Programmable Triple Output Linear DC Power Supplies

1368, 1369, and 1370

Features:

- *Three independent and fully isolated channels*
- *Series and parallel modes connect channels to maximize output voltage or current*
- *Fully programmable channels with Output On/Off control*
- *Simultaneous display of voltage and current settings on all three channels*
- *High programming and readback resolution of 1 mV / 0 1 mA*
- *Low ripple, noise, load, and line regulation*
- *Save and recall up to 40 instrument settings*
- *USB connector for firmware updates*
- *Remote sense*
- *Timer controlled output function adjustable from 0 1 9999 9 s*
- *Tracking mode maintains a programmed ratio for connected channels*
- *PC connection/control through RS 232 or USB supporting standard SCPI commands*
- *Intelligent fan control, energy saving and noise reduction*
- *Overvoltage (OVP) and overcurrent (OCP) protection*
- *Keylock function*

Description:

The Performance Series (Models 1368, 1369, 1370) are linear triple output power supplies with fully programmable isolated outputs These outputs can be adjusted independently or combined in series or parallel to output higher voltage or current Each model offers a different variable output voltage and current on two channels The third channel is rated at 6 volts, 5 amps These supplies offer tracking mode with user configurable ratios between channels, access to a timer controlled output function, and store/recall on up to 40 instrument settings per channel Connecting to a PC by USB or RS 232 enables remote instrument control using industry standard protocols

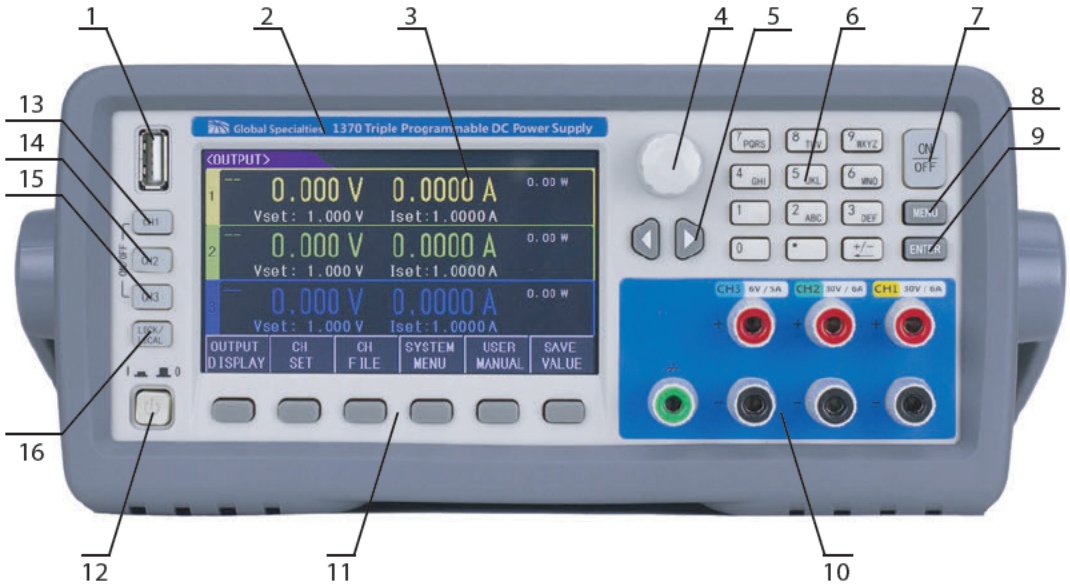
Model	*1368*	*1369*	*1370*
Vo tage	0 to 30 V (C 1 & 2) 0 to 6 V (C 3)	0 to 60 V (C 1 & 2) 0 to 6 V (C 3)	0 to 30 V (C 1 & 2) 0 to 6 V (C 3)
Current	0 to 3 A (C 1 & 2) 0 to 5 A (C 3)	0 to 3 A (C 1 & 2) 0 to 5 A (C 3)	0 to 6 A (C 1 & 2) 0 to 5 A (C 3)
Power	210 W	390 W	390 W

Applications:

- *Education*
- *Research and Design*
- *Production Testing*

Specifications and appearance subject to change without notice
D136X00 120919

Front Panel



1 *USB interface to update firmware*

2 *Model name and number*

3 *LCD display, 480 × 272 pixels, 24 bit color, 4 3 inch color TFT LCD screen*

4 *Adjustment knob, selection tool and fine adjustments*

5 *Arrow keys for moving the cursor*

6 *Numeric keys to input the specific values*

7 *[ON/OFF] key to turn on or off the three channel outputs simultaneously*

8 *[MENU] key for quick access to menu interface*

9 *[ENTER] key to input the data and can be used with the [LOCK/LOCAL] key to take screenshots*

