



Model: 9171, 9172, 9173, 9174, 9181, 9182, 9183, 9184, 9185

Programmable DC Power Supply

Software Operating Instructions

1. System Requirements

Operating System: Window XP, Windows 7 (32 and 64 bit)

Microsoft .Net Framework 3.5 Service Pack 1

2. Communication Setting

◆ Communication Setting Program Setting Online Test

Communication Mode

USB Port No: COM8 GPIB Address: GPIB-1

(Virtual COM Port) Baudrate: 57600  

Send a command

Command: *IDN? 

```
(16:31:52.845) COM8 <- SYS:AVE Failure: COM8 read timeout.
(16:31:52.845) COM8 <- OUT1 0
(16:31:52.836) COM8 -> 0.099
(16:31:52.806) COM8 <- IOUT1?
(16:31:52.806) COM8 -> 0.004
(16:31:52.766) COM8 <- VOUT1?
(16:31:50.751) COM8 <- VSET1 1;ISET1 0.1
(16:31:50.748) COM8 -> 0.100
(16:31:50.718) COM8 <- IOUT1?
(16:31:50.718) COM8 -> 0.005
(16:31:50.688) COM8 <- VOUT1?
(16:31:48.673) COM8 <- VSET1 1;ISET1 0.1
(16:31:48.670) COM8 -> 0.099
(16:31:48.640) COM8 <- IOUT1?
(16:31:48.640) COM8 -> 0.004
(16:31:48.610) COM8 <- VOUT1?
(16:31:46.596) COM8 <- VSET1 1;ISET1 0.1
(16:31:46.585) COM8 -> 0.100
(16:31:46.555) COM8 <- IOUT1?
(16:31:46.555) COM8 -> 0.005
(16:31:46.515) COM8 <- VOUT1?
(16:31:44.507) COM8 <- VSET1 1;ISET1 0.1
(16:31:44.493) COM8 -> 0.100
(16:31:44.463) COM8 <- IOUT1?
```

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Connect

Click button after selecting the COM port number for USB communication or selecting the GPIB address for GPIB communication.

Send

Click to send command strings/protocols to communicate with the power supply. Enter commands in the Command input box.

3. Program Setting

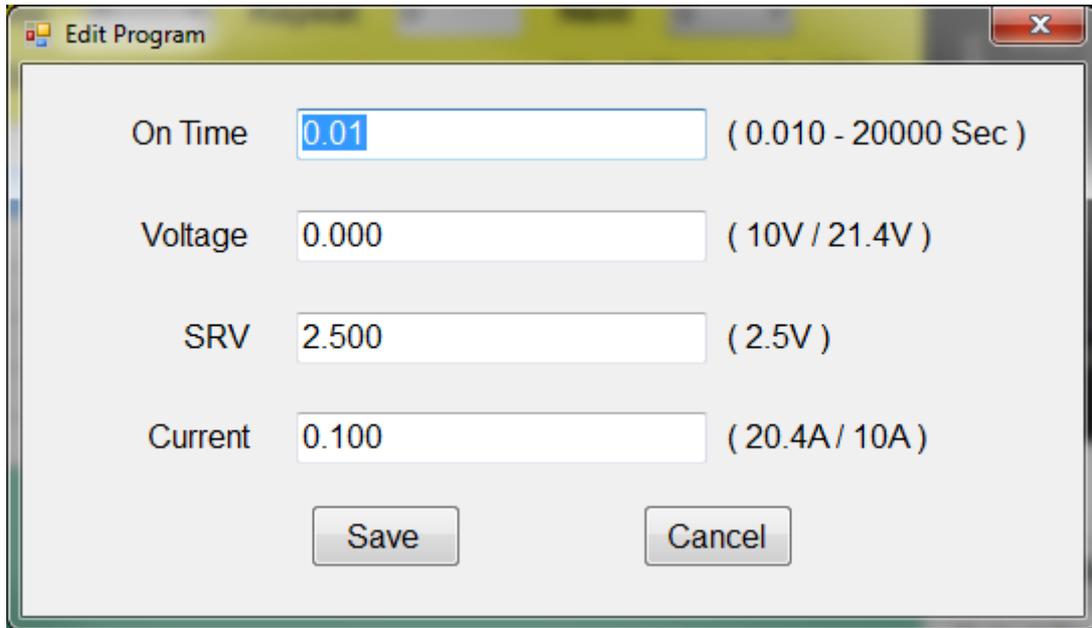
The screenshot shows the 'Program Setting' window in the BK Precision software. It includes a table of program steps and a graph of voltage over time.

