



# Datasheet

## Compact Programmable AC/DC Power Supply

Stock No. :	Model :
2010451	<b>RSAS-2050</b>



CE RS-232 GPIB USB LAN Ext I/O

## **FEATURES**

- Output Rating: AC 0 ~ 350 Vrms, DC 0 ~  $\pm$ 500 V
- Output Frequency up to 999.9 Hz
- DC Output (100% of Rated Power)
- Output Capacity: 500VA
- Measurement Items: Vrms, Vavg, Vpeak, Irms, IpkH, Iavg, Ipeak, P, S, Q, PF, CF
- Voltage and Current Harmonic Analysis (THDv, THDi)
- Customized Phase Angle for Output On/Off
- Remote Sensing Capability
- OVP, OCP, OPP, OTP, AC Fail Detection and Fan Fail Alarm
- Interface: USB, LAN (std.)
- Built-in External Control I/O and External Signal Input
- Built-in Output Relay Control and Memory Function (up to 10 sets)
- Sequence and Simulation Function (up to 10 sets)
- Support Arbitrary Waveform Function and Built-in Web Server





The RSAS-2050, an AC+DC power source aiming for system integration or desktop applications, provides both rated power output for AC output and rated power output for DC output. Nine RSAS-2050 output modes are available, including 1) AC power output mode (AC-INT Mode), 2) DC power output mode (DC-INT Mode), 3) AC/DC power output mode (AC+DC-INT Mode), 4) External AC signal source mode (AC-EXT Mode), 5) External AC/DC signal source mode (AC+DC-EXT Mode), 6) External AC signal superposition mode (AC-ADD Mode), 7) External AC/DC signal superposition mode (AC+DC-ADD Mode), 8) External AC/DC signal synchronization mode (AC+DC-SYNC Mode).

The RSAS-2050 provides users with waveform output capabilities to meet the test requirements of different electronic component development, automotive electrical devices and home appliance, including 1) Sequence mode generates waveform fallings, surges, sags, changes and other abnormal power line conditions; 2) Arbitrary waveform function allows users to store/upload user-defined waveforms; and 3) Simulate mode simulates power outage, voltage rise, voltage fall, and frequency variations. When the RSAS-2050 power source outputs, it can also measure Vrms, Vavg, Vpeak, Irms, Iavg, Ipeak, IpkH, P, S, Q, PF, CF, 40th-order Voltage Harmonic and Current Harmonic. In addition, the Remote sense function ensures accurate voltage output. The Customized Phase Angle for Output On/Off function can set the starting angle and ending angle of the voltage output according to the test requirements. V-Limit, Ipeak-Limit, F-Limit, OVP, OCP, OPP function settings can protect the DUT during the measurement process. In addition to OTP, OCP, and OPP protection, the RSAS-2050 also incorporates the Fan fail alarm function and AC fail alarm function.

The front panel of the RSAS-2050 provides a universal socket, which allows users to plug and use so as to save wiring time. The RSAS-2050 supports I/O interface and is equipped with USB, LAN, External I/O and optional RS-232C and GPIB.

### PANEL INTRODUCTION



- 1. Air Inlet
- 2. LCD Screen
- 3. Display Mode Select Key
- 4. Function Keys
- 5. Scroll Wheel
- 6. Output Key
- 7. Hardcopy Key

- 8. Lock/Unlock Button
- 9. USB Interface Connector(A Type)
- 10. Power Switch Button
- 11. Output Socket
- 12. External I/O Connector
- 13. Exhaust Fan
- 14. Remote Sensing Input Terminal
- 15. Output Terminal
- 16. Line Input
- 17. External Signal Input/External Synchronized Signal Input
- 19. LAN Connector
- 20. USB Interface Connector(B Type)





