



Powering Innovation



PROTECTION + AUTOMATION + CONTROL

# NUMERICAL OVER FLUX RELAY

## JNF 020

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## FEATURES

- ◆ Programmable V/F ratio
- ◆ History of 5 latest relay closing details

## Application

JNF 020 Over flux relay is used in power systems in order to protect transformers and generators against insulation failure and core damage due to over heating under prolonged over fluxing condition. It protects the equipment against abnormal V/F ratios due to system disturbance which can occur during starting, load shedding and shut down conditions.



## PRINCIPLE OF OPERATION

Over fluxing of a transformer occurs when its flux density exceeds rated density, it is caused when its V/F ratio is greater than that which the manufacture deems it safe. This of course is the case when it is connected directly to the generator i.e, without benefit of an intervening circuitbreaker and the generators excitation system is energized while accelerating to operating speed JNF 020 monitors voltage & frequency ratio, when it exceeds the set value it indicates fault and the output relay operates after a set alarm time delay.

## TECHNICAL DATA

### RATINGS

Rated Voltage	:	110VAC
Frequency rating	:	50 Hz
Auxiliary supply	:	1) 20 to 60V DC 2) 75 to 150V AC / DC 3) 175 to 300V DC / 185 to 250V AC

### SETTINGS

Alarm setting Alarm Time delay	:	1.1 - 1.30 V/Hz. In steps of 0.01
Alarm Time delay	:	00.5 - 50.0 secs. In steps of 0.1
Inverse Time Pickup	:	1.2 - 1.50 V/Hz. In steps of 0.01
TMS	:	001 - 100 In steps of 1
Rated voltage	:	105 - 125 V. In steps of IV

### OVERLOAD RATING

Voltage input	:	2 times Rated continuous
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### BURDEN

AC voltage input AUX Supply	:	Less than 0.1VA Less than 4W (Non Operated) Less than 10W (Operated)
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**ACCURACY:**

Voltage : ±5% of reading  
 Frequency : ±0.02 Hz of reading  
 Operating time : ±5% of the value

**CONTACT RATINGS**

Trip / Alarm : 10A at 24V DC / 230V AC

**CONTACT DURABILITY**

Loaded contact : 10,000 operations min.  
 Unloaded contact : 100,000 operations min.

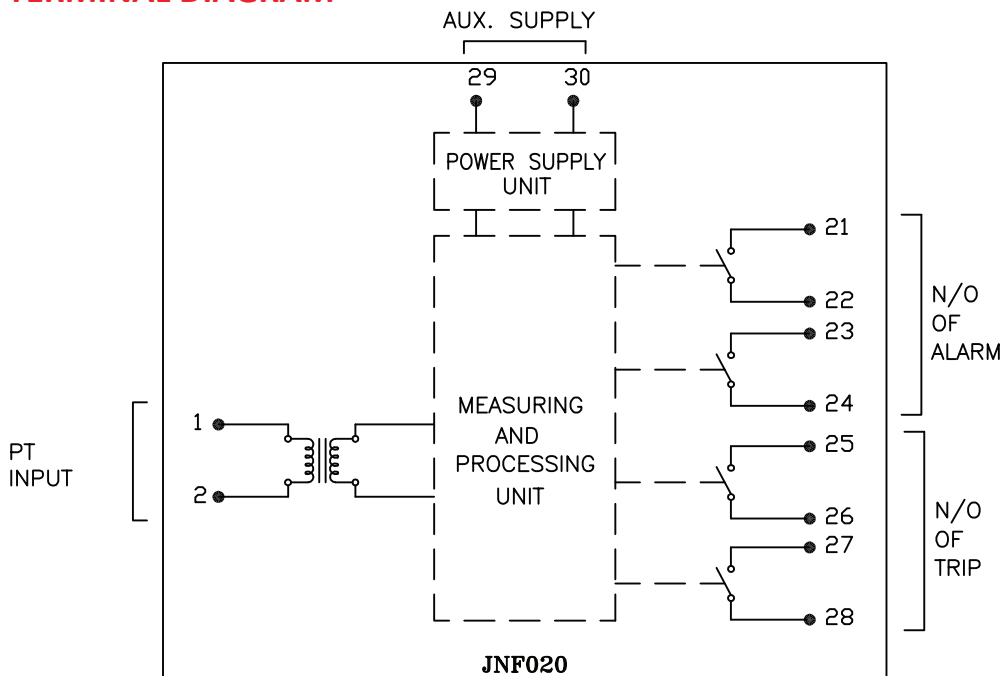
**MECHANICAL DESIGN**

Weight : 3500gms (approx)  
 Case Size : 152X296 sq mm, depth 250mm  
 Installation : Flush mounting  
 Panel cutout : 146 x 264 mm

**STANDARD COMPLIANCE**

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

**TERMINAL DIAGRAM**



**ORDERING INFORMATION**

Relay : JNF 020  
 Voltage rating : 110VAC  
 Aux. Supply : 20 to 60V DC or  
 75 to 150V AC/ DC or  
 175 to 300V DC / 185 to 250V AC