NASSAR® ELECTRONICS

SINCE 1973

User Manual

THREE PHASE VOLTAGE
MONITOR RELAY
FASEALERT-3®
MODEL F3P





The best solutions for
automation and protection

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Description

The F3P series is a family of 3-phase voltage monitors. It continuously measures the voltage of each of the three phases with microcontroller accuracy and compares the value with preset trip points. It separately senses phase reversal and loss, as well as under, over and unbalanced voltages.
Protection is assured during periods of large voltage fluctuations or when regenerated voltages are present.
Trip and restart delays are included to prevent nuisance tripping and short cycling of sensitive equipment. The isolated 10A SPDT output relay contact trips when a phase voltage exceeds the trip limit after the time established by the trip delay.
The under and over voltage limits are adjustable, as well as the restart and trip delays.
Both delta and wye systems can be monitored; no connection to neutral is needed.

Operation

The FASEALERT-3 PLUS protects motors against: Under voltage, over voltage, phase loss, voltage unbalance and reverse phase sequence.To adjust the Under and Over Voltage limits, set the knobs to the desired level. You can also adjust the Trip and Restart knobs to the required delays. If the "Rev" LED turns ON when you are connecting the F3P for the first time, swap the cables connected to the L1 and L2 terminals and the fault LED should turn OFF.

UPON APPLICATION OF LINE VOLTAGES
- The output relay is de-energized
- The failure red LEDs are OFF
- The "OK" green LED flashes during the restart delay, when it ends the green LED stays ON and the output relay is energized.

IN NORMAL VOLTAGES:
- The output relay is energized
- The "OK" green LED is ON.
- All the red failure LEDs are OFF.

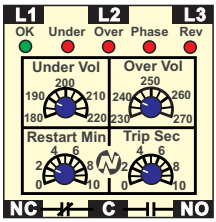
UPON A VOLTAGE FAILURE OR PHASE LOSS:
- The LED of the corresponding failure is ON and the "OK" green LED goes OFF.
- Once the adjusted period in the trip delay has passed, the output relay is de-energized
- to disconnect the motor.
- The red LED of the corresponding failure flashes.

WHEN VOLTAGES GO BACK TO NORMAL:
- All the red failure LEDs are OFF.
- The output relay stays de-energized.
- The "OK" green LED flashes during the restart delay, and once it's finished, the green LED stays ON and the output relay is energized.

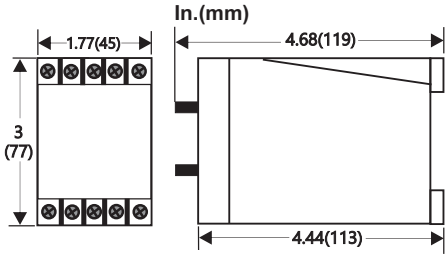
Features

- **Protects against phase, reversal, phase loss, under, over and unbalanced voltages.**
- **Surface mounting or 35mm DIN rail.**
- **Isolated, 10A, relay contacts.**
- **LEDs indicate each fault, status, and time delays.**
- **3-wire connection for delta or wye systems.**

LED Indicators
OK: Voltages are normal.
Under: Under voltage fault.
Over: Over voltage fault.
Phase: Phase failure or voltage unbalance.
Rev: Reverse phase sequence.