NINUT RATING (AG) NOTION AND LEVENCE NOT VOITAGE NOT V	SPECIFICATIONS			
NORMARL INPUT YOUTAGE VALUE VA				
NOUT VOICE CENTER IN CONTROL OF A CONTROL OF	NORMINAL INPUT VOLTAGE		100 Vac to 240 Vac	
NUTUT REQUENCY ANALE         48, 16, 10, 16           MAXE NOVES CONSTRUCTION         50, 50, 11, 10, 10, 10, 10, 10, 10, 10, 10, 1	INPUT VOLTAGE RANGE			
MICL INDECEDANT INVECT         B00 / 10 or : 1 est 0.00 / 1 est 0.0	PHASE			
MAX. PORE 2 CONSUMPTION 100 Year         Bit 5 (r.p.) bit 2 (r.p.) bit 5 (r.p.) bit 2 (r.p	INPUT FREQUENCY RANGE			
MAX. INPUT CURRENT         BOW         BA         A           1:1 for anatorization range of WV/2004 (100/100/100/100/100/100/100/100/100/100			0.95 (typ.)	
MAX. IMPUT CURRENT         DOVAL         4           7. Provide output outp	POWER FACTOR			
The second seco				
CM CODE CUTPUT FATINCS (AC rms)         O         Visiting Resolution Accuracy         Visiting Resolution Accuracy         O         Visiting Resolution Accuracy         Visiting Resolution	MAA. INPOT CORRENT		4 A	
VOLTAGE         Setting Reage <sup>-1</sup> Setting Reage <sup>-1</sup> (10.5 % 0' set - 0.6 V / 1.3 V)         OV / 1.3 S0 V / 0.0 V / 1.3 S0 V           UDTPUT PHASE         US % 0' set - 0.6 V / 1.2 V)         July 30 V         July 30 V           VOLTAGE         Setting Reage- Setting Reage- Settin Seting Reage- Setting Reage-	*1. For an output voltage of 100 V/2	00 V (100V/200V range),	maximum current, and a load power factor of 1.	
Setting Resolution Accuracy         1.0 V 40.5 SG 56 4 - 0.6 V / 1.2 V) Setting Replace, New Weie           DUTPUT PHAGE         SA           MAXIMUM CURRENT*         100 V 100 V         3.0 V           TREQUENCY         Satisfies Resolution Accuracy         ACCURACY           TREQUENCY         Satisfies Resolution Accuracy         ACCURACY           To an additional object of 15.1 V to 15.0 V to 1	AC MODE OUTPUT RATINGS	(AC rms)		
Accuming <sup>10</sup> + (0.5 % of set - 0.6 V / 1.2 V)           Single phase, Two wire         Single phase, Two wire           MAXIMUM CLREENT <sup>11</sup> 100 V         5.4           Single phase, Two wire         500 V           Sin	VOLTAGE	Setting Range <sup>*1</sup>	0.0 V to 175.0 V / 0.0 V to 350.0 V	
DUTPUT PHASE         Single phase, Two write           AMAIMUM PEAK CURRENT         100 V         2.5 A           AMAIMUM PEAK CURRENT         100 V         2.5 A           Stating Resolution         2.5 A           OPUER CARACITY         200 V         2.5 A           Stating Resolution         CM det 40.00 VE to 999.9 Hz, AC-DC Mode: 100 Hz to 999.9 Hz;           OPUER CARACITY         200 V         2.5 A           Stating Resolution         CM det 40.00 VE to 999.9 Hz;         0.01 Hz (1000 to 999.9 Hz).           For 54 Hz to 56 Hz;         Stability <sup>2</sup> COTST         CM det 40.00 VE to 999.9 Hz;           DUTPUT ON PHASE         Stability <sup>2</sup> VIII to 51 Hz; 17 V 13 TV 13 V 13 V 13 V 13 V 13 V 13 V 1				
ACKINUM CURRENT <sup>1</sup> 100 v         5.A           200 v         20.A         20.A           200 VER CAPACITY         Setting Bage         0.0 145 (20.99.9 Hz), 0.1 fr (100.0 19.99.9 Hz), 0.1 fr (100.0 19.99.9 Hz), 0.0 Hz           200 VER CAPACITY         Setting Bage         0.0 145 (20.0 Hz to 99.9 Hz), 0.1 fr (100.0 19.99.9 Hz), 0.0 Hz         0.0 Hz           200 VER CAPACITY         Setting Bage         0.0 145 (20.0 Hz to 99.9 Hz), 0.1 fr (100.0 Hz 99.9 Hz), 0.0 Hz         0.0 Hz           200 VER CAPACITY         Setting Bage         0.0 Hz to 99.9 Hz, 0.2 Hz         0.0 Hz         0.0 Hz           200 VER CAPACITY         Setting Bage         0.0 Hz         0.0 Hz         0.0 Hz         0.0 Hz           COFEST         Withing of 17.3 V In 17.V (20.0 Hz         2.0 W (17.9)         0.0 Hz         0.0		Accuracy		
Markinski perker CURRENT*         200 V         2.5 A           AMALINA PERK CURRENT*         200 V         10 A           200 V         10 A         10 A           POWER CAPACITY         200 V         10 A           PREQUENCY         Sating Bange         AC Mode: 40.00 Hz to 599.9 Hz, 10 Hz to 599.9 Hz, 10 Hz to 599.9 Hz, 20 Hz to 597.8 Hz to 02% of set           DUTPUT ON PHASE         Sating Bange         AC Mode: 40.00 Hz to 599.9 Hz, 10 Hz to 599.9 Hz, 20 Hz to 597.8 Hz to 02% of set           DUTPUT ON PHASE         Variable Color Soft Set, 10 Hz to 599.9 Hz, 20 Hz to 597.8 Hz to 02% of set         Soft Set           Soft and particular producting of 175 VV 137 V 35 V to 330 V to 130 V to 150 V 15 V 10 V 10 V V V V		200.1/		
MAXIMUM PEAK CURRENT" 100 V 10 A 200 VA 200	MAXIMUM CURRENT			
Normal Source CAPACTY         10 A           Setting Range         500 VA           Accuracy         Solv A           Accura	MAYIMI M DEAK CURPENT*4			
Setting Barge Setting Render Accuracy       AC Mode: ADD Is to 999 3P Hz, AC-DC Mode: 10.04 to 199 3P Hz Accuracy         Stability <sup>2</sup> Stability <sup>2</sup>	MAXIMOM PEAK CORRENT			
Setting Reaction of the (1.00 or 99.99 Hz), 0.1 Hz (1.00 or 99.99 Hz), 0.1 Hz (1.00 or 99.99 Hz), 0.1 Hz (1.00 or 99.99 Hz), 0.02% of set = 4.0.02% of set = 4.0.02\% of se	POWER CAPACITY		500 VA	
Setting Reaction of the (1.00 or 99.99 Hz), 0.1 Hz (1.00 or 99.99 Hz), 0.1 Hz (1.00 or 99.99 Hz), 0.1 Hz (1.00 or 99.99 Hz), 0.02% of set = 4.0.02% of set = 4.0.02\% of se	FREQUENCY	Setting Range	AC Mode: 40.00 Hz to 999.9 Hz, AC+DC Mode: 1.00 Hz to 999.9 Hz	
Stability"         Concernation           0.0017PUT ON PMP2		Setting Resolution		
UDTPUT DN PHASE         0.0° to 33.9 ° variable (setting resolution 0.1°)           Viol to 35.9 ° variable (setting resolution 0.1°)         Within a 20 mV (TP)           Viol Viol Viol To 35.9 ° variable (setting resolution 0.1°)         Viol To 35.9 ° variable (setting resolution 0.1°)           Viol Viol Viol Viol Viol Viol Viol Viol				
DC OFSET         Within ± 20 mV (TYP)         Within ± 20 mV (TYP)           10 0V 120 Vitage         100 V 120 Vitage         100 V 120 Vitage         100 Vita		Stability <sup>*5</sup>		
<ul> <li>11.00 V (20) V ange</li> <li>12.00 V ange</li> <li>12.00 V ange</li> <li>12.00 V (30) V (30) V (10 V) (2.10 (30) V (10 (30) V (10</li></ul>				
12: For an output voltage of 11/s       10/s       13/s       14/s       16/s       16/s </th <th></th> <th></th> <th></th>				
44. With expector to the capacitor-input rectifying load. Uninitial by the maximum current.         5.4         5.6         5	*2. For an output voltage of 17.5 V t			
15: Sor 45: In the 16 of FH, the rate output voltage, no load and the resistance load for the maximum current, and the operating temperature. <ul> <li>(5) In the 16 of FH and Can order and output voltage stering 00 / (500 V to -500 V to -5</li></ul>				
*6. Interaces of the AC mode and output vollage setting to 0.         VOUTAGE       Setting Resplution Accuracy?         *7.00 UTAGE       Setting Resplution Accuracy?         *200 V       -250 V (-500 V (-500 V)         *4.00 V (-500 V)       -250 V (-500 V)         *5.07 A compatibility of the advance       -250 V (-500 V)         *7.07 A compatibility of the advance       -250 V (-500 V)         *1.00 V (200 V range)       -250 V (-500 V, -500 V, -5				
YOUTAGE       Setting Renge         Setting Renge       -250 V to -250 V / -500 V o         MAXIMUM CURRENT*       100 V         YOUTAGE       200 V         MAXIMUM PEAK CURRENT*       100 V         YOUTAGE       5.6 k         YOUTAGE       200 V         YOUTAGE       200 V 100				
Setting Resolution Accuracy"     0.1 V     0.6 V / 1.2 V)       MAXIMUM CURRENT"     100 V     20 A       100 V / 200 V / 200 V     20 A       100 V / 200 V / 200 V / 200 V to 500 V to 250 V / 200 V to 500 V.       100 V / 200 V / 220 V / 200 V to 250 V / 200 V to 500 V to 500 V to 500 V to 500 V to 250 V / 200 V to 500 V.       100 V / 200 V / 220 V / 200 V / 22 V to 200 V / 220 V 200 V to 500 V.       100 V / 200 V / 220 V / 200 V / 220 V / 200 V to 500 V.       100 V / 200 V / 220 V / 200 V / 220 V / 200 V to 500 V.       100 V / 200 V / 220 V / 200 V / 220 V / 200 V to 500 V.       100 V / 200 V / 220 V / 200 V / 220 V / 200 V to 500 V.       100 V / 200 V / 220	OUTPUT RATING FOR DC MC	DE		