Step	On Time	V(10/20V)	SRV(2.5V)	I(20/10A)
1	0.01	0.000	2.500	0.100
2	0.01	0.000	2.500	0.100
3	0.01	0.000	2.500	0.100
4	0.01	0.000	2.500	0.100
5	0.01	0.000	2.500	0.100
6	0.01	0.000	2.500	0.100

	Click to create a new program sequence. This will prompt a confirmation to clear any existing programs loaded into the software if available.
	Click to load a previously saved program sequence.
	Click to save the program sequence/list into a .csv file. The default file format is: model_yyyyMMdd_HHmms.csv. Model is the model number, and the rest is the timestamp when file is saved. yyyy is the year, MM is the month, and dd is the date. HH is hours (24hr format), mm is minutes, ss is seconds.
	This selects the program number/location to which the program sequence will store into the instrument. If "Read Data" is clicked to load programs from memory, this will select which programs from memory to display.
	Selects the total number of steps of the program sequence. Maximum is 150.
	Selects the number of times to repeat the sequence.
	Selects the memory location of the next program to run immediately after the current program sequence ends. Set it to 0 if no subsequent program sequences are to be run.

Read Data	Click this to load all previously stored programs from the instruments' internal memory. This action will remove any existing programs created in the software.
Send Data	Click this to load the created program sequence into internal memory of the instrument.
Run	Click this to run the program selected by the program number to the left.
Stop	Click this to stop the current program from running.

To Edit step parameters of a program, simply double-click on the steps and the following prompt will display:



For dual channel models, the following will display:

The image shows a software window titled "Edit Program" with a blue title bar and a close button in the top right corner. The window contains the following settings:

- On Time:** A text input field containing "0.01" with a range of "(0.010 - 20000 Sec)".
- CH1:** A section containing three settings:
 - Voltage:** A text input field containing "0" with a range of "(10V / 20V)".
 - SRV:** A text input field containing "2.5" with a range of "(2.5V)".
 - Current:** A text input field containing "0" with a range of "(10A / 5A)".
- CH2:** A section containing three settings:
 - Voltage:** A text input field containing "0" with a range of "(10V / 20V)".
 - SRV:** A text input field containing "2.5" with a range of "(2.5V)".
 - Current:** A text input field containing "0" with a range of "(10A / 5A)".

At the bottom of the window, there are two buttons: "Save" and "Cancel".

On Time – This is the step time to which to hold the voltage and current settings.

Voltage – The step voltage value.

Current – The step current value.

SRV – The step rise/fall rate of the voltage.

4. Online Test

This function is mainly used for quick testing of the instrument's power output under various programmable step sequences. It is computer controlled and differs from **Program Setting**, which actually stores the sequence values into internal memory of the instrument for faster transitioning between steps. The advantage of **Online Test** function is that it will plot the measured voltage and output while the test sequence is running, allowing you to monitor the output.

