

## ASR-6000 Series

### High-Performance AC/DC Power Supply



#### FEATURES

- \* Adopts Third-generation Semiconductor Silicon Carbide (SiC) Technology to Create a 4U 6kVA High-performance AC/DC Power Source with High Power Density
- \* AC Input Supports Single-phase and Three-phase, Phase Voltage 200V to 240V $\pm$ 10% (Delta or Y Connection)
- \* 10 output Modes: Including External Input Signal Frequency and Mains Synchronization(SYNC), External Voltage Controlled Internal Amplifier Output (VCA)
- \* Multi-channel Output Function
- \* Supports AC 1P2W, 1P3W, 3P4W Output
- \* AC Maximum Output Phase Voltage: 350Vrms Line Voltage: 700Vrms
- \* AC Balanced and Unbalanced Three-phase, Phase Failure Output Functions
- \* Programmable Output Impedance Adjustment
- \* Dual-channel Voltage/current Output Monitoring Function
- \* Voltage Output Rise Time Can be Adjusted in Three Ranges
- \* Supports Sequence Editing and Emulation Output Mode
- \* Powerful Arbitrary Waveform Editing and Output Function, Built-in Over 40 Types of Arbitrary Waveform Outputs
- \* Advanced Web Server Control to Support Data Acquisition and Data Logger Both Functions
- \* 100th Order Harmonic Measurement Function
- \* Support External Parallel Connection to Increase Output Power
- \* Support Diverse Interface: RS-232C(Std), USB(Std), LAN(Std), CAN BUS(Opt), DeviceNet(Opt), GPIB(Opt)

#### APPLICATIONS

- \* Server/Communication Power Supply
- \* 6kVA Car Charger
- \* Uninterruptible Power Supply System (UPS)
- \* Military Industry, Scientific Research, Education
- \* AC Inverter
- \* AC Motor Controllers and Protection Devices

From the very moment Alpha Go defeated the human chess champion with its ultra-high-speed computing capability, artificial intelligence technology (AI) has developed rapidly around the world. Today, servers with advanced AI functions process tremendous amounts of data under the high-speed computing architecture of 2 CPUs + 8 GPUs. servers require a huge amount of power to maintain high-speed computing! In order to meet this demand, the power, density and efficiency of server power supplies have been greatly improved. High-power server power modules require high-efficiency conversion and saving of power consumption. AC single-phase input, HVDC 400V input or increased DC voltage output designs can be utilized to achieve this purpose. In order to ensure power stability when high-power servers are operating, power modules with hot-swappable redundant power supply specifications (such as CRPS) have been widely applied in server racks. Power modules with redundant functions require testing of multiple power modules at a time to ensure that all modules can maintain normal operation during high power output. Due to the rapid changes in the development of server power supplies GW Instek developed the brand new flagship model ASR-6000 series to meet customer needs. ASR-6000 series has two models - ASR-6450 AC/DC 4.5kVA and ASR-6600 series AC/DC 6kVA. ASR-6000 series is the first stand-alone unit from GW Instek that supports AC single/three-phase input and output, and has rated DC power output. The series employs third-generation semiconductor silicon carbide (SiC) technology to create a 4U 6kVA high power density and high-performance AC/DC power source ASR-6000 series has the ability to emulate more diverse power environment changes, such as balanced three-phase and unbalanced three-phase, phase failure, and features multi-channel output function in three-phase output mode, programmable output impedance adjustment, and up to tens of thousands of arbitrary waveform outputs. The invincible launch of GW Instek flagship model ASR-6000 series demonstrates that GW Instek can provide a complete test solution for high-power AC sources. ASR-6000 series is the MVP of GW Instek power sources.

