

## ► Specifications

All the technical specifications are guaranteed when the instrument has been working for more than 30 minutes under the specified operating temperature.

DC Input (0°C ~40°C )				
Model	Voltage	Current	Maximum Power	Minimum Operating Voltage (DC)
DL3021	0~150 V	0~40 A	200 W	40 A@1 V
DL3021A				
DL3031	0~150 V	0~60 A	350 W	60 A@1.3 V
DL3031A				

CC Mode				
Model	Range	Programmable Resolution	Programmable Accuracy <sup>[1]</sup>	Programmable Temperature Coefficient
DL3021	0~4 A	1 mA	$\pm(0.1\%+0.1\%FS^{[2]})$ $\pm(0.05\%+0.05\%FS)$	100 ppm/°C
DL3021A	0~40 A			
DL3031	0~6 A	1 mA	$\pm(0.1\%+0.1\%FS)$ $\pm(0.05\%+0.05\%FS)$	100 ppm/°C
DL3031A	0~60 A			

CV Mode				
Model	Range	Programmable Resolution	Programmable Accuracy	Programmable Temperature Coefficient
DL3021	0~15 V	1 mV	$\pm(0.05\%+0.02\%FS)$ $\pm(0.05\%+0.025\%FS)$	50 ppm/°C
DL3021A	0~150 V	5 mV		
DL3031	0~15 V	1 mV	$\pm(0.05\%+0.02\%FS)$ $\pm(0.05\%+0.025\%FS)$	50 ppm/°C
DL3031A	0~150 V	5 mV		

CR Mode				
Model	Range <sup>[3]</sup>	Programmable Resolution	Programmable Accuracy <sup>[4]</sup>	
DL3021	0.08 Ω~15 Ω (0.0667 S~12.5 S)	2 mA/Vsense	Vin/Rset*(0.2%)+0.2%IFS	
DL3021A	2 Ω~15 kΩ (0.0000667 S~0.5 S )			
DL3031	0.08 Ω~15 Ω (0.0667 S~12.5 S)	2 mA/Vsense	Vin/Rset*(0.2%)+0.2%IFS	
DL3031A	2 Ω~15 kΩ (0.0000667 S~0.5 S )			

CP Mode		
Model	Range	Resolution
DL3021	0~200 W	100 mW
DL3021A		
DL3031	0~350 W	100 mW
DL3031A		

Con Mode				
Model	Frequency Range	Frequency Resolution	Frequency Accuracy	Duty Cycle Range
DL3021	0.001 Hz~15 kHz	0.8%	±0.5%	5%~95%, 1%
DL3021A	0.001 Hz~30 kHz			
DL3031	0.001 Hz~15 kHz			
DL3031A	0.001 Hz~30 kHz			

Current Slew Rate <sup>[5]</sup>			
Model	Range	Resolution <sup>[4]</sup>	Accuracy
DL3021	0.001 A/ $\mu$ s~0.25 A/ $\mu$ s 0.001 A/ $\mu$ s~2.5 A/ $\mu$ s (>5 V) <sup>[6]</sup>	0.001 A/ $\mu$ s	5%+10 $\mu$ s
DL3021A	0.001 A/ $\mu$ s~0.3 A/ $\mu$ s 0.001 A/ $\mu$ s~3 A/ $\mu$ s (>5 V)		
DL3031	0.001 A/ $\mu$ s~0.25 A/ $\mu$ s 0.001 A/ $\mu$ s~2.5 A/ $\mu$ s (>5 V)	0.001 A/ $\mu$ s	5%+10 $\mu$ s
DL3031A	0.001 A/ $\mu$ s~0.5 A/ $\mu$ s 0.001 A/ $\mu$ s~5 A/ $\mu$ s (>5 V)		

Readback Current				
Model	Range	Resolution	Accuracy	Temperature Coefficient
DL3021	0 ~ 40 A	1 mA	$\pm(0.1\%+0.1\%FS)$	50 ppm/ $^{\circ}C$
DL3021A		0.1 mA	$\pm(0.05\%+0.05\%FS)$	
DL3031	0 ~ 60 A	1 mA	$\pm(0.1\%+0.1\%FS)$	50 ppm/ $^{\circ}C$
DL3031A		0.1 mA	$\pm(0.05\%+0.05\%FS)$	

Readback Voltage				
Model	Range	Resolution	Accuracy	Temperature Coefficient
DL3021	0~150 V	0.1 mV	$\pm(0.05\%+0.02\%FS)$	20 ppm/ $^{\circ}C$
DL3021A				
DL3031	0~150 V	0.1 mV	$\pm(0.05\%+0.02\%FS)$	20 ppm/ $^{\circ}C$
DL3031A				

Readback Resistance		
Model	Range	Resolution
DL3021	0.08 $\Omega$ ~15 k $\Omega$ (0.0667 S~0.5 S)	2 mA/Vsense
DL3021A		
DL3031	0.08 $\Omega$ ~15 k $\Omega$ (0.0667 S~0.5 S)	2 mA/Vsense
DL3031A		

Readback Power		
Model	Range	Resolution
DL3021	0~200 W	100 mW
DL3021A		
DL3031	0~350 W	100 mW
DL3031A		

**Protection Function**  
 Overcurrent protection (OCP), overvoltage protection (OVP), overpower protection (OPP), overtemperature protection (OTP), as well as local/remote reverse voltage (LRV/RRV) protection.

