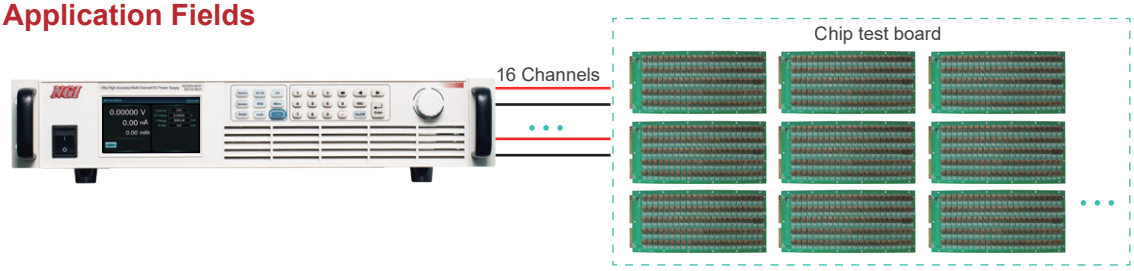
# N23020 Series Ultra High Precision Multi Channel Programmable DC Power Supply

## Product Introduction

N23020 series is a ultra-high precision, multi-channel programmable DC power supply developed for the semiconductor i ndustry, it can provide ultra-precision, stable and pure power supply for chips, with environmental test chamber for a number of environmental reliability tests. Product voltage accuracy up to 01.mv, support nA-level current measurement, single unit within up to 16 channels, support local/remote (LAN/RS485/CAN) control, to meet the needs of chip batch, automatic testing.

## Application Fields



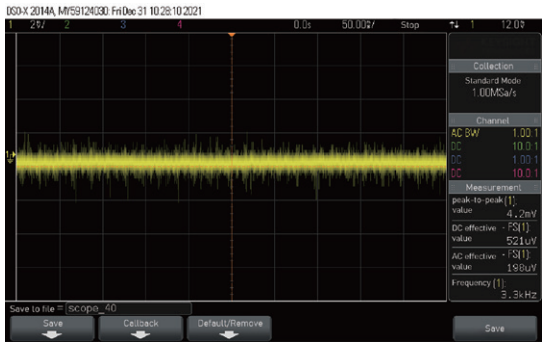

Ultra High Precision Multi Channel DC Power Supply

Environmental Test Chamber

To complete HTOL, LTOL, ELFR/EFR, HAST, THB, etc., and support chip leakage current measurement test within Environmental Test Chamber

## Main Features

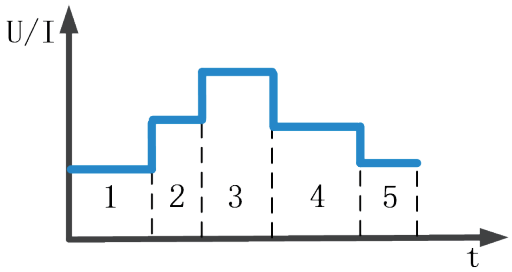
- **Accuracy and stability Ensure test reliability:** Reliability test usually requires multiple chips to run for a long time under power supply. Take HTOL as an example, the number of samples are at least 231 pieces and the test time is up to 1000 hours. N23020 voltage precision is 0.1mV, long-term stability 40ppm/1000h, voltage ripple noise ≤2mVrms, can effectively ensure the reliability of the user test process all round protection, ensure the safety of instruments and products under test.



- **Ultra-high integration, saving user investment:** In the process of chip R&D, flow sheet and mass production, Usually it is necessary to carry out reliability test on multiple groups of samples. In addition, the leakage current of chip or jointed board is also an important test index. The traditional scheme usually adopts multiple linear power sources with data sampling, which is troublesome to connect and occupies test space. The N23020 integrates up to 16 power channels in a 19-inch 2U chassis to support nA-level current measurement, providing a highly integrated solution for large-scale chip testing.

