LVS
Line Voltage Sensor

Instruction Manual

REV F

BURK TECHNOLOGY

Introduction

The LVS Line Voltage Sensor permits monitoring of a single phase AC power circuit by providing a DC voltage sample that tracks linearly with the AC input voltage. This DC voltage is approximately $1/125^{th}$ of the AC RMS level, resulting in a low sample voltage that is compatible with most contemporary remote control systems. The LVS features:

- 55 - 480 VAC operating range.
- Linear, low-voltage DC output. DC output representative of $1/125^{th}$ AC RMS line voltage
- Status (ON/OFF) output. Provides a logic signal indicating that the AC voltage on the LVS input terminals is greater than 55 VAC.
- AC Warning LED. Illuminates with as little as 12VAC input. Warns of electrical shock hazard present inside the LVS.
- Internal transient protection. Protects the LVS from electrical disturbances.
- Fused primary circuit.

Installation

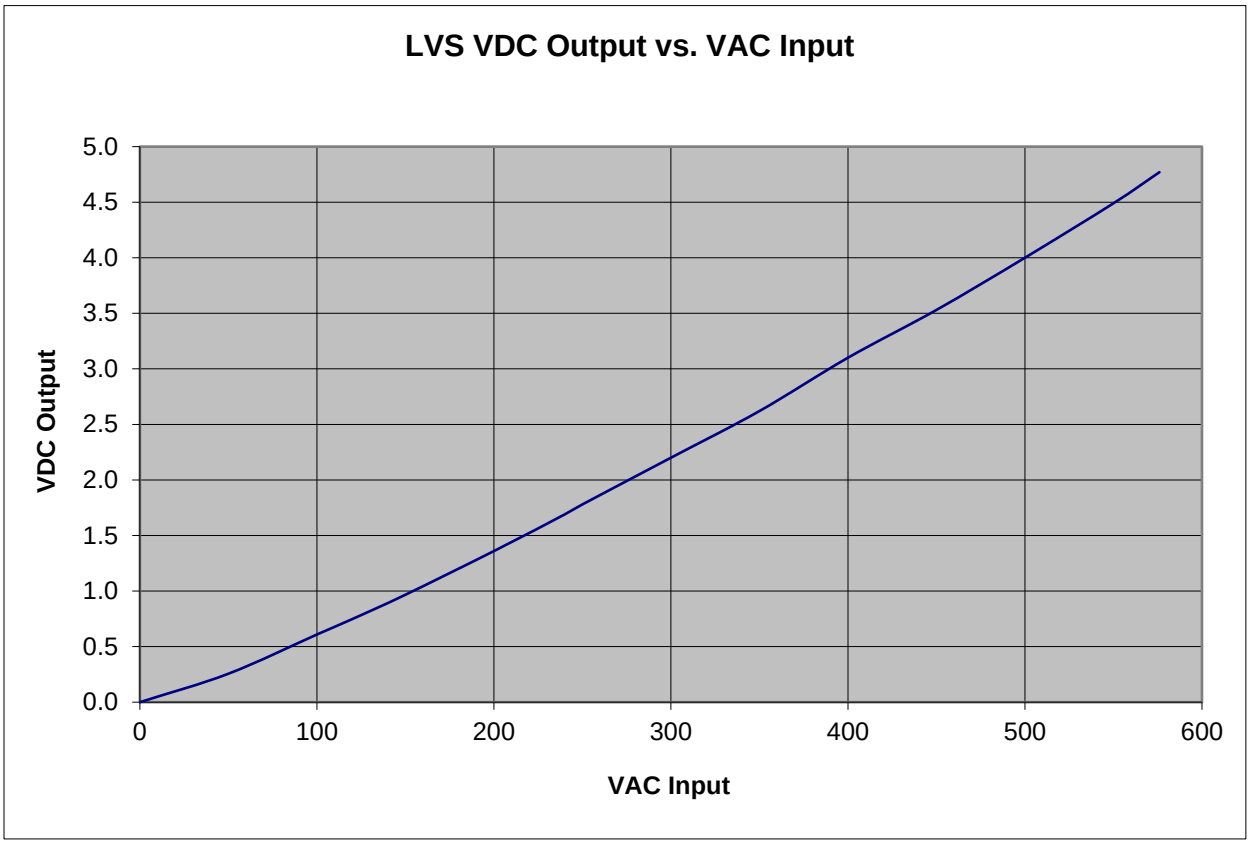
CAUTION: Connections to the electrical AC line should only be made by a qualified electrician. Hazardous voltages may be present. Be certain that the installation conforms to your local electrical codes.