Dimensions



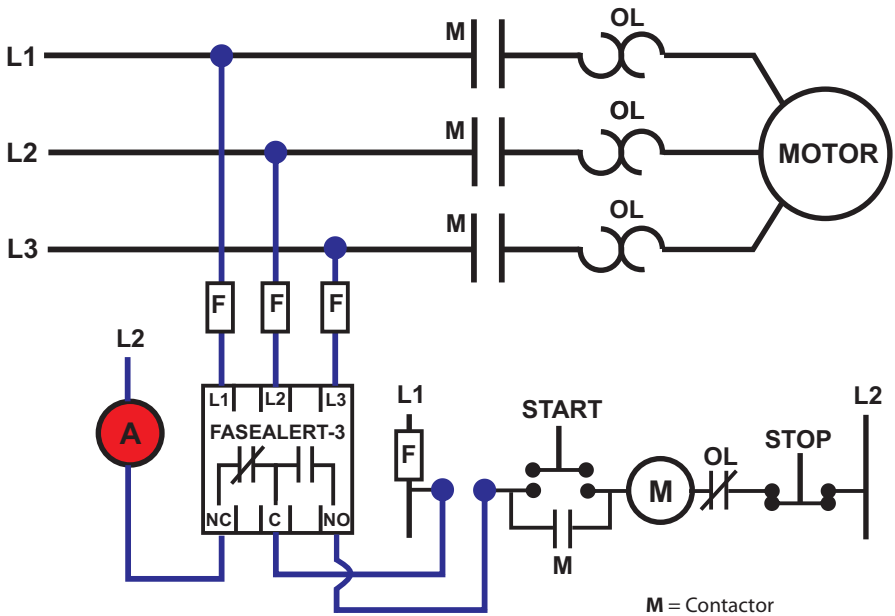
DANGER!

Potentially hazardous voltages are present. Electrical shock can cause death or serious injury. Installation should be done by qualified personnel following all National, State & Local Codes.

BE SURE TO REMOVE ALL POWER SUPPLYING THIS EQUIPMENT BEFORE CONNECTING OR DISCONNECTING THE WIRING.
READ THE INSTRUCTIONS BEFORE INSTALLING OR OPERATING THIS DEVICE.
KEEP THIS MANUAL FOR FUTURE REFERENCE.

A typical example of connection

Connect the terminals L1, L2 and L3 ,through the fuses, to the motor contactor and the terminals C and NO with #14 gauge, 600 V wire. The FASEALERT-3 PLUS may be installed in THREE PHASE MOTORS OF ANY CAPACITY AND IN ALL TYPES OF STARTERS. The diagram shown below is a common example of installation.
When the NO and C contact closes, it allows the motor to start running. When it opens, it disconnects the coil and stops the motor. An indicator lamp may be used as an alarm as indicated on the diagram below.



M = Contactor
OL = Overload relay
F = Fuse 2 Amp. Max.
A = Alarm

Specifications	F3P-220	F3P-380	F3P-440
NOMINAL / MAXIMUM VOLTAGE	220/270 V	380/470 V	440/540 V
UNDER VOLTAGE ADJUSTMENT	180-220 V	300-380 V	360/440 V
OVER VOLTAGE ADJUSTMENT	230-270 V	390-470 V	460-540 V
VOLTAGE UNBALANCE	5 % Fix NEMA. (Phase failure)		
HYSTERESIS	2 %		
OUTPUT CONTACT RATING	1PDT 10 Amp. @ 220 VCA resistive.		
CONTACT LIFE	100,000 Operations at nominal capacity.		
FREQUENCY	50 / 60 Hz.		
PHASE SEQUENCE	ABC		
TRIP DELAY	0 to 10s.		
RESTART DELAY	Adjustable, 0 to 10 minutes.		
TRANSIENT PROTECTION	3 K V for 10 ms.		
STORAGE TEMPERATURE	-4 to + 158 °F (-20 to + 70 °C).		
OPERATION TEMPERATURE	14 to + 122 °F (-10 to + 50 °C).		
POWER CONSUMPTION	3 Watts approximately.		
WEIGHT	11 oz (390 g.) approximately.		

*Specifications subject to change without notice.

WARRANTY

These products are warranted to be free from defects in workmanship or material under normal service and use for a period of three (3) years from date of manufacture. Nassar Electronics shall, at its option, repair or replace F.O.B. point of manufacture the portion of the product found by Nassar Electronics to be defective. All replacements or repairs necessitated by inadequate maintenance, normal wear and usage, unsuitable power sources or environmental conditions, accident, misuse, improper installation, modification, repair, use of unauthorized replacement parts, storage or handling, or any other cause not the fault of Nassar Electronics are not covered by this limited warranty, and shall be at the buyer's expense. All costs of dismantling, reinstallation and freight, and the time and expenses shall be borne by the buyer.

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