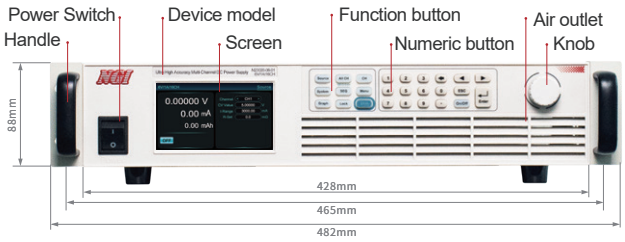
- **Fast dynamic response:** N23020 is provided fast dynamic response capability, under the full voltage output, the load changes from 10% to 90%, voltage recovery to the original voltage reduction within 50mV time is less then 100μs, to ensure that the voltage or current rise waveform within high speed and no over impulse, to provide stable power supply for the chip under test.

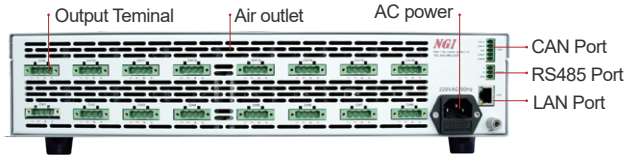
- **Sequence editing:** N23020 supports sequence editing function. Users can set output voltage, output current and single step running time. 100 groups of voltage and current sequences can be customized locally.

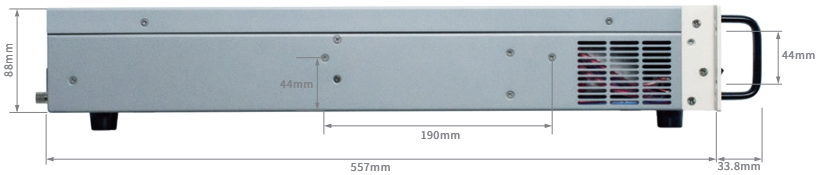



- **Various communication interface, meet the requirement of automatic test:** support RS485, LAN, CAN port, convenient for users to build automatic test system.

## Product Dimension



## Technical Data Sheet

| Model | | N23020-06-01 | |
|---|---|---|---|
| Voltage | Range | 0~6V | |
| | Setting Resolution | 0.01mV | |
| | Setting Precision (23±5℃) | 0.001%+0.1mV | |
| | Readback Resolution | 0.01mV | |
| | Readback Precision (23±5℃) | 0.001%+0.1mV | |
| | Ripple Noise | ≤2mVrms | |
| | Long-term stability | 40ppm/1000h | |
| | Temperature Coefficient | 10ppm/℃ | |
| Current | Range | 0~1A | 0~1mA |
| | Setting Resolution | 0.01mA | 0.01μA |
| | Setting Precision (23±5℃) | 0.001%+0.5mA | 0.001%+0.5μA |
| | Readback Resolution | 0.01mA | 0.01μA |
| | Readback Precision (23±5℃) | 0.001%+0.5mA | 0.001%+0.5μA |
| | Long-term stability | 40ppm/1000h | |
| | Temperature Coefficient | 20ppm/℃ | |
| Dynamic Performance | Voltage Rise Time | ≤25ms(Empty load, pure resistance full load) | |
| | Voltage Drop Time | ≤3ms(Empty load) | ≤10ms( pure resistance full load) |
| | Transient Recovery Time[1] | <100μs | |
| Outline Specification | Withstand Voltage (Output Relative to Earth) | 1000V DC | |
| | Withstand Voltage (Channel to Channel) | 500V DC | |
| | Earth Leakage Current | <3.5mA@230VAC | |
| | Operating Environment | Operating Temperature:0℃~40℃; Storage Temperature:-20℃~60℃; Altitude＜2000m; Relative Humidity:5%~90%RH(non-condensing); Atmosphere Pressure:80~110kPa | |
| | Communication Interface | LAN/RS485/CAN | |
| | AC Input | Voltage:220V AC±10%, Frequency:47Hz~63Hz, Current:≤2A@220V | |
| | Dimension | 88.0mm(H)*482.0mm(W)Within Handle*557.0mm(D) | |
| | Net Weight | Approx.20kg | |

Note [1] : Under the full voltage output, the load changes from 10% to 90%, and the voltage recovers to the original voltage reduction within 50mV

Remark : For other specifications, please contact NGI. Note 2: All specifications are subject to change without notice