Type: 45 UFR & 45 OFR

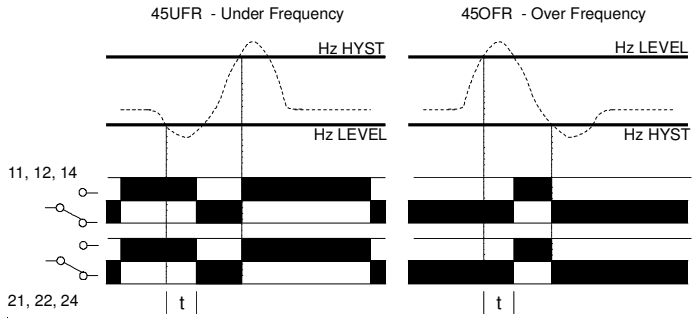
Frequency Relay

The unit is designed to monitor the frequency of its own supply. The 45UFR is used for monitoring under frequency conditions, whereby the relay will de-energise when the frequency drops below the adjustable trip point. The relay re-energises when the frequency increases above the trip point plus the hysteresis. The 45OFR functions by energising the relay when the frequency rises above the adjustable trip point and de-energises when the frequency drops below the trip point minus the hysteresis. A green LED indicates the supply is present whilst a red LED indicates the relay is energised.

Terminal Protection to IP20

Dims:
H.78 mm
W.45 mm
L.99 mm

▪ TIMING DIAGRAM



▪ INSTALLATION AND SETTING

BEFORE INSTALLATION, ISOLATE THE SUPPLY. Connect the supply as shown in diagram below. Apply power and the green **'supply on'** LED should illuminate.

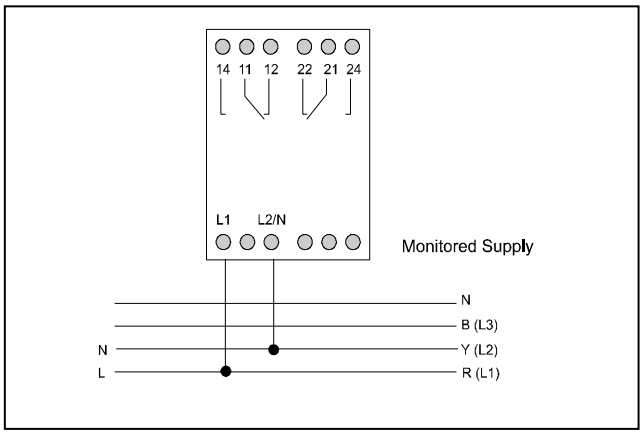
45UFR: The red **'relay'** LED should illuminate and the relay energise if the frequency is above the set **'Hz level'**

45OFR: The red **'relay'** LED should remain extinguished and the relay de-energised if the frequency is below the set **'Hz level'**

If on either unit the green LED illuminates but the red LED and relay indicate a fault, then check all connections and the voltage present

Set the **'Hz level'** and the **'Hz hyst'** adjustments as required.

▪ CONNECTION DIAGRAM



▪ TECHNICAL SPECIFICATION

Supply Voltage Un:	110, 230, 400V AC 40 - 73Hz (Galvanic isolation by transformer)
Supply Variation:	75 - 125% of Un
Isolation:	Over voltage cat. III (IEC 664)
Overload:	1.5 x Un continuous 2 x Un for 3 seconds
Power Consumption:	3VA @ Un
Trip Level:	1. 40 - 60Hz (45UFR & 45OFR) 2. 50 - 70Hz (45UFR & 45OFR) (Specify range when ordering)
Hysteresis:	0.3 to 3Hz (user adjustable)
Repeat Accuracy:	± 0.5% at constant conditions
Reaction Time (t):	≈ 200mS (see Options 1 & 2)
Ambient Temperature:	-20 to +60°C
Relative Humidity:	+95%
Contact Rating:	DPDT AC 1 250V AC 8A (2000VA) AC 15 250V AC 3A DC 1 25V DC 8A (200W)
Electrical Life:	Minimum 150,000 ops at rated load
Housing:	Orange flame retardant UL94 VO
Weight:	300g approx.
Mounting Option:	Onto 35mm symmetric DIN rail to BS5584:1978 (EN50 002, DIN 46277-3)
Terminal Conductor Size:	Max 2 x 1.5mm^2 stranded (terminated) Max 2 x 2.5mm^2 solid
Approvals:	Conforms to: UL, CUL, CSA, IEC. CE Compliant

▪ OPTIONS

1. The above units can be supplied with an internally set time delay which prevents the relay from changing state immediately the frequency passes the trip point. The delay (ranging from 1 to 10 seconds) should be specified, prior to ordering.
2. Where it is necessary for the user to set the time delay, the unit can be supplied with the hysteresis adjustment replaced with a time delay adjustment. On these units, the delay is adjustable from 0.2 to 10 seconds. The hysteresis is then factory set to 1%.

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