Stability <sup>[7]</sup>		
Model	Current	Voltage
DL3021	$\pm(0.01\%\pm 10 \text{ mA})$	$\pm(0.01\%\pm 10 \text{ mV})$
DL3021A		
DL3031	$\pm(0.01\%\pm 10 \text{ mA})$	$\pm(0.01\%\pm 10 \text{ mV})$
DL3031A		

**Input Resistance**  
 350 k $\Omega$

Mechanical	
Dimensions	239 mm(W) x 157 mm(H) x 442 mm(D)
Weight	Net weight: 7.58 kg

Power	
AC Input (50 Hz~60 Hz)	115 Vac±10%, 230 Vac±10% (max: 250 Vac)
Maximum Input Power	<30 VA

Interface	
USB Device Interface	1
USB Host Interface	1
LAN Interface	1(optional)
RS232	1
Digital I/O	1(optional)
GPIB	1 ((optional, GPIB extended from the USB-GPIB interface module)

Environment	
Cooling Method	Fan Cooled
Operating Temperature	0°C ~40°C
Storage Temperature	-40°C ~70°C
Humidity	5%~80% RH (without condensation)
Altitude	Below 2,000 m

Certification Information	
EMC	Complies with the requirements of the following directive and standards. EMC Directive 2014/30/EU EN 61326-1 EN 61000-3-2 EN 61000-3-3
	Under following condition. The maximum length of all connecting cables and wires to the DL3000 series are less than 3 m.
Safety	Complies with the requirements of the following directive and standard. Low Voltage Directive 2014/35/EU EN 61010-1:2010 IP Degree: IP20 Pollution Degree: PD 2 Over Voltage Category: OVC II Operation Location: Indoor use only; not for wet condition

Note<sup>[1]</sup>: Data measured after 30-second current sinking at the programming value (applicable to the programming accuracy in CC mode and CV mode).

Note<sup>[2]</sup>: FS indicates the full scale.

Note<sup>[3]</sup>: The input voltage for the low range in CR mode should be smaller than 8 V.

Note<sup>[4]</sup>: The programming accuracy in CR mode is also determined by the input voltage accuracy.

Note<sup>[5]</sup>: Current slew rate: rising slew rate for 10%~90% of the current (0-maximum current).

Note<sup>[6]</sup>: When the input voltage is greater than 5 V, the maximum current slew rate is 5 A/μs; when the input voltage is greater than 4 V, the maximum current slew rate is 2.5 A/μs; when the input voltage is greater than 2 V, the maximum current slew rate is 0.1 A/μs.

Note<sup>[7]</sup>: Following a steady 30-minute current sinking, change in current/voltage sinking over 8 hours under constant load, line, and ambient temperature.

## ► Order Information

	Description	Order No.
<b>Model</b>	Programmable DC Electronic Load (single channel, DC 150 V/40 A 200 W 15 kHz 2.5 A/μs)	DL3021
	Programmable DC Electronic Load (single channel, DC 150 V/40 A 200 W 30 kHz 3.0 A/μs)	DL3021A
	Programmable DC Electronic Load (single channel, DC 150 V/60 A 350 W 15 kHz 2.5 A/μs)	DL3031
	Programmable DC Electronic Load (single channel, DC 150 V/60 A 350 W 30 kHz 5.0 A/μs)	DL3031A
<b>Standard Accessories</b>	Power Cord	-
	Either one of the following fuses: • Fuse 50T-0200H 250 V 0.20 A (AC selector: 230 Vac) • Fuse 50T-0315H 250 V 0.315 A (AC selector: 115 Vac)	-
	Quick Guide (hard copy)	-
	Shield	-
<b>Software Options<sup>[1]</sup></b>	LAN Interface	LAN-DL3
	Digital I/O Option	DIGITALIO-DL3
	Readback Resolution	HIRES -DL3
	High Frequency Option	FREQ-DL3
	High Slew Rate Option	SLEWRATE-DL3
<b>Accessories</b>	9-Pin RS232 Cable (female-to-female, cross-over)	CB-RS232-A
	Shield#DL3000#F	SC-DL3
	USB-GPIB Module	USB-GPIB-L
	Sense Cable	CB-SENSE
	20 A Test Lead	CB-20A-780MM
	40 A Test Lead	CB-40A-780MM
	60 A Test Lead	CB-60A-780MM
	DL3000 Series Rack Mount Kit (for a single instrument)	RM-1-DP800
	DL3000 Series Rack Mount Kit (for two instruments)	RM-2-DP800

Note<sup>[1]</sup>: The A-plus instrument models (DL3021A/DL3031A) have been installed with software options before leaving the factory.

Note:

- When the DUT outputs large currents, please use the specified test leads provided in the optional accessories.
- The color schemes for the interfaces of A-plus instrument models (DL3021A/DL3031A) and those models without A (DL3021/DL3031) are different.
- For all the accessories and options, please contact the local office of **RIGOL**.