



# TECHNICAL Practice

**TELECOM SOLUTIONS FOR THE 21ST CENTURY**

**BLK-3-EWP**

**Line Status Strobe  
Light Kit with EWP**

May 25, 2011

## **Provide Strobe Light Indication of Line Status**

### **Ideal for Use with Two-Button Emergency Phones!**

The **BLK-3-EWP** provides high visibility indication of analog line status through a high powered one million candle power strobe light. The **BLK-3-EWP** is the ideal solution for the hearing impaired and can be used equally well in loud warehouses or factories, where ringing phones can not be heard. Alternatively, the **BLK-3-EWP** can be used to add emergency notification to pre-existing emergency phones by turning on the strobe light when the emergency phone is in use.

The included **LDB-3** control module has a disable input which is ideal for two-button emergency phones, such as Viking's **E-1600-20A**, allowing "Info" button calls to be placed without activating the relay (turning on the emergency strobe light, camera, etc.) Three DIP switches are provided for turning ring detection on or off, off-hook/loop detection on or off and for selecting a ring cadence mode which allows the relay to follow ringing or to remain activated during the off time of standard ring cadence.

The control module can be installed on any standard telephone line or analog PABX/KSU station. The 1 million candle power strobe can be interfaced to flash on ringing, off-hook or a combination of ringing and off-hook (line in-use). The **LDB-3** ring/loop detect control module is also available separately, see **DOD# 409** for more information.

The **BLK-3-EWP** is equipped with Enhanced Weather Protection (**EWP**) for outdoor installations where the unit is exposed to precipitation or condensation. EWP products feature foam rubber gaskets and boots, sealed connections, gel-filled butt connectors, as well as urethane or thermal plastic potted circuit boards with internally sealed, field-adjustable trim pots and DIP switches for easy on-site programming. For more information, see **DOD# 859**.

The kit includes: (1) **LDB-3** control module, (1) blue strobe light, (1) 12V DC power adapter, (13) gel-filled butt connectors and (1) single gang weatherproof mounting box with gaskets and hardware.



## **Features**

- **LDB-3** control module comes with Enhanced Weather Protection (EWP), EWP products are designed to meet IP68 Ingress Protection Rating, see **DOD# 859**
- Durable polycarbonate lens
- Long life 1 million candle power blue strobe light
- Flush mount or surface mount with weatherproof single gang box (included)
- 3/4" knockouts for connecting conduit, etc.
- Strobe and control module may be installed separately
- Can be configured to signal: ringing, off-hook, or a combination of both ringing and off-hook (line in-use)
- One set of (NO) normally open and (NC) normally closed relay contacts provided
- Selectable ring cadence mode (strobe light will remain flashing between rings)
- Switched 12V DC output (follows relay activation for powering strobe lights, cameras, etc.)
- On/off switches for ring detection and off-hook/loop detection
- Disable input, ideal for use with two-button emergency phones like Viking's **E-1600-20A (DOD# 215)**, will not activate strobe light on "Info" calls

## **Applications**

- Ringing Phone or TTY indication for the hearing impaired
- Ringing phone indication in loud warehouses and factories
- Emergency illumination for emergency phones in elevators, campuses, hallways, parking ramps, etc.
- Alarm indication for security systems or alarm panels with phone dialers

## **Specifications**

**Power:** 120V AC to 12V DC adapter provided  
**Strobe Dimensions:** 111mm diameter x 69mm (4.38" x 2.75")  
**Control Module Dimensions:** 74mm x 53mm x 25mm (2.9" x 2.1" x 1.0")  
**Shipping Weight:** 1.5 kg (3.3 lbs)  
**Operating Temperature:** -26° to 54°C (-15° to 130° F)  
**Relay Contact Rating:** .5A @ 125V AC/1A @ 30V DC  
**Minimum Loop Current:** 15 mA  
**Minimum Ring Voltage:** 25V RMS  
**Strobe Output:** 1 million candle power @ 1 second flash rate  
**Ringer Equivalence:** 0.5 A REN  
**Disable/Info Switch Input:** 50mA/80mW maximum  
**Mounting:** Fasten to wall, post, etc. with complete surface mounting hardware included  
**Connections:** Color coded wires with gel-filled butt connectors

