

AC/DC Power Monitor and Alarm System



	TRANSMIT	RECEIVE
Multimode ST	8806-1505-01	8806-1515-01
Multimode SC	8805-1505-01	8805-1515-01
Single Mode ST	8806-1525-01	8806-1535-01
Single Mode SC	8805-1525-01	8805-1535-01

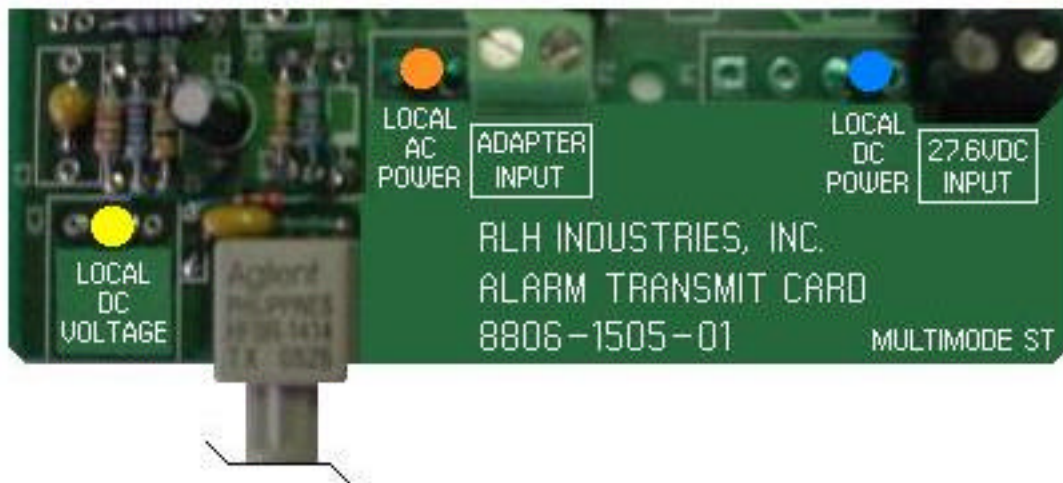
System Description

This system provides a method of remotely monitoring an RLH 120VAC powered battery backed High Density or Low Density DC power supply and transmitting normal and alarm status through one strand of fiber optic cable. The RLH Alarm Transmit Card is connected directly to the AC and DC power source to be monitored. The Alarm Receive Card is located at the opposite end of the fiber optic cable and is locally powered. The DC PWR INPUT on both Alarm Cards is not polarity sensitive. The system will operate up to 2 miles over multimode fiber and up to 6 miles over single mode fiber.

Installation

Alarm Transmit Card

Connect the 27.6VDC INPUT Black Terminals to the DC Output of the RLH battery backed AC to DC Power Supply to be monitored. Polarity does not matter. The Blue LOCAL DC POWER L.E.D. and the Yellow LOCAL DC VOLTAGE L.E.D. will turn ON. Connect the RLH AC Adapter Transformer Pigtail to the ADAPTER INPUT Green Terminals. The polarity does not matter. Plug the Adapter Transformer into the same 120VAC wall outlet used by the RLH AC to DC Power Supply. The Orange LOCAL AC POWER L.E.D. will turn ON indicating normal AC Power. Connect the fiber to the optical transmitter.



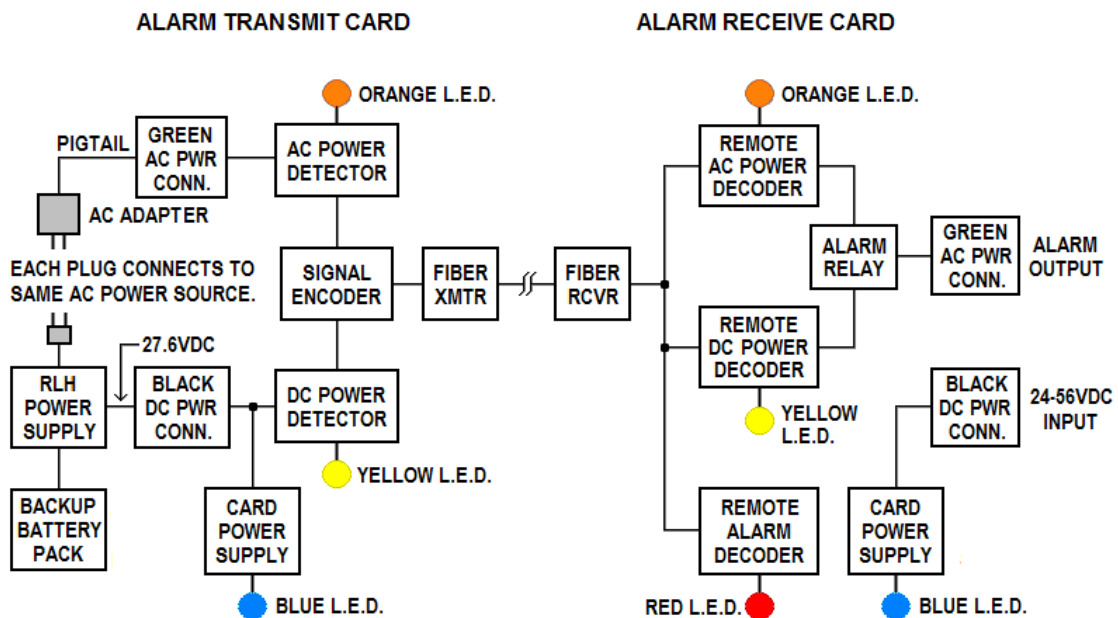
Installation continued:

