

# Highly Accurate Voltage/Current Source and Measurement Unit

## GS820/GS610/7651

Generation and measurement of voltage and current are essential to evaluating fundamental electric parameters. This is especially true in the field of semiconductors and electronic parts, in the field of mechatronics, and in the research of leading-edge technology, where highly accurate, high-speed, and convenient source and measurement devices are demanded. The DC voltage/current source measure units by YOKOGAWA are new products that meet these demands. They function not only as fundamental voltage/current sources and DC parametric testers, but also as arbitrary waveform generators and electronic loads.



**2 channels**

**GS820**

Source Measure Unit

$\pm 18\text{ V}, \pm 1.2\text{ A}$

$\pm 7\text{ V}, \pm 3.2\text{ A}$

With measurement features

High test speed



**Wide range**

**GS610**

Source Measure Unit

$\pm 110\text{ V}, \pm 0.5\text{ A}$

$\pm 12\text{ V}, \pm 3.2\text{ A}$

With measurement features



**Low noise**

**7651**

Programmable

DC Source

$\pm 32\text{ V}, \pm 120\text{ mA}$

Source features only

**Popular Applications**

- DC voltage and current reference
- Pulse voltage and current source

• DC parametric test

• Delivery inspection

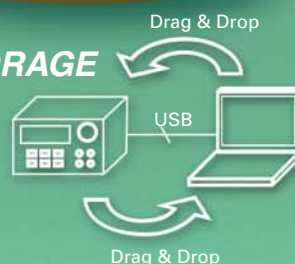
• Arbitrary waveform generator

• Electronic load

### Easy Programming

Your PC recognizes the GS820/610 internal memory as a USB mass storage device. This easy access to the internal memory facilitates the programming of source data, the acquisition of measured data, and the graphing of V-I curves. Programmability as well as V-I curve tracing and arbitrary waveform generation features have improved drastically.

### USB STORAGE

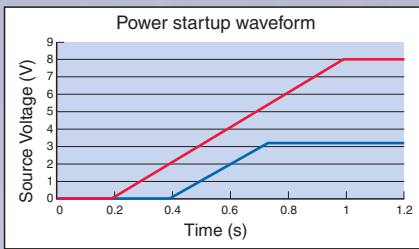


LF 7656-30E

# Applications

## Operation testing when multiple power sources are turned on

Time (s)	Circuit Power Source (V)	Motor Power Source (V)
0	0	0
0.01	0	0
0.02	0	0
0.03	0	0
0.04	0	0
...	...	...
0.65	2.6	4.6
0.66	2.7	4.7
0.67	2.8	4.8
0.68	2.9	4.9
0.69	3	5
0.7	3.1	5.1
0.71	3.2	5.2
0.72	3.3	5.3
0.73	3.3	5.4
0.74	3.3	5.5
0.75	3.3	5.6
0.76	3.3	5.7
0.77	3.3	5.8
0.78	3.3	5.9



### DUT:

- Disk drives (HDD, DVD, and CD)
- Digital cameras
- Video cameras
- PDAs
- Multifunctional LSIs
- Other electronic circuits



Drag & drop



GS820

Ch. 1 Power source for driving motors

Ch. 2 Power source for electronic circuits

Hard disk drive (HDD)

## V-I curve tracer

Source data file (CSV)

Source Voltage (V)	Measured Current (A)
0.00E+00	
2.00E-01	
4.00E-01	
6.00E-01	
8.00E-01	
1.00E+00	
1.50E+00	
2.00E+00	
3.00E+00	
4.00E+00	
5.00E+00	
...	...

Drag & drop



GS820

Drag & drop

Measurement result file (CSV)

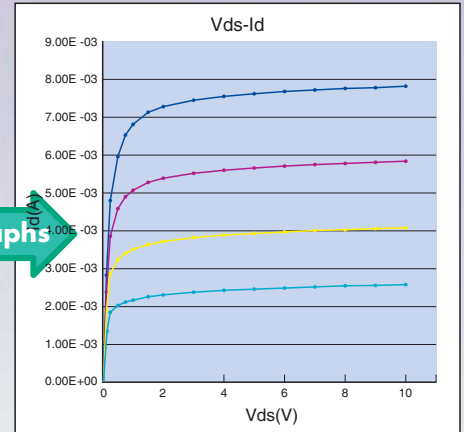
Source Voltage (V)	Measured Current (A)
0.00E+00	8.41E-06
2.00E-01	2.83E-03
4.00E-01	4.80E-03
6.00E-01	5.96E-03
8.00E-01	6.53E-03
1.00E+00	6.81E-03
1.80E+00	7.13E-03
2.00E+00	7.28E-03
3.00E+00	7.45E-03
4.00E+00	7.55E-03
5.00E+00	7.62E-03
...	...

### DUT:

- Transistors
- Diodes
- LEDs, LDs
- Voltage regulators
- Other discrete components

Draw graphs

Transistor voltage vs. current characteristics



## Remote configuration and testing of inverter output frequency



GS820

**Voltage and current:**

0 to 5 V, 1 to 5 V,  
0 to 10 V  
4 to 20 mA, 0 to 20 mA

Ch.1

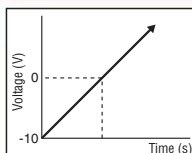
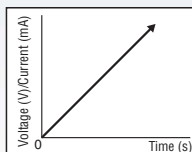
Terminal 1

Ch.2

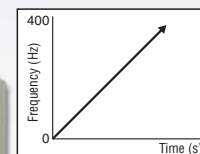
Terminal 2

**Voltage:**

-5 to +5 V  
-10 to +10 V



Inverter



Frequency module  
701280  
(CH1/CH2)  
0.01 Hz to 200 kHz

**Frequency:**  
0.05 Hz to 400 Hz

SL1000  
Data Acquisition Unit



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