BK Precision 917x & 918x Software - 9182

Communication Setting | Program Setting | **Online Test**

New Edit Load **Save As** Test Stop

Add Step

Loop: Enable
 Infinite

Delay Time: 2000 ms
 MAX:3000ms, Run => 2000

Meas. Time: 10 ms
 MAX:1800000ms, Run => 10

Step	Period	V(10/20V)	I(20/10A)
X 1	1sec	1.000	0.100
X 2	1sec	1.000	0.100
X 3	1sec	1.000	0.100

```

[Setting]
(16:31:48.686) 1.000/0.10000
[Reading]
(16:31:50.748) 0.005/0.10000

Step#3
[Setting]
(16:31:50.764) 1.000/0.10000
[Reading]
(16:31:52.836) 0.004/0.09900

(USER BREAK)
  
```

15/∞

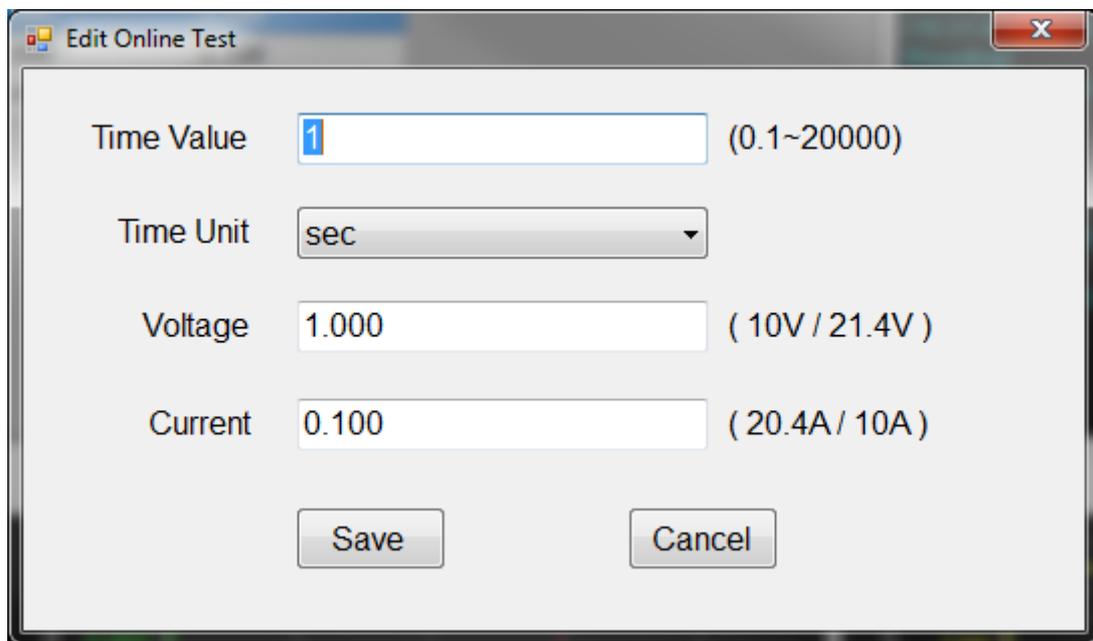
Output Voltage Value: **OFF**

Output Current Value: **OFF**

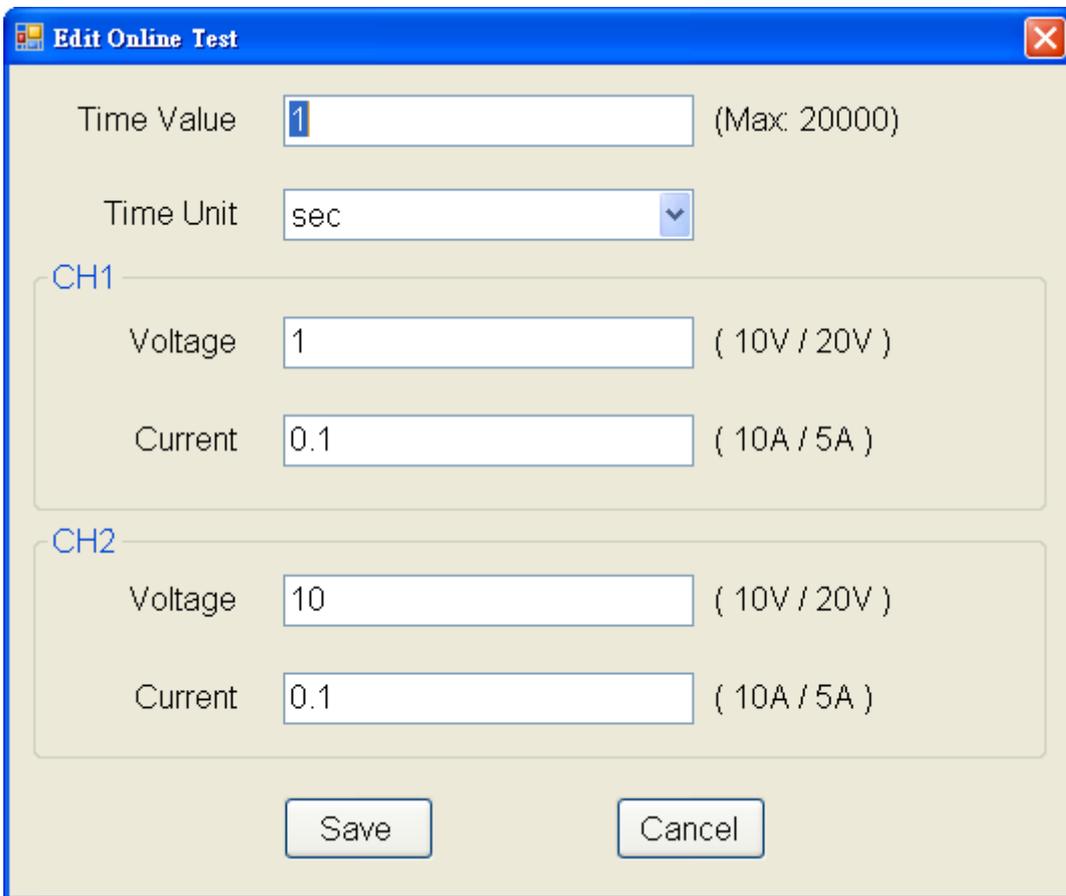
	Click to create a new test sequence.
	Click to return the list to “editing” mode.
	Click to load a previously saved test sequence.
	Click to save the test sequence into a .csv file. The default file format is: model_yyyyMMdd_HHmms.csv. Model is the model number, and the rest is the timestamp when file is saved. yyyy is the year, MM is the month, and dd is the date. HH is hours (24hr format), mm is minutes, ss is seconds.
	Click to start running the test sequence.
	Click to stop running the test sequence.
	Click to add steps to the test sequence.
Switch Level <input checked="" type="radio"/> HIGH <input type="radio"/> LOW	This selects high or low range. This option is only available on high voltage models 9184 and 9185 only.

