

MAINS FREQUENCY & VOLTAGE MONITORING RELAY

Type: UFWA

FEATURES

- Adjustable version with individual under- and overvoltage settings and under- and overfrequency settings
- Function setting with dipswitch
- Ceramic resonator controlled reference
- Time delay - on and off - individually adjustable
- One unit for three mains voltages
- LEDs indicate the state of the frequency
- LED indicates the state of input
- LED indicates the state of relay
- LEDs indicate the timing function

Description:

The combined voltage and frequency relays are designed for applications where a voltage and/or a frequency needs to be monitored. UFWA are combined over- and under voltage and frequency relays.

The relay can by means of dipswitches and trimmers be set to work as:

- 1) an under voltage and frequency relay
- 2) an over voltage and frequency relay
- 3) a frequency relay only
- 4) or as an under and over voltage and frequency relay

Operation:

When the supply voltage is applied, the - power up reset - period begins. If the nominal voltage and/or frequency is applied to the input, the internal relay pulls in the end of the reset period.

If the input voltage/frequency exceeds the adjusted upper or lower limits the relay drops out.

If the input voltage/frequency comes between the lower limit plus the differential and the upper limit minus the differential, the relay pulls in.

The voltage differential is fixed 2 % of the nominal input voltage. The frequency differential is fixed 10 % of tripping deviation.

As under voltage relay only, the relay remains energized for input voltages exceeding the upper limit.

As over voltage relay only, the relay remains energized for input voltage under the lower limit.

As frequency relay only, the relay remains energized for input frequencies within the lower and upper limits.

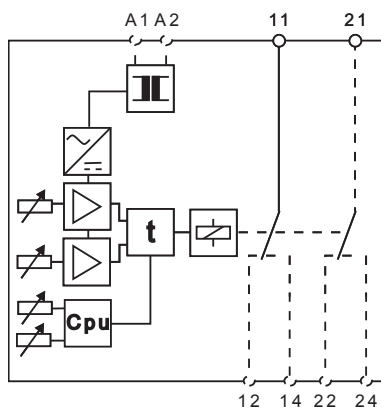
As under and over and frequency relay, the relay remains energized for voltage and frequency within the limits.

Application:

To monitor mains voltages and frequencies. To protect electrical and electronic equipment from damage because of over- or under voltage. On special request, the relay can be modified to monitor higher or lower frequencies.

CONNECTION DIAGRAM

Rail mounting



PROGRAMMABLE FEATURES

VOLTAGE SETTING				ACTUATOR ■	FUNCTION
TYPE	TYPE	TYPE	TYPE		
110 V	230 V	400 V	460 V	<input type="checkbox"/> LOWER AND UPPER LIMIT <input type="checkbox"/> LOWER LIMIT <input type="checkbox"/> UPPER LIMIT <input type="checkbox"/> FREQUENCY ONLY	
100 V	220 V	380 V	440 V		
110 V	230 V	400 V	440 V		
115 V	240 V	415 V	480 V		

SPECIFICATIONS

INPUT

Phase to phase voltage
 Selectable by dipswitch

Type B110: 100, 110 and 115
 Type B230: 220, 230 and 240
 Type B400: 380, 400 and 415
 Type B460: 440, 460 and 480

Adjustable range
 Differential

0 ± 20 %
 2 % of U_N

Frequency unit

Differential
 Ref. deviation
 Ref. temp. dependence
 Response time

Fixed approx. 10 % of tripping deviation.
 ± 0.5 %
 ± 0.3 % (-20 to 80°C)
 max 200 msec.

PERFORMANCE PARAMETERS

TIMING

Time range during run
 Response time

Separate On and Off delay
 0 - 10 sec. adjustable
 Approx. 200 msec.

ELECTRICAL

Temp. dependency
 Supply dependency

Typ. ± 0.02 % / °C
 Typ. ± 0.01 % / % ΔU

OUTPUT

Contact rating
 Mechanical life

Relay, 2 C/O
 6 A, 250 VAC, 1250 W
 30 million operations

SUPPLY

AC supply range
 with transformer
 Standard voltage

AC voltage direct from input
 110 V (From 99 to 140 V)
 230 V (From 198 to 264 V)
 400 V (From 342 to 484 V)
 460 V (From 393 to 557 V)

AC frequency range
 Power consumption

45 to 440 Hz
 4 VA, 2 W

GENERAL

Temperature range
 Humidity
 Dielectric test voltage

- 25 °C to + 55 °C ambient
 Up to 90 % RH non-condensing
 Coil to relay contacts 4000 VAC
 Pole to pole (45 mm.) 2500 VAC

Weight
 0.22 kg



EMC directive 89/336:
 Low voltage directive 73/23:

International Standards
 EN50081 - Emission
 EN50082 - Immunity
 EN60255 - Electrical Relays

ORDERING INFORMATION

EXAMPLE:

TYPE
 Mains frequency & voltage control relay

FREQUENCY
 Center frequency 50Hz
 Center frequency 60Hz

frequency range ± 0,4-2%
 frequency range ± 1-5%
 frequency range ± 2-10%
 frequency range ± 4-20%

SUPPLY
 100, 110 and 115 VAC
 220, 230 and 240 VAC
 380, 400 and 415 VAC
 440, 460 and 480 VAC

ADJUSTMENT
 Trimpot and dipswitch adj.

HOUSING
 Rail mounting

SIZE
 45 mm.

CODE
Code end
 Extended Code