1. Mount the LVS on a flat surface close to or inside the electrical service panel. Be certain to allow access to the fuse holder and the output connector areas of the LVS.
2. To secure the LVS, position 3 mounting screws using the template provided in this document.
3. With the cover of the LVS removed, bring the AC conductors and ground conductor through the cable entry clamp and connect them to the 3-terminal barrier strip. The terminals are labeled from left to right as AC1, GROUND and AC2, where AC1 is the neutral and AC2 is the hot. **USE OF A THIRD WIRE GROUND IS MANDATORY.** Do not rely solely upon the cabinet ground for safety.
4. The supplied fuse is rated for operation over the full operating range of the LVS. The MOV on the circuit board is intended to operate in 480 VAC applications. External circuit breakers or fuses must be installed ahead of the LVS in all installations.
5. Replace the cover of the LVS after connections have been made.
6. Output connections are made using a 'Combicon' removable terminal block. Pins are numbered from left to right.
   - Pin 1 is the DC Line Sample: 0 - 4.75 VDC representing 0 - 576 VAC.
   - Pins 2, 3 and 4 are connected to ground.

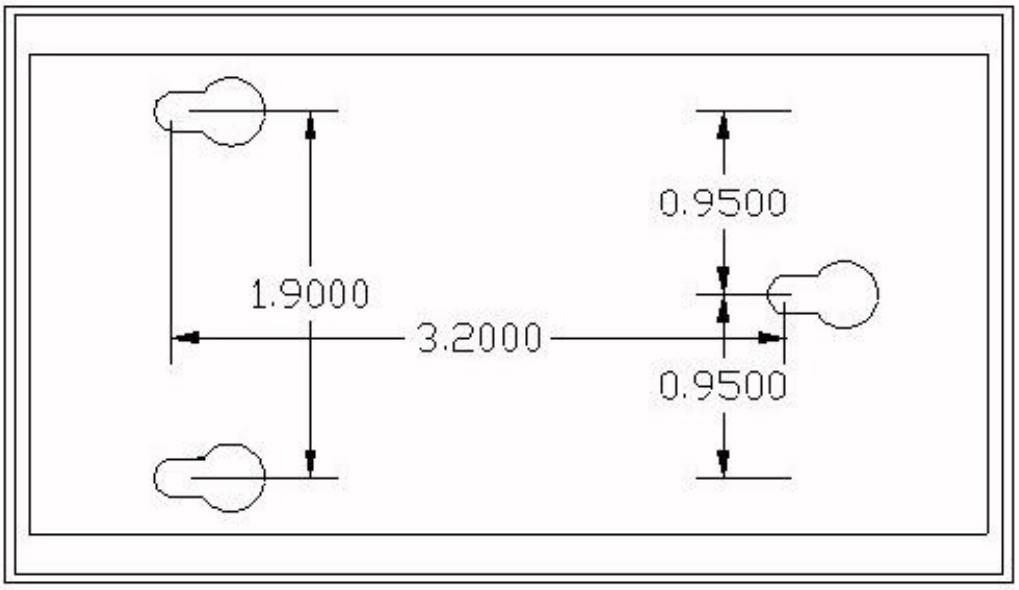
Initial Checkout

1. Remove power from the LVS. Connect the Status signal (pin #5) and one of the ground connections (pin #4) to your monitoring equipment. The Status signal indicates the on or off state of the power line. With power off, the Status output presents an open-circuit or high impedance state.
2. Set up your remote control equipment to indicate an error, fail or OFF condition while the LVS remains powered down.
3. Connect the Analog signal (pin #1) and one of the ground connections (pin number 2) to the remote control metering input.
4. Apply power to the LVS. The Status will change to a grounded connection, presenting a logic low to indicate that 55 Volts or greater is now detected on the power circuit for which the LVS is sampling. This should be set up to show that power is normal on your remote control equipment.
5. Calibrate the analog metering channel on your remote control while normal working voltage is present on the AC line input of the LVS. The analog voltage from the LVS will provide approximately one volt representing one hundred volts RMS on the power line.

Device Data



Mounting Template



Warranty

Burk Technology, Inc. warrants the LVS Line Voltage Sensor to be free of defects in materials and workmanship for a period of 24 months from the date of purchase. Equipment will be repaired or replaced at the option of Burk Technology and returned freight prepaid to the customer. Damage due to abuse or improper operation or installation of the equipment or caused by fire or flood or harsh environment is not to be covered by this warranty. Damage in shipping is not the responsibility of Burk Technology. A return authorization must be obtained before returning any equipment. Materials returned under this warranty must be shipped freight prepaid and insured in the original shipping carton or suitable substitute to Burk Technology, 7 Beaver Brook Road, Littleton, MA 01460. Repairs not covered under this warranty will be made at prevailing shop rates established by Burk Technology, Inc.

THE WARRANTY SET FORTH ABOVE IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. BURK TECHNOLOGY, INC. SHALL NOT BE LIABLE TO ANY PARTY FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF THIS EQUIPMENT.