


Technical Specifications	
Nano Wave	
SINGLE PHASE (35 TO 200W) UL924 LITHIUM-ION REMOTE EMERGENCY DIMMING INVERTERS	

1. GENERAL

1.1 SCOPE

This guide provides technical information and specifications for OnLine Power's Nano Wave Remote Emergency Inverters (REI). This document will provide information for the following inverter: 35REI and 200REI models.

The UL924 Listed REI Series remote emergency lighting inverters operate LED and fluorescent fixtures with Pure Sinusoidal Power during loss of normal AC power. The REI Series inverters — models 35REI (35W) and 200REI (200W) — provide emergency lighting power for 90 minutes in compliance with Life Safety Code requirements.

Note: This Guide Specification is subject to change without notice due to product improvement and/or enhancement.

Please use this document as a guide specification and do not hesitate to contact our Application Engineering Department if you have any further questions or special requirements.

You can contact us at: (800) 227-8899 or via email: sales@onlinepower.com.

35REI Technical Guide Specifications

2. DESCRIPTION

The Online Power Emergency Lighting 35REI is a compact, versatile Pure Sine Wave Mini inverter designed for designated emergency lighting fixtures and includes Emergency Dimming. In the event of a power failure, the inverter will automatically supply up to 35 watts of emergency power to LED or fluorescent luminaires for ninety (90) minutes. It can operate with single or multiple switched, dimmed, non-switched or emergency only luminaires. It can operate as a standalone 35 watt inverter. It can be used with 0-10 Vdc controlled dimmable luminaires (up to 175W) and adjust the 0-10 Vdc dimming voltage to the AC drivers for rated emergency output.

3. OPERATION

When AC power is applied, the LED test switch is illuminated, indicating that the batteries are being charged. When AC power fails, the 35REI automatically switches to emergency power, operating the lighting load at rated emergency power. During power failure, the LED test switch indicator will be off. When the AC power is restored, the 35REI switches the system back to normal mode of operation and resumes battery charging. The minimum emergency operation time is 90 minutes. A short term discharge test may be conducted after unit has been charging for 1 hour. Charge for 24 hours before conducting a long term discharge test. Refer to page 2 for Emergency Dimming applications.

4. TESTING AND MAINTENANCE

The following Periodic testing is recommended to ensure the system is working correctly.

1. Visually inspect the LED test switch (LTS) monthly. It should be illuminated when AC power is applied.
2. Conduct a 30-second discharge test by switching off the emergency breaker every month. The LTS will be off.
3. Conduct a 90-minute discharge test once per year. The LTS will be off during the test.

35REI Technical Guide Specifications

6. SPECIFICATION

Approvals	UL Listed to UL924
Input Voltage	(Universal Input 120 - 277 Vac, 50 or 60Hz)
Input Current	0.12 A (max.)
Output	120 - 277 Vac, 60Hz Auto setting output voltage equal to input voltage.
Output Power and Temperature	35 Watts
	26 Watts for 2 hour applications
Operating Time	90 Minute minimum
Manual Test	Monthly and Annual
Transfer Time	2 seconds (Max.)
Emergency Dimming Mode	Auto Adjust 0-10 Vdc to achieve rated 35W emergency power. Max. Connected Normal 0-10 Vdc load of 175W.
Recharge Time	24 Hours
Remote Monitoring Distance	300 ft (max. w/ 18ga wire)
Battery	Lithium Ion
Dimensions	20.7" L x 2.25" W x 2.05" D
Weight	5.0 Lbs
Warranty	5 years full. See website for warranty details.

200REI Technical Guide Specifications

2. DESCRIPTION

The Online Power Emergency Lighting 200REI is a compact, versatile Auto- Test Pure Sine Wave Mini inverter designed for designated emergency lighting fixtures and includes Emergency Dimming. In the event of a power failure, the inverter will automatically supply up to 200 watts of emergency power to LED or fluorescent luminaires for ninety (90) minutes. It can operate with single or multiple switched, dimmed, non-switched or emergency only luminaires. It can operate as a standalone 200 watt inverter. It can be used with 0-10 Vdc controlled dimmable luminaires (up to 900W @120Vac or 1800W @277Vac) and adjust the 0-10 Vdc dimming voltage to the AC drivers for rated emergency output.

