

UNINTERRUPTIBLE POWER SYSTEMS

RED3300 Series
Three-phase online UPS

25 – 100 kVA · 3:3 phase · unity power factor

True double-conversion online UPS for critical three-phase loads. Unity output power factor delivers full rated kilowatts, and parallel expansion to six units gives capacity or redundancy without changing the installation.

PRODUCT	RED3300 Series
POWER RANGE	25 – 100 kVA
CONFIGURATION	3-phase in / 3-phase out
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1 Overview

The RED3300 Series is a true double-conversion online UPS rated 25 kVA to 100 kVA, with three-phase input and three-phase four-wire output at 208/120 Vac or 220/127 Vac. A three-level inverter gives up to 94 % efficiency in double-conversion mode, and the unity output power factor means the nameplate kVA is available as kilowatts — a 30 kVA unit supports a 30 kW load with no derating.

Two build variants are offered. **Standard (S)** units carry their batteries internally for short-autonomy applications; **long-run (H)** units are supplied without batteries and are paired with RED-BT series external battery cabinets sized to the autonomy required. Up to six units may be paralleled for added capacity or N+1 redundancy, with the option to share a common battery bank.

2 Key features

- Wide input voltage window: 66–166 Vac per phase (120 Vac nominal); no derating at 100 % load from 96 Vac
- High input power factor — up to 0.99 — and input current distortion ≤ 3 % THDi
- Three-level inverter topology; efficiency up to 94 % in double-conversion mode
- Unity output power factor (kVA = kW), with full rated power into 100 % unbalanced loads
- High load tolerance — fully inductive or fully capacitive loads accepted
- Parallel expandable to six units, with shared-battery operation between paralleled units
- Battery string selectable from 16 to 26 blocks (20 blocks default) to suit the autonomy required
- High charging current on long-run models for extended-autonomy battery banks
- Power Walk-In soft start limits inrush and reduces the standby generator rating required
- LBS (load bus synchronisation) holds two independent UPS systems in step for dual-bus architectures
- Communications: USB, RS-232, RS-485, SNMP and dry-contact interface cards
- Certified to UL 1778 and CSA C22.2 No. 107.3-14

3 Model range

Model code: **RED33** + rating + variant — e.g. **RED3330H** is a 30 kVA long-run unit. **S** = standard unit, batteries fitted internally; **H** = long-run unit, battery not included.

Model	Rating	Configuration	Dimensions W × D × H (mm)	Weight (kg)
RED3325S	25 kVA / 25 kW	Standard — internal batteries	400 × 935 × 1065	375
RED3325H	25 kVA / 25 kW	Long-run — external battery	300 × 800 × 1000	95
RED3330S	30 kVA / 30 kW	Standard — internal batteries	400 × 935 × 1065	380
RED3330H	30 kVA / 30 kW	Long-run — external battery	300 × 800 × 1000	96
RED3340H	40 kVA / 40 kW	Long-run — external battery	400 × 935 × 1065	150
RED3350H	50 kVA / 50 kW	Long-run — external battery	442 × 850 × 1200	160
RED3360H	60 kVA / 60 kW	Long-run — external battery	442 × 850 × 1200	165
RED3380H	80 kVA / 80 kW	Long-run — external battery	600 × 850 × 1600	283
RED33100H	100 kVA / 100 kW	Long-run — external battery	600 × 850 × 1600	321

4 System components

A complete RED3300 installation is normally made up of the UPS cabinet, a matched battery cabinet and — where the site supply is 480 V or 600 V — an input isolation transformer cabinet. Separate datasheets cover each:

Component	Series	Function
UPS cabinet	RED3300	Double-conversion online UPS, 25–100 kVA, 208/120 Vac output
Battery cabinet	RED-BT	Matched VRLA battery cabinets, ± 120 Vdc, 40 / 65 / 100 Ah
Transformer cabinet	RED33	Input isolation transformer, 480 V or 600 V delta to 208/120 V wye

5 Technical specification

MODEL	RED3325S/H	RED3330S/H	RED3340H	RED3350H	RED3360H	RED3380H	RED33100H
Capacity (VA/W)	25k/25k	**30k/30k**	40k/40k	50k/50k	60k/60k	80k/80k	100k/100k
Max. parallel number	**6**						
INPUT							
Nominal voltage (Vac)	**208/120 or 220/127 (3Ph+N+PE)**						
Operating voltage range (Vac)	**66–166 for 40 % load; 96–166 for 100 % load**						
Power factor	**≥ 0.99**						
Harmonic distortion (THDi)	**≤ 3 % non-linear load**						
Bypass voltage range (Vac)	**Max. voltage: +25 % (optional +10 %, +15 %, +20 %) Min. voltage: −40 % (optional −10 %, −15 %, −20 %, −30 %)**						
Bypass frequency range (Hz)	**50/60 ± 10 %**						
OUTPUT							
Nominal voltage (Vac)	**208/120 or 220/127 (3Ph+N+PE)**						
Voltage regulation	**± 1 %**						
Output frequency (Hz)	**Line mode: ±1 % / ±2 % / ±4 % / ±5 % / ±10 % of rated frequency (selectable); battery mode: 50/60 (± 0.1 %)**						
Crest factor	**3 : 1**						
Harmonic distortion (THDv)	**≤ 2 % linear load; ≤ 5 % non-linear load**						
Overload	**≤ 110 % 60 min, ≤ 125 % 10 min, ≤ 150 % 1 min, > 150 % 1.2 s inverter shutdown**						
EFFICIENCY							
AC (double-conversion) mode	**Up to 94 %**						
BATTERY							
Battery type	**VRLA (lead-acid, maintenance-free)**						
Battery voltage (Vdc) — standard unit	**± 120 (4 × 20 pcs 12 V 9 Ah)**		/				
Battery voltage (Vdc) — long-run unit	**± 96 / 108 / 120 / 132 / 144 / 156 (16 / 18 / 20 / 22 / 24 / 26 pcs; 20 pcs default). 20–26 pcs: output power factor 1.0; 18 pcs: 0.9; 16 pcs: 0.8**						
Charging current, max. (A) — standard unit	**5.4**		/				
Charging current, max. (A) — long-run unit	**20**		40			60	80
ENVIRONMENTAL							
Operating temperature (°C)	**0 – 40**						
Storage temperature (°C)	**−25 – 55 (without battery)**						
Humidity range	**0 – 95 % RH @ 0 – 40 °C (non-condensing)**						
Altitude (m)	**< 1000; derating required between 1000 and 3000**						

MODEL	RED3325S/H	RED3330S/H	RED3340H	RED3350H	RED3360H	RED3380H	RED33100H
Noise level (dB)	< 58	**< 60**	< 63		< 65	< 66	< 68
PHYSICAL							
Dimensions W × D × H (mm)	**S: 400 × 935 × 1065 H: 300 × 800 × 1000**		400 × 935 × 1065	442 × 850 × 1200		600 × 850 × 1600	
Weight (kg)	375 / 95	**380 / 96**	150	160	165	283	321
STANDARDS							
Safety	**UL 1778, CSA C22.2 No. 107.3-14**						
EMC	**FCC Part 15 Subpart B, ANSI C63.4-2014**						

RED3330 — unit proposed for this application. H: long-run unit (battery not included). S: standard unit.

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