Zonge ZMG-30DL Motor-Generator
uses generator model 360SSL1311


# 400 HERTZ SUPPLEMENT TO:
# Lima Type SER Service Manual SB505 (360 FRAME)
# MAGNAPLUS Service Manual SB504: 430 FRAME

**General Information.** Marathon Electric Manufacturing Corporation's 400 Hertz line of AC generators are synchronous, brushless, AC generators employing a 24 pole main revolving field to produce 400 Hertz at 2000 RPM. The main stator (armature windings) are two circuit 10 lead designs, internally connected in a Wye connection. Design output voltages are 208Y/120 volts (Low Wye connection), and 416Y/240 volts (High Wye connection).

**Applicable Service Manuals.**

1. 400 Hertz generators manufactured in our 360 frame such as catalog models 360SSL1311, 360SSL1312, and 360SSL1313 are essentially Marathon's type SER generators, and Service Manual SB505 applies to these generators with the few exceptions covered in this Supplement.

2. 400 Hertz generators manufactured in our 430 frame such as catalog models 430PSL1314, 3430PSL1312, 430PSL1313, and 432PSL1821 are essentially Marathon's type MAGNAPLUS generators, and Service Manual SB504 applies to these generators with the few exceptions covered in this Supplement.

**Operating Speed.** Synchronous speed for 400 Hertz operation is 2000 RPM. All startup, operating and running trouble shooting procedures contained in the above referenced service manuals should be conducted at 2000 RPM. Substitute 400 Hertz, 2000 RPM for 60 Hertz, 1800 RPM, or 50 Hertz, 1500 RPM wherever these two frequencies and speeds are indicated.

**Connection Diagrams.** The external generator connections applicable to these generators, regardless of frame size, are on Page 2 of this Supplement.

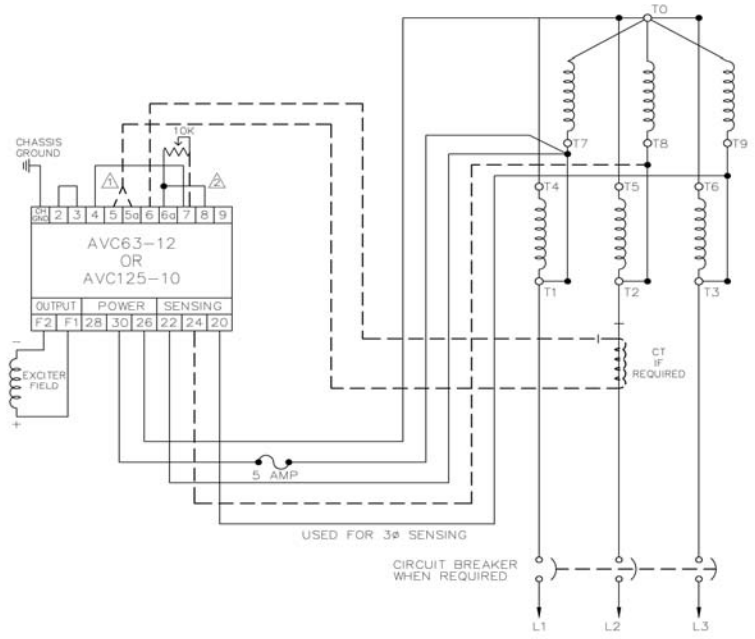
**Automatic Voltage Regulator (AVR).** The standard AVR furnished by Marathon for use with our 400 Hertz generators is Basler Electric Company Model AVC63-12B2. For parallel operation, a paralleling current transformer will be required. The connection diagrams on Page 3 of this Supplement are typical for hook-up of the generators with the standard AVR Model AVC63-12B2. Should your specific unit be equipped with additional accessories, or with an automatic voltage regulator other than the AVC63-12B2, please consult the factory, or your supplier for the appropriate diagrams.

**Technical Data.** Typical technical data such as winding resistances, excitation requirements and limited general data are contained on Page 4 of this Supplement. For rewind data, or more in depth technical data, please consult the factory or the specific generator Typical Submittal Data Sheet.

