

3F Control – Under-voltage pump protection relay

DIN socket mounted, single phase under-voltage protection relay

- **Under-Voltage Protection Relay**
- **Simple Installation**
- **Single Phase**
- **Adjustable Set Level 180V-260V**
- **Max Load**
2500VA(AC CosPhi 1)
1875VA(AC CosPhi 0.4)
300W(DC)
- **Trips 0 to 2.5% Under-voltage In 2s**
- **Trips >2.5% Under-voltage instantly**
- **Automatic Reset**
- **11 Pin Undecal DIN Socket Mounting**

How Does It Work?

Mac3 3F Control Mod. 22 is a DIN socket mounted single phase, adjustable under-voltage monitoring relay intended for use in control panels. During installation, the operating voltage is simply set using the dial on the front of the unit (full instructions included).



3F Control Mod. 22 isolates the system if:

- The system voltage drops up to 2.5% of the set value for more than 2 seconds, or
- The system voltage drops more than 2.5% of the set value at all.

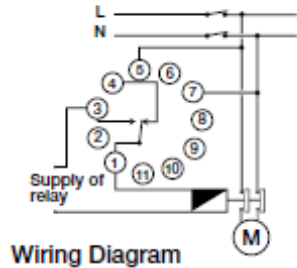
During operation, if either of these conditions are met, the relay trips preventing further running of the system until the correct conditions are restored.

Low voltage leads to increased current and excess heat generation in induction motors causing damage or reducing the life of coils and bearings. Low voltage may be caused by poorly functioning generators, and other temporary power systems, inadequate cable sizing especially temporary wiring or wiring in remote locations such as outbuildings, or poorly specified over-current protection allowing a circuit to be loaded by other appliances beyond its proper capacity. Hence under-voltage protection helps to protect important appliances from premature failure avoiding expensive down-time.

3F Control – Under-voltage pump protection relay

DIN socket mounted, single phase under-voltage protection relay

MOD. 22



Technical Specifications

Physical

Material - Body	Noryl (PPO) UL94 V0
Weight	116g
Dimensions	79x35x88 mm
Mounting	Undecal DIN Socket

Electrical

Supply Voltage	220-240Vac 50-60Hz Single Phase
Power Consumption	5 VA max
Monitoring Range	180 – 260Vac
Response Time	2 Seconds. Max. Voltage With 2.5% Drop Voltage
Contact Rating / Output Characteristics	AC 2500 VA Resistive Load CosPhi=1 AC 1875 VA Resistive Load CosPhi=0.4 DC300W Resistive Load
Number Of Operations	30 Operations/Minute Max.
Operating Temperature	-10°C – +50°C
Storage Temperature	-10°C – +80°C

3F Control – 3 Phase pump protection relay

DIN socket mounted three phase under-voltage / phase failure protection relay

- **Under-Voltage And Phase Loss Protection Relay**
- **Simple Installation**
- **Three Phase**
- **Adjustable Set Level 180V-260V**
- **Max Load**
2500VA(AC CosPhi 1)
1875VA(AC CosPhi 0.4)
300W(DC)
- **Trips 0 to 2.5% Under-voltage In 2s**
- **Trips >2.5% Under-voltage instantly**
- **Phase Loss Protection**
- **Automatic Reset**
- **11 Pin Undecal DIN Socket Mounting**

How Does It Work?

Mac3 **3F Control Mod. 33** is a DIN socket mounted, 3 phase, adjustable under-voltage monitor relay intended for use in control panels. During installation, the operating voltage is simply



set by using the dial on the front of the unit (full instructions included).

3F Control Mod. 33 isolates the system if:

- The system voltage drops up to 2.5% of the set value for more than 2 seconds, or
- The system voltage drops more than 2.5% of the set value at all.

During operation, if either of these conditions are met, the relay trips preventing further running of the system until the correct conditions are restored.

Alongside the installer set voltage monitoring, the **3F Control Mod. 33** also monitors for phase loss and incorrect phase rotation. This can be due to wiring the phases incorrectly or issues arising from the supply itself, but either condition will cause the **3F Control Mod. 33** to isolate the system until the error is rectified.

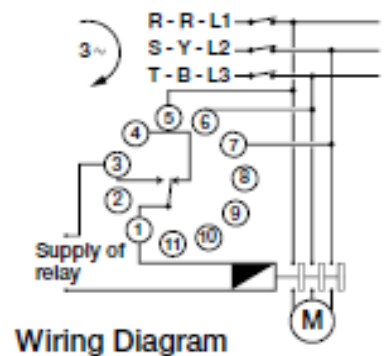
A 2 second delay, built into the relay, ensures temporary voltage drops in the electricity supply do not trip the system, while preventing potential pump damage should the condition continue.

3F Control – 3 Phase pump protection relay

DIN socket mounted three phase under-voltage / phase failure protection relay

Low voltage leads to increased current and excess heat generation in induction motors causing damage or reducing the life of coils and bearings. Low voltage may be caused by poorly functioning generators, and other temporary power systems, inadequate cable sizing especially temporary wiring or wiring in remote locations such as outbuildings, or poorly specified over-current protection allowing a circuit to be loaded by other appliances beyond its proper capacity. Hence under-voltage protection helps to protect important appliances from premature failure avoiding expensive down-time.

MOD. 33



Technical Specifications

Physical	
Material - Body	Noryl (PPO) UL94 V0
Weight	116g
Dimensions	79x35x88 mm
Mounting	Undecal DIN Socket
Electrical	
Supply Voltage	300-500Vac 50-60Hz Three Phase
Power Consumption	5VA max
Monitoring Range	300 – 500Vac
Response Time	2 Seconds. Max. Voltage With 2.5% Drop Voltage
Contact Rating / Output Characteristics	AC2500 VA Resistive Load CosPhi=1 AC1875 VA Resistive Load CosPhi=0.4 DC300W Resistive Load
Number Of Operations	30 Operations/Minute Max.
Operating Temperature	-10°C – +50°C
Storage Temperature	-10°C – +80°C

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