10 *Output terminals, channels 1, 2, and 3 from right to left*

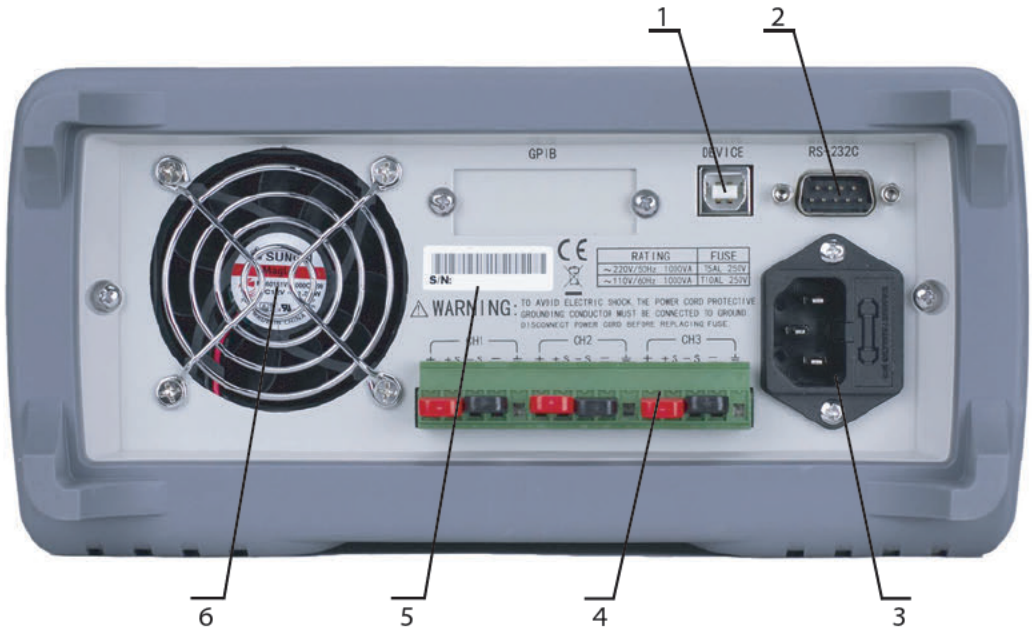
11 *Soft keys to set the display content*

12 *Power switch to power the unit on or off*

13 15 *Output keys to individually turn on each of the channel outputs*

16 *[LOCK/LOCAL] key to lock the keys or switch from remote to local control Can be used with the [ENTER] key to take screenshots*

Rear Panel



1 *USB Interface for communication by PC via USB DEVICE*

2 *RS 232 Function is same as USB*

3 *Power socket connecting 115/230 V 50 Hz AC power*

4 *Remote test terminal adds same function as output in front panel, 4 terminal sampling function is added for remote sense*

5 *Serial number*

6 *Thermostatically controlled fan*

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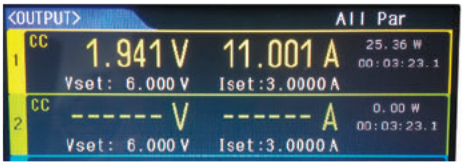
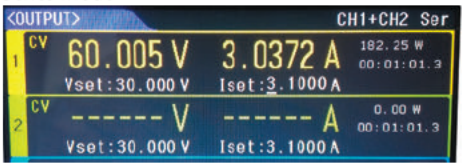
Operating Modes

Parallel Mode



Parallel mode allows for CH1 + CH2 in parallel, CH2 + CH3 in parallel, or all 3 channels in parallel When the set voltage is the same the current will sum

Series Mode

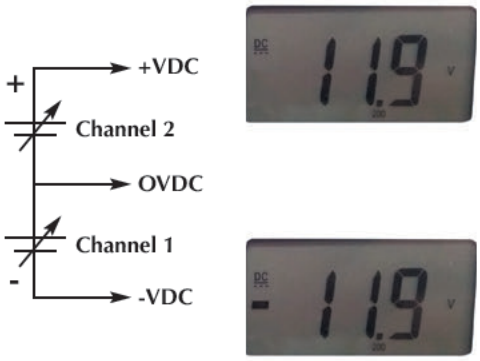


Series modes puts CH1 + CH2 in series The voltage will sum and the set current is equal

