



# HAMIAN FAN ( HF Co. )

## HRSE 13 SENSITIVE EARTH FAULT RELAY



### Application

It is possible for high resistance earth faults to remain undetected by traditional IDMT relays. For example on rural distribution systems, this can present a hazard to human life and livestock where for safety reasons. In these and other situations demanding extra sensitive earth fault protection, the SEFR relay, using solid state techniques, can be applied to detect earth fault currents down to 0.5% of the current. Primary current sensitivities down to low values of primary current are, therefore, possible, depending on the current transformer ratio, even when sharing current transformers with conventional IDMT electromechanical over current and earth fault relays.

### Settings

The current operation, restricted area setting is by selector in five step. There are dip switch to provide five adjustments of the current setting, and also for selection of the time delay.

#### In=5A

Setting %	I(mA)	In step of
0.5	25-50	2.5
1	50-100	5
2	100-200	10
4	200-400	20
8	400-800	40

#### In=1A

Setting %	I(mA)	In step of
0.5	5-10	0.5
1	10-20	1
2	20-40	2
4	40-80	4
8	80-160	8

### Time delay

Setting from zero sec. Until 16.5 sec. In step of 100msec.

Note: The relay can have both corebalance CT or normal CT according to customer requirement

Technical data  
**HRSE 13**  
**SENSITIVE**  
**EARTH FAULT RELAY**

---

**Ratings**

Voltage rating (Vn)	1A or 5A
Rated frequency	50 Hz
Third harmonic rejection	50Hz relay – better than 25:1

**Time delay range**

0 – 16.5 in steps of 100 msec

**Auxiliary Voltage**

Vx ac/dc	operative range
110/125V	87.5 – 137.5V

**Rated frequency Fn**

50 Hz

**Reset Voltage**

Relay resets at greater than

**Reset time**

95% of operating current

**Burdens**

less than 25ms

**Auxiliary**

Supply circuit

Vx ac/dc  
110/127V 40mA nominal

Note : Auxiliary supply burdens are given for quiescent conditions when the output relay is not operated . The output relay draws approximately 35mA.

**Indication**

A non volatile led trip indicator is used.

