



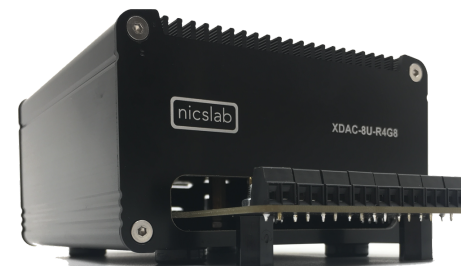
DETECT, ANALYZE &  
CONTROL YOUR  
SIGNAL FOR THE  
BETTER FUTURE

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## XDAC

The XDAC system is a complete, compact, programmable, affordable and easy to use multichannel source measurement system for low power applications from simple electronic circuits to complex photonic integrated circuits.



*Ordering Information:*



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Guilford, CT 06437  
Ph: 203-401-8093

Email orders to: [sales@xsoptix.com](mailto:sales@xsoptix.com)  
Fax orders to: 800-878-7282

## Better control, more accurate with rich features



- Enable range span configuration through software
- High-resolution control with 16-bit standard
- High scalability 120 channels in a box
- Flexible unipolar and bipolar output
- Onboard wireless networking
- Gigabit Ethernet
- Functional GPIO
- USB ports

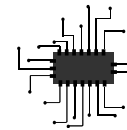
# Your new source measurement system

The scalability, flexibility, and performance of the XDAC revolutionize the conventional source measurement unit. For the first time, we've built a complete scalable source measurement system experience. Whether you're sourcing devices, measuring parameters, automating experiments or analyzing data, you'll find the easy to use and flexible experience - but on a compact and much more cost-effective instrument.



## Real-time monitoring

XDAC equipped with high responsivity sensors per channel and high resolution converter combine with high-speed real-time voltage and current reading.



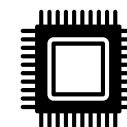
## Flexible output range

Your XDAC comes with range span configuration technology that enable the user to select the output range with software without loose control of the high-resolution feature.



## Easy to use GUI

We are making the graphical user interface simple with many features depend on what you need.



## High scalability

Start from 8 channels output per unit to 120 channels in a single box. It also enable daisy-chained for the larger channels.

# Model Comparison (1)

## XDAC-XU

8/40/120 Channels

16-bit resolution control

Enable voltage and current range configuration through software (technology that enables the user to select the output range with software without loose control of the high-resolution feature).

0 - 20 Volt, 0 - 300 mA (Basic)  
+  
0 - 5 Volt, 0 - 10 Volt, 0 - 20 Volt, 0 - 200 mA, 0 - 100 mA, 0 - 50 mA, 0 - 12.5 mA, 0 - 6.25 mA, 0 - 3.25 mA (Premium feature)

Gigabit Ethernet, USB ports

Onboard WiFi

Windows, Linux, Mac support  
(Raspberry Pi, Python, LabView, C#)

## XDAC-XMUB

8/40/120 Channels

16-bit resolution control

Enable voltage range configuration through software (technology that enables the user to select the output range with software without loose control of the high-resolution feature).

±20 Volt, ±500 mA (Basic)  
+  
±2.5 Volt, ±5 Volt, ±10 Volt, 0 - 5 Volt, 0 - 10 Volt, 0 - 20 Volt, 0 - 40 V (Premium feature)

Gigabit Ethernet, USB ports

Onboard WiFi

Windows, Linux, Mac support  
(Raspberry Pi, Python, LabView, C#)

## Model Comparison (2)

### XDAC-XU

40U - M1 multiconnector standard

120U - M6 multiconnector standard

1 uA current reading resolution

1 mV voltage reading resolution

15 uVpp DAC voltage output noise (0.1 Hz to 10 Hz)

12 nA/ $\sqrt{\text{Hz}}$  DAC current noise density (f = 1kHz)

### XDAC-XMUB

40MUB - M1 multiconnector standard

120MUB - M6 multiconnector standard

1 uA current reading resolution

1 mV voltage reading resolution

15 uVpp DAC voltage output noise (0.1 Hz to 10 Hz)

200 fA/ $\sqrt{\text{Hz}}$  DAC current noise density (f = 1kHz)

### Software

Basic features: slider, voltage reading, current reading, enable SCPI command.

Premium features: Basic + notes, lock, save & load setting, record, sequence, programming template, range span configuration

# Graphical User Interface (GUI)

The screenshot shows the Nicslab XDAC-120MUB-R4G8 GUI. At the top, there is a title bar with 'GUI' and a window control bar. Below the title bar, the device name 'Nicslab XDAC-120MUB-R4G8' is displayed on the left, and an 'UPGRADE' button is on the right. The main interface is divided into several sections:

- Port Selection:** Three dropdown menus labeled 'PORT 1', 'PORT 2', and 'PORT 3' are on the left side.
- Channel Selection:** A horizontal bar at the top of the table allows selecting channel groups: '1-20', '21-40', '41-60', '61-80', '81-100', and '101-120'. '1-20' is currently selected.
- Channel Table:** A table with 20 rows, each representing a channel. The columns are: Channel, Lock, Voltage, Current, Voltage Settings, Current Settings, and Notes. All channels are currently set to 00.000 V and 00.000 mA.
- Control Panel:** Located on the left side, it includes a red 'SWITCH' button, 'SAVE' and 'UPLOAD' buttons, an 'Auto Mode' section with 'CV SEQUENCE', 'CC SEQUENCE', and 'RUN' buttons, and a 'RECORD' button.
- Value Increment:** A section at the bottom left with 'SET LIMIT' and 'Value Increment' controls, showing a value of 0.01.

| Channel | Lock | Voltage  | Current   | Voltage Settings | Current Settings | Notes |
|---------|------|----------|-----------|------------------|------------------|-------|
| ON 1    | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 2    | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 3    | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 4    | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 5    | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 6    | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 7    | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 8    | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 9    | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 10   | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 11   | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 12   | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 13   | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 14   | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 15   | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 16   | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 17   | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 18   | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 19   | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |
| ON 20   | ■    | 00.000 V | 00.000 mA | - + 0.00         | - + 0.00         |       |

## Price List (September 2020)

| Model            | Channel | Output Range / Channel  | Price Basic (USD) <sup>a</sup> | Price Premium (USD) <sup>b</sup> |
|------------------|---------|-------------------------|--------------------------------|----------------------------------|
| XDAC-8U-R4G8     | 8       | 0 - 20 Volt, 0 - 300 mA | 2950                           | 4950                             |
| XDAC-40U-R4G8    | 40      | 0 - 20 Volt, 0 - 300 mA | 10500                          | 12500                            |
| XDAC-120U-R4G8   | 120     | 0 - 20 Volt, 0 - 300 mA | 29700                          | 32000                            |
| XDAC-8MUB-R4G8   | 8       | ±20 Volt, ±500 mA       | 2650                           | 4850                             |
| XDAC-40MUB-R4G8  | 40      | ±20 Volt, ±500 mA       | 9150                           | 12000                            |
| XDAC-120MUB-R4G8 | 120     | ±20 Volt, ±500 mA       | 26500                          | 28500                            |

<sup>a</sup> Basic Price Features: slider, voltage reading, current reading, enable SCPI command.

<sup>b</sup> Premium Price Features: Basic + notes, lock, save & load setting, record, sequence, programming template, softspan.

✱ Daisy chain also enable for larger channel scale.

Please contact [sales@nicslab.com](mailto:sales@nicslab.com) for particular/custom specification.