| Model              | ASR-6450                                         | ASR-6600                         |
|--------------------|--------------------------------------------------|----------------------------------|
| AC Input Voltage   | Single/Three Phase 200 Vac to 240 Vac $\pm$ 10 % |                                  |
| AC Output Voltage  | Phase Voltage 0~175V/0~300V Line Voltage 0~700V  |                                  |
| AC Output Current  | 1P2W 45A/22.5A;1P3W & 3P4W;15A/7.5A              | 1P2W 60A/30A;1P3W & 3P4W;20A/10A |
| Output Frequency   | 2000Hz                                           | 2000Hz                           |
| Rated Output Power | 1P2W~4.5KVA;1P3W~3KVA;3P4W~4.5KVA                | 1P2W~6KVA;1P3W~4KVA;3P4W~6KVA    |
| DC Output Voltage  | -250.0 V ~ +250.0 V/-500.0 V ~ +500.0 V          |                                  |



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| SPECIFICATIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                            |  |                                                                                                                                                            |  |
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| Model                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | ASR-6450                                                                                                                                                   |  | ASR-6600                                                                                                                                                   |  |
| Input Ratings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                                                                                            |  |                                                                                                                                                            |  |
| Power type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Single-phase ; Three-phase, Delta or Y connection selectable                                                                                               |  |                                                                                                                                                            |  |
| Voltage range <sup>*1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | 200 Vac to 240 Vac ±10 % phase voltage (Delta: L-L, Y: L-N)                                                                                                |  |                                                                                                                                                            |  |
| Frequency range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | 47 Hz to 63 Hz                                                                                                                                             |  |                                                                                                                                                            |  |
| Power factor <sup>*2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | 0.95 or higher (typ.)                                                                                                                                      |  |                                                                                                                                                            |  |
| Efficiency <sup>*2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | 80 % or higher                                                                                                                                             |  |                                                                                                                                                            |  |
| Maximum power consumption                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | 6 kVA or lower                                                                                                                                             |  | 8 kVA or lower                                                                                                                                             |  |
| AC Output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                                                                                            |  |                                                                                                                                                            |  |
| Multi-phase output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | Single-phase output                                                                                                                                        |  | Polyphase output                                                                                                                                           |  |
| Output capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | 4.5 kVA                                                                                                                                                    |  | 6 kVA                                                                                                                                                      |  |
| Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | 1P2W                                                                                                                                                       |  | 1P3W ; 3P4W (Y-connection)                                                                                                                                 |  |
| Setting mode <sup>*3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | ---                                                                                                                                                        |  | Independ, Balanced                                                                                                                                         |  |
| Phase voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | 0.00 V to 175.0 V / 0.0 V to 350.0 V (sine and square wave), Setting Resolution: 0.01 V / 0.1 V                                                            |  |                                                                                                                                                            |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | 0.00 Vpp to 500.0 Vpp / 0.00 Vpp to 1000 Vpp (triangle and arbitrary wave), Setting Resolution: 0.01 Vpp / 0.1 Vpp / 1 Vpp                                 |  |                                                                                                                                                            |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | ±(0.3 % of set + 0.5 V / 1 V)                                                                                                                              |  |                                                                                                                                                            |  |
| Line voltage setting range <sup>*6</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | ---                                                                                                                                                        |  | ---                                                                                                                                                        |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | 1P3W: 0.00 V to 350.0 V / 0.00 V to 700.0 V<br>3P4W: 0.00 V to 303.1 V / 0.00 V to 606.2 V<br>(sine and square wave)<br>Setting Resolution: 0.01 V / 0.1 V |  | 1P3W: 0.00 V to 350.0 V / 0.00 V to 700.0 V<br>3P4W: 0.00 V to 303.1 V / 0.00 V to 606.2 V<br>(sine and square wave)<br>Setting Resolution: 0.01 V / 0.1 V |  |