Accuracy         4[0.5 % of Set[+ 0.6 V / 1.2 V)           MAXIMUM CURRENT <sup>3</sup> 100 V         5.5.           MAXIMUM PEAK CURRENT <sup>3</sup> 100 V         5.0.           MOVER CAPACITY         200 V         10.0.           V200 Y range         200 V         10.0.           2.6 For an opting hysing of .30 V to .50 V.         10.0.           3. For an opting voltage of 1.4 V to 100 V / 2.4 V to .200 V. Limited by the maximum current.         20.2% or less           OLDAD RECULATION <sup>11</sup> 0.15% (pd5 - 65Hz; 0.5% (pDC, all other frequencies (0 to 100%, via output terminal)           OLDAD RECULATION <sup>12</sup> 0.0.15% (pd5 - 65Hz; 0.5% (pDC, all other frequencies (0 to 100%, via output terminal)           OLDAD RECULATION <sup>12</sup> 0.15% or less         0.15% (pd5 - 65Hz; 0.5% (pDC, all other frequencies (0 to 100%, via output terminal)           OUTPUT VOLTACE STABILITY         0.0.7 Vmms / 1.4 Vmms (TrP)         0.15% or less         0.15% or less           OUTPUT VOLTACE WAREFORM IDISTORTION RATION         0.5 % or less         0.0.0 dig (TrP)         0.0.7 Vmms / 1.4 Vmms (TrP)           1.4 an output voltage of 50 V to 175 V / 100 V to 350 V, a load power factor of 1, with respect to at optic at on output voltage of 10 V / 100 V maximum current, and and AC-DC mode.         2.7 Or more           1.4 an output voltage of 50 V to 175 V / 100 V to 350 V / 100 V maximum current, and ad power factor of 1, wit	VOLTAGE	Setting Range <sup>*1</sup>		
MAXIMUM CURRENT       100 V       5.4         MAXIMUM PEAK CURRENT       100 V       20 A         MAXIMUM PEAK CURRENT       100 V       20 A         20 V       20 V       20 V         20 V       20 V       20 V       20 V         20 V       20 V       20 V       20 V         20 V       20 V       20 V       20 V         20 V       20 V       20 V       20 V         20 V       20 V       20 V       20 V         20 V       20 V       20 V       20 V         20 V       20 V       20 V       20 V       20 V         20 V       20 V       20 V       20 V       20 V       20 V         20 VDITUT VOLTACE WAVEFORM DISTORTION RATIO       0.00 V       20 V				
AXIMUM PEAK CURRENT*     200 V     2.5 Å       AXIMUM PEAK CURRENT*     100 V     20 Å       POWER CAPACITY     20 Å       1.100 V/200 V range     2.5 Å       2.5 for an output voltage of 14 V to .25 V, +25 V to -550 V, 1500 V to .500 V, no load, AC volatge setting 0V (AC+DC mode) and 23°C ± 5°C       3. For an output voltage of 14 V to 100 V/2.8 V to 200 V, Limited by the power capacity when the output voltage is 100 V to 250 V / 200 V to 500 V.       DUTPUT VOLTACE STABILITY     ±0.2% or less       DLOAD RECULATION*     ±0.2% or less       D.15% @v45 - 65Hz; 0.5% @DC, all other frequencies (0 to 100%, via output terminal)       0.7 Vmms / 1.4 Vmms (TVP)       14 Power source input voltage is 100 V to 250 V io 3500 V, all od power factor of 1, stepsies change from an output current of 0 A to maximum current/or its reverse), using the output terminal on the rear panel.       2017PUT VOLTAGE WAVEPORM DISTORTION RATIO, OUTPUT VOLTAGE RESPONSE TIME, EFFICIENCY       0017PUT VOLTAGE RESPONSET THE*     100 us (TYP)       27 for an output voltage of 100 V i 200 V, all oud power factor of 1, and in AC and AC+DC mode.       2.7 for an output voltage of 100 V i 200 V, all oud power factor of 1, and in AC and AC+DC mode.       2.7 for an output voltage of 100 V i 200 V, all oud power factor of 1, and in AC and AC+DC mode.       2.7 for an output voltage of 100 V i 200 V, all oud power factor of 1, and in AC and AC+DC mode.       2.7 for an output voltage of 100 V i 200 V, maximum current, and load power factor of 1 and ine wave on).       <				
MAXIMUM PEAK CURRENT*     100 V     20 Å       POWER CAPACITY     200 V     10 Å       POWER CAPACITY     20 Å     10 Å       100 V/200 V range     20 Å     10 Å       25 or an output voltage of 120 V to 250 V to 250 V to 500 V, 500 V to 500 V, 600 V to 500 V to 250 V / 200 V to 500 V.     400 V/200 V to 500 V       4. With a Sm., Limited by the maximum current.     50.2% or less     0.15% (#0.14 Vms) (TVP)       LINE RECULATION*     10.2% or less     0.15% (#0.14 Vms) (TVP)       1. Power source input voltage 15 100 V, 120 V or 230 V no load, red output.     0.1 Vms) (1.4 Vms) (TVP)       1. Power source input voltage 75 V1 D15/105 V 0 530 A ado power factor of 1, stepsise change from an output current of 0 A to maximum current(or its reverse), using the output terminal on the rear panel.       001TPUT VOLTAGE RWAPEORM DISTORTION RATIO.     0.5 % or less       100 UTPUT VOLTAGE RWAPEORM DISTORTION RATIO.     0.5 % or less       100 US (TYP)     70 % or income factor of 1, with a C and AC+DC mode.       2. For an output voltage of 100 V 120 V to 350 V a load power factor of 1, and in AC and AC+DC mode.       2. For an output voltage of 100 V 120 V as load power factor of 1, and in AC and AC+DC mode.       2. For an output voltage of 100 V 120 V a lead power factor of 1, and in AC and AC+DC mode.       2. For an output voltage of 100 V 120 V a lead power factor of 1, and in AC and AC+DC mode.       2. For an output voltage of 100 V 120 V a lead power factor of 1, and in AC and AC+DC mode. <th>MAXIMUM CURRENT<sup>33</sup></th> <th></th> <th></th>	MAXIMUM CURRENT <sup>33</sup>			
Notice Carl Carl V     10 A       SOURC CAPACITY     500 W       11.00 V/200 V range     500 W       2: For an output voltage of 14 V to 25 V, +25 V to +25 V to +50 V to 500 V, no load, AC voltage setting 0V (AC+DC mode) and 25°C ± 5°C       3: For an output voltage of 14 V to 100 V/2.8 V to 200 V, Limited by the power capacity when the output voltage is 100 V to 250 V / 200 V to 500 V.       DUTPUT VOLTACE STABILITY     ±0.2% or less       DLOAD RECULATION"     ±0.2% or less       D.15% @v45 - 65Hz; 0.5% @DC, all other frequencies (0 to 100%, via output terminal)       0.7 Vmms / 1.4 Vmms (TrP)     ±0.2% or less       1.5% Set 20 to 10 NC mode using the output.     ±0.7% or less       0.15% @v45 - 65Hz; 0.5% @DC, all other frequencies (0 to 100%, via output terminal)       0.7 Vmms / 1.4 Vmms (TrP)       2.16 Fast bit 10 ML componets in output set and the rear panel.       0.017U VOLTAGE WAVEFORM DISTORTION RATIO     0.5 % or less       0.017U VOLTAGE WAVEFORM DISTORTION RATIO     0.5 % or less       100 us (TrP)     70 % or more       *1. At an output voltage of 50 V to 175 V / 100 V to 350 V, a load power factor of 1, and in AC and AC+DC mode.       2. For an output voltage of 100 V / 28 V a load power factor of 1, and in AC and AC+DC mode.       2. For an output voltage of 100 V / 200 V, maxmum current, and load power factor of 1, and in sine wave onj.       WEXAULE OXALLED DISFLAV     0.1 V       FEFICIENCY"     100 V       VOLTAG	MAXIMUM PEAK CURRENT*4			
<ul> <li>1.100 V / 200 V range</li> <li>2. For an output voltage of 230 V to 250 V, +25 V to +250 V, -500 V, to 500 V, -500 V, +500 V, no load, AC voltage setting 0V (AC+DC mode) and 23°C ± 5°C.</li> <li>3. For an output voltage of 14 V to 100 V / 2.8 V to 200 V, Limited by the power capacity when the output voltage is 100 V to 250 V / 200 V to 500 V.</li> <li>4. With 5 ms, Limited by the maximum current.</li> <li>DUTPUT VOLTACE STABILITY</li> <li>1.100 A PECULATION"</li> <li>1.20% or less</li> <li>0.15% @ 45. 65Hz; 0.5% @ DC, all other frequencies (0 to 100%, via output terminal)</li> <li>0.7 Vims / 1.4 Vims (TVP)</li> <li>1.100 V / 200 V is 200 V, ioolad, rated output.</li> <li>2. For an output voltage of 510 V 120 V, or 230 V, no load, rated output.</li> <li>3. For 514 to 1 MHz components in DC mode using the output terminal on the rear panel.</li> <li>DUTPUT VOLTACE WAVEFORM DISTORTION RATIO</li> <li>0.5 % or less</li> <li>100 us (TYP)</li> <li>100 v (200 V a load power factor of 1 and in A cand AC+DC mode.</li> <li>101 us an output voltage of 100 V / 200 V a load power factor of 1 and in K and AC+DC mode.</li> <li>101 us (TXP)</li> <li>102 v (200 V a load power factor of 1 and in C and AC+DC mode.</li> <li>104 us output voltage of 100 V / 200 V a load power factor of 1 and in C and AC+DC mode.</li> <li>104 tat</li></ul>			10 A	