Alarm Receive Card

Connect the 24-56VDC INPUT Black Terminals to a source of 24-56VDC Power. Polarity does not matter. The Blue LOCAL DC POWER L.E.D. and the Red REMOTE ALARM L.E.D. will both turn ON. Connect the fiber to the Optical Receiver. The Red REMOTE ALARM L.E.D. will turn OFF, the Orange REMOTE AC POWER L.E.D. will turn ON indicating normal AC Power at the remote end and the Yellow REMOTE DC POWER L.E.D. will turn ON indicating normal DC Power at the remote end. Also, the ALARM OUTPUT terminals will provide a 15 ohms short (closed contact). Connect the customer's alarm circuit to the ALARM OUTPUT terminals.



Block Diagram



Power Monitor and Alarm System Operation

Upon loss of AC Power at the Alarm Transmit Card (remote end) the Orange L.E.D. on the transmit card will turn OFF. Approximately 9 seconds later (on the Alarm Receive Card), the Orange REMOTE AC POWER L.E.D. will turn OFF, the Red REMOTE ALARM L.E.D. will turn ON and the ALARM OUTPUT terminals will open. Since the Power Supply at the remote end is no longer float charging the backup Battery Pack, the DC voltage across the Power Supply will decrease (the backup Battery Pack is interconnected to the Power Supply terminals). When the battery voltage falls below 26.6VDC, the Yellow LOCAL DC VOLTAGE L.E.D. on the transmit card and the Yellow REMOTE DC POWER L.E.D. on the receive card will both flash at a rate of 3 times per second. As the Battery Pack voltage falls with discharge, the Yellow L.E.D.'s flash rate will decrease. The Yellow L.E.D.s will flash 1 time per second when the voltage across the Battery Pack falls to 23.6VDC. At this voltage level the battery pack holds about 15% of the amp hour rating. Below this voltage the Yellow and Orange L.E.D.s on both cards will be OFF.

After AC power is returned to the RLH AC/DC Power Supply, the Orange L.E.D. on the transmit card will turn ON steady. The Yellow L.E.D. on the transmit card and the Yellow, Orange and Red* L.E.D.s on the receive card will flash until the DC voltage across the RLH Power Supply terminals reaches 26.7VDC. The receive card ALARM OUTPUT terminals will break and make at the flash rate.

If the AC power does not fail but the Power Supply does, the Alarm Receive Card REMOTE AC POWER Orange L.E.D.* will flash in unison with the REMOTE DC POWER Yellow L.E.D. to indicate normal AC power at the Alarm Transmit Card. The receive card ALARM OUTPUT terminals will break and make at the flash rate.

* The Red L.E.D. will be ON whenever the Orange L.E.D. is OFF. Therefore, its flash alternates with the Orange L.E.D.

Specifications

- Single Fiber Operation
- Fiber Connector Type: ST or SC Multimode or Single Mode
- Fiber Transmission Medium: Multimode 50um, 62.5um or Single Mode 8-10um
- Fiber Distance: Multimode - 2 Miles; Single Mode - 6 miles
- Operating Temperature: -40C to +70C
- Fiber Card Dimensions: 7"L X 4"W X 1"H
- Powering Alarm Transmit Card: RLH Power Supply 27.6VDC connected to the Black 27.6VDC INPUT Terminals. Card will draw a maximum of 15 mA. RLH Adapter Transformer provides a DC Voltage that is proportional to the AC voltage applied to the monitored RLH Power Supply.
- Powering Alarm Receive Card: 24V-56VDC connected to the Black 24V-56VDC INPUT Terminals. Card will draw a maximum of 15 mA.
- Alarm Output: 2500VRMS isolation Solid State Relay with surge protection. ON resistance is 15 ohms. Maximum voltage applied while relay is OFF is 220VAC or 330 VDC. Maximum current load while relay is ON is 100mA AC or 150mA DC.

Contact Information:

RLH Industries, Inc.
936 N. Main Street
Orange, CA 92867

Office: 800-877-1672
Fax: 714-532-1672

Email: info@fiberopticlink.com
Web: www.fiberopticlink.com