**Phone...715.386.8861**

# Warranty

**IF YOU HAVE A PROBLEM WITH A VIKING PRODUCT, PLEASE CONTACT: VIKING TECHNICAL SUPPORT AT (715) 386-8666**

Our Technical Support Department is available for assistance weekdays between 8 a.m. and 5 p.m. central time. So that we can give you better service, before you call please:

1. Know the model number, the serial number and what software version you have (see serial label).
2. Have your Technical Practice in front of you.
3. It is best if you are on site.

## RETURNING PRODUCT FOR REPAIR

The following procedure is for equipment that needs repair:

1. Customer must contact Viking's Technical Support Department at 715-386-8666 to obtain a Return Authorization (RA) number. The customer MUST have a complete description of the problem, with all pertinent information regarding the defect, such as options set, conditions, symptoms, methods to duplicate problem, frequency of failure, etc.
2. Packing: Return equipment in original box or in proper packing so that damage will not occur while in transit. Static sensitive equipment such as a circuit board should be in an anti-static bag, sandwiched between foam and individually boxed. All equipment should be wrapped to avoid packing material lodging in or sticking to the equipment. Include ALL parts of the equipment. C.O.D. or freight collect shipments cannot be accepted. Ship cartons prepaid to: **Viking Electronics, 1531 Industrial Street, Hudson, WI 54016**
3. Return shipping address: Be sure to include your return shipping address inside the box. We cannot ship to a P.O. Box.
4. RA number on carton: In large printing, write the R.A. number on the outside of each carton being returned.

## RETURNING PRODUCT FOR EXCHANGE

The following procedure is for equipment that has failed out-of-box (within 10 days of purchase):

1. Customer must contact Viking's Technical Support at 715-386-8666 to determine possible causes for the problem. The customer MUST be able to step through recommended tests for diagnosis.
2. If the Technical Support Product Specialist determines that the equipment is defective based on the customer's input and troubleshooting, a Return Authorization (R.A.) number will be issued. This number is valid for fourteen (14) calendar days from the date of issue.
3. After obtaining the R.A. number, return the approved equipment to your distributor, referencing the R.A. number. Your distributor will then replace the product over the counter at no charge. The distributor will then return the product to Viking using the same R.A. number.
4. **The distributor will NOT exchange this product without first obtaining the R.A. number from you. If you haven't followed the steps listed in 1, 2 and 3, be aware that you will have to pay a restocking charge.**

## LIMITED WARRANTY

Viking warrants its products to be free from defects in the workmanship or materials, under normal use and service, for a period of one year from the date of purchase from any authorized Viking distributor or 18 months from the date manufactured, whichever ever is greater. If at any time during the warranty period, the product is deemed defective or malfunctions, return the product to Viking Electronics, Inc., 1531 Industrial Street, Hudson, WI, 54016. Customer must contact Viking's Technical Support Department at 715-386-8666 to obtain a Return Authorization (R.A.) number.

This warranty does not cover any damage to the product due to lightning, over voltage, under voltage, accident, misuse, abuse, negligence or any damage caused by use of the product by the purchaser or others.