| Maximum current <sup>*7</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | 45 A / 22.5 A                                                                                                                                              |  | 60 A / 30 A                                                                                                                                                |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | 15 A / 7.5 A                                                                                                                                               |  | 20 A / 10 A                                                                                                                                                |  |
| Maximum peak current <sup>*8</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | Four times of the maximum RMS current                                                                                                                      |  |                                                                                                                                                            |  |
| Load power factor <sup>*9</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | 0 to 1 (leading phase or lagging phase, 45 Hz to 65Hz)                                                                                                     |  |                                                                                                                                                            |  |
| Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | AC Mode: 15.00 Hz to 2000.0 Hz, AC+DC Mode: 1.00 Hz to 2000.0 Hz, Setting resolution: 0.01 Hz / 0.1 Hz                                                     |  |                                                                                                                                                            |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Accuracy                                                                                                                                                   |  |                                                                                                                                                            |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Stability <sup>*10</sup>                                                                                                                                   |  |                                                                                                                                                            |  |
| Output on phase setting range <sup>*11</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | 0.0° to 359.9° variable (Free / Fix selectable), 0.1° (1 Hz to 500 Hz), 1° (500 Hz to 2000 Hz)                                                             |  |                                                                                                                                                            |  |
| Output off phase setting range <sup>*11</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | 0.0° to 359.9° variable (Free / Fix selectable), 0.1° (1 Hz to 500 Hz), 1° (500 Hz to 2000 Hz)                                                             |  |                                                                                                                                                            |  |
| Setting range of the phase angle <sup>*12</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | ---                                                                                                                                                        |  | ---                                                                                                                                                        |  |
| Phase angle accuracy <sup>*13</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | ---                                                                                                                                                        |  | ---                                                                                                                                                        |  |
| DC offset <sup>*14</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | ± 20 mV (typ.)                                                                                                                                             |  |                                                                                                                                                            |  |
| DC Output (Only Single Phase Output)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                                                                            |  |                                                                                                                                                            |  |
| Output capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | 4.5 kW                                                                                                                                                     |  | 6 kW                                                                                                                                                       |  |
| Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | Floating output, the N terminal can be grounded                                                                                                            |  |                                                                                                                                                            |  |
| Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | Setting Range                                                                                                                                              |  |                                                                                                                                                            |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Accuracy <sup>*15</sup>                                                                                                                                    |  |                                                                                                                                                            |  |
| Maximum current <sup>*16</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | 45 A / 22.5 A                                                                                                                                              |  | 60 A / 30 A                                                                                                                                                |  |
| Maximum peak current <sup>*17</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | Four times of the maximum current                                                                                                                          |  |                                                                                                                                                            |  |
| Output Stability, Total Harmonic Distortion, Output Voltage Rising Time and Ripple Noise                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                            |  |                                                                                                                                                            |  |
| Line regulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | ±0.1% or less (Phase voltage)                                                                                                                              |  |                                                                                                                                                            |  |
