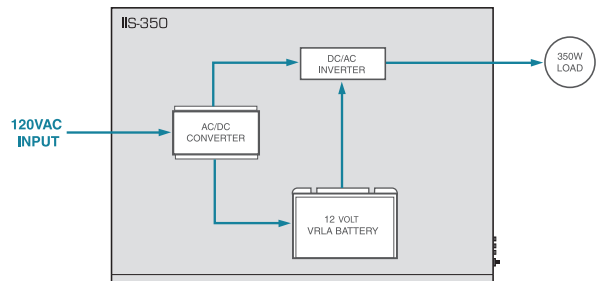


TECHNICAL BRIEF

## IIS Series Inverter Terminology Reference

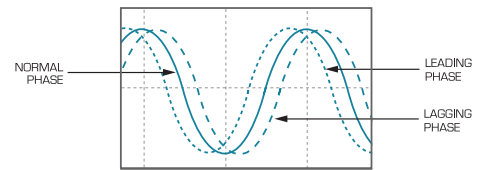
**Double Conversion** - Double-conversion systems provide current to both the inverter and battery simultaneously. The load is operated from the inverter at all times. When AC power is lost, the inverter continues to operate the load from the battery without interruption. The IIS-350-U and IIS-350-UM utilize double-conversion to provide the load with uninterrupted power, preventing arc loss in HID lamps. **Fig. A**

**Fig. A: Double-Conversion**



**Leading to Lagging** - Leading to Lagging is a measurement of the phase difference between two sinusoidal waves. The phase difference varies depending on the load. The IIS-125, IIS-375-I, and IIS-350-U Inverters are designed for operating loads with a .9 leading to .9 lagging power factor (PF), and IIS-375-LED and IIS-550-I operate loads with .8 leading to .8 lagging PF. **Fig. B**

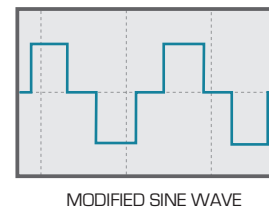
**Fig. B: Leading to Lagging Power Factor**



**Low Battery Voltage Disconnect** - The Low Battery Voltage Disconnect is a safeguard that disconnects the battery when battery voltage drops to an insufficient level. Disconnecting the battery prevents damage that could occur to the inverter equipment from a low voltage condition.

**Line-Latch Protection** - The Line-Latch protection feature prevents the battery from prematurely resuming operation after Low Battery Voltage Disconnect. To prevent deep discharge, the battery will not resume emergency operation until AC power has been restored and charged the battery to sufficient levels.

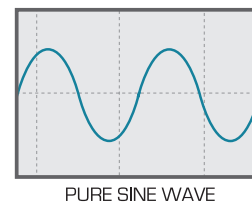
**Fig. C: Modified Sine Wave**



**Modified Sine Wave** - A modified sine wave (sometimes referred to as a 'simulated' sine wave) is an AC current that is not a pure sine wave. Modified sine waves have some load limitations in regard to electronic equipment. Lighting loads, however, are typically unaffected by modified sine wave current. **Fig. C**

**Pure Sine Wave** - A pure sine wave is indicative of normal AC voltage. There are no load limitations with pure sine wave output. **Fig. D**

**Fig. D: Pure Sine Wave**



**Uninterruptible** - An uninterruptible inverter switches power from the normal AC supply to the emergency supply without interruption to the load. HID fixtures require uninterrupted power supplies in order to maintain the electrical arc that lights the lamp. Should power be interrupted to the HID fixture, the lamp will extinguish and require several minutes before returning to adequate illumination levels.

**VRLA (Valve Regulated Lead Acid) Battery** - A VRLA battery is a sealed maintenance-free lead-acid battery. The valve design keeps the battery sealed while allowing the venting of gasses that may be generated by over-charging.