Tracking Mode

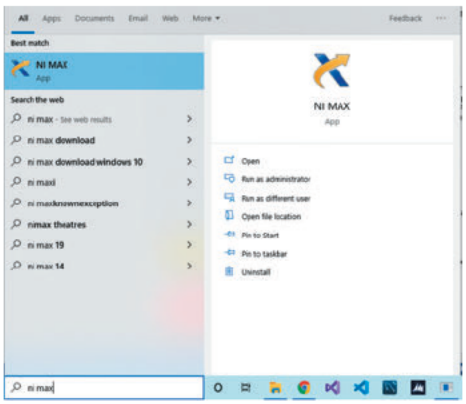
Tracking mode allows for CH1+ CH2 in tracking mode, CH2+CH3 in tracking mode, or all 3 channels in tracking mode In this mode, the set voltage and current are changed based on current ratio Before selecting this mode, the voltage and current must be set in advance

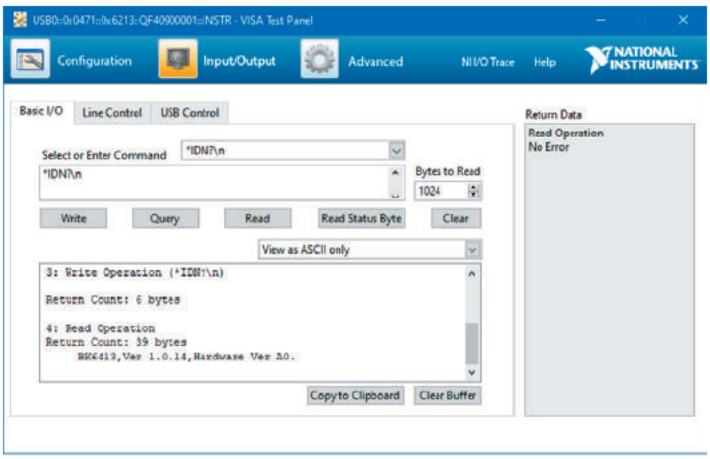
The isolated channels can be set to create positive and negative output voltages simultaneously to power bipolar circuits



PC Connection

RS 232 and USB (TMC and CDC) are available in these power supplies, which can be used for data communication and remote control These cannot be used at the same time These power supplies require the free installation of NI VISA software before connecting the device for the first time Read and write commands follow standard SCPI protocols





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Specifications:

All specifications apply to the unit after a temperature stabilization time of 20 minutes over an ambient range of 20 ˚C ± 5 ˚C

Model			1368			1369			1370		
Rated Output (0˚C to 40˚C)	Channe		C 1	C 2	C 3	C 1	C 2	C 3	C 1	C 2	C 3
	Vo tage		0 to 30 V		0 to 6 V	0 to 60 V		0 to 6 V	0 to 30 V		0 to 6 V
	Current		0 to 3 A		0 to 5 A	0 to 3 A		0 to 5 A	0 to 6 A		0 to 5 A
	Power		210 W			390 W			390 W		
oad Regu at on ± (% Output + B as)	Vo tage		≤0.01 % + 3 mV								
	Current		≤0.01 % + 3 mA								
ne Regu at on ± (% Output + B as)	Vo tage		≤0.01 % + 3 mV								
	Current		≤0.01 % + 3 mA								
Programm ng Reso ut on	Vo tage		1 mV								
	Current		0.1 mA								
Read back Va ue Reso ut on	Vo tage		1 mV								
	Current		0.1 mA								
Dr ft (0˚C to 40˚C) ± (% Output + B as) per year	Program.	Vo tage	≤0.03 % + 10 mV								
		Current	≤0.1% + 5 mA	≤0.1% + 8 mA		≤0.1% + 5 mA	≤0.1% + 8 mA		≤0.1% + 5 mA	≤0.1% + 8 mA	
	Read back	Vo tage	≤0.03 % + 10 mV								
		Current	≤0.1% + 5 mA	≤0.1% + 8 mA		≤0.1% + 5 mA	≤0.1% + 8 mA		≤0.1% + 5 mA	≤0.1% + 8 mA	
R pp e and No se (20 z to 20 M z)	Norma Vo tage Mode		≤ 3 mVp p		≤ 4 mVp p						
	Norma Current Mode		≤ 3 mArms	≤ 5 mArms		≤ 4 mArms	≤ 5 mArms		≤ 4 mArms	≤ 5 mArms	
Temperature actor	Vo tage		≤0.02 % + 5 mV								
	Current		≤0.1 % + 5 mA								
Ser es / Para e Accuracy	Vo tage		≤0.02 % + 5 mV			≤0.02 % + 10 mV			≤0.02 % + 5 mV		
	Current		≤0.1 % + 20 mA			≤0.1 % + 30 mA					
T mer			0.1 to 99999.9 s								
Memo y			4 groups of 40 data sets								