| Load regulation <sup>*18</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | ±0.1 V / ±0.2 V, @DC (only single-phase output)                                                                                                            |  |                                                                                                                                                            |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | ±0.1 V / ±0.2 V, @45 Hz to 65 Hz (phase voltage, 0 to 100%, via output terminal)                                                                           |  |                                                                                                                                                            |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | ±0.5 V / ±1.0 V, @all other frequencies (phase voltage, 0 to 100%, via output terminal)                                                                    |  |                                                                                                                                                            |  |
| Distortion of Output <sup>*19</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | <0.3 % @1Hz to 100Hz, <0.5 % @100.1 Hz to 500 Hz, <1 % @500.1 Hz to 2000 Hz                                                                                |  |                                                                                                                                                            |  |
| Output voltage response time <sup>*20</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | Fast: 50 μs (typ.) ; Middle:100μs (typ.) ; Slow: 300 μs (typ.)                                                                                             |  |                                                                                                                                                            |  |
| Ripple noise <sup>*21</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | 0.5 Vrms / 1 Vrms (TYP)                                                                                                                                    |  |                                                                                                                                                            |  |
| <div>*1 Y connection is three-phase, five-wire, Delta connection is three-phase, four-wire. (Accessories will be provided)</div> <div>*2 In the case of AC+INT mode, the rate output voltage, resistance load at maximum output current,45 Hz to 65 Hz and sine wave output only.</div> <div>*3 Can be only set in polyphase mode.</div> <div>*4 For phase voltage setting in polyphase output. In balance mode all phase are collectively set and in unbalance mode each phase are individually set.</div> <div>*5 For an output voltage of 10 V to 175 V / 20 V to 350 V, sine wave, an output frequency of 45 Hz to 65 Hz, no load, DC voltage setting 0V (AC+DC mode) and 23°C ± 5°C. For phase voltage setting in the polyphase output.</div> <div>*6 Line voltage only can be set in balance mode.</div> <div>*7 If the output voltage is higher than rated value, this is limited to satisfy the power capacity. If there is the DC superimpositions, the active current of AC+DC satisfies the maximum current. In the case of 40 Hz or lower or 400 Hz or higher, and that the ambient temperature is 40 degree or higher, the maximum current may decrease.</div> <div>*8 With respect to the capacitor-input rectifying load. Limited by the maximum current.</div> <div>*9 External power injection or regeneration which is over short reverse power flow capacity is not available.</div> <div>*16 If the output voltage is higher than rated value, this is limited to satisfy the power capacity. If there is the AC superimpositions , the active current of AC+DC satisfies the maximum current. And the ambient temperature is 40 degree or higher, the maximum current may decrease.</div> <div>*17 Instantaneous within 3 ms , limited by the maximum current at rated output voltage.</div> <div>*18 For an output 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.</div> <div>*19 50 % or higher of the rated output voltage, the maximum current or lower, AC and AC+DC modes, THD+N. For the polyphase it is a specification for phase voltage setting.</div> <div>*20 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.</div> <div>*21 For 5 Hz to 1 MHz components in DC mode using the output terminal on the rear panel.</div> |  |                                                                                                                                                            |  |                                                                                                                                                            |  |
| Measured Value Display (All accuracy of the measurement function is indicated for 23 °C±5 °C. )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                                            |  |                                                                                                                                                            |  |
| Voltage <sup>*1*2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | Single-phase output                                                                                                                                        |  | Polyphase output <sup>*6</sup>                                                                                                                             |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Resolution                                                                                                                                                 |  | 0.01 V / 0.1 V                                                                                                                                             |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | RMS value accuracy                                                                                                                                         |  | 45 Hz to 65 Hz and DC: ± (0.5 % of rdg + 0.5 V / 1 V)<br>15 Hz to 2000 Hz: ± (0.7 % of rdg + 1 V / 2 V)                                                    |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | AVG value accuracy                                                                                                                                         |  | DC: ± ([0.5 % of rdgl + 0.5 V / 1 V)                                                                                                                       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | PEAK value accuracy <sup>*3</sup>                                                                                                                          |  | 45 Hz to 65 Hz and DC: ±([2 % of rdgl + 1 V / 2 V)                                                                                                         |  |
| Current <sup>*4</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | Resolution                                                                                                                                                 |  | 0.01 A / 0.1 A                                                                                                                                             |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | RMS value accuracy                                                                                                                                         |  | 45 Hz to 65 Hz and DC: ±(0.5 % of rdg + 0.1 A / 0.05 A)<br>15 Hz to 2000 Hz: ±(0.7 % of rdg + 0.2 A / 0.1 A)                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | AVG value accuracy                                                                                                                                         |  | DC: ± ([0.5 % of rdgl + 0.2 A / 0.1 A)                                                                                                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | PEAK value accuracy <sup>*5</sup>                                                                                                                          |  | 45 Hz to 65 Hz and DC: ±([2 % of rdgl + 1 A / 0.5 A)                                                                                                       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                                            |  | 45 Hz to 65 Hz: ±([2 % of rdgl + 0.5 A / 0.25 A)                                                                                                           |  |

| SPECIFICATIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                 |                                                                                                                                                                                                                                             |                                                                                                    |  |                                                                                               |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------|--|
| Model                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                 |                                                                                                                                                                                                                                             | ASR-6450                                                                                           |  | ASR-6600                                                                                      |  |
| Power <sup>*7*8</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Active (W)                                                      | Resolution                                                                                                                                                                                                                                  | 0.1 W / 1 W                                                                                        |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 | Accuracy <sup>*9</sup>                                                                                                                                                                                                                      | ±(1 % of rdg + 3 W)                                                                                |  | ±(1 % of rdg + 1 W)                                                                           |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Apparent (VA)                                                   | Resolution                                                                                                                                                                                                                                  | 0.1 VA / 1 VA                                                                                      |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 | Accuracy                                                                                                                                                                                                                                    | ±(2 % of rdg + 6 VA)                                                                               |  | ±(2 % of rdg + 2 VA)                                                                          |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Reactive (VAR)                                                  | Resolution                                                                                                                                                                                                                                  | 0.1 VAR / 1 VAR                                                                                    |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 | Accuracy <sup>*10</sup>                                                                                                                                                                                                                     | ±(2 % of rdg + 6 VAR)                                                                              |  | ±(2 % of rdg + 2 VAR)                                                                         |  |
| Power factor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                 | Range                                                                                                                                                                                                                                       | 0.000 to 1.000                                                                                     |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 | Resolution                                                                                                                                                                                                                                  | 0.001                                                                                              |  |                                                                                               |  |
| Harmonic voltage Effective value (rms) Percent (%) (AC-INT and 50/60 Hz only) <sup>*11</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                 | Range                                                                                                                                                                                                                                       | Up to 100th order of the fundamental wave                                                          |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 | Full Scale                                                                                                                                                                                                                                  | 200 V / 400 V, 100%                                                                                |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 | Resolution                                                                                                                                                                                                                                  | 0.01 V / 0.1 V, 0.1%                                                                               |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 | Accuracy <sup>*12</sup>                                                                                                                                                                                                                     | Up to 20th: ±(0.2 % of rdg + 0.5 V / 1 V) ; 20th to 100th: ±(0.3 % of rdg + 0.5 V / 1 V)           |  |                                                                                               |  |
| Harmonic current Effective value (rms) Percent (%) (AC-INT and 50/60 Hz only) <sup>*11</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                 | Range                                                                                                                                                                                                                                       | Up to 100th order of the fundamental wave                                                          |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 | Full Scale                                                                                                                                                                                                                                  | 63 A / 31.5 A, 100%                                                                                |  | 21 A / 10.5 A, 100%                                                                           |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 | Resolution                                                                                                                                                                                                                                  | 0.01 A / 0.1 A, 0.1%                                                                               |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 | Accuracy <sup>*13</sup>                                                                                                                                                                                                                     | Up to 20th: ±(1 % of rdg + 1.5 A / 0.75 A)<br>20th to 100th: ±(1.5 % of rdg + 1.5 A / 0.75 A)      |  | Up to 20th: ±(1 % of rdg + 0.5 A / 0.25 A)<br>20th to 100th: ±(1.5 % of rdg + 0.5 A / 0.25 A) |  |
| <div><div>*1. In the polyphase output, the specification is for phase voltage, and the DC average value display cannot be selected.</div><div>*2. Accuracy values are in the case that the output voltage is within voltage setting range.</div><div>*3. The accuracy is for output waveform DC or sine wave only.</div><div>*4. Accuracy values are in the case that the output current is 5% to 100% of the maximum current.</div><div>*5. The accuracy is for output waveform DC or sine wave only.</div><div>*6. In the polyphase output, these are the specifications for each phase.</div><div>*7. For an output voltage of 50 V or greater, an output current in the range of 10 % to 100 % of the maximum current, DC or an output frequency of 45 Hz to 65 Hz.</div><div>*8. The apparent and reactive powers are not displayed in the DC mode.</div><div>*9. For the load with the power factor 0.5 or higher.</div><div>*10. For the load with the power factor 0.5 or lower.</div><div>*11. The measurement does not conform to the IEC or other standard. Phase Voltage and Phase Current.</div><div>*12. For an output voltage of 10 V to 175 V / 20 V to 350 V.</div><div>*13. An output current in the range of 5 % to 100 % of the maximum current.</div></div> |                                                                 |                                                                                                                                                                                                                                             |                                                                                                    |  |                                                                                               |  |
| Others                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                 |                                                                                                                                                                                                                                             |                                                                                                    |  |                                                                                               |  |
| Protections                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                 | UVP, OVP, OCP, OTP, OPP, Fan Fail, Peak and RMS Current Limit                                                                                                                                                                               |                                                                                                    |  |                                                                                               |  |
| Parallel function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                 | Up to 3 units                                                                                                                                                                                                                               |                                                                                                    |  |                                                                                               |  |
| Display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                 | TFT-LCD, 7 inch                                                                                                                                                                                                                             |                                                                                                    |  |                                                                                               |  |
| Memory function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 | Store and recall settings, Basic settings: 10                                                                                                                                                                                               |                                                                                                    |  |                                                                                               |  |