3. OPERATION

When AC power is applied, the LED test switch is illuminated, indicating that the batteries are being charged. When AC power fails, the 200REI automatically switches to emergency power, operating the lighting load at rated emergency power. During power failure, the LED test switch indicator will be off. When the AC power is restored, the 200REI switches the system back to normal mode of operation and resumes battery charging. The minimum emergency operation time is 90 minutes. A short term discharge test may be conducted after unit has been charging for 1 hour. Charge for 24 hours before conducting a long term discharge test. Refer to page 2 for Emergency Dimming applications.

4. TESTING AND MAINTENANCE

The following Periodic testing is recommended to ensure the system is working correctly.

1. Visually inspect the LED test switch (LTS) monthly. It should be illuminated when AC power is applied.
2. Conduct a 30-second discharge test by switching off the emergency breaker every month. The LTS will be off.
3. Conduct a 90-minute discharge test once per year. The LTS will be off during the test.

200REI Technical Guide Specifications

4.1 AUTO TEST

The 200REI Nano Inverter has an Auto Test feature which saves costs by reducing the need for manual testing.

4.1A Initial Auto Test

When the system is connected properly and powered on (make sure the load is switched on), the 200REI will perform an initial Auto Test. If any abnormal conditions exist, the LTS will blink quickly. Once the abnormal condition is corrected, the LTS will function correctly. The initial Auto Test will be restarted automatically when the connected dimmable loads maximum power increases.

4.1B Preprogrammed Scheduled Auto Test

- a) The unit will conduct the first Monthly Auto Test after 24 hours and up to 7 days after initial power on. Then monthly tests will be performed every 30 days.
- b) Annual Auto Test It will occur every 52 weeks after the initial power on.

Monthly Auto Test:

The Monthly Auto Test shall be executed every 30 days, and will test: Normal to emergency transfer function, emergency, charging and discharging conditions are normal. Monthly test time is approximately 60 seconds.

Annual Auto Test:

Annual Auto Test will occur every 52 weeks after the initial 24 hours full charge, and will test: Proper initial battery voltage, 90-minute emergency operation and acceptable battery voltage at the end of the full 90-minute test.

If the Auto Test is interrupted by a power failure, a full 90-minute Auto Test will occur again 24 hours after the power is restored. If the power failure causes the battery to fully discharge, the product will restart the Initial Auto Test and Preprogrammed Scheduled Auto Test.

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4.2 MANUAL TEST

1. Press the LTS one time to simulate emergency mode for 10 seconds.
2. Press the LTS 2 times continuously within 5 seconds to force a 60-second monthly test. After the test is completed, the next (30-day) monthly test will count from this date.
3. Press the LTS 3 times continuously within 5 seconds to force a 90-minute annual test. After the test is completed, the next (52-week) annual test will count from this date. Note - unit must be 24-hour fully charged.
4. In Normal mode, press and hold the LTS for greater than 3 seconds to restart initial Auto Test.
5. During any manual test, press and hold the LTS for greater than 3 seconds to terminate a manual test. The Preprogrammed Scheduled Auto Test will not change.

4.3 LED TEST SWITCH (LTS) CONDITIONS

LTS Slow Blinking: Normal Charging

LTS On: Battery Fully Charged - Normal Condition

LTS Off: Power Failure

LTS Gradual Change: In Testing Mode

LTS Quickly Blinking: Abnormal Condition - Corrective Action Required

200REI Technical Guide Specifications

6. SPECIFICATION

Approvals	UL Listed to UL924
Input Voltage	(Universal Input 120 - 277 Vac, 50 or 60Hz)
Input Current	0.33 A (max.)
Output	120 - 277 Vac, 50 or 60Hz Auto setting output voltage equal to input voltage.
Output Power and Temperature	200 Watts
	150 Watts for 2 hour applications
Operating Time	90 Minute minimum
Auto Test	Monthly and Annual
Transfer Time	2 seconds (Max.)
Emergency Dimming Mode	Patent Pending Auto Adjust 0-10 Vdc to achieve rated 200W emergency power for 90 minutes
Recharge Time	24 Hours
Remote Monitoring Distance	1,000 ft (max. w/ 18ga wire)
Battery	Lithium Ion
Dimensions	19" L x 4.5" W x 1.63" D
Weight	8.5 Lbs
Warranty	5 years full. See website for warranty details.