**SB515 08/2006**

# CONNECTION DIAGRAMS

## 10 LEAD LOW (PARALLEL) WYE (STAR) CONNECTION WITH AVC63-12B2 AVR

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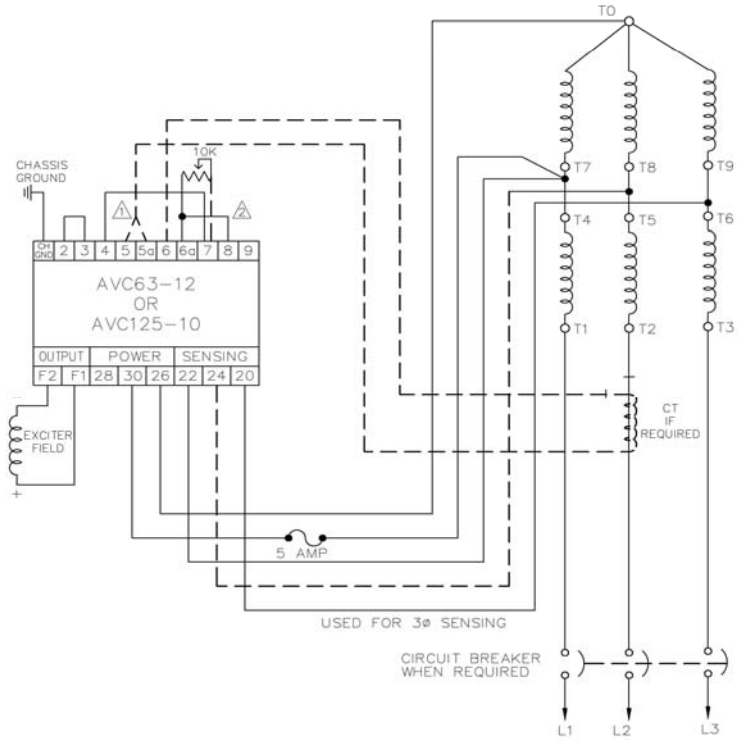
## 10 LEAD HIGH (SERIES) WYE (STAR) CONNECTION WITH AVC63-12B2 AVR

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# SPECIFICATIONS

## General Data Applicable to all Models Listed in Table 1

**Phase Sequence: ABC with CCW rotation when viewed from opposite drive end.**

**Cooling Air Volume @ at Rated 2000 RPM**

360 Frame - 400 CFM
430 Frame - 1200 CFM

**Insulation Resistance: > 1.5 Megohms**

**High Potential Tests**

| | |
|---|---|
| Main Stator: | 2000 Volts |
| Main Rotor: | 1500 Volts |
| Exciter Stator: | 1500 Volts |
| Exciter Rotor: | 1500 Volts |

**Overspeed:** 2500 RPM

## Table 1

**Excitation & Resistance Data - 208Y/120 // 416Y/240 VOLTS, 400 Hertz - 2000 RPM (Note 1)**

| Generator Model Number | Exciter Field Volts - No Load (Note 2) | Resistance Values in Ohms - Nominal Cold (25° C) | | | |
|---|---|---|---|---|---|
| | | Main Stator (Note 3) | Main Rotor | Exciter Stator | Exciter Rotor |
| 360SSL1311 | 20.2 Volts | 0.063 | 1.500 | 28.5 | 0.240 |
| 360SSL1312 | 23.9 Volts | 0.027 | 0.235 | 28.5 | 0.240 |
| 360SSL1313 | 24.0 Volts | 0.027 | 0.240 | 28.5 | 0.240 |
| | | | | | |
| 430PSL1314 | 28.5 Volts | 0.015 | 1.250 | 28.5 | 0.110 |
| 430PSL1315 | 28.5 Volts | 0.015 | 1.255 | 28.5 | 0.110 |
| 430PSL1316 | 28.5 Volts | 0.015 | 1.260 | 28.5 | 0.110 |
| 432PSL1821 | 30.0 Volts | 0.031 | 1.755 | 27.8 | 0.113 |

**Notes:**

1. Values shown are typical and may vary slightly from unit to unit.

2. See generator nameplate for rated full load exciter voltage.

3. Main stator resistance values shown are for Low (208Y) voltage connection.
   For High (416Y) voltage connection multiply value shown by 4.