

■ Input section

Input form	DC coupled unbalanced input		
Input connector	Insulating type BNC receptacle. Either front panel/rear panel input connector can be used		
Non-destructive maximum input current	±30 mA		
Gain setting (V/A)	Rated maximum 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: Input open, Front input, Filter 300 μs (10G V/A) or 30 μs (1G V/A to 10kV/A), no source 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 resolution 1 pA
	80 nA range	-80.00 nA to +80.00 nA resolution 10 pA
	800 nA range	-800.0 nA to +800.0 nA resolution 100 pA
	8 μA range	-8.000 μA to +8.000 μA resolution 1 nA
	80 μA range	-80.00 μA to +80.00 μA resolution 10 nA
	800 μA range	-800.0 μA to +800.0 μA 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)
	8μA range-800μA range	± (  0.6% of setting   + 0.15% of range)

\*Note: Auto suppression: Function for automatically selecting and setting the current value and current suppression range required for cancelling the input current.

■ Amplification section

Gain and accuracy (DC)			
Gain 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 (Conditions: Filter OFF, Output amplifier gain ×1, no source capacitance)			
Gain 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		×1 or ×10 Gain after current-voltage conversion	
Filter	Setting range	Response speed (rise time) 1 μs ~ 300 ms, 1-3 sequence or OFF	
	Setting accuracy	Less than ±20% of the setting time (10%-90% rise time) (supplementary value)	
	Filter characteristics	Low-pass filter (LPF), phase-linear type	
	Attenuation slope	12 dB/oct	
I/O polarity	Inverted (Once current starts flowing in the input connector, output will have minus potential)		

\* Note 2: Response speed is the rise time (10%–90%) of square output response waveform.

Option

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

■ Output section

Output form	DC coupled unbalanced output
Output connector	Front and rear panel, insulated type BNC receptacle Same signal is output from the front and the rear connectors.
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	Less than ±30 mV (When amplifier gain is 10 G V/A) Less than ±20 mV (When amplifier gain is 10 k to 1 G V/A) (Input open, Current suppression OFF, and Output amplifier gain ×1)

■ DC voltage bias output section

Output form	DC coupled unbalanced output
Output connector	Front and rear panel, insulated type BNC receptacle Same signal is output from the front and the rear connectors.
Setting range	-8.000 V to +8.000 V, resolution 0.001 V
Setting accuracy	± ( 1.0% of setting  +20 mV) (When no load)
Maximum output current	±2 mA, Total current of front and rear connectors
Output impedance	50 Ω (Supplementary value)

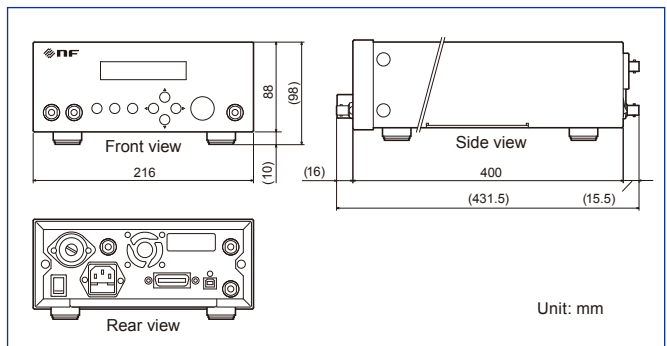
\*Note: DC bias will output voltage with inverted polarity.

Example: When +1.000V is set, -1.000V will be output in the DC bias voltage output BNC connector.

■ General information

Display device	20 characters × 2 lines Black and white LCD Backlight brightness can be set on 3 stages including OFF	
Memory for saving the setting	10 sets (including 1 set reserved for factory default settings)	
I/O grounding	Signal grounding of Input (CURRENT INPUT), Output (INVERTING OUTPUT), and bias output (INVERTING BIAS OUTPUT) are insulated from the enclosure. Their signal grounding is common. Maximum withstanding voltage between signal grounding and enclosure is 42Vpk (DC+ACpeak).	
External control	GPIB: IEEE488.1 USB: USB 1.1 full speed, device class CDC *Note: USB driver can be downloaded from our website.	
Power supply Voltage	AC100V / 120V / 220V / 240V ±10% However, 250V or less 50Hz/60Hz ±2Hz, Power consumption: 40VA or less Overvoltage category: II	
Temperature and humidity	Performance guarantee	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)
	Pollution Degree	2 (indoor use)
Warm-up time	30 minutes	
Safety regulation	EN 61010-1: 2010, EN 61010-2-030: 2010	
EMC	EN 61326-1: 2013 (Group 1, Class A), EN 61326-2-1: 2013 EN 61000-3-2: 2006 + A1: 2009 + A2: 2009 EN 61000-3-3: 2008	
RoHS directive	Directive 2011/65/EU	
External dimensions	216 (W) × 88 (H) × 400 (D) mm (Not including protuberances)	
Weight	Approx. 5.0 kg (Not including accessories)	
Accessories	Power cord: 1, fuse: 1, instruction manual: 1	

■ Dimensions



\*Note: The contents of this catalog are current as of November 6th, 2024.

- 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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