Three Phase Automatic Voltage Switcher
AVS 3P-0
User Instructions

The AVS3P-0 is an Automatic Voltage Switcher designed to protect three phase loads from voltage fluctuations, over voltage, under voltage, surges, dips and frequent start/stops. The output is a single volt-free changeover contact, rated at 16A. This is intended to control an external contactor, control circuit, start/stop system or alarm.

If the voltage on any one phase goes above or below the pre-set limits (the 'window'), then the AVS will switch off. Once the voltage returns within the window limits, the AVS will wait for a pre-set time, continuing to check the voltages, before automatically turning the load back on. The over voltage, under voltage and delay settings are all adjustable using controls in the terminal compartment of the AVS3P. The standard window that is considered acceptable is 185V-260V(320V-450V three phase). Outside these limits electronic and electrical equipment are likely to be damaged.

Installation - PLEASE READ CAREFULLY.

1. Connect the AVS in accordance with the wiring diagram opposite (fig 1). Ensure that the R, S & T sensing connections to the AVS come from the supply side of the contactor. Note : **a good neutral connection must be provided from the supply**.

2. The output from the AVS is a changeover relay with volt-free contacts. There is a common (C), a normally open (NO) and normally closed (NC) contacts. When the AVS3P-0 is in the Red or Amber condition then C is connected to NC. When the AVS3P-0 displays Green then C is connected to NO. Make sure that the control current you wish to switch does not exceed the rating of the AVS3P-0 relay (max 16Amps).

3. If the AVS is the only thing to control the contactor (or load, or alarm, etc), then the 'C' and 'NO' AVS contacts can be used to connect power to the contactor coil (method A). If however, there are other circuits/equipment that also must control the contactor, then the AVS contacts can be used to interrupt the contactor coil supply from there (method B) or used in conjunction with a start/stop or other system, e.g. method C.

4. Set limits of the AVS3P-0 using the thumb-wheel adjustment inside the terminal compartment. See fig 2. Ensure that limits set are safe for the load being protected. Low =185V and High = 260V is normally considered safe for most equipment but you should check with the equipment manufactures information.

5. Set the time delay control using the thumb-wheel adjustment inside the terminal compartment. This will depend on your load and how it is operated. As a general guide, compressors and refrigeration equipment will need at least 3 minutes; motors, pumps, etc should not be started too frequently so may be 2 minutes minimum, electronic loads 0.5 minutes. The 'Off' position gives just 10 seconds. The equipment manufacture should be consulted on the best setting.

6. At first switching on, there will be no output during the Delay period. For that period the yellow LED indicates that the mains supply is within acceptable limits, after which the green LED goes on and the output relay changes state to turn the load on.

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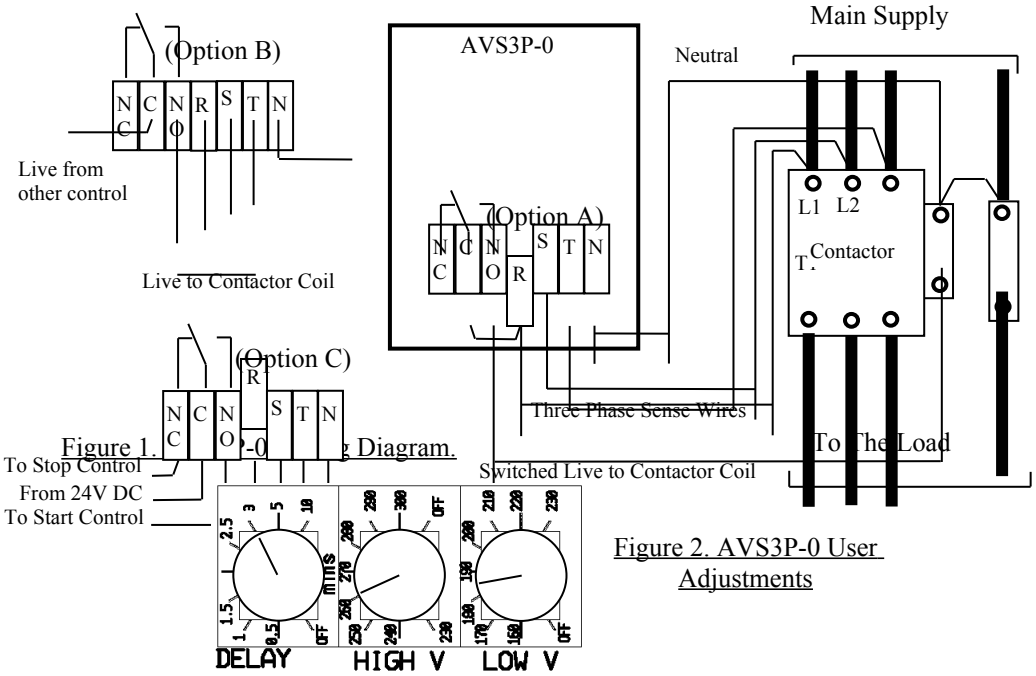

Figure 1. AVS3P-0 Wiring Diagram.

Figure 2. AVS3P-0 User Adjustments

Colour	Name	Indication	Load Status
Red	Off High	High Incoming Voltage	Off
Yellow	Wait High	Voltage was High, now good. Will turn on after Wait delay.	Off
Green	On	Voltage Good and delay finished.	On
Yellow	Wait Low	Voltage was Low, now good. Will turn on after Wait delay.	Off
Red	Off Low	Low Incoming Voltage	Off

Figure 3. AVS3P-0 Indications

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