

# VOLTAGE AND FREQUENCY MONITOR UNITS

## General Description

A comprehensive range of electronic instruments designed for modern industrial applications. A transistorised amplifier is used to operate a relay when the monitored voltage or frequency moves outside the prescribed limits. The relay contacts may be used to provide audible or visual alarms and/or switch contactors.

## Applications

Control and monitoring of emergency and standby supplies.  
Monitoring and switching of ground power units.  
Voltage and frequency alarms for diesel alternators.  
Mains supply monitoring for all equipment.

## A.C. Under and Over Voltage Trip Units

The under and over voltage trip units are accurate instruments designed to operate from a single phase or three phase four wire A.C. supply. Each phase voltage trip point is independently adjustable and the relay will de-energise if any one or more of the phase voltages move outside the set trip points.

## Specification

Relay, two pole change over 8 amp maximum.  
Ambient temperature range  $-10^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$ .  
Maximum temperature drift 0.02% per  $^{\circ}\text{C}$ .  
Time constant approximately 500 milliseconds.  
Trip Point ranges OVT 0 to  $+20\%$ , UVT 0 to  $-20\%$ .  
Hysteresis range 1% to 20% standard 5%.  
Supply frequency range 45Hz to 500 Hz.  
Nominal auxiliary supplies 120VAC, 240VAC or 415VAC.

## Monitored AC Input Volts.

Nominal  
120V single phase.  
240V single phase.  
208/120V three phase.  
415/240V three phase.

Over Voltage.  
Unit type No.  
OVT12A1.  
OVT24A1.  
OVT12A3.  
OVT24A3.

## ORDERING DATA:

Please specify:—

Type No, Input Voltage, Auxiliary Supply (may be derived from any input phase), Trip Point, Voltage. Hysteresis if different from standard 5%.

## High and Low Frequency Trip Units.

The frequency trip units are used to monitor the supply frequency. Each unit has a fine and coarse adjustment of the trip point to facilitate accurate setting of the trip level. The low frequency unit's relay de-energises when the frequency goes low and the high frequency unit's relay de-energises when the frequency goes high. Under normal conditions these units will monitor the frequency of it's own mains supply, a signal equivalent to this frequency is fed to the input of the unit via the link shown on the connection diagram.

## Specification

Relay, two pole change over 8 amp maximum.  
Ambient temperature range  $-10^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$ .  
Maximum temperature drift 0.04% per  $^{\circ}\text{C}$ .  
Time constant approximately 500 milliseconds.  
Trip point range HFT 0 to  $+20\%$ , LFT 0 to  $-20\%$ .  
Hysteresis 0.2Hz for 50 Hz units, 1.0 Hz for 400 Hz units.

## Monitored Supply Frequency. Low Frequency.

Nominal.  
50 Hz.  
60 Hz.  
400 Hz.

Unit type No.  
LFT50.  
LFT60.  
LFT400.

High Frequency.  
Unit Type No.  
HFT50.  
HFT60.  
HFT400.

## ORDERING DATA:

Please Specify:—

Type No, Supply Voltage, Trip Point Frequency.

## Mains Failure Unit.

The mains failure unit is specifically designed to operate from a 3 phase 3 wire supply. Two phase voltages are monitored, the third phase (B) is used as reference, and the relay will de-energise if any of the monitored voltages fall below the trip level setting. An internal preset control allows the trip point to be adjusted.

## Specification

Relay, two pole change over 5 amps maximum  
Ambient temperature range  $-10^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$ .  
Maximum temperature drift 0.1% per  $^{\circ}\text{C}$ .  
Time constant approximately 500 milliseconds.  
Trip point range 0 to  $-30\%$ .  
Hysteresis range 2% to 10%.  
Supply frequency range 45Hz to 500 Hz.

## Monitored AC Input Volts (Nominal.)

420 three phase  
240 three phase

Unit type No.  
MFU45.  
MFU24.

## ORDERING DATA:

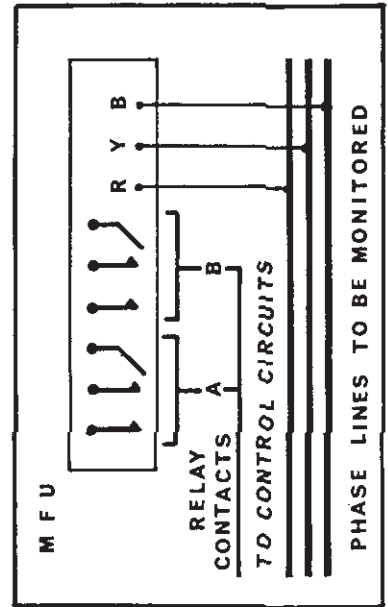
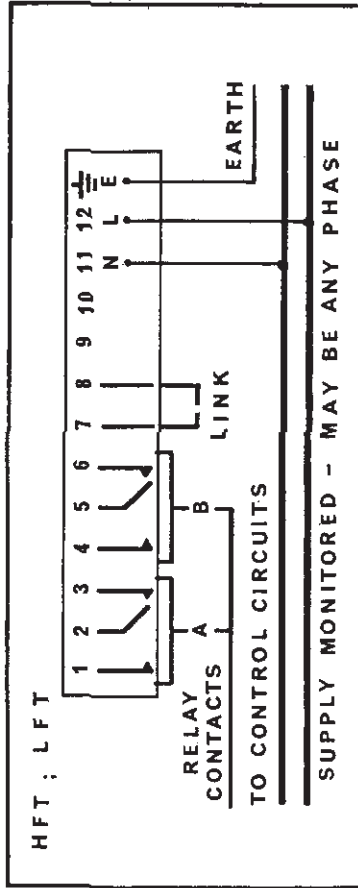
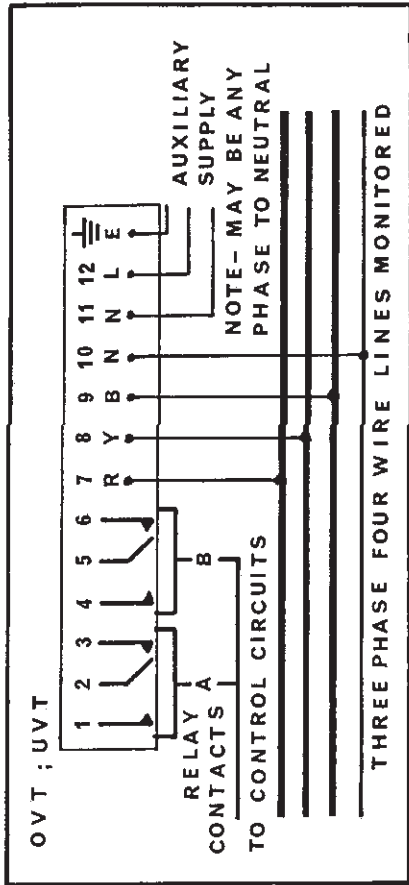
Please specify:— Type No, Input voltage, trip point.



