



Powering Innovation



PROTECTION + AUTOMATION + CONTROL

**THREE POLE, NUMERICAL, NON-DIRECTIONAL  
3 O/C OR 2 O/C+1 E/F RELAY WITHOUT INST. HIGHSET  
JNC 053/JNC 053P**

**JVS ELECTRONICS PVT. LTD.**

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## FEATURES

- ◆ Software based design
- ◆ Choice of four curves and definite time
- ◆ History of 5 latest faults
- ◆ Self supervision facility
- ◆ Wide setting ranges
- ◆ Draw -out case

## Application

The relay provides time graded phase and earth fault protection of Generators, Transformers, Feeder, capacitors etc.,



## PRINCIPLE OF OPERATION

The relay provides over current protection for power systems. Relay operating time is determined by selecting definite time characteristics or one of the four inverse time characteristics i.e. (3s normal inverse, 1.3s normal inverse, 1.5s very inverse and 0.8s extremely inverse). The relay measures the current from each phases and if it exceeds the set threshold, the relay extends a trip signal after an operating time as determined by the selected curve.

## TECHNICAL DATA

### RATING

Current rating ( I <sub>n</sub> )	1A / 5A
Aux. 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 5) Definite time
Phase O/c (IDMT)	: 50 to 200% in steps of 5%
Definite time	: 0.1 to 25.0 Sec in steps of 0.1s
Earth fault (IDMT)	: 5 to 50% in steps of 1% 10 to 80% in steps of 1%
TMS	: 0.02 to 1.0 in steps of 0.01 (separate for O/C & E/F)
Reset Mode	: Hand / Self Reset (Programmable , Common for Phase & E/F)

### **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)  
Aux. Supply : Less than 8W (Non operated)  
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  
High set operating time : Less than 30ms @ 2 times current setting  
Reset Time : 160ms to 180ms

### **CONTACT RATINGS**

TRIP / ALARM / Self Supervision : 10A at 24V DC / 230V AC

### **CONTACT DURABILITY**

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

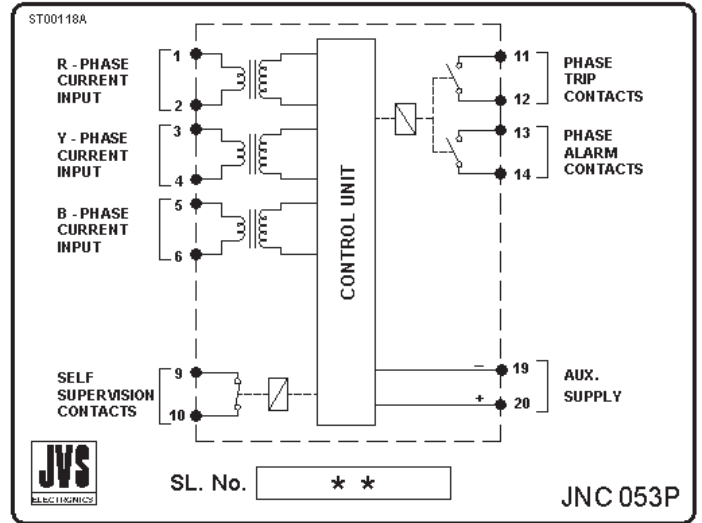
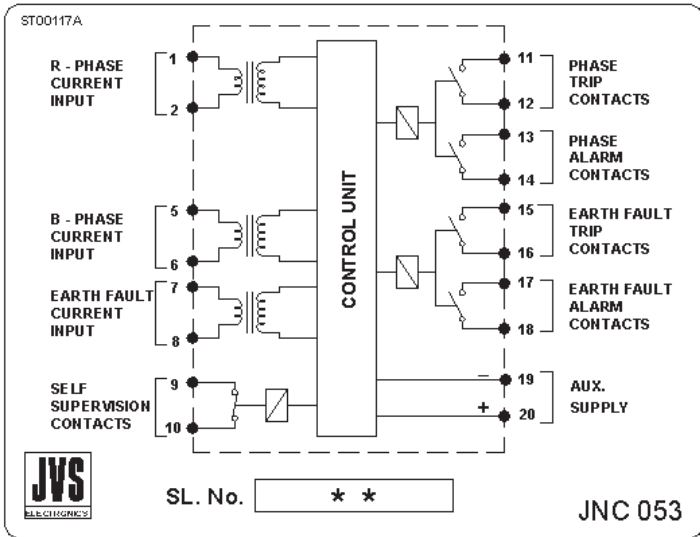
### **INSULATION**

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

### **MECHANICAL DESIGN**

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

**TERMINAL DIAGRAM**



**ORDERING INFORMATION**

- Relay type : JNC 053 (2O/C + E/F)  
JNC 053P (3O/C)
- Specify E/F : 5 - 50% or 10 - 80%
- Current rating : 1A or 5A
- Aux. Supply : 20 to 60V DC or  
75 to 150V AC/ DC or  
175 to 300V DC / 185 to 250V AC