



Powering Innovation



PROTECTION + AUTOMATION + CONTROL

**SINGLE POLE, DIRECTIONAL OVER CURRENT
OR EARTH FAULT RELAY WITH HIGH SET FEATURE
JRP 012 / 22**

JVS ELECTRONICS PVT. LTD.

#121, Manchanayakanahalli,
Bangalore Mysore Highway, Bidadi,
Ramanagara District - 562 109, Karnataka, India
+91 94808 26272, +91 94808 26260
bangalore@jvselectronics.in, www.jvselectronics.in

FEATURES

- ◆ Software based design
- ◆ Programmable time current characteristics
- ◆ Choice of four curves
- ◆ Selectable characteristic angle
- ◆ Programmable directional / Non-directional element
- ◆ Draw - out case

APPLICATION

The relay provides time graded phase and earth fault protection of Parallel transformers, Transformer feeders, Parallel feeders, ring main system etc.,



PRINCIPLE OF OPERATION

The relay measures the line current from each of the phases or earth fault and if it exceeds the set threshold, then relay extends a trip signal after an operating time. The relay's operating time is determined by selecting one of the four inverse time characteristics. The relay has facility to active / inhibit the high set protection feature. The relay output contacts are self reset . Relay operation without any fault current is determined by trip test facility.

TECHNICAL DATA

RATING

Current rating (In)	: 1A or 5A
Voltage rating	: 110V, 50Hz For Phase 63.5V, 50Hz For E/F
Auxiliary Supply	: 20 to 60V DC or 1) 20 to 60V DC 2) 75 to 150V AC / DC 3) 175 to 300V DC 185 to 250V AC

SETTINGS

Operating characteristics	: 1) 3.0s Normal Inverse 2) 1.3s Normal Inverse 3) 1.5s Very Inverse 4) 0.8s Extremely Inverse
Phase O/c (IDMT)	: 50 to 200% in steps of 10%
Earth fault (IDMT)	: 5 to 80% in steps of 5%
TMS (separate for O/c & E/F)	: 0.1 to 1.0 in steps of 0.01
Phase Hi-set	: 200 to 3200% in steps of 200%
Earth fault Hi-set	: 50 to 800% in steps of 50%

Characteristics Angle setting

O/C setting	: Lead 30° Lead 45° Lead 60°
E/F setting	: Lag 12.5° Lag 30° Lag 45°

OVER LOAD RATING

Current input : 2 times rated continuous
20 times rated for 3s

BURDEN

Current input : 0.2 VA per phase (rated 5A)
: 0.05VA per phase (rated 1A)
: Less than 8W (Non operated)
Aux. Supply : Less than 10W (Operated)

ACCURACY

Operating value : 105% to 120% of setting
Drop-off I pick-up : Between 80% to 95%
Operating Time : $\pm 5\%$ or $\pm 30\text{ms}$ whichever is higher
High set operating value : $\pm 5\%$ or $\pm 30\text{ms}$ whichever is higher
Phase angle : $\pm 9^\circ$ of the operating angle
High set operating time : Less than 30ms @2 times current setting
Reset Time : 160ms to 180ms

CONTACT RATINGS

Relay rating : 10A at 24V DC/230V AC

CONTACT DURABILITY

Loaded contact : 10,000 operations min.
Unloaded contact : 20,000 operations min.

INSULATION

1. 2KV RMS, 50 Hz for 1 minute I 2.5 KV for 1 sec . Between all terminals and earth.
2. 1 KV RMS, 50 Hz for 1 minute across open contacts

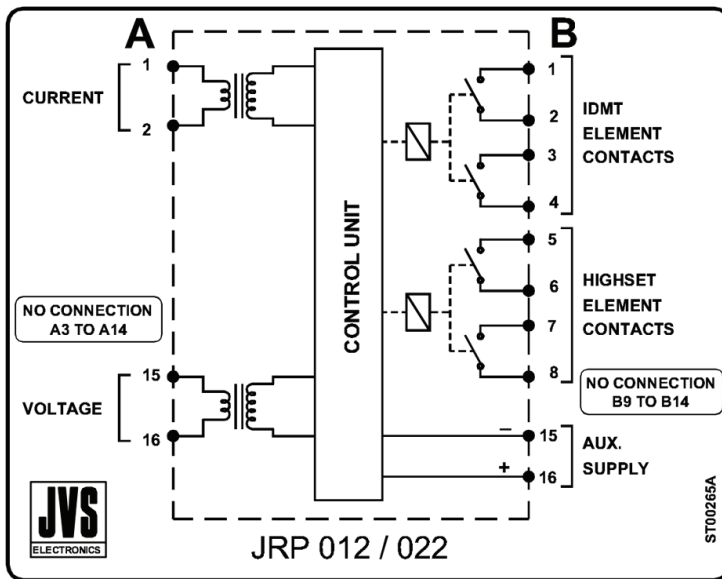
MECHANICAL DESIGN

Weight : 2500 gms. (approx)
Case Size : 144sq mm, depth 232mm
Installation : Flush mounting
Panel cutout : 138mm x 138mm

STANDARD COMPLIANCE

Accuracy Test : IEC 60255-3
Insulation Test : IEC 60255-5

TERMINAL DIAGRAM



ORDERING INFORMATION

Relay rating type	:	JRP 012 (O/c with hiset relay) JRP 022 (E/F with hiset relay)
Current rating	:	1A or 5A
Auxiliary Supply	:	20 to 60V DC 75 to 150V AC / DC 175 to 300V DC / 185 to 250V AC