AC Lamp Driver, Hot Filament Checker and Redundancy PCB (MicroLok® II Applications)

The AC Lamp Driver provides the means to drive up to four separate ac signal lamp circuits. The unit is designed to drive lamp circuits that each consist of a W2 transformer and two 10 Vac, 25W lamps maximum. Two enable inputs (primary and secondary) provide a power output. These commands are generated by the controlling system (e.g. MicroLok II). The AC Lamp Driver is specifically designed for compatibility with these systems, and conforms to ASTS USA EMC/RFI/ESD requirements. The AC Lamp Driver Module is augmented with a Hot Filament Checker to verify lamp circuits, and a Redundancy PCB to enable control from two external systems.

General Description

Lamp Driver Unit

The AC Lamp Driver consists of two main components: A mounting base and a plug-in module. The plug-in module is secured to the base by a latch. The unit occupies the same volume as an ASTS USA PN-250 series relay and uses the same type of rack mounting base. A red light-emitting diode (LED) lights when primary enable voltage is applied to the AC Lamp Driver.

Optional Hot Filament Checker and Redundancy PCB

An optional component, the Hot Filament Checker, can be installed with the AC Lamp Driver to check filament integrity for up to four lamp circuits. The unit provides output signals that correspond to the presence or absence of lamp filaments. The Hot Filament Checker is designed to function with a W2 transformer and a maximum of two 10 Vac, 25 W lamps per circuit (minimum of one 25 W lamp).

When installed with the optional Redundancy Printed Circuit Board (PCB), the AC Lamp Driver can receive enable inputs from two separate control systems.

Advantages

- Enables driving of AC-powered signal lamps
- Meets ASTS USA EMC/RFI/ESD standards
- Standard PN-250 unit design and mounting base
- Hot Filament Checker verifies four lamp circuits
- Redundancy PCB allows control from two systems

Specifications

**AC Lamp Driver Unit**

- Input Voltage: 110 to 130 Vac RMS, 60 Hz
- Output Voltage: Directly proportional to input voltage: 110 to 130 Vac RMS. Applied to lamp transformer primary
- Input Enable Voltages: 12 Vdc or 24 Vdc nominal from external power source
- Input Primary Enable: For 12V input: 25 mA @ 12.5 Vdc
  - For 24V input: 18 mA @ 12.5 Vdc
- Input Secondary Enable: For 12V input: 12 mA @ 12.5 Vdc
  - For 24V input: 18 mA @ 12.5 Vdc
- Max. Lamp Load: 50 W max., each lamp ckt.
- Max. Total Lamp Load: 150 W max., (for 25 W lamp pairs, only three of four outputs may be on simultaneously)
- Isolation: 2000 Vac control to output
- Module Dimensions: Same as ASTS USA PN-250 series vital plug-in relay
- Operating Temperature: -40°F to +158°F (-40°C to +70°C)
- Humidity Range: 0 to 95 % non-cond.

To order, call 1-800-652-7276

e-mail: orders@ansaldo-sts.us
Specifications (cont’d)

Redundancy PCB:
- Circuit Design: Eight 1000 V, 1A diodes wired in four groups of two diodes in logical “OR” configuration.
- Mounting Location: Base of AC Lamp Driver Module

Hot Filament Checker
- Input Current Range: AC lamp load current reflected to primary of lamp transformer.
- Input Voltage: Per lamp transformer primary current. Note: Checker must be used with W-2 transformer.

Typical Application: AC Lamp Driver

<table>
<thead>
<tr>
<th>Hot Filament Checker (cont’d)</th>
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</thead>
<tbody>
<tr>
<td>Output Voltage Range: 1.7 to 30 Vdc dependant on input current and line volt.</td>
</tr>
<tr>
<td>Output Volt. Indications: &gt; 9.5 Vdc - filament intact. &lt; 7.5 Vdc - filament failure.</td>
</tr>
<tr>
<td>Operating Temperature: -40°F to +158°F (-40°C to +70°C)</td>
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</tbody>
</table>

Typical Application: With Hot Filament Checker
AC Lamp Driver, Hot Filament Checker and Redundancy PCB (MicroLok® II Applications)

AC Lamp Driver Design

Redundancy PCB Installation (On Plug-In Base)

Ordering Information

- Refer to tabulation for ordering data on AC Lamp Driver and related equip.
- Request ASTS USA Service Manual SM-8525 for AC Lamp Driver Module components.

<table>
<thead>
<tr>
<th>Order No.</th>
<th>AC Lamp Driver and Associated Equipment/Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>N40104901</td>
<td>AC Lamp Driver Module: 12V control Input</td>
</tr>
<tr>
<td>N3497114901</td>
<td>Installation Parts for N40104901 (1)</td>
</tr>
<tr>
<td>N40104904</td>
<td>AC Lamp Driver Module: 24V control Input</td>
</tr>
<tr>
<td>N3497114904</td>
<td>Installation Parts for N40104904 (1)</td>
</tr>
<tr>
<td>N40104902</td>
<td>AC Lamp Driver: Hot Filament Checker (Optional)</td>
</tr>
<tr>
<td>N3497114902</td>
<td>Installation Parts for N40104902 (1)</td>
</tr>
<tr>
<td>N17003201</td>
<td>AC Lamp Driver: Redundancy PCB (Optional)</td>
</tr>
<tr>
<td>N438689003</td>
<td>PN-250 Style Relay Mounting Base</td>
</tr>
</tbody>
</table>

Note (1): Includes tags, indexing plate and screