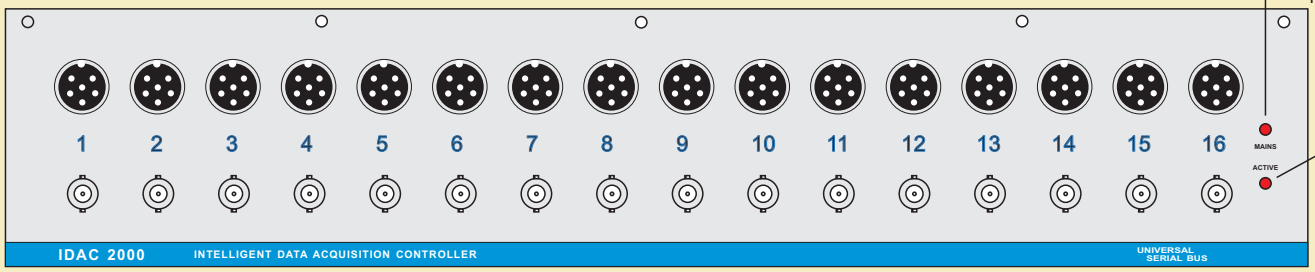
The + signal input is wired in parallel with the central pin of the corresponding BNC input.

If the DIN receptacle is used to connect an input device, the + output signal of that device is available at the corresponding BNC input, This enables monitoring the sigbal using an oscilloscope for test purposes.

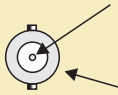
6-pin Receptacles
to connect analog input devices
(probes) and differential signals

LED
indicates
mains power

LED
indicates
running



BNC Receptacles
to connect analog input signals



Central pin:
analog signal

Outside:
zero (0) or ground

Analog signal input

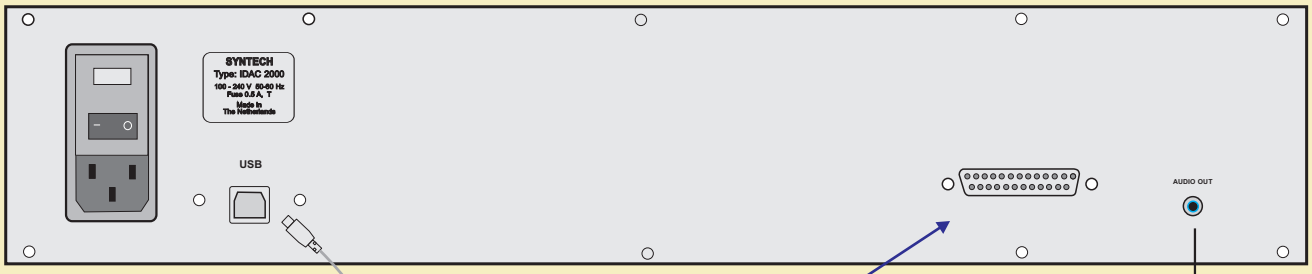
The BNC input is used for single ended signals from any signal source.

The center of the BNC receptacle is wired in parallel with the + signal of the corresponding upper DIN receptacle

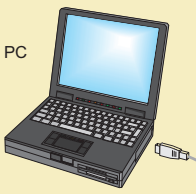
If the DIN receptacle is used to connect an input device, the + output signal of that device is available at the corresponding BNC input.
This enables monitoring the signal using an oscilloscope for test purposes.

Mains Power receptacle
and power switch
100 - 240 V
50 - 60 Hz

The audio output signal can be connected to any or all of the 16 analog signal channels. Selection is done in the software



USB receptacle



PC

USB
cable

EXTENSION CONNECTOR

The 25-pin D connector at the rear gives access to all analog and digital in-and output signals as well as the + and - 12V supply.

It can be used to connect complex devices, which combine multiple in- and outputs in a single unit, with only a single cable.

An extension terminal box for this receptacle is available to connect trigger signals and signal input devices

25 pin input/output
combi receptacle

1. GND
2. Dig.out 1
3. Dig.out 3
4. Dig.out 5
5. Dig.out 7
6. GND
7. GND
8. GND
9. + 5 V
10. Dig.in 1
11. Dig.in 4
12. Dig.in 6
13. Dig.in 8
14. + 5 V
15. Dig.out 2
16. Dig.out 4
17. Dig.out 6
18. Dig.out 8
19. Analog out 1
20. Analog out 2
21. GND
22. Dig.in 1
23. Dig.in 3
24. Dig.in 5
25. Dig.in 7

AUDIO output (connect to loudspeaker set)

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