

## Input section

Input type	DC coupling unbalanced input		
Input connectors	Isolated BNC receptacle. Input switchable between front panel and rear panel.		
Non-destructive maximum input current	±30 mA		
Gain setting (V/A)	Maximum rated input current		Input impedance (Supplementary value)
	Output amplifier gain setting ×1	×10	
10 G	±1 nA	±100 pA	30 kΩ (@100 Hz) 2.5 fA/√Hz (@55 Hz)
1 G	±10 nA	±1 nA	10 kΩ (@1 kHz) 6 fA/√Hz (@200 Hz)
100 M	±100 nA	±10 nA	3 kΩ (@1 kHz) 15 fA/√Hz (@200 Hz)
10 M	±1 μA	±100 nA	1 kΩ (@1 kHz) 45 fA/√Hz (@1 kHz)
1 M	±10 μA	±1 μA	400 Ω (@1 kHz) 150 fA/√Hz (@1 kHz)
100 k	±100 μA	±10 μA	300 Ω (@1 kHz) 750 fA/√Hz (@1 kHz)
10 k	±1 mA	±100 μA	10 Ω (@1 kHz) 6 pA/√Hz (@1 kHz)

\* Note 1: When input: open, input: front, filter setting: 300 μs (10 G V/A), 30 μs (1 G V/A to 10 kV/A), with no additional input capacitance.

## Current suppression section

Range	6 ranges (8 nA, 80 nA, 800 nA, 8 μA, 80 μA, 800 μA) or OFF	
Setting range	8 nA range	-8.000 nA to +8.000 nA setting resolution 1 pA
	80 nA range	-80.00 nA to +80.00 nA setting resolution 10 pA
	800 nA range	-800.0 nA to +800.0 nA setting resolution 100 pA
	8 μA range	-8.000 μA to +8.000 μA setting resolution 1 nA
	80 μA range	-80.00 μA to +80.00 μA setting resolution 10 nA
	800 μA range	-800.0 μA to +800.0 μA setting resolution 100 nA
Setting accuracy (Supplementary value)	8 nA range	± (  3.0% of setting   + 0.15% of range)
	80 nA range	± (  1.5% of setting   + 0.15% of range)
	800 nA range	± (  0.8% of setting   + 0.15% of range)
	8 μA range and higher	± (  0.6% of setting   + 0.15% of range)

\*Note: Auto suppression function is available to automatically select and set the current suppression range and current value required to cancel the input current.

## Amplification section

Gain and accuracy (DC)			
Setting (V/A)	Output amplifier gain setting ×1	Output amplifier gain setting ×10	
10 G	1×10 <sup>10</sup> ±1.0%	1×10 <sup>11</sup> ±1.0%	
1 G	1×10 <sup>9</sup> ±1.0%	1×10 <sup>10</sup> ±1.0%	
100 M	1×10 <sup>8</sup> ±0.5%	1×10 <sup>9</sup> ±0.5%	
10 M	1×10 <sup>7</sup> ±0.3%	1×10 <sup>8</sup> ±0.3%	
1 M	1×10 <sup>6</sup> ±0.25%	1×10 <sup>7</sup> ±0.25%	
100 k	1×10 <sup>5</sup> ±0.25%	1×10 <sup>6</sup> ±0.25%	
10 k	1×10 <sup>4</sup> ±0.25%	1×10 <sup>5</sup> ±0.25%	
Frequency characteristics (When output amplifier gain: ×1, filter: OFF, with no additional input capacitance)			
Setting (V/A)	within +0.5 dB / -3 dB	Response speed *2 (Supplementary value)	Reference frequency
10 G	DC to 14 kHz	25 μs	10 Hz
1 G	DC to 70 kHz	5 μs	
100 M	DC to 175 kHz	2 μs	
10 M	DC to 350 kHz	1 μs	
1 M	DC to 500 kHz	0.7 μs	
100 k			
10 k			
Output amplifier gain	Switchable between ×1 and ×10, gain of the converted current-voltage		
Filter	Setting range	Response speed (rise time): 1 μs to 300 ms, 1 to 3 sequences, or OFF	
	Setting accuracy	Within ±20% of set time (10% to 90% of rise time) (Supplementary value)	
	Filter characteristics	Low-pass filter (LPF), linear phase type	
	Attenuation slope	12 dB/oct	
Input/output phase	Reverse phase (When current flows into the input connector, output has negative potential.)		