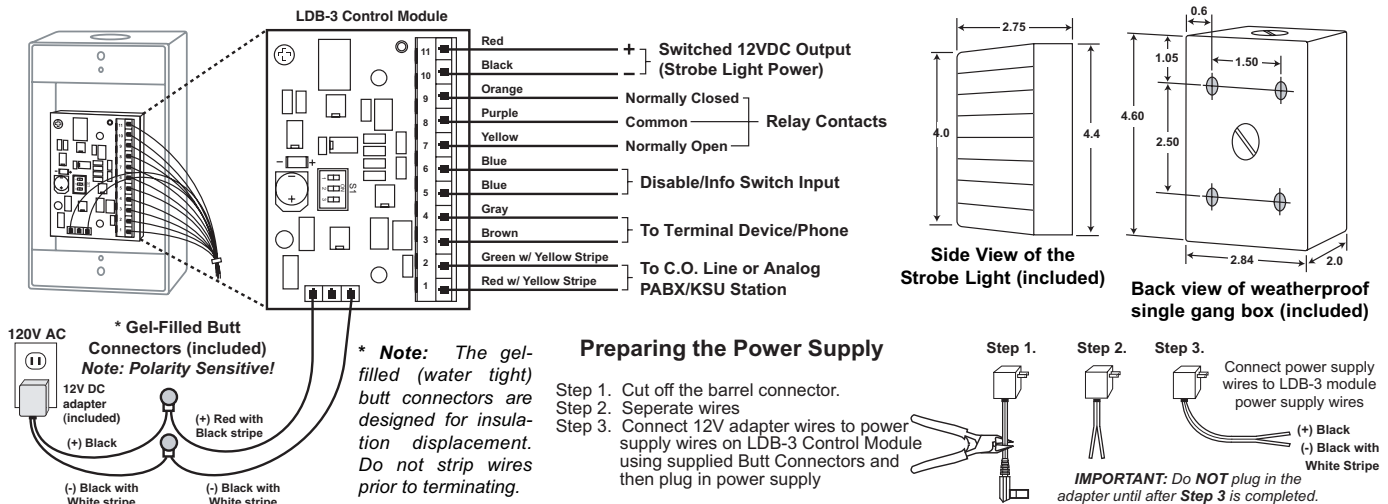
**NO OTHER WARRANTIES. VIKING MAKES NO WARRANTIES RELATING TO ITS PRODUCTS OTHER THAN AS DESCRIBED ABOVE AND DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTIES OR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.**

**EXCLUSION OF CONSEQUENTIAL DAMAGES.** VIKING SHALL NOT, UNDER ANY CIRCUMSTANCES, BE LIABLE TO PURCHASER, OR ANY OTHER PARTY, FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL OR EXEMPLARY DAMAGES ARISING OUT OF OR RELATED TO THE SALE OR USE OF THE PRODUCT SOLD HEREUNDER.

**EXCLUSIVE REMEDY AND LIMITATION OF LIABILITY.** WHETHER IN AN ACTION BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY) OR ANY OTHER LEGAL THEORY, ANY LIABILITY OF VIKING SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE PRODUCT, OR AT VIKING'S OPTION, REFUND OF THE PURCHASE PRICE AS THE EXCLUSIVE REMEDY AND ANY LIABILITY OF VIKING SHALL BE SO LIMITED.

IT IS EXPRESSLY UNDERSTOOD AND AGREED THAT EACH AND EVERY PROVISION OF THIS AGREEMENT WHICH PROVIDES FOR DISCLAIMER OF WARRANTIES, EXCLUSION OF CONSEQUENTIAL DAMAGES, AND EXCLUSIVE REMEDY AND LIMITATION OF LIABILITY, ARE SEVERABLE FROM ANY OTHER PROVISION AND EACH PROVISION IS A SEPARABLE AND INDEPENDENT ELEMENT OF RISK ALLOCATION AND IS INTENDED TO BE ENFORCED AS SUCH.

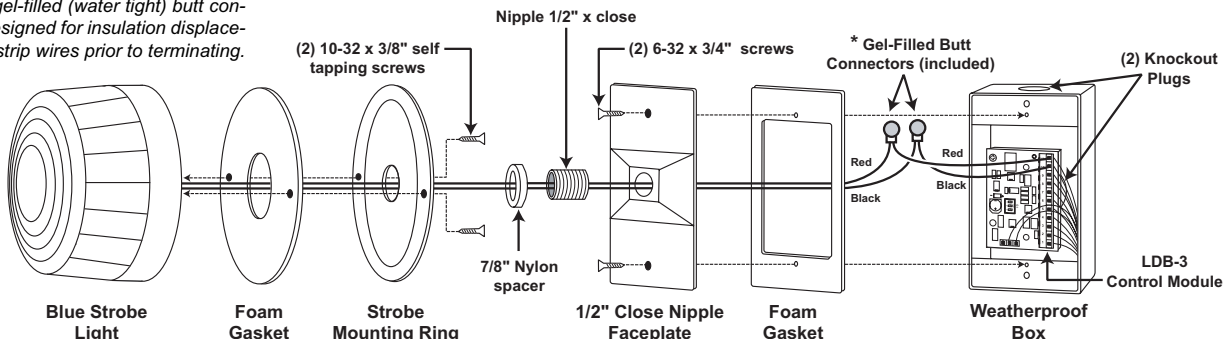
# Installation



**IMPORTANT:** Electronic devices are susceptible to lightning and power station electrical surges from both the AC outlet and the telephone line. It is recommended that a surge protector be installed to protect against such surges.