12: For an output voltage of 12: 40 to 250 V to 250 V to 500 V to 500 V to 500 V, 40 adage setting 0V (AC-DC mode) and 23°C ± 5°C.         3: For an output voltage of 14: 00 V (25 V to 200 V, Limited by the power capacity when the output voltage is 100 V to 250 V / 200 V to 500 V.         1URR RECULATION <sup>11</sup> ±0.2% or less         0.15% @45 - 651±2; 0.5% @DC, all other frequencies (0 to 100%, via output terminal)         0.15% @45 - 651±2; 0.5% @DC, all other frequencies (0 to 100%, via output terminal)         0.17% WTM 14: Vrms (T/P)         1.000 regords 10: 10, 120 V or 230 V no load, rited output.         2: For an output voltage of 510 V 120 V or 230 V no load, rited output.         3: For 51± to 1.01±2 C WAVEFORM DISTORTION RATIO, OUTPUT VOLTACE RESPONSE TIME.         0UTPUT VOLTACE RESPONSE TIME.         12: For an output voltage of 500 V 100 V to 350 V, a load power factor of 1, and in AC and AC+DC mode.         2: For an output voltage of 100 V / 200 V a load power factor of 1, with respect to stepwise change from an output current of 0 A to the maximum current (or its reverse); 10% – 90% of output voltage of 100 V / 200 V, a load power factor of 1, with respect to stepwise change from an output current of 0 A to the maximum current (or its reverse); 10% – 90% of output voltage of 100 V / 200 V, a load power factor of 1, with respect to stepwise change from an output current of 0 A to the maximum current (or its reverse); 10% – 90% of output voltage of 100 V / 200 V, a load power factor of 1, with respect to stepwise change from an output current of 0 A to the maximum current (or its reverse); 10% – 90% of output voltage of 100 V / 200 V, a load power factor of 1, with respec			500 W	
P3. For an output voltage of 1.4 V to 100 V / 2.3 V to 200 V. Limited by the power capacity when the output voltage is 100 V to 250 V / 200 V to 500 V. 44. Within Sm., United by the maximum current.          DUTPUT VOLTACE STABILITY       LINE RECULATION <sup>1</sup> ±0.2% or less         D.0.58 (% 0.4 S - 65Hz; 0.5% @DC, all other frequencies (0 to 100%, via output terminal)       0.15% @0.4 S - 65Hz; 0.5% @DC, all other frequencies (0 to 100%, via output terminal)         *1. Power source input voltage is 100 V, 120 V, or 230 V, no load, rated output.       2. 7 Vrms (TYP)         *1. Power source input voltage is 100 V, 120 V, or 230 V, no load, rated output.       0.15% @0.4 S - 65Hz; 0.5% @DC, all other frequencies (0 to 100%, via output terminal)         *1. For source input voltage of 37 V to T5V/150V to 350 V, a load power factor of 1, stepwise change from an output current of 0 A to maximum current (or its reverse), using the output terminal on the rear panel.         OUTPUT VOLTACE WAFEORM DISTORTION RATIO <sup>0</sup> 0.5 % or less         OUTPUT VOLTACE WAFEORM DISTORTION RATIO <sup>0</sup> 0.5 % or less         OUTPUT VOLTACE RESPONSE TIME <sup>9</sup> 0.5 % or less         OUTPUT VOLTACE RMS, AVC Value       Resolution         *1. At an output voltage of 100 V / 200 V, maximum current, and load power factor of 1 and sine wave only.         MEASURED VALUE DISPLAY       0.1 V         YOLTACE RMS, AVC Value       Resolution         Accuracy <sup>9</sup> For 45 Hz to 65 Hz and DC: ± (0.5 % of reading + 0.3 V/0.6 V) For 40 Hz to 999.9 Hz: ± (0.7 % of reading + 0.9 V/1.8 V		o 25 V + 25 V +o + 250 V	$\sqrt{500}$ V to 50 V to 50 V to 500 V to load AC values atting 0V (AC) DC model and $22^{9}$ C to 5°C	
DUTPUT VOLTAGE STABILITY         LINE RECULATION"         LOAD RECULATION"         LOAD RECULATION"         (1.5% @A5 - 65Hz, 0.5% @DC, all other frequencies (0 to 100%, via output terminal)         0.7 Vrms / 1.4 Vrms (TYP)         1. Power source input voltage is 100 V, 120 V, or 230 V, no load, rated output.         2. For an output voltage of 75 V to 175V)150V to 350V a load power factor of 1, stepies change from an output current of 0 A to maximum current(or its reverse), using the output terminal on the rear panel.         DUTPUT VOLTAGE WAVEFORM DISTORTION RATIO"       0.5 % or less         100 us (TYP)       100 us (TYP)         70 from output voltage of 100 V / 200 V, a load power factor of 1, and in AC and AC+DC mode.       100 us (TYP)         71. At an output voltage of 100 V / 200 V, a load power factor of 1, and in exan dAC+DC mode.       100 us (TYP)         71. At an output voltage of 100 V / 200 V, a load power factor of 1, and in AC and AC+DC mode.       100 us (TYP)         72. For an output voltage of 100 V / 200 V, a load power factor of 1 and sine wave only.       MEASURED VALUE DISPLAY         VOLTAGE RMS, AVG Value       Resolution Accuracy"       0.1 V         74 Corde, 200 V       POWER       Resolution Accuracy"       0.1 V         74 Corde, 200 V       For 45 Hz to 65 Hz and DC: ±(0.5 % of reading + 0.3 V/0.6 V)For 40 Hz to 999.9 Hz: ±(0.7 % of reading + 0.9 V/1.8 V         70 CURRENT RMS, AVG Value <td< th=""><th></th><th></th><th></th></td<>				
LINE REGULATION"       ±0.2% or less         LOAD REGULATION"       .15% @45 - 65 Hz; 0.5% @DC, all other frequencies (0 to 100%, via output terminal)         RIPLE NOISE"       .0.1% @45 - 65 Hz; 0.5% @DC, all other frequencies (0 to 100%, via output terminal)         91. Power source input voltage is 100 V, 120 V, or 230 V, no load, rated output.       .0.7 Wms (TVP)         91. Power source input voltage is 100 V, 120 V, or 230 V, no load, rated output.       .0.7 Wms (TVP)         91. Power source input voltage of 75 V to 175 V/150/V to 350 V, a load power factor of 1, stepwise change from an output current of 0 A to maximum current(or its reverse), using the output terminal on the rear panel.         OUTPUT VOLTAGE WAVEFORM DISTORTION RATIO, OUTPUT VOLTAGE RESPONSE TIME"       100 V is 50 V is 050 V a load power factor of 1, and in AC and AC+DC mode.         92. For AC mode, at an output voltage of 100 V / 200 V, maximum current, and load power factor of 1 and in de and and power factor of 1 and in de and output current of 0 A to the maximum current (or its reverse); 10% - 90% of output voltage of 100 V / 200 V, maximum current, and load power factor of 1 and in eave only.         WEASURED VALUE DISPLAY       VOLTAGE RMS, AVG Value"       Resolution Accuracy"         PEAK Value       Resolution Accuracy"       0.1 V         Accuracy       For 45 Hz to 65 Hz and DC: ± (0.5 % of reading + 0.3 V/0.6 V)For 40 Hz to 999.9 Hz: ± (0.7 % of reading + 0.9 V/1.8 V         POWER       Active (W)       Resolution Accuracy"       0.1 V       For 45 Hz to 65 Hz and DC: ± (0.5	*4. Within 5 ms, Limited by the ma	kimum current.		
LOAD REGULATION"       0.15% @45.65Hz; 0.5% @DC, all other frequencies (0 to 100%, via output terminal)         RIPPLE NOISE"       0.7 Vrms / 1.4 Vrms (TYP)         9. Power source input voltage is 100 V. 120 V, or 230 V, no load, rated output.       0.7 Vrms / 1.4 Vrms (TYP)         9. Power source input voltage is 100 V. 120 V, or 230 V, no load, rated output.       0.7 Vrms / 1.4 Vrms (TYP)         9. Power source input voltage is 100 V. 120 V, or 230 V, no load, rated output.       0.7 Vrms / 1.4 Vrms (TYP)         9. OUTPUT VOLTACE WAVEFORM DISTORTION RATIO"       0.5 % or less         100 us (TYP)       100 vs (TYP)         PEFICIENCY"       0.5 % or less         100 us (TYP)       100 V voltace wave only.         2. For an output voltage of 100 V / 200 V, a load power factor of 1, and in AC and AC=DC mode.         2. For an output voltage of 100 V / 200 V, a load power factor of 1, and in AC and AC=DC mode.         2. For an output voltage of 100 V / 200 V, a load power factor of 1, and in AC and AC=DC mode.         2. For an output voltage of 100 V / 200 V, a load power factor of 1 and in Ke and wave only.         WEASURED VALUE DISPLAY         Voltage RMS, AVG Value"       Resolution         Accuracy"       Accuracy"         For 45 Hz to 65 Hz and DC: $\pm (0.5 % of reading + 0.3 V/0.6 V)For 40 Hz to 999.9 Hz: \pm (0.7 \% of reading + 0.9 V/1.8 V         VDUTACE RMS, AVG Value       Resolution       0.1 V      <$				
