GOVERNORS AMERICA CORP.

ENGINE GOVERNING SYSTEMS

PRODUCT INFORMATION BULLETIN

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MPC

VMA100
VOLTAGE MATCHING MODULE

INTRODUCTION

The VMA100 is designed to sense line to line AC voltages of the generator set and the utility mains and to control a motorized potentiometer to adjust and match the two terminal voltages. The potentiometer adjusts the generator voltage regulators reference during this operation. The AC voltages can be matched to tolerence bands of 1, 2 or 5%. Once the voltages are matched a signal is provided to the automatic synchronizer to commence the paralleling sequence.

SPECIFICATIONS

Performance
- Voltage Matching ..... ±0.5, 1.0, or 2.5 % of center DIP Switch Selectable

Relay Contacts ..... 5 Amps, 250 VAC

AC input voltage range ..... 120 ±20%
..... 240 ±20%

Out of Range Auto Shut Off ..... adustable from 50% to 10%
24 V DC supply current ..... 150 ma max.

Environmental
- Temperature Range..... -40°F to +170°F (-40°C to +75°C)
- Humidity..... Up to 95%
- All Surface Finishes..... Fungus proof & corrosion resistant

Vibration..... 5G, 20-200 Hz

DESCRIPTION and INSTALLATION

The VMA100 may be installed in any position, however the vertical position is the preferred mounting. Since the current requiements are very low, no special wire size is required. Internal shielding and transient protection is included in the AC and DC circuits.

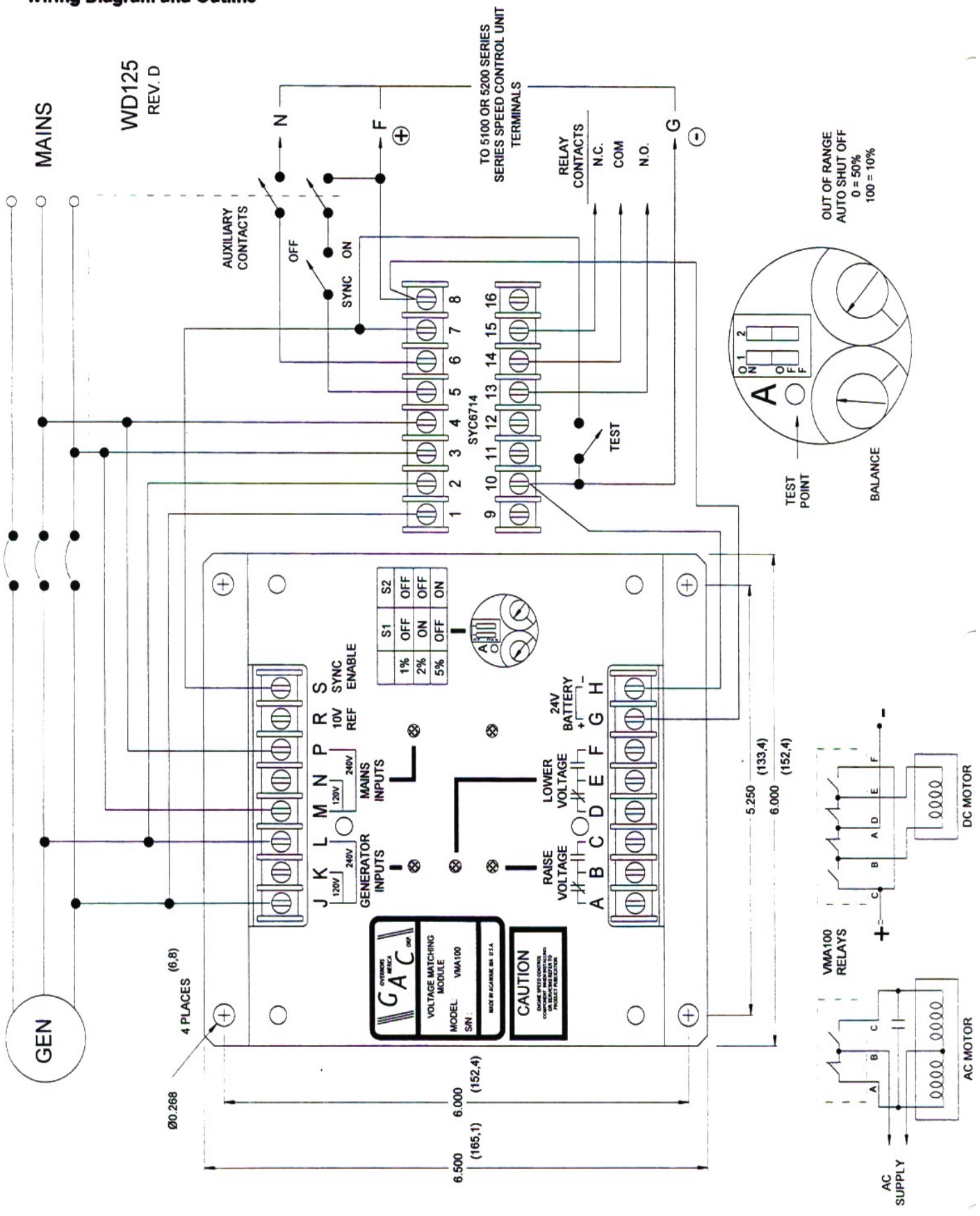
The VMA100 is wired to the SYC 6714 Auto Synchronizer, the Mains, and the Generator output as shown in the wiring diagram. Terminals G and H recieve DC power from the Auto Synchronizer. Terminal S signals the Auto Synchronizer to permit main breaker closure. If the Generator voltage is lower than the required tolerence band (1, 2, or 5%), the "RAISE" LED will light and the relay will change state causing the motorized potentiometer MP502 to operate. As the motor turns the potentiometer, the voltage regulator setting will be altered by the potentiometer to raise the Generator voltage to match the Mains voltage. Conversely, if the Generator voltage is too high, the opposite will take place. Once the two voltages have been matched to within the tolerence for at least 100 ms, a sync enable signal will be sent to the Auto Synchronizer allowing paralleling to occur.

The Auto Synchronizer will only close its internal relay when the generator is in phase with, and the voltage is matched to the mains.

The VMA100 includes an Out of Range Auto Shut Off adjustment. If the Generator and Mains Voltages differ by more than the level set by this adjustment, the output of the VMA100 to the motorized pot will be disabled. When the voltage level returns to within range, the VMA100 will again operate the motorized pot to null the voltage difference to within the selected tolerance band.

A calibration adjustment, below the DIP switches, is provided to balance the tolerence range. This is factory set and should not require further adjustment. If adjustment is required, equal voltages should be applied to the inputs and the adjustment used to set the voltage on Test Point A to 5.0 Volts.

Wiring Diagram and Outline



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