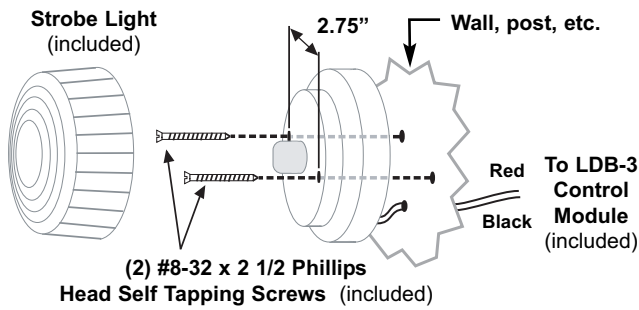
## A. Installing the Strobe Light Using the Included Weatherproof Box

\* Note: The gel-filled (water tight) butt connectors are designed for insulation displacement. Do not strip wires prior to terminating.



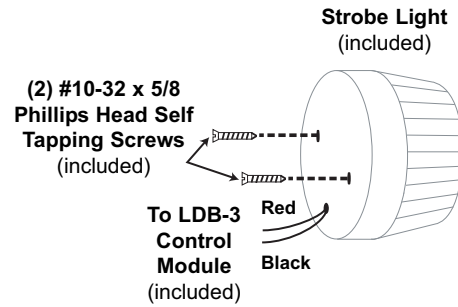
## B. Front Mounting Without Weatherproof Box

The **BLK-3-EWP** Strobe Light Kit may be mounted without using the included weatherproof box. To mount the strobe light from the front, use the diagram below.



## C. Rear Mounting Without Weatherproof Box

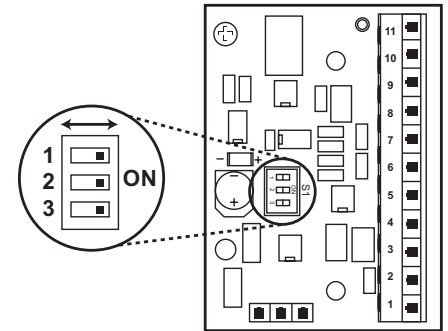
To mount the strobe light from the rear, use the diagram below.