**MODEX AUTOMATION LTD.**

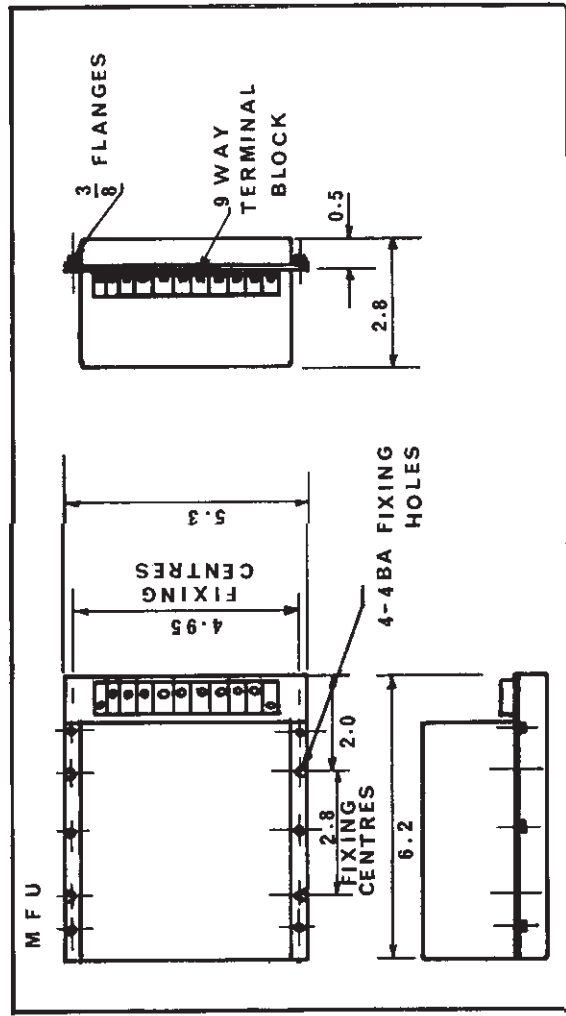
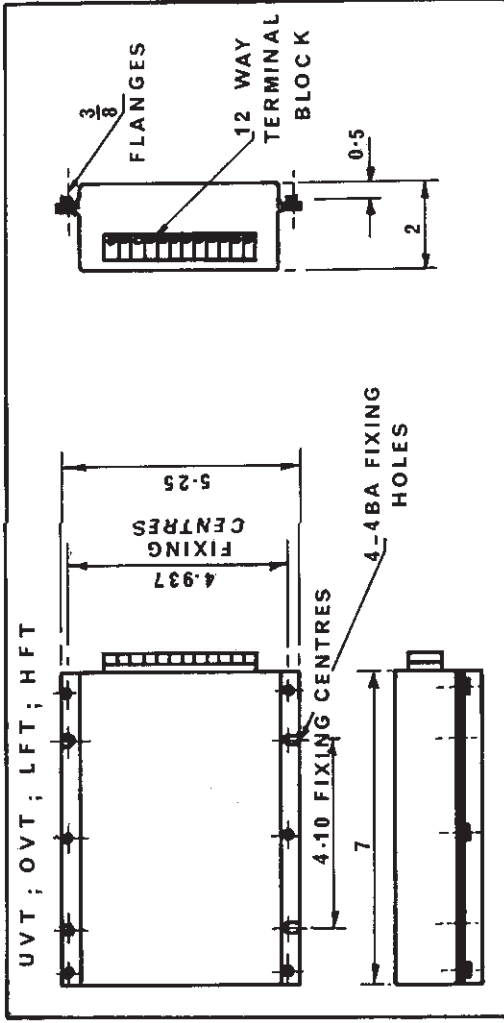
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Telephone Hayling Island 2893 & 3971 /2

**CONNECTIONS**



NOTE:—  
 ALL RELAY CONTACTS SHOWN IN DE-ENERGISED STATE.

**DIMENSIONS**



NOTE:— ALL DIMENSIONS SHOWN IN INCHES.