| Arbitrary Wave                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Number of memories                                              |                                                                                                                                                                                                                                             | 16 (nonvolatile)                                                                                   |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Waveform length                                                 |                                                                                                                                                                                                                                             | 4096 words                                                                                         |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Amplitude resolution                                            |                                                                                                                                                                                                                                             | 16 bits                                                                                            |  |                                                                                               |  |
| General Specifications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                 |                                                                                                                                                                                                                                             |                                                                                                    |  |                                                                                               |  |
| Interface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Standard                                                        | USB                                                                                                                                                                                                                                         | Type A: Host, Type B: Slave, Speed: 1.1/2.0, USB-CDC / USB-TMC                                     |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 | LAN                                                                                                                                                                                                                                         | MAC Address, DNS IP Address, User Password, Gateway IP Address, Instrument IP Address, Subnet Mask |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 | External                                                                                                                                                                                                                                    | External Signal Input ; External Control I/O ; V/I Monitor Output                                  |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 | RS-232C                                                                                                                                                                                                                                     | Complies with the EIA-RS-232 specifications                                                        |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Optional 1                                                      | GPIO                                                                                                                                                                                                                                        | SCPI-1993, IEEE 488.2 compliant interface                                                          |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Optional 2                                                      | CAN Bus                                                                                                                                                                                                                                     | Complies with CAN 2.0A or 2.0B based protocol                                                      |  |                                                                                               |  |
| Optional 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | DeviceNet                                                       | Complies with CAN 2.0A or 2.0B based protocol                                                                                                                                                                                               |                                                                                                    |  |                                                                                               |  |
| Insulation resistance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Between input and chassis, output and chassis, input and output |                                                                                                                                                                                                                                             | DC 500 V, 30 MΩ or more                                                                            |  |                                                                                               |  |
| Withstand voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Between input and chassis, output and chassis, input and output |                                                                                                                                                                                                                                             | AC 1500 V or DC 2130 V , 1 minute                                                                  |  |                                                                                               |  |
| EMC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                 | EN 61326-1 (Class A)<br>EN 61326-2-1/-2-2 (Class A)<br>EN 61000-3-2/-3-12 (Class A, Group 1)<br>EN 61000-3-3/-3-11 (Class A, Group 1)<br>EN 61000-4-2/-4-3/-4-4/-4-5/-4-6/-4-8/-4-11/-4-34 (Class A, Group 1)<br>EN 55011 (Class A, Group1) |                                                                                                    |  |                                                                                               |  |
| Safety                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                 | EN 61010-1                                                                                                                                                                                                                                  |                                                                                                    |  |                                                                                               |  |
| Vibration, Shock and Transportation Integrity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                 | ISTA 2A Test Procedure                                                                                                                                                                                                                      |                                                                                                    |  |                                                                                               |  |
| Environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Operating environment                                           |                                                                                                                                                                                                                                             | Indoor use, Overvoltage Category II                                                                |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Operating temperature range                                     |                                                                                                                                                                                                                                             | 0 °C to 40 °C                                                                                      |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Storage temperature range                                       |                                                                                                                                                                                                                                             | -10 °C to 70 °C                                                                                    |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Operating humidity range                                        |                                                                                                                                                                                                                                             | 20 %rh to 80 % RH (no condensation)                                                                |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Storage humidity range                                          |                                                                                                                                                                                                                                             | 90 % RH or less (no condensation)                                                                  |  |                                                                                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Altitude                                                        |                                                                                                                                                                                                                                             | Up to 2000 m                                                                                       |  |                                                                                               |  |
| Dimensions (mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 | 430(W)×176(H)×590(D) (not including protrusions)                                                                                                                                                                                            |                                                                                                    |  |                                                                                               |  |
| Weight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                 | Approx. 40 kg                                                                                                                                                                                                                               |                                                                                                    |  |                                                                                               |  |
| A value with the accuracy is the guaranteed value of the specification. However, an accuracy noted as reference value shows the supplemental data for reference when the product is used, and is not under the guarantee.<br>A value without the accuracy is the nominal value or representative value (shown as typ.). Product specifications are subject to change without notice.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                 |                                                                                                                                                                                                                                             |                                                                                                    |  |                                                                                               |  |