RIPPLE NOISE"       0.7 Vrms / 1.4 Vrms (TYP)         11. Power source input voltage is 100 V, 120 V, or 230 V, no load, rated output.         2. For an output voltage of 37 V voltage of 30 V voltage of 30 V voltage of 30 V voltage of 30 V voltage of 100 V / 200 V, aximum current, and load power factor of 1, and in AC and AC+DC mode.         2. For an output voltage of 100 V / 200 V, aximum current, and load power factor of 1, and in AC and AC+DC mode.         2. For an output voltage of 100 V / 200 V, aximum current, and load power factor of 1 and sine wave only.         MEASURED VALUE DISPLAY         VOLTAGE RMS, AVC Value"       Resolution Accurracy"         PEAK Value       Resolution Accurracy"         PEAK Value       Resolution Accurracy"         PEAK Value       Resolution Accurracy"         Accurracy"       For 45 Hz to 65 Hz and DC: ±(0.5 % of reading + 0.3 V/0.6 V)For 40 Hz to 999.9 Hz: ±(0.7 % of reading + 0.9 V/1.8 V         POWER       Active (W)       Resolution Accurracy"       Accurracy"         Accurracy"       For 45 Hz to 65 Hz and DC: ±(0.5 % of reading + 0.3 V/0.6 V)For 40 Hz to 999.9 Hz: ±(0.7 % of reading + 0.9 V/1.8 V         POWER       <				
II. Power source input voltage is 100 V, 120 V, or 230 V, no load, rated output:       II. rated output:         12. For an output voltage of 75 V to 175V/150V to 350V, a load power factor of 1, stepwise change from an output current of 0 A to maximum current(or its reverse), using the output terminal on the rear panel.         DUTPUT VOLTAGE WAVEFORM DISTORTION RATIO"       0.5 % or less         OUTPUT VOLTAGE WAVEFORM DISTORTION RATIO"       0.5 % or less         OUTPUT VoltaGE WAVEFORM DISTORTION RATIO"       0.5 % or less         OUTPUT VoltaGE WAVEFORM DISTORTION RATIO"       0.5 % or less         OUTPUT VoltaGE WAVEFORM DISTORTION RATIO"       0.5 % or less         OUTPUT VoltaGE BAVEFORM DISTORTION RATIO"       0.5 % or less         OUTPUT VoltaGE RASPONSE TIME"       0.5 % or less         Value voltage of 50 V to 175 V / 100 V to 350 V, a load power factor of 1, and in AC and AC+DC mode.       90% of output voltage         2. For an output voltage of 100 V / 200 V, maximum current, and load power factor of 1 and sine wave only.       90% of output voltage         MEASURED VALUE DISPLAY       VOLTAGE RMS, AVG Value"       Resolution         Accurracy"       For 45 Hz to 65 Hz and DC: ±(0.5 % of reading + 0.3 V/0.6 V) For 40 Hz to 999.9 Hz: ±(0.7 % of reading + 0.9 V/1.8 V         CURRENT RMS, AVG Value       Resolution       0.1 V         For 45 Hz to 65 Hz and DC: ±(0.5 % of reading + 0.3 V/0.6 V) For 40 Hz to 999.9 Hz: ±(0.7 % of reading + 0.5 V/0       0.1 A				
12: For an output voltage of 75 V to 175V/150V to 350V, a load power factor of 1, stepwise change from an output current of 0 A to maximum current(or its reverse), using the output terminal on the rear panel.         OUTPUT VOLTAGE WAVEFORM DISTORTION RATIO OUTPUT VOLTAGE RESPONSE TIME <sup>2*</sup> 0.5 % or less 100 us (TYP)         PEFICIENCY <sup>2</sup> 0.5 % or less 100 us (TYP)         ***       1.4 an output voltage of 100 V / 200 V, a load power factor of 1, and in AC and AC+DC mode.         **2. For an output voltage of 100 V / 200 V, a load power factor of 1, and in AC and AC+DC mode.         **3. For AC mode at an output voltage of 100 V / 200 V, a load power factor of 1, and in AC and AC+DC mode.         **3. For AC mode at an output voltage of 100 V / 200 V, a load power factor of 1 and in AC and AC+DC mode.         **1. At an output voltage of 100 V / 200 V, a load power factor of 1, with respect to stepwise change from an output current of 0 A to the maximum current (or its reverse); 10% ~ 90% of output voltage **1. At an output voltage of 100 V / 200 V, a load power factor of 1 and in AC and AC+DC mode.         **2. For an output voltage of 100 V / 200 V, maximum current, and load power factor of 1 and in wave only.       0.1 V         FOR AC mode at an output voltage of 100 V / 200 V / 200 V, maximum current, and load power factor of 1 and in AC and AC+DC mode.       0.1 V         FOR AC mode at an output voltage of 100 V / 200 V, maximum current, and load power factor of 1 and in the rear panel.       0.1 V         FOR AC mode at an output voltage of 100 V / 200 V / 200 V / 200 V, maximum current, and load power factor of 1 an dingen + 0		0.1.120.1		
P3. For S Hz to 1 MHz components in DC mode using the output terminal on the rear panel.         OUTPUT VOLTAGE WAVEFORM DISTORTION RATIO"       0.5 % or less         0UTPUT VOLTAGE RESPONSE TIME?       100 us (TYP)         70 motion using the output voltage of 50 V to 75 V / 100 V to 330 V, a load power factor of 1, and in AC and AC+DC mode.       P2.         2. For an output voltage of 100 V / 200 V, a load power factor of 1, with respect to stepwise change from an output current of 0 A to the maximum current (or its reverse); 10% – 90% of output voltage       90% of output voltage         2. For an output voltage of 100 V / 200 V, a load power factor of 1 and in AC and AC+DC mode.       P2.       P3. For AC mode, at an output voltage of 100 V / 200 V, maximum current, and load power factor of 1 and sine wave only.         MEASURED VALUE DISPLAY         VOLTAGE RESPONSE TIME?         VOLTAGE Response maximum current for 45 Hz to 65 Hz and DC: ±(0.5 % of reading + 0.3 V/0.6 V)For 40 Hz to 999.9 Hz: ±(0.7 % of reading + 0.9 V/1.8 V         MEASURED VALUE DISPLAY         VOLTAGE RESPONSE TIME?         VALUE OF DISPLAY         VALUE OF DISPLAY         VOLTAGE RESPONSE TIME (SUP)         PEAK Value       Resolution Accuracy"       0.1 V         Accuracy "       For 45 Hz to 65 Hz and DC: ±(0.5 % of reading + 0.2 A/0.0 A)         OUTA <td colsp<="" th=""><th></th><th></th><th></th></td>	<th></th> <th></th> <th></th>			
OUTPUT VOLTAGE WAVEFORM DISTORTION RATIO"       0.5 % or less 100 us (TYP) 70 % or more         H. At an output voltage of 50 V to 175 V / 100 V to 350 V, a load power factor of 1, and in AC and AC+DC mode.         *2. For an output voltage of 100 V / 200 V, a load power factor of 1, with respect to stepwise change from an output voltage of 100 V / 200 V, maximum current, and load power factor of 1 and sine wave only.         MEASURED VALUE DISPLAY         VOLTAGE RMS, AVG Value       Resolution Accuracy"         PEAK Value       Resolution Accuracy         POWER       Resolution Accuracy"         PEAK Value       Resolution Accuracy"         POWER       Active (W) Accuracy"         POWER       Active (W) Accuracy"         Resolution Accuracy"       0.1 / For 45 Hz to 65 Hz and DC: ±([2 % of reading+0.02 A/0.02 A); For 40 Hz to 999.9 Hz: ±(0.7 % of reading + 0.02 A/0.02 A); For 40 Hz to 999.9 Hz: ±(0.7 % of reading + 0.04 A / 0.04 A)         POWER       Active (W) Resolution Accuracy"       Resolution Accuracy"         Resolution Accuracy"       0.1 / For 45 Hz to 65 Hz and DC: ±([2 % of reading]+0.2 A/0.1 A)         0.1 / For 45 Hz to 65 Hz and DC: ±(2 % of reading]+0.2 A/0.1 A)       0.1 / 1 W         POWER       Active (WA) Resolution Accuracy"*       Corracy"*         Resolution Accuracy"*       0.1 / 4(2 % of reading + 0.5 W)       0.1 / 1 WR         4(2 % of reading + 0.5 VA)       0.1 / 1 VA ±(2 % of reading + 0.5 V	*3. For 5 Hz to 1 MHz components	in DC mode using the ou	itput terminal on the rear panel.	
