

IB-13B002

SYSTEM TEST PROCEDURE

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# RESOLVER REFERENCE GENERATOR RRG-100

INDUSTRIAL INDEXING SYSTEMS, Inc.

Revision 0

# RESOLVER REFERENCE GENERATOR (RRG-100)

## DESCRIPTION:

The RRG-100 is a dual output, resolver reference generator which produces the signals necessary for a "BSD-300" (a resolver based drive amplifier) to interface with a "MM-10-T (an encoder based motion controller). It supplies the 5 volts necessary to power an encoder. This power is supplied to the INT-410 cable interface. The RRG-100 operates on 110v AC input power, supplied at J1.

The RRG-100 should be mounted with #6-32 hardware (not supplied) with a minimum of 1.00 inches clearance from the mounting surface.

Interface cable C-236YYY (YYY=length in feet) is necessary for system operation. One cable per axis, refer to interconnect diagram for system wiring.

## SYSTEM TEST PROCEDURE:

The system tests in section 6.3 of the IB-13B001 user guide should be followed. However, when the resolver tests are preformed (see section 6.3.3), substitute the following procedures.

### 1 - RESOLVER REFERENCE

The resolver test is used to verify the presence of the 2600 HZ, 8v AC reference signal generated on the RRG-100 board to drive the resolver.

**WARNING:**  
THE FOLLOWING VOLTAGE MEASUREMENTS SHOULD BE MADE ON THE RESOLVER CONNECTOR WHILE THE SYSTEM IS OPERATING AND THE COMMAND CABLE TO THE DRIVE IS DISCONNECTED.

- 1.1) Connect an AC volt meter across the "ROHI" and "ROLO" terminals of the resolver connector, at the drive end. The voltage should read 8.0v AC  $\pm$  2v AC. This voltage should not vary more than 0.5v AC when the motor shaft is turned. This is the resolver reference signal from the RRG-100 which drives the resolver.

- 1.2) If the voltage is verified, go to 1.3 (see IB-13B001). If the voltage is not present at all, verify that the RRG-100 has 110v AC. If the voltage is still low or not present, disconnect the resolver connector at the motor and connect the meter to 2600 HZ (pin 3), and COM (pin 4) of the RRG-100 board and measure the voltage again. This verifies the proper operation of the RRG-100's resolver reference signal. If the signal is still low or not present, replace the RRG-100 board. If the voltage drops below 6.0v AC when the resolver is connected, but is correct when the resolver is disconnected, check the resolver cable for possible shorts. If the problem still exists, replace the motor assembly.
- 1.3) Connect the AC voltmeter to the "SINE" and "SRET" terminals on the resolver connector (at the drive). As the motor shaft is turned, the voltage should vary from 10.0v AC  $\pm$  2v AC to less than 1v AC.
- 1.4) Connect the AC voltmeter to the "COS" and "CRET" terminals on the resolver connector (at the drive). As the motor shaft is turned, the voltage should vary from 10.0v AC  $\pm$  2v AC to less than 1v AC.

## 2 - ENCODER SUPPLY VOLTAGE TEST

- 2.1) Connect a DC voltmeter to + 5v DC (pin 1) and 5V RET (pin 2) and verify the voltage from the RRG-100 to be 5v DC  $\pm$  0.2v DC.