

EFR-2 Universal Earth Leakage Protection Relay

The **EFR-2** is part of the **OPTIMA** range of low cost, high specification RCD's and can be specified at a wide range of trip levels and response times for precise system protection.

The **EFR-2** is designed for use with any of the **OPTIMA** CT's including a rectangular split core types for busbars and retrofit applications. It is housed in a compact din-rail mounting enclosure complete with integral test and reset buttons and **LED status indication**. Built-in features include failsafe operation, manual reset after fault trip, auto reset after power failure and trip status latched until reset (with power supply on). A non-failsafe version is available to special order this should be used in applications where shunt tripping of primary/supply breakers makes failsafe impractical.

The **EFR-2** will react to alternating current only and will reject stray DC signals. It will maintain accuracy over an extremely wide bandwidth from 5Hz to 800Hz thus making the unit suitable for application on variable frequency drives. It can be used on solid, medium or high resistance grounded installations and, by using our recommended artificial



ground package, even on ungrounded installations.

The fully encapsulated construction provides excellent temperature stability together with high immunity against shock and vibration. Housed in flame retardant ABS material as standard the **EFR-2** can also be supplied in halogen-free polycarbonate housings to special order.

See overleaf for full specification.

SPECIFICATION

| | | |
|-------------------|---|--|
| Control Voltage | : | 24 - 240V AC/DC non isolated 240 / 415V 30 - 120 Hz internally isolated |
| Trip Current | : | 10 mA - 2 A (factory set) |
| Time Delay | : | 20 mSecs to 1 Second (factory set) |
| Frequency Range | : | 5 Hz - 800 Hz (monitoring) |
| Temperature range | : | -10 °C to +55 °C |
| Relative Humidity | : | 95% non condensating |
| Output Relay | : | Separate N/C and N/O contacts Rated 8 amps 2000 VA, 415 V |
| Core Balance C.T. | : | External |
| Controls | : | Integral test, reset push button |
| Indications | : | Power on.....Green LED Earth fault trip....Red LED |
| Connections | : | Colour coded flying leads (500 mm) |
| Construction | : | Totally encapsulated and housed in flame retardant ABS enclosure din-rail or chassis mounting finish (RAL7032) |
| Dimensions | : | 70 mm x 45 mm x 100 mm (HxWxD) |

| DESCRIPTION | ORDER REFERENCE |
|--|-------------------|
| 24 240V AC/DC | EP EFR21** |
| 240/415V 30 120 Hz | EP EFR22** |
| **State Voltage, Trip current, Time delay required when ordering. | |

In line with our policy of constant improvements, we reserve the right to vary the specifications contained in this leaflet.

The services of our Technical support staff are available for assistance or guidance on earth leakage problems and possible solutions please contact us at:

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