OUTPUT VOLTAGE RESPONSE TIME"     100 us (TYP) 70% or more       #1. At an output voltage of 50 V to 175 V / 100 V to 350 V, a load power factor of 1, and in AC and AC+DC mode.       2: For an output voltage of 100 V / 200 V, a load power factor of 1, with respect to stepwise change from an output current of 0 A to the maximum current (or its reverse); 10% – 90% of output voltage 3. For AC mode, at an output voltage of 100 V / 200 V, maximum current, and load power factor of 1 and sine wave only.       MEASURED VALUE DISPLAY     VOLTAGE RMS, AVG Value"     Resolution Accuracy"     0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % of reading + 0.3 V/0.6 V) For 40 Hz to 999.9 Hz: ±(0.7 % of reading + 0.9 V/1.8 V 0.1 V       VOLTAGE RMS, AVG Value     Resolution Accuracy"     0.1 V For 45 Hz to 65 Hz and DC: ±(0.5 % of reading + 1 V / 2 V)       CURRENT RMS, AVG Value     Resolution Accuracy"     0.1 A For 45 Hz to 65 Hz and DC: ±(0.5 % of reading + 0.02 A/0.02 A); For 40 Hz to 999.9 Hz: ±(0.7 % of reading + 0.04 A / 0.04 A)       POWER Active (W)     Resolution Accuracy"     0.1 / For 45 Hz to 65 Hz and DC: ±(2 % of reading + 0.2 A/0.1 A)       POWER Apparent (VA)     Resolution Accuracy"*     0.1 / 1 W 42(% of reading + 0.5 VA)       Apparent (VA)     Resolution Accuracy"*     0.1 / 1 VA 42(% of reading + 0.5 VA)       Accuracy"**     +2(2 % of reading + 0.5 VA) Accuracy"**     0.1 / 1 VA ±(2 % of reading + 0.5 VA)       LOAD POWER     Range     0.000 to 1.000 0.001     0.001				
EFFICIENCY"       70 % or more         *1. At an output voltage of 50 V to 175 V / 100 V to 350 V, a load power factor of 1, and in AC and AC+DC mode.       *2. For an output voltage of 100 V / 200 V, a load power factor of 1, with respect to stepwise change from an output current of 0 A to the maximum current (or its reverse); 10% ~ 90% of output voltage         3. For AC mode, at an output voltage of 100 V / 200 V, a load power factor of 1, with respect to stepwise change from an output current of 0 A to the maximum current (or its reverse); 10% ~ 90% of output voltage         MEASURED VALUE DISPLAY       VOLTAGE RMS, AVG Value"       Resolution Accuracy"       0.1 V         PEAK Value       Resolution Accuracy       0.1 V       For 45 Hz to 65 Hz and DC: ± (0.5 % of reading + 0.3 V/0.6 V) For 40 Hz to 999.9 Hz: ± (0.7 % of reading + 0.9 V/1.8 V         CURRENT RMS, AVG Value       Resolution Accuracy       0.1 V       For 45 Hz to 65 Hz and DC: ± (12 % of reading + 1 V / 2 V)         CURRENT RMS, AVG Value       Resolution Accuracy"       0.1 A       For 45 Hz to 65 Hz and DC: ± (12 % of reading + 0.2 A/0.02 A);         For 45 Hz to 65 Hz and DC: ± (12 % of reading + 0.2 A/0.02 A);       For 45 Hz to 65 Hz and DC: ± (12 % of reading + 0.2 A/0.01 A)         POWER Active (W)       Resolution Accuracy"       0.1 / 1 W         Accuracy"       4(2 % of reading + 0.5 W)       0.1 / 1 VA         Apparent (VA)       Resolution 0.1 / 1 VA       4(2 % of reading + 0.5 VA)         Accuracy"       ± (2 % of reading				
*1. At an output voltage of 50 V to 175 V / 100 V to 350 V, a load power factor of 1, and in AC and AC+DC mode.         *2. For an output voltage of 100 V / 200 V, a load power factor of 1, with respect to stepwise change from an output current of 0 A to the maximum current (or its reverse); 10% - 90% of output voltage         *3. For AC mode, at an output voltage of 100 V / 200 V, maximum current, and load power factor of 1 and sine wave only.         MEASURED VALUE DISPLAY         VOLTAGE RMS, AVG Value <sup>*1</sup> Resolution Accuracy <sup>*2</sup> 0.1 V         For 45 Hz to 65 Hz and DC: ±(0.5 % of reading + 0.3 V/0.6 V) For 40 Hz to 999.9 Hz: ±(0.7 % of reading + 0.9 V/1.8 V         0.1 V       For 45 Hz to 65 Hz and DC: ±(0.5 % of reading) + 1 V / 2 V)         CURRENT RMS, AVG Value       Resolution Accuracy <sup>*3</sup> 0.1 V         For 45 Hz to 65 Hz and DC: ±(0.5 % of reading) + 1 V / 2 V)       0.1 A         For 45 Hz to 65 Hz and DC: ±(0.5 % of reading) + 0.02 A/0.02 A);       For 45 Hz to 65 Hz and DC: ±(0.7 % of reading) + 0.04 A / 0.04 A)         0.1 A       For 45 Hz to 65 Hz and DC: ±(12 % of reading) + 0.2 A/0.1 A)       0.1 A         POWER Active (W)       Resolution Accuracy <sup>***</sup> 0.1 / 1 W         4(2 % of reading + 0.5 W)       0.1 / 1 VA       ±(2 % of reading + 0.5 W)         Apparent (VA)       Resolution Resolution       0.1 / 1 VA         4(2 % of reading + 0.5 VA)       0.1 / 1 VA       ±(2 % of reading + 0.5 VA)         0.1 / 1 VAR		E l'IME '		
V2: For an output voltage of 100 V / 200 V, a load power factor of 1, with respect to stepwise change from an output current of 0 A to the maximum current (or its reverse); 10% – 90% of output voltage         WEASURED VALUE DISPLAY         VOLTAGE       RMS, AVG Value <sup>1</sup> Resolution Accuracy <sup>12</sup> 0.1 V         PEAK Value       Resolution Accuracy       0.1 V       For 45 Hz to 65 Hz and DC: ±(0.5 % of reading + 0.3 V/0.6 V)For 40 Hz to 999.9 Hz: ±(0.7 % of reading + 0.9 V/1.8 V         CURRENT       RMS, AVG Value       Resolution Accuracy       0.1 V         PEAK Value       Resolution Accuracy       0.1 V         For 45 Hz to 65 Hz and DC: ±(12 % of reading + 1 V / 2 V)       0.1 A         For 45 Hz to 65 Hz and DC: ±(12 % of reading + 0.02 A/0.02 A);       For 45 Hz to 65 Hz and DC: ±(12 % of reading + 0.2 A/0.01 A)         PEAK Value       Resolution Accuracy <sup>14</sup> 0.1 A         For 45 Hz to 65 Hz and DC: ±(12 % of reading + 0.2 A/0.02 A);       For 45 Hz to 65 Hz and DC: ±(12 % of reading + 0.2 A/0.1 A)         POWER       Accuracy <sup>14</sup> For 45 Hz to 65 Hz and DC: ±(12 % of reading + 0.2 A/0.1 A)         Apparent (VA)       Resolution Accuracy <sup>14</sup> 0.1 / 1 W         Accuracy <sup>14</sup> ±(2 % of reading + 0.5 VA)       0.1 / 1 VA         Accuracy <sup>14</sup> ±(2 % of reading + 0.5 VA)       0.1 / 1 VA         Accuracy <sup>14</sup> ±(2 % of reading + 0.5 VA)       0.1 / 1 VA				
<ul> <li>*3. For AC mode, at an output voltage of 100 V / 200 V, maximum current, and load power factor of 1 and sine wave only.</li> <li>MEASURED VALUE DISPLAY</li> <li>VOLTAGE RMS, AVG Value<sup>**</sup> Resolution Accuracy<sup>**</sup> For 45 Hz to 65 Hz and DC: ± (0.5 % of reading + 0.3 V/0.6 V) For 40 Hz to 999.9 Hz: ± (0.7 % of reading + 0.9 V/1.8 V 0.1 V For 45 Hz to 65 Hz and DC: ± (12 % of reading + 1 V / 2 V)</li> <li>CURRENT RMS, AVG Value Resolution Accuracy<sup>**</sup> For 45 Hz to 65 Hz and DC: ± (0.5 % of reading + 1 V / 2 V)</li> <li>CURRENT RMS, AVG Value Resolution Accuracy<sup>**</sup> For 45 Hz to 65 Hz and DC: ± (0.5 % of reading + 0.02 A/0.02 A); For 40 Hz to 999.9 Hz: ± (0.7 % of reading + 0.04 A / 0.04 A)</li> <li>O.1 A Accuracy<sup>**</sup> For 45 Hz to 65 Hz and DC: ± (0.5 % of reading + 0.02 A/0.02 A); For 40 Hz to 999.9 Hz: ± (0.7 % of reading + 0.04 A / 0.04 A)</li> <li>O.1 A Accuracy<sup>**</sup> For 45 Hz to 65 Hz and DC: ± (12 % of reading + 0.02 A/0.02 A); For 40 Hz to 999.9 Hz: ± (0.7 % of reading + 0.04 A / 0.04 A)</li> <li>O.1 A Accuracy<sup>**</sup> For 45 Hz to 65 Hz and DC: ± (12 % of reading + 0.04 A / 0.04 A)</li> <li>O.1 A Accuracy<sup>**</sup> For 45 Hz to 65 Hz and DC: ± (12 % of reading + 0.02 A/0.1 A)</li> <li>POWER Active (W) Resolution Accuracy<sup>**</sup> ± (2 % of reading + 0.5 W)</li> <li>Apparent (VA) Resolution Accuracy<sup>***</sup> ± (2 % of reading + 0.5 VA)</li> <li>I / 1 VA Accuracy<sup>***</sup> ± (2 % of reading + 0.5 VA)</li> <li>I / 1 VA Accuracy<sup>***</sup> ± (2 % of reading + 0.5 VAR)</li> <li>IOAD POWER FACTOR Range</li> <li>IOAD to 50.00</li> </ul>				
VOLTAGERMS, AVG ValueResolution Accuracy $0.1 \vee$ For 45 Hz to 65 Hz and DC: $\pm (0.5 \% \text{ of reading} + 0.3 \vee 0.6 \vee)$ For 40 Hz to 999.9 Hz: $\pm (0.7 \% \text{ of reading} + 0.9 \vee 1.8 \vee$ $0.1 \vee$ For 45 Hz to 65 Hz and DC: $\pm (12 \% \text{ of reading} + 1 \vee 1/2 \vee)$ CURRENTRMS, AVG ValueResolution Accuracy $0.1 \vee$ For 45 Hz to 65 Hz and DC: $\pm (12 \% \text{ of reading} + 0.02 A/0.02 A);$ For 40 Hz to 999.9 Hz: $\pm (0.7 \% \text{ of reading} + 0.04 A / 0.04 A)$ POWERActive (W)Resolution Accuracy $0.1 \vee$ For 45 Hz to 65 Hz and DC: $\pm (12 \% \text{ of reading} + 0.02 A/0.02 A);$ For 40 Hz to 999.9 Hz: $\pm (0.7 \% \text{ of reading} + 0.04 A / 0.04 A)$ POWERActive (W)Resolution Accuracy $0.1 / 1 W$ $\pm (2 \% \text{ of reading} + 0.5 W)$ Apparent (VA)Resolution Resolution Accuracy $0.1 / 1 W$ $\pm (2 \% \text{ of reading} + 0.5 VA)$ LOAD POWER FACTORRange Resolution $0.001$ $0.001$ LOAD CREST FACTORRange Range $0.00 \text{ to } 50.00$				