Specifications subject to change without notice. ASR-6000ID1DS

| ORDERING INFORMATION                                                                                                                                                                                                                                                                                                                                 |                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| ASR-6450                                                                                                                                                                                                                                                                                                                                             | 4.5kVA High-Performance AC/DC Power Supply |
| ASR-6600                                                                                                                                                                                                                                                                                                                                             | 6kVA High-Performance AC/DC Power Supply   |
| ACCESSORIES                                                                                                                                                                                                                                                                                                                                          |                                            |
| Quick start guide, Safety guide, Input terminal cover, Output terminal cover, Copper plate for delta connection input, Copper plate for single phase and Y connection input, Copper plate for delta connection input, Copper plate for 1P output, GRA-451-E Rack mount adapter (EIA) GTL-246 USB cable (USB 2.0 Type A - Type B cable, approx. 1.2M) |                                            |

| OPTION ACCESSORIES |                                                                            |           |                           |
|--------------------|----------------------------------------------------------------------------|-----------|---------------------------|
| ASR-003            | GPIO interface card                                                        | GTL-232   | RS-232C Cable, approx. 2M |
| ASR-004            | DeviceNet interface card                                                   | GTL-248   | GPIO Cable, approx. 2M    |
| ASR-005            | CAN BUS interface card                                                     | GRA-451-E | Rack mount adapter (EIA)  |
| ASR-006            | External parallel cable                                                    | GRA-451-J | Rack mount adapter (IIS)  |
| GPW-008            | 6RV3 Power Cord; 10AWG/3C, 3m Max Length, , RV5-5*3P, RV5-5*3P UL TYPE     |           |                           |
| GPW-009            | 6RV3 Power Cord; 2.5mm2/3C, 3m Max Length,, RV5-5*3P, RV5-5*3P VDE TYPE    |           |                           |
| GPW-010            | 6RV3 Power Cord; 2.0mm2/3C, 3m Max Length, RV5-5*3P, RV5-5*3P PSE TYPE     |           |                           |
| GPW-011            | 6RV5 UL Power Cord; 10AWG/5C, 3m, RV5-5*5P, RV5-5*5P UL Type               |           |                           |
| GPW-012            | 6RV5 VDE Power Cord; 2.5mm2/5C, 3m Max Length, RV5-5*5P, RV5-5*5P VDE Type |           |                           |
| GPW-013            | 6RV5 PSE Power Cord; 2.0mm2/5C, 3m Max Length, RV5-5*5P, RV5-5*5P PSE Type |           |                           |
| GPW-014            | 6RV4 UL Power Cord; 10AWG/4C, 3m, RV5-5*4P, RV5-5*4P UL TYPE               |           |                           |
| GPW-015            | 6RV4 VDE Power Cord; 2.5mm2/4C, 3m Max Length, RV5-5*4P, RV5-5*4P VDE Type |           |                           |
| GPW-016            | 6RV4 PSE Power Cord; 2.0mm2/4C, 3m Max Length, RV5-5*4P, RV5-5*4P PSE Type |           |                           |

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