# Programming

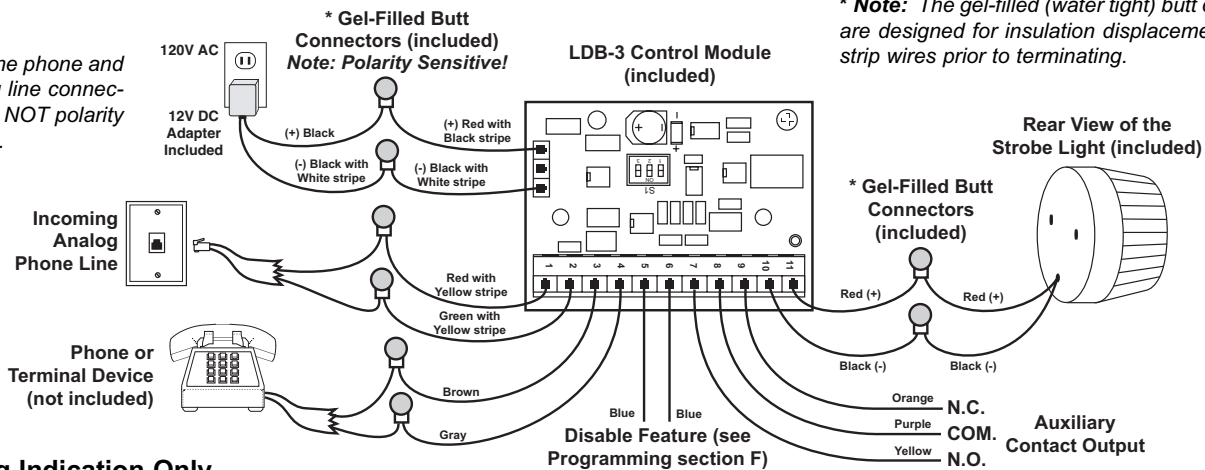
## A. DIP Switches

Sw 1	Sw 3	Description
ON	OFF	Ring Detection Only (see section B).
OFF	ON	Off-Hook/Loop Current Detection Only (see section B).
ON	ON	Ring and Off-Hook/Loop Current Detection (see section B).
Sw 2	Ring Cadence Mode (see section C)	
ON	Ring Cadence Mode ON - relay remains activated in between rings.	
OFF	Ring Cadence Mode OFF - relay is activated only during ringing.	



## B. Configuring for Ring and/or Loop/Off-Hook Indication

**Note:** The phone and incoming line connections are NOT polarity sensitive.



**\* Note:** The gel-filled (water tight) butt connectors are designed for insulation displacement. Do not strip wires prior to terminating.

### 1. Ring Indication Only

Connect the incoming line to the red and green wires with the yellow stripe as shown in the diagram. No phone/terminal device is required. The **LDB-3** control module can monitor for ringing any place along the ringing line.

### 2. Loop/Off-hook Indication Only

The **LDB-3** control module must be placed between the phone line and the phone/terminal device to be monitored. Connect the incoming line to the red and green wires with the yellow stripe and connect the phone/terminal device to the brown and gray wires as shown.

### 3. Both Ring and Loop/Off-hook Indication

If the application requires ring and loop/off-hook indication, the **LDB-3** control module must be placed between the phone line and the phone/terminal device to be monitored. Connect the incoming line to the red and green wires with the yellow stripe, connect the phone/terminal device to the brown and gray wires.

## C. Ring Cadence Mode

DIP switch 2 is used for switching between different ring detection modes. In the **OFF** position, the relay and switched 12VDC output will activate only while ring voltage is present and will turn off between rings. In the **ON** position, the relay and switched 12VDC output will remain on for up to 5.75 seconds after the ringing has stopped. This allows the relay and 12VDC (flashing strobe light) to remain on between rings of a standard ring cadence. **Note:** To use the Ring Cadence Mode, ring detection MUST be enabled (DIP switch 1 - ON).

## D. Relay Contacts

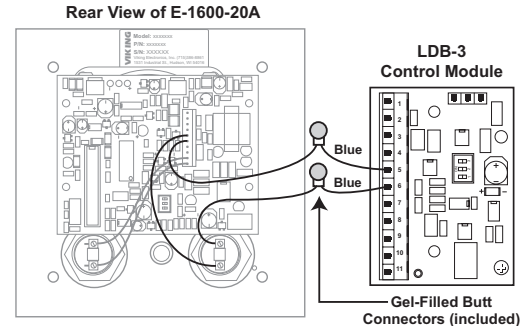
Normally open and normally closed relay contacts are available on the orange, purple and yellow wires. The contacts are rated at .5A @ 125VAC/1A @ 30VDC. If contacts are driving an inductive load, place a suppression device at the load to snub high voltage spikes.

## E. Switched 12V DC Output

The switched 12V DC output is a low current, 12-15VDC output that is turned on only while the ring/loop detect relay is activated. This switched power output is ideal for lighting the included strobe light or providing 12-15V DC power to any device that draws less than 350mAmps. The positive side is available on the red wire, and the negative side is on the black wire. Once all the line and load connections have been made, plug in the 115 V AC wall adapter, and replace the cover.