Accuracy**For 45 Hz to 65 Hz and DC: $\pm (0.5 \% \text{ of reading} + 0.3 V/0.6 V)$ For 40 Hz to 999.9 Hz: $\pm (0.7 \% \text{ of reading} + 0.9 V/1.8 V$ PEAK ValueResolution Accuracy**O.1 VFor 45 Hz to 65 Hz and DC: $\pm ( 2 \% \text{ of reading}  + 1 V / 2 V)$ O.01 ACURRENTRMS, AVG ValueResolution Accuracy**O.01 APEAK ValueResolution Accuracy**O.01 APEAK ValueResolution Accuracy**O.1 APOWERActive (W)Resolution Accuracy**O.1 / 1 WAccuracy**For 45 Hz to 65 Hz and DC: $\pm ( 2 \% \text{ of reading} +0.2 A/0.1 A)$ POWERActive (W)Resolution Accuracy**O.1 / 1 WAccuracy** $\pm (2 \% \text{ of reading} + 0.5 VA)$ Accuracy** $\pm (2 \% \text{ of reading} + 0.5 VA)$ Accuracy*** $\pm (2 \% \text{ of reading} + 0.5 VA)$ Accuracy*** $\pm (2 \% \text{ of reading} + 0.5 VA)$ Accuracy*** $\pm (2 \% \text{ of reading} + 0.5 VA)$ Accuracy*** $\pm (2 \% \text{ of reading} + 0.5 VA)$ Accuracy*** $\pm (2 \% \text{ of reading} + 0.5 VA)$ Accuracy*** $\pm (2 \% \text{ of reading} + 0.5 VA)$ Accuracy*** $\pm (2 \% \text{ of reading} + 0.5 VA)$ Accuracy*** $\pm (2 \% \text{ of reading} + 0.5 VAR)$ LOAD POWER FACTORRange0.000 to 1.000Acouracy**** $\pm (2 \% \text{ of reading} + 0.5 VAR)$ LOAD CREST FACTORRange0.00 to 50.00	MEASURED VALUE DISPLAY			
PEAK Value       Resolution Accuracy       0.1 V         For 45 Hz to 65 Hz and DC: ±( 2 % of reading  + 1 V / 2 V)         CURRENT       RMS, AVG Value       Resolution Accuracy <sup>13</sup> 0.01 A         For 45 Hz to 65 Hz and DC: ±(0.5 % of reading+0.02 A/0.02 A); For 40 Hz to 999.9 Hz:±(0.7 % of reading + 0.04 A / 0.04 A)       0.1 A         PEAK Value       Resolution Accuracy <sup>14</sup> For 45 Hz to 65 Hz and DC:±(0.2 % of reading+0.02 A/0.02 A); For 40 Hz to 999.9 Hz:±(0.7 % of reading + 0.04 A / 0.04 A)         POWER       Active (W)       Resolution Accuracy <sup>15</sup> 0.1 / 1 W         4(2 % of reading + 0.5 W)       0.1 / 1 W         4(2 % of reading + 0.5 W)       0.1 / 1 VA         Accuracy <sup>1556</sup> ±(2 % of reading + 0.5 VA)         Resolution Accuracy <sup>1576</sup> ±(2 % of reading + 0.5 VA)         Resolution Accuracy <sup>1576</sup> ±(2 % of reading + 0.5 VA)         LOAD POWER FACTOR       Range       0.000 to 1.000 0.001         LOAD CREST FACTOR       Range       0.000 to 50.00	VOLTAGE RMS, AVG Value*1	Resolution	0.1 V	
CURRENTRMS, AVC ValueAccuracyFor 45 Hz to 65 Hz and DC: $\pm ( 2 \% of reading  + 1 V / 2 V)$ CURRENTRMS, AVC ValueResolution Accuracy**0.01 A For 45 Hz to 65 Hz and DC: $\pm (0.5 \% of reading+0.02 A/0.02 A);$ For 40 Hz to 999.9 Hz: $\pm (0.7 \% of reading + 0.04 A / 0.04 A)$ 0.1 APOWERActive (W)Resolution Accuracy**0.1 A For 45 Hz to 65 Hz and DC: $\pm ( 2 \% of reading +0.2 A/0.1 A)$ POWERActive (W)Resolution Accuracy**0.1 / 1 W $\pm (2 \% of reading + 0.5 W)$ Apparent (VA)Resolution Resolution Accuracy***0.1 / 1 VA $\pm (2 \% of reading + 0.5 VA)$ 0.1 / 1 VALOAD POWER FACTORRange Resolution Accuracy0.000 to 1.000 0.001 0.001LOAD CREST FACTORRange0.000 to 50.00		•	For 45 Hz to 65 Hz and DC: $\pm$ (0.5 % of reading + 0.3 V/0.6 V)For 40 Hz to 999.9 Hz: $\pm$ (0.7 % of reading + 0.9 V/1.8 V)	
CURRENT RMS, AVG ValueResolution Accuracy**PEAK ValueResolution Accuracy**0.01 A For 45 Hz to 65 Hz and DC: $\pm$ (0.5 % of reading+0.02 A/0.02 A); For 40 Hz to 999.9 Hz: $\pm$ (0.7 % of reading+0.04 A / 0.04 A) 0.1 A For 45 Hz to 65 Hz and DC: $\pm$ ([2 % of reading]+0.2 A/0.1 A)POWERActive (W)Resolution Accuracy**0.1 / 1 W $\pm$ (2 % of reading + 0.5 W) 0.1 / 1 VAApparent (VA)Resolution Accuracy***0.1 / 1 VA $\pm$ (2 % of reading + 0.5 VA) 0.1 / 1 VAReactive (VAR)Resolution Accuracy****0.1 / 1 VA $\pm$ (2 % of reading + 0.5 VA) 0.1 / 1 VALOAD POWER FACTORRange Range0.000 to 1.000 0.001 0.001	PEAK Value			
Accuracy'3For 45 Hz to 65 Hz and DC: $\pm$ (0.5 % of reading+0.02 A/0.02 A); For 40 Hz to 999.9 Hz: $\pm$ (0.7 % of reading+0.02 A/0.02 A); For 40 Hz to 999.9 Hz: $\pm$ (0.7 % of reading+0.04 A / 0.04 A) 0.1 APOWERAccuracy'4For 45 Hz to 65 Hz and DC: $\pm$ ([2 % of reading]+0.2 A/0.1 A)POWERActive (W)Resolution Accuracy'50.1 / 1 W $\pm$ (2 % of reading + 0.5 W)Apparent (VA)Resolution Accuracy'5**0.1 / 1 VA $\pm$ (2 % of reading + 0.5 VA)Reactive (VAR)Resolution Accuracy'5**0.1 / 1 VA $\pm$ (2 % of reading + 0.5 VA)LOAD POWER FACTORRange Range0.000 to 1.000 0.001 0.001LOAD CREST FACTORRange0.00 to 50.00	CURRENT PLAS AND A	•		
PEAK ValueResolution Accuracy**For 40 Hz to 999.9 Hz: $\pm (0.7 \% \text{ of reading} + 0.04 \text{ A} / 0.04 \text{ A})$ POWERActive (W)Resolution Accuracy**0.1 APOWERActive (W)Resolution Accuracy**0.1 / 1 WApparent (VA)Resolution Accuracy***0.1 / 1 VAReactive (VAR)Resolution Resolution Accuracy***0.1 / 1 VALOAD POWER FACTORRange Resolution Accuracy0.000 to 1.000 0.001LOAD CREST FACTORRange0.00 to 50.00	CORRENT RMS, AVG Value			
PEAK Value     Resolution Accuracy <sup>54</sup> 0.1 A       POWER     Active (W)     Resolution Accuracy <sup>55</sup> 0.1 / 1 W       Active (W)     Resolution Accuracy <sup>55</sup> 0.1 / 1 W       Active (WA)     Resolution Resolution     0.1 / 1 VA       Reactive (VAR)     Resolution Resolution     0.1 / 1 VA       LOAD POWER FACTOR     Range     0.000 to 1.000       LOAD CREST FACTOR     Range     0.00 to 50.00		Accuracy		
Accuracy <sup>*4</sup> For 45 Hz to 65 Hz and DC:±( 2 % of reading +0.2 A/0.1 A)       POWER     Active (W)     Resolution Accuracy <sup>*5</sup> 0.1 / 1 W       Apparent (VA)     Resolution Accuracy <sup>*5*</sup> 0.1 / 1 VA       Reactive (VAR)     Resolution Accuracy <sup>*5*</sup> 1/ 2 % of reading + 0.5 VA)       LOAD POWER FACTOR     Range Resolution Accuracy <sup>*5*</sup> 0.000 to 1.000       LOAD CREST FACTOR     Range     0.00 to 50.00	PEAK Value	Resolution		
Accuracy $\pm (2 \% \text{ of reading } + 0.5 \text{ W})$ Apparent (VA)Resolution $0.1 / 1 \text{ VA}$ Accuracy $\pm (2 \% \text{ of reading } + 0.5 \text{ VA})$ Reactive (VAR)Resolution $0.1 / 1 \text{ VA}$ Accuracy $\pm (2 \% \text{ of reading } + 0.5 \text{ VA})$ Reactive (VAR)Resolution $0.1 / 1 \text{ VAR}$ Accuracy $\pm (2 \% \text{ of reading } + 0.5 \text{ VAR})$ LOAD POWER FACTORRange $0.000 \text{ to } 1.000$ LOAD CREST FACTORRange $0.00 \text{ to } 50.00$				
Apparent (VA)         Resolution         0.1 / 1 VA           Accuracy <sup>556</sup> ± (2 % of reading + 0.5 VA)           Resolution         0.1 / 1 VA           Accuracy <sup>557</sup> ± (2 % of reading + 0.5 VA)           LOAD POWER FACTOR         Range           Resolution         0.00 to 1.000           LOAD CREST FACTOR         Range           0.00 to 50.00	POWER Active (W)			
Accuracy         ± (2 % of reading + 0.5 VA)           Reactive (VAR)         Accuracy         0.1 / 1 VAR           Accuracy         ± (2 % of reading + 0.5 VA)         0.1 / 1 VAR           LOAD POWER FACTOR         Range         0.000 to 1.000           Resolution         0.001         0.001           LOAD CREST FACTOR         Range         0.00 to 50.00		•		
Reactive (VAR)         Resolution         0.1 / 1 VAR           Accuracy <sup>*57</sup> ± (2 % of reading + 0.5 VAR)           LOAD POWER FACTOR         Range         0.000 to 1.000           Resolution         0.001           LOAD CREST FACTOR         Range         0.00 to 50.00	Apparent (VA)			
Accuracy         ± (2 % of reading + 0.5 VAR)           LOAD POWER FACTOR         Range         0.000 to 1.000           Resolution         0.001           LOAD CREST FACTOR         Range         0.00 to 50.00	Reactive (VAR)			
LOAD POWER FACTOR         Range         0,000 to 1,000           Resolution         0.001           LOAD CREST FACTOR         Range         0.00 to 50.00	neucive (mily			
Resolution         0.001           LOAD CREST FACTOR         Range         0.00 to 50.00	LOAD POWER FACTOR	•		
LOAD CREST FACTOR Range 0.00 to 50.00				
Resolution 0.01			0.00 to 50.00	
	LOAD CREST FACTOR	•		





