

# HR Series

ONLINE UPS



- True double-conversion
- Wide input voltage range (110-300 VAC)
- Input power factor correction 0.99
- Output Power Factor 0.8
- 50Hz/60Hz frequency converter mode
- Programmable power management outlets
- Emergency power off function (EPO)
- ECO mode operation for energy saving (ECO)
- Charger capacity expansion to 8A for long-run models
- SNMP+USB+RS-232 multiple communications
- Smart battery charger design for optimized battery performance
- Selectable output voltage via LCD panel
- Optional isolation transformer offers full isolation and complete common mode noise rejection
- Optional rackmount slider

## HR 1000/1500/2000/3000/6000/10K Online UPS Selection Guide

| MODEL                                | HR1000(L)  | HR1500(L)   | HR2000(L)        | HR3000(L)  | HR6000(L)   | HR10K(L)   |                                 |
|--------------------------------------|--|---|------------------|--|---|--|---------------------------------|
| PHASE                                | Single phase with ground   |   |                  |  |   |  |                                 |
| CAPACITY                             | 1000 VA / 800 W  | 1500 VA / 1200 W  | 2000 VA / 1600 W | 3000 VA / 2400 W                                     | 6000 VA / 4200 W                                    | 10000 VA / 8000 VA   |                                 |
| INPUT                                |  |   |                  |  |   |  |                                 |
| Voltage Range                        | Low Line Transfer  | 160 VAC ± 5% or 80 VAC ± 5% @ 100% load<br>110 VAC ± 5% or 50 VAC ± 5% @ 50% load |                  |  | 176 VAC ± 3% @ 100% load<br>110 VAC ± 3% @ 50% load |  |                                 |
|                                      | Low Line Comeback  | 175 VAC ± 5% or 85 VAC ± 5% @ 100% load   |                  |  | 186 VAC ± 3% @ 100% load<br>120 VAC ± 3% @ 50% load |  |                                 |
|                                      | High Line Transfer   | 300 VAC ± 5% or 150 VAC ± 5%  |                  |  | 300 VAC ± 3%  |  |                                 |
|                                      | High Line Comeback   | 290 VAC ± 5% or 145 VAC ± 5%  |                  |  | 290 VAC ± 3%  |  |                                 |
| Frequency Range                      | 40 Hz ~ 70 Hz  |   |                  |  |   |  |                                 |
| Power Factor                         | ≥ 0.99 @ nominal voltage (100% load)   |   |                  |  |   |  |                                 |
| OUTPUT                               |  |   |                  |  |   |  |                                 |
| AC Voltage Regulation (Batt. Mode)   | ± 3%   |   |                  |  |   |  |                                 |
| Frequency Range (Synchronized Range) | 47 ~ 53 Hz or 57 ~ 63 Hz   |   |                  |  |   |  |                                 |
| Frequency Range (Batt. Mode)         | 50 Hz ± 0.25 Hz or 60Hz ± 0.3 Hz   |   |                  |  |   |  |                                 |
| Current Crest Ratio                  | 3:1  |   |                  |  |   |  |                                 |
| Harmonic Distortion                  | ≤ 3% THD (Linear Load),<br>≤ 6% THD (Non-linear Load)  |   |                  | ≤ 4% THD (Linear Load)<br>≤ 7% THD (Non-linear Load) |   | ≤ 3% THD (Linear Load)<br>≤ 6% THD (Non-linear Load)                   |                                 |
|                                      | Transfer Time  | AC Mode to Batt. Mode<br>Inverter to Bypass                                       |                  |  | Zero  |  | Zero                            |
| Waveform (Batt. Mode)                | 4 ms (Typical)   |   |                  |  |   |  |                                 |
| Waveform (AC Mode)                   | Pure Sinewave  |   |                  |  |   |  |                                 |
| EFFICIENCY                           |  |   |                  |  |   |  |                                 |
| AC Mode                              | 85%  |   |                  |  |   |  |                                 |
| Battery Mode                         | 83%  |   |                  |  |   |  |                                 |
| BATTERY                              |  |   |                  |  |   |  |                                 |
| Standard Model                       | Battery Type   | 12 V / 7 Ah   | 12 V / 9 Ah      | 12 V / 7 Ah  | 12 V / 9 Ah   | 12 V / 9 Ah  |                                 |