## F. Disable Feature

By connecting the Disable/Info Switch input of the **LDB-3** control module to the "Info" switch of Viking's **E-1600-20A**, **E-1600-20A-EWP**, **E-1600-52A** or **E-1600-52A-EWP** Emergency Phone, any outbound call initiated from the "Info" button will not activate the strobe light. This way, only the "Help/Emergency" outbound calls will activate the relay. Cut one of the "Info" switch wires in half and connect each end to the blue wires on the **LDB-3** control module as shown in the diagram at the right. **Note: This Disable input is NOT polarity sensitive.** The "Disable" input can be connected to a switch for remotely disabling/turning off the device (strobe light, camera, etc.) controlled by the **LDB-3**. For more information, see **DOD# 866**.



# Operation

### A. Ring Indication (DIP Switch 1 ON)

When the **LDB-3** control module detects an incoming ring signal, it activates a set of normally open or normally closed contacts and turns on the 12VDC output for activating the provided strobe light. With the Ring Cadence mode off (DIP switch 2 OFF), the relay will activate and the strobe light will flash only during ringing. With the Ring Cadence mode ON (DIP switch 2 ON), the relay will remain activated and the strobe light will remain flashing between rings.

### B. Off-Hook Indication (DIP Switch 3 ON)

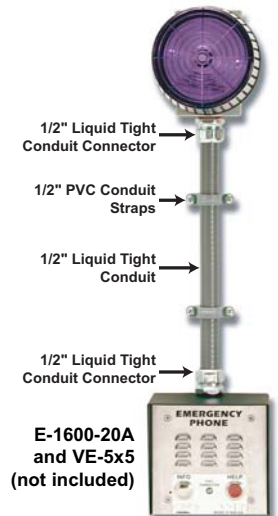
When the **LDB-3** control module detects an off-hook condition (loop current) on the brown and gray wires, it activates a set of normally open or normally closed contacts and turns on the 12VDC output for activating the provided strobe light. The relay contacts will remain activated and the blue strobe light will flash during the off-hook condition and will stop flashing approximately 3 seconds after the phone/terminal device on the brown and gray wires is back on-hook.

# Other Applications

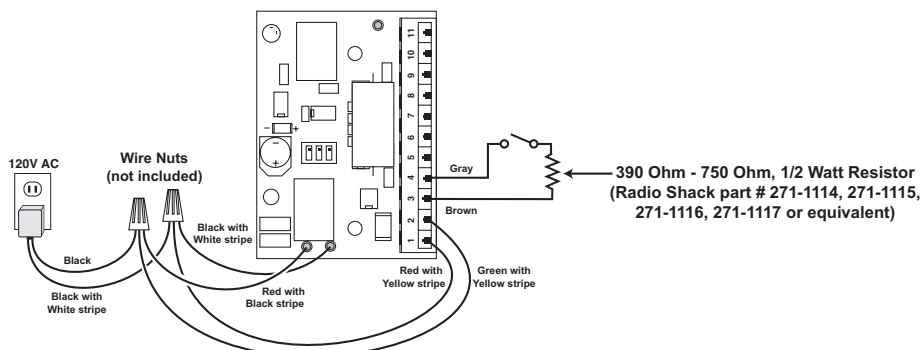
### A. Mounting the BLK-3-EWP with the E-1600-20A

The **BLK-3-EWP** can be used in conjunction with the **E-1600-20A** Two-Button Emergency Phone as shown to the far right, however, special installation and mounting is required. Please follow the steps below when using the **BLK-3-EWP** in conjunction with a surface-mounted **E-1600-20A**. A **VE-5x5** surface-mount box is required, see **DOD# 424**.

<b>Step 1.</b>	Drill or use a knockout punch to provide a .875" diameter hole in the top of the <b>VE-5x5</b> .
<b>Step 2.</b>	Make all conduit connections.
<b>Step 3.</b>	Make all wire connections to the <b>LDB-3</b> control module.
<b>Step 4.</b>	Install the <b>E-1600-20A</b> as explained in its Technical Practice, <b>DOD# 215</b> .



### B. Operating a BLK-3-EWP with a Contact Closure



Due to the dynamic nature of the product design, the information contained in this document is subject to change without notice. Viking Electronics, and its affiliates and/or subsidiaries assume no responsibility for errors and omissions contained in this information. Revisions of this document or new editions of it may be issued to incorporate such changes.