SPECIFICATIONS		
HARMONIC VOLTAGE	Pango	Un to 40th ander of the fundemental wave
	Range	Up to 40th order of the fundamental wave
EFFECTIVE VALUE (RMS)	Full Scale Resolution	175 V / 350 V, 100%
PERCENT (%)		0.1 V, 0.01% Up to 20th ± (0.2 % of reading + 0.5 V / 1 V);
(AC-INT and 50/60 Hz only)	Accuracy	20th to 40th $\pm$ (0.2 % of reading + 0.5 V / 1 V);
HARMONIC CURRENT	Range	Up to 40th order of the fundamental wave
EFFECTIVE VALUE (RMS)	0	5 A / 2.5 A, 100%
PERCENT (%)	Resolution	0.01 A, 0.01%
(AC-INT and 50/60 Hz only)	Accuracy*3	Up to 20th $\pm$ (1 % of reading + 0.1 A / 0.05 A);
		20th to 40th $\pm$ (1.5 % of reading + 0.1 A / 0.05 A)
*1. The voltage display is set t	to RMS in AC/AC+DC mode an	d AVG in DC mode
0 1 7	'	to 350 V and 23 °C $\pm$ 5 °C. DC mode: For an output voltage of 25 V to 250 V / 50 V to 500 V and 23 °C $\pm$ 5 °C.
	0 /	ximum current, and 23 °C $\pm$ 5 °C.
	0	ximum peak current in AC mode, an output current in the range of 5 % to 100 % of the maximum instantaneous current in DC mode,
	racy of the peak value is for a w	
		t in the range of 10 % to 100 % of the maximum current, DC or an output frequency of 45 Hz to 65 Hz, and 23 °C $\pm$ 5 °C.
	powers are not displayed in the	
	he load with the power factor 0.	5 or lower. *8. An output voltage in the range of 17.5 V to 175 V / 35 V to 350 V and 23 °C $\pm$ 5 °C.
OTHERS		
PROTECTIONS		OCP, OTP, OPP, FAN Fail
DISPLAY		TFT-LCD, 4.3 inch
MEMORY FUNCTION		10 sets for Store and Recall settings
ARBITRARY WAVE Num		16 (nonvolatile)
	form Length	4096 words
INTERFACE Stand		Type A: Host, Type B: Slave, Speed: 1.1/2.0, USB-CDC
	LAN	MAC Address, DNS IP Address, User Password, Gateway IP Address, Instrument IP Address, Subnet Mask
	EXT Control	External Signal Input; External Control I/O
INSULATION RESISTANC Between input and chassis, outp		500 Vdc, 30 M $\Omega$ or more
WITHSTAND VOLTAGE	at and chassis, input and output	1500 Vac, 1 minute
Between input and chassis, output and chassis, input and output		100 vac, 1 minute
EMC		EN 61326-1 (Class A)
		EN 61326-2-1/-2-2 (Class A)
		EN 61000-3-2 (Class A, Group 1)
		EN 61000-3-3 (Class A, Group 1)
		EN 61000-4-2/-4-3/-4-4/-4-5/-4-6/-4-8/-4-11 (Class A, Group 1)
		EN 55011 (Class A, Group1)
Safety		EN 61010-1
	ating Environment	Indoor use, Overvoltage Category II
Oper	ating Temperature Range	0 °C to 40 °C
	ge Temperature Range	-10 °C to 70 °C
	ating Humidity Range	20 %rh to 80 % RH (no condensation)
	ge Humidity Range	90 % RH or less (no condensation)
Altitu		Up to 2000 m
DIMENSIONS & WEIGH	Г	RSAS-2050 : 285(W)×124(H)×480(D) (not including protrusions); Approx. 11.5 kg

ORDERING INFORMATION

RSAS-2050 500VA Programmable AC/DC Power Source

#### ACCESSORIES

Safety Guide, Power Cord, Mains Terminal Cover Set, Remote Sense Terminal Cover Set, GTL-123 Test Lead, GTL-246 USB Cable FREE DOWNLOAD

USB Driver



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