|                                      | Numbers  | 3   | 3                | 6  | 6   | 20   |                                 |
|                                      | Typical Recharge Time  | 4 hours recover to 90% capacity   |                  |  |   | 7 hours recover to 90% capacity  | 9 hours recover to 90% capacity |
|                                      | Charging Current (max.)  | 1.0 A   |                  |  |   | 1.0 A  |                                 |
| Long-run Model                       | Charging Voltage   | 41.0 VDC ± 1%   |                  |  |   | 82.1 VDC ± 1%  |                                 |
|                                      | Battery Type   | Depending on applications   |                  |  |   |  |                                 |
|                                      | Numbers  | 3   | 3                | 6  | 6   | 18-20  |                                 |
|                                      | Charging Current (max.)  | 8.0 A   |                  |  |   | 4.0 A  |                                 |
| Charging Voltage                     | 41.0 VDC ± 1%  |   |                  |  | 82.1 VDC ± 1%                                       |  |                                 |
| Charging Voltage                     | 273.0 VDC ± 1%   |   |                  |  |   |  |                                 |
| INDICATORS                           | UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions |   |                  |  |   |  |                                 |
| LCD Panel                            |  |   |                  |  |   |  |                                 |
| ALARM                                |  |   |                  |  |   |  |                                 |
| Battery Mode                         | Sounding every 4 seconds   |   |                  |  |   |  |                                 |
| Low Battery                          | Sounding every second  |   |                  |  |   |  |                                 |
| Overload                             | Sounding twice every second  |   |                  |  |   |  |                                 |
| Fault                                | Continuously sounding  |   |                  |  |   |  |                                 |
| PHYSICAL                             |  |   |                  |  |   |  |                                 |
| Standard Model                       | Dimension, D x W x H (mm)  | 420 x 438 x 88 [2U]   |                  | 580 x 438 x 133 [3U]                                 |   | UPS Unit : 580 x 438 x 133 [3U]<br>Battery Pack : 580 x 438 x 133 [3U] |                                 |
|                                      | Net Weight (kgs)   | 16  | 17               | 29   | 31  | UPS Unit : 17<br>Battery Pack : 57                                     |                                 |
| Long-run Model                       | Dimension, D x W x H (mm)  | 420 x 438 x 88 [2U]   |                  | 580 x 438 x 133 [3U]                                 |   | 580 x 438 x 133 [3U]<br>668 x 438 x 133 [3U]                           |                                 |
|                                      | Net Weight (kgs)   | 10  | 10               | 17   | 17  | 17<br>20   |                                 |
| ENVIRONMENT                          |  |   |                  |  |   |  |                                 |
| Humidity                             | 20-90 % RH @ 0- 40°C (non-condensing)  |   |                  |  |   |  |                                 |
| Noise Level                          | Less than 45dB @ 1 Meter   |   |                  |  | Less than 55dB @ 1 Meter                            | Less than 58dB @ 1 Meter   |                                 |
| MANAGEMENT                           |  |   |                  |  |   |  |                                 |
| Smart RS-232/USB                     | Supports Windows 98/2000/2003/XP/Vista/2008, Windows 7, Linux and MAC                              |   |                  |  |   |  |                                 |
| Optional SNMP                        | Power management from SNMP manager and web browser   |   |                  |  |   |  |                                 |

\* Derate to 60% of capacity in CVCF mode and to 90% when the output voltage is adjusted to 208VAC.

\*\*If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated one percent per 100m.

\* L means long-run model