



Powering Innovation



PROTECTION + AUTOMATION + CONTROL

SINGLE POLE, DIRECTIONAL OVER CURRENT OR EARTH FAULT RELAY WITHOUT HIGH SET FEATURE

JRP 011 / 021

JVS ELECTRONICS PVT. LTD.

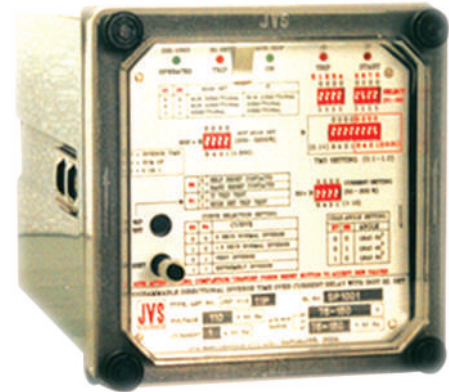
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FEATURES

- ◆ 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 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	: 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

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
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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 / pick-up	: Between 80% to 95%
Operating Time	: $\pm 5\%$ or $\pm 30\text{ms}$ which ever is higher
Phase angle	: $\pm 9^\circ$ of the operating angle
Reset Time	: 160ms to 180ms

CONTACT RATINGS

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

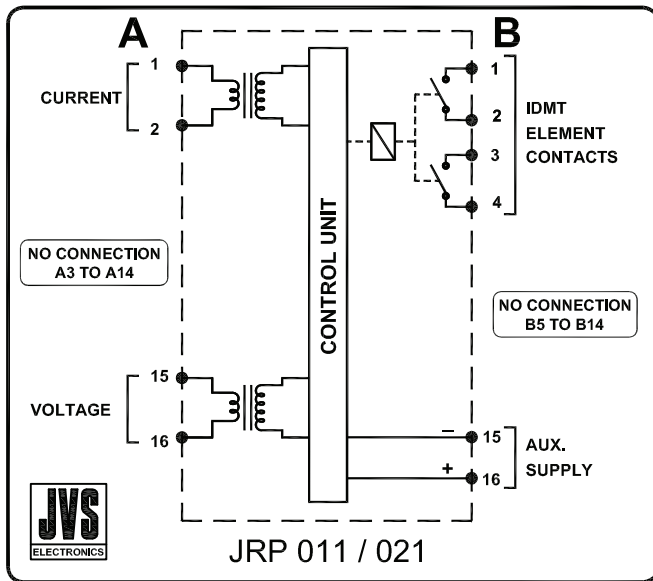
MECHANICAL DESIGN

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 011 (O/c relay) JRP 021 (E/F 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