\* Note 2: Rise time of the square wave output waveform (10% to 90%).

## Option

- Rack mount brackets (Single-unit, inch)
- Rack mount brackets (Double-unit, inch)
- Rack mount brackets (Single-unit, metric)
- Rack mount brackets (Double-unit, metric)

## Output section

Output type	DC coupling unbalanced output
Output connectors	Provided on front and rear panels. Same signal is output to isolated BNC receptacle connectors on front and rear panels.
Maximum output voltage	±10 V (When no load)
Maximum output current	±10 mA, Total current of front and rear connectors.
Output impedance	50 Ω (Supplementary value)
Output offset voltage	within ±30 mV (Gain setting: 10 G V/A) within ±20 mV (Gain setting: 10 k to 1 G V/A) (When input: open, current suppression: OFF, output amplifier gain: ×1)

## DC bias voltage output section

Output type	DC coupling unbalanced output
Output connectors	Provided on front and rear panels. Same signal is output to isolated BNC receptacle connectors on front and rear panels.
Setting range	-8.000 V to +8.000 V, setting resolution: 0.001 V
Setting accuracy	± (  1.0% of setting   + 20 mV) (When no load)
Maximum output current	±2 mA, Total current of the front and rear connectors.
Output impedance	50 Ω (Supplementary value)

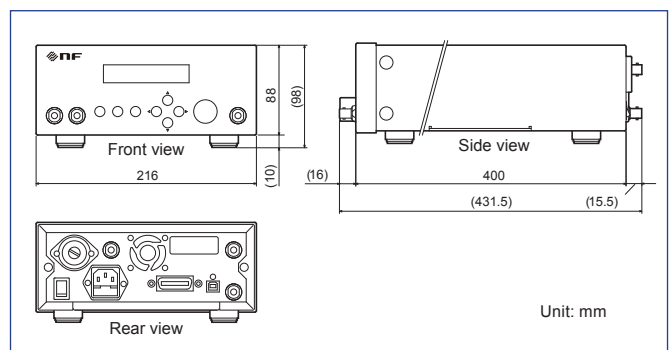
\*Note: DC bias voltage polarity is reversed when output.

Example: With a +1.000 V setting, the DC bias voltage output at the BNC connector is -1.000 V.

## General

Display	Monochrome LCD, with 3-level backlight brightness setting (including OFF)	
Setting memory	10 sets (1 set is fixed for use by factory default settings)	
Input and output ground	Input (CURRENT INPUT), output (INVERTING OUTPUT), bias output (INVERTING BIAS OUTPUT) signal grounds are insulated from the chassis. (Signal grounds are common.) Breakdown voltage between signal ground and chassis: 42 Vpk maximum (DC + AC peak)	
External control	GPIO: IEEE488.1 USB: USB 1.1 full speed, device class CDC *Note: USB driver can be downloaded from our website.	
Power supply	100, 120, 220, 240 VAC ±10% (250 V or less) 50 Hz/60 Hz ±2 Hz, Power consumption: 40 VA or less Overvoltage category: II	
Temperature and humidity range	Rated performance	23°C ± 5°C, 5% to 85% RH (Absolute humidity: 1 to 25 g/m <sup>3</sup> , non-condensing)
	Operation	0°C to +40°C, 5% to 85% RH (Absolute humidity: 1 to 25 g/m <sup>3</sup> , non-condensing)
	Storage	-10°C to +50°C, 5% to 95% RH (Absolute humidity: 1 to 29 g/m <sup>3</sup> , non-condensing)
Dimensions	216 (W) × 88 (H) × 400 (D) mm (excluding protrusions)	
Weight	Approx. 5.0 kg (excluding accessories)	
Accessories	Power cord: 1, fuse: 1, instruction manual: 1	

## Dimensions



\*Note: The contents of this catalog are current as of January 27, 2015.

• Product appearance and specifications are subject to change without notice.

• Before purchase, contact us to confirm the latest specifications, price and delivery date.

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