

# Q-RFL-3000

| Output                         |                                 |
|--------------------------------|---------------------------------|
| Capacity (VA)                  | 3000                            |
| Capacity (Watts)               | 2000                            |
| Current (peak amp) 120/130 VAC | 27.3 / 13                       |
| Waveform                       | High resolution, pure sine wave |
| Outlets                        | 4                               |

| Input                           |                                                           |
|---------------------------------|-----------------------------------------------------------|
| Current (max amp) (120/130 VAC) | 30 / 16                                                   |
| Power factor                    | > .95                                                     |
| Frequency                       | 50/60 Hz (auto) / 45/65 Hz<br>(inverter phase lock range) |

| General                         |                                                                                                |
|---------------------------------|------------------------------------------------------------------------------------------------|
| UPQ power conditioning topology | Five (5) Stages of Isolation and Conversion,<br>High Frequency, True On-line digital sine wave |
| Desktop Configuration           | No                                                                                             |
| Rack Mount Configuration        | Yes                                                                                            |

| Voltage Regulation                |                                                             |
|-----------------------------------|-------------------------------------------------------------|
| Input voltage range:              |                                                             |
| - Full load without using battery | North America 80 to 140 VAC<br>International 165 to 270 VAC |
| - Half load without using battery | North America 75 to 140 VAC<br>International 160 to 270 VAC |
| Output voltage regulation         | ± 2%                                                        |

| Isolation                   |     |
|-----------------------------|-----|
| Common-mode noise rejection | Yes |
| Normal-mode noise rejection | Yes |

| Suppression                       |                                                              |
|-----------------------------------|--------------------------------------------------------------|
| IEEE 587/ANSI 62.41 3KA/6KV       | 170 V normal mode (L or N) /<br>230 V common mode (L+N to G) |
| surge let-through (NA)            |                                                              |
| IEEE 587/ANSI 62.41 3KA/6KV       | 340 V normal mode (L or N) /<br>450 V common mode (L+N to G) |
| surge let-through (international) |                                                              |
| Joules (energy absorption)        | 300 Joules                                                   |
| Peak surge current (amp)          | 80,000 Amps                                                  |

|                                  |                                                                               |
|----------------------------------|-------------------------------------------------------------------------------|
| Multi-stage protection           | Yes                                                                           |
| Normal & common mode certified   | Yes                                                                           |
| Conditioning                     | Yes                                                                           |
| Output total harmonic distortion | Less than 3% under linear load,<br>less than 5% under non-linear load         |
| Output frequency range           | 50/60 Hz $\pm$ 0.1 Hz (except the<br>synchronization to line during brownout) |
| Input Frequency range            | 45-65 Hz                                                                      |

## High Frequency On-Line Inverter

|                             |                                                       |
|-----------------------------|-------------------------------------------------------|
| Inverter driver frequency   | 50 KHz                                                |
| Overload capacity           | >110% continuous                                      |
| Crest Factor                | 3:01                                                  |
| Transfer Time               | Zero                                                  |
| Efficiency                  | 85% Min                                               |
| UPQ to bypass/bypass to UPQ | Zero cross transfer, less than 4 ms<br>(2 ms minimum) |

## Battery

|                         |              |
|-------------------------|--------------|
| Full load run time      | > 5 min      |
| Half load run time      | > 15 min     |
| DC voltage              | 96 VDC       |
| Recharge time           | 5 to 8 hours |
| Recharge current (amps) | 1.5          |
| Internal to the unit    | No           |
| Modular battery packs   | Yes          |
| Extended battery packs  | Yes          |
| Hot-swappable           | Yes          |
| Front panel removal     | Yes          |

## Power Connector

|                                  |           |
|----------------------------------|-----------|
| Input of 120V / 230V units       | IEC       |
| Output of 120V units (Standard)  | (4x) Nema |
| Output of 120V units (Option 1)  | (4x) IEC  |
| Output of 120V units (Option 2)  | (4x) IEC  |
| Output of 230V units (Standard)  | (4x) IEC  |
| Output of 230V units (Option 1)  | (4x) Nema |
| Output of 230V units (Option 2)  | (4x) IEC  |
| Nema with Branch Bank Protection | Yes       |
| IEC with Branch Bank Protection  | Yes       |
| L5 with Branch Bank Protection   | No        |
| L6 with Branch Bank Protection   | No        |

## Physical

|                                  |                                           |
|----------------------------------|-------------------------------------------|
| WxDxH                            | 19 x 17.5 x 3.5 in (48.3 x 44.5 x 8.9 cm) |
| Weight in lbs/kg                 | 79 lbs / 36 kg                            |
| UPQ size                         | 2 U                                       |
| Weight includes internal battery | No                                        |
| Battery size WxDxH               | 19.3 x 21 x 3.5 in (49 x 53.3 x 8.9 cm)   |
| Battery size                     | 2 U                                       |
| Battery Pack in lbs/kg           | 60 lbs / 27.2                             |

## Battery Charger

|                           |     |
|---------------------------|-----|
| Microprocessor controller | Yes |
| Expansion                 | Yes |
| Extended pack option      | Yes |
| Connect/disconnect        | Yes |

## Front Panel Display

|                           |           |
|---------------------------|-----------|
| System status information | Yes       |
| Inverter status           | Yes       |
| Bypass status             | Yes       |
| Load status               | 5 segment |
| Battery status            | 5 segment |
| Diagnostic status         | Yes       |

## Diagnostics

|                     |     |
|---------------------|-----|
| POST                | Yes |
| Bypass              | Yes |
| Line to output sync | Yes |
| Battery status      | Yes |
| Inverter error      | Yes |
| AC input failure    | Yes |
| Overload            | Yes |

## Monitoring

|                    |     |
|--------------------|-----|
| Remote shutdown    | Yes |
| Remote diagnostics | Yes |
| Scheduled shutdown | Yes |
| Input voltage      | Yes |
| Input frequency    | Yes |
| Output voltage     | Yes |
| Output frequency   | Yes |
| Output Load        | Yes |

|            |     |
|------------|-----|
| Reporting  | Yes |
| Graphicing | Yes |
| Plotting   | Yes |

## Auto Restart (Input Voltage)

|               |                |
|---------------|----------------|
| 110 / 120 VAC | >90 - 120 VAC  |
| 220 VAC       | >100 - 200 VAC |

## DC Startup

|            |     |
|------------|-----|
| DC Startup | Yes |
|------------|-----|

## Environment

|                                 |                                |
|---------------------------------|--------------------------------|
| Audible noise                   | < 50 dBA at 1 meter            |
| Temperature (MIL-STD-810)       | -22° to 140° F (-30° to 60° C) |
| Relative humidity (MIL-STD-810) | 0 to 95% non-condensing        |

## Approvals

|                   |           |
|-------------------|-----------|
| UL                | Compliant |
| UL medical        | Compliant |
| TUV               | Compliant |
| CE and CE medical | Yes       |

## Warranty

|          |                        |
|----------|------------------------|
| Warranty | 1 year parts and labor |
|----------|------------------------|

## Protection

|                                 |                                    |
|---------------------------------|------------------------------------|
| Overload                        | > 100% full load / 15-20 sec delay |
| Over/under voltage at I/P , O/P | Inverter shutdown protection       |
| Short circuit                   | Yes                                |
| Over temperature                | Yes                                |