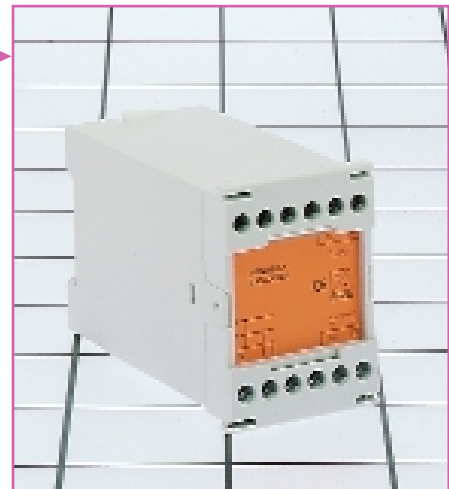


# Mains Frequency to Current/ Voltage Converter E1-FREQ

**Function:** Electrical mains frequency to dc current or voltage converter. The measured input is isolated, filtered, squared-up and offered to a precision frequency to current converter. The current is amplified and compared to an accurate reference. A symmetrical dc amplifier converts the resultant to the required voltage or current output suited to driving meters, computer inputs and process control systems. Using the latest technology in converter integrated circuits, dc amplifiers and reference circuits, the E1-FREQ offers exceptional accuracy and stability with increased immunity to spikes and distorted waveforms. The E1-FREQ is housed in a polycarbonate plastic enclosure suitable for mounting on DIN rail.



AlphaPOWER Range

## SPECIFICATIONS

### INPUT:

#### Frequency

45 to 55 Hz  
or  
45 to 65 Hz

Option: Other frequency ranges available as an optional extra, i.e. 400Hz

#### Voltage Level

110 Volt AC  
220 Volt AC  
230 Volt AC  
240 Volt AC  
380 Volt AC  
400 Volt AC  
or  
415 Volt AC

Option: Other voltage levels available as an optional extra

#### Voltage Burden

1.2VA

### OUTPUT:

#### DC Current

0 to 1mA into 10K ohms  
0 to 10mA into 1K ohms  
0 to 20mA into 500 ohms  
4 to 20mA into 500 ohms

#### DC Voltage

0 to 10 Volts into 2K ohms minimum

Option: Zero and Span Calibration potentiometers available through the front panel as an optional extra

#### Isolation

2000 Volts DC or peak AC for 1 minute

Option: 4000 Volts DC

#### Ripple

< 1% peak to peak

#### EMC Error (one off peak)

Maximum of -15% Vertical error @ 450 MHz and 10 Volts per metre

### SUPPLY:

#### Power Supply Voltage

110 Volt AC  $\pm 20\%$   
230 Volt AC  $\pm 20\%$   
400 Volt AC  $\pm 20\%$

#### Power Supply Burden

1.8VA

Options: Non Standard AC power supplies or 24 Volt DC power supply

### GENERAL:

#### Accuracy

Class 0.01% of span

#### Stability

+0.05% per annum N.A.

#### Temperature Coefficient

0.3% /  $\square 10^{\circ}\text{C}$

#### Response Time 0 to 80%

300mS maximum

#### Operating Temperature Range

-10 to +60°C

#### Storage Temperature Range

-40 to +70°C

#### Operating/Storage Humidity Range

0 to 90% RH non-condensing

#### Mounting

Standard 35mm DIN rail

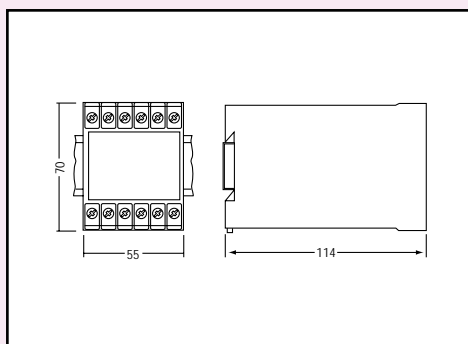
#### Protection Level

Self extinguishing box to VDE0304 Degree 1

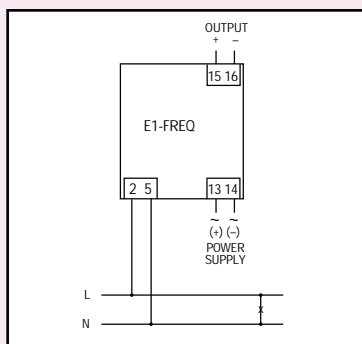
#### Weight

390 gms approx.

## MECHANICAL DETAILS



## TERMINATION DETAILS



## CONNECTION DETAILS

The voltage inputs may be direct or VT connected in which case one side of the VT secondary should be earthed. We recommend that the voltage inputs and power supply are fused.

## ORDERING DETAILS

- Give identification code, i.e. E1-FREQ
- Give details of input frequency range, i.e. 45 to 65Hz
- Give details of input voltage level, i.e. 240 Volt AC

- Give details of output required, i.e. 4 to 20mA
- Specify options required (if required), i.e. 4KV Isolation



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