

Frequency / Voltage Relay

FVR

Introduction

The Lake Shore Electric Frequency Voltage Relay (FVR), is a UL Listed Component. Its purpose is to monitor the required frequency and voltage of a 120Vac single phase source; typically, a generator's output.

Product Features

- UL 508 Listed
- Rated for 120 VAC
- Pick-up is 90% of Nominal Voltage
- 50 or 60Hz Calibrated Frequency
- Pick-up is 97% of the Calibrated Frequency
- Single Phase Voltage and Frequency Sensing
- Field Calibration Capable; (Please Call for Assistance)

The Lake Shore Electric Frequency / Voltage Relay utilizes solid-state sensing with a dry set of contacts for the customers use.

Additionally, a Green LED is supplied, which is visible from the front of the unit, to indicate the output relay is energized. The unit can be adjusted in the field, but it is strongly recommended that the field service personnel contact the factory before any modifications are performed.

Operation

FVR's are used to accept a minimum value of a source voltage and frequency. The factory settings are 90% pick-up for the voltage and 97% pick-up for the frequency.

When the FVR's monitored input detects that the source is within proper operating range for both frequency and voltage, the output contacts will change state. The LED on the FVR enclosure face will then energize.

When the voltage falls below 50% of the nominal value, the output contacts revert to their de-energized state and the LED turns off.

Application

A typical application of a Frequency / Voltage Relay is to monitor the ascending voltage and frequency of an emergency generator and prevent application to the load until a minimum acceptable value of that generator's output is attained.

Additionally, the unit is designed to have a dropout setting of less than 50% of the nominal operating value. This enables the emergency source to remain online during load changes that may cause frequency and voltage to fluctuate.

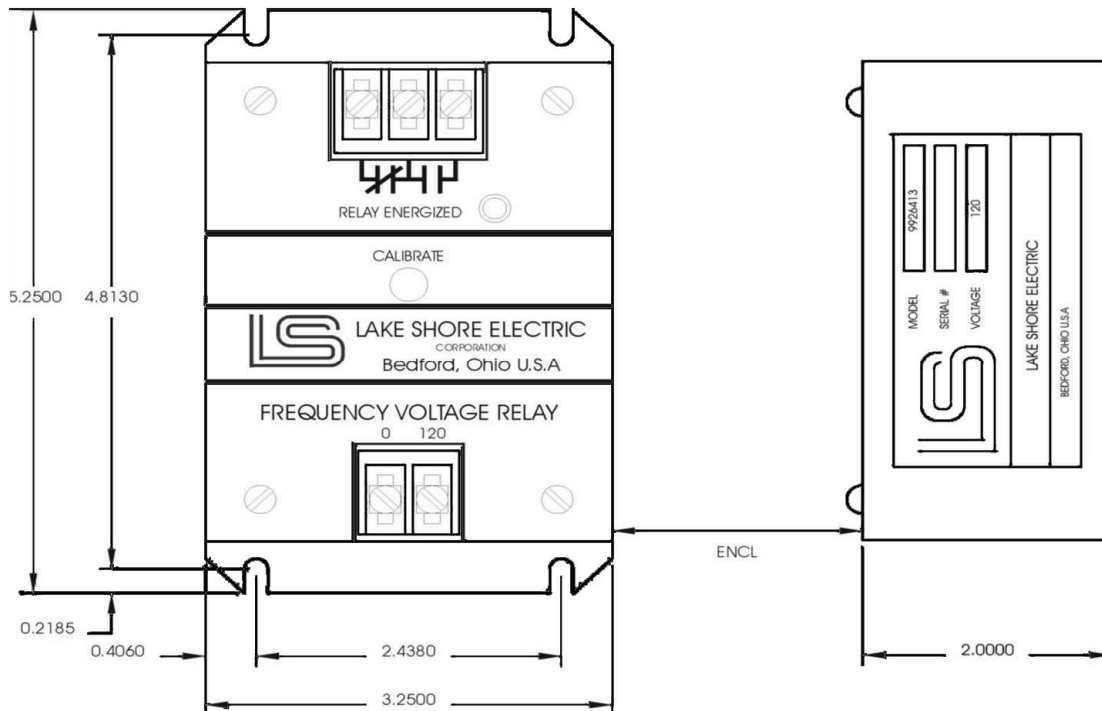


Figure 1

Product Specifications

NOMINAL INPUT VOLTAGE	120 volts A.C. ± 10%
INPUT FREQUENCY	0–100 hertz
ACCURACY	± 2% of nominal over operating temp. range
TRANSIENT	110% of nominal continuously 150% of nominal 10 seconds 200% of nominal 1 second
POWER CONSUMPTION	3 VA maximum
AMBIENT TEMPERATURE: OPERATING	-20°C to +60°C [-4°F to 140°F]
AMBIENT TEMPERATURE: STORAGE	-40°C to +80°C [-40°F to 176°F]
HUMIDITY	Up to 95% at +25°C (+77°F), no condensation
CONTACT TYPE	One form "C" dry contact
CONTACT RATING	5 amp @ 120VAC or 28VDC resistive
WEIGHT	20 oz., 1.25 lbs.
HIGH POT	Minimum of 2X's nominal voltage + 1,000 volts
INDUSTRIAL CONTROL EQUIPMENT	UL 508 Listed
CONSTRUCTION	Solid state sensor with relay output housed in a steel enclosure.
FACTORY SETTINGS	50 Hz. - set for 48 Hz. and 108 VAC pickup 60 Hz. - set for 58 Hz. and 108 VAC pickup
DIMENSIONS (W x H x D)*	3 1/4" x 5 1/4" x 2"
MOUNTING HOLES (W x H)*	2 7/16" x 4 13/16"

* Reference Figure 1.

FVR Order Guide

PART NUMBER	70LSEFV9926413
-------------	----------------

Recommendations

Please consult the factory for further information.



Contact Information
p:800.225.0141
f:440.232.5644
sales@lake-shore-electric.com
www.lake-shore-electric.com

Global Headquarters
Lake Shore Electric
205 Willis Street
Bedford, OH 44146