Delay Time: <input type="text" value="300"/> ms MAX:3000ms, Run => 300	Selects the delay time between each steps. (Range: 400~3000ms)
Meas. Time: <input type="text" value="100"/> ms MAX:1800000ms, Run => 100	Selects the measurement time interval. (Range: 0~1800000ms)
Loop <input checked="" type="checkbox"/> Enable <input type="text" value="Infinite"/>	Selects to configure for loop testing.
Output Voltage Value OFF Output Current Value OFF	Indicates the measured output voltage and current value.
<input type="button" value="X"/>	This is displayed next to each steps in the test sequence. Click this to remove the step.
Note	The maximum number of data points that can be plotted is 100000.

The following prompt will display when double-clicking each steps for editing:



For dual channel models, the following will display:

The image shows a software dialog box titled "Edit Online Test". It contains several input fields for configuring test parameters. At the top, there is a "Time Value" field with the number "1" and a "(Max: 20000)" label. Below it is a "Time Unit" dropdown menu currently set to "sec". The dialog is divided into two sections: "CH1" and "CH2". Each section has "Voltage" and "Current" input fields. For CH1, Voltage is "1" and Current is "0.1". For CH2, Voltage is "10" and Current is "0.1". At the bottom, there are "Save" and "Cancel" buttons.

Edit Online Test

Time Value (Max: 20000)

Time Unit

CH1

Voltage (10V / 20V)

Current (10A / 5A)

CH2

Voltage (10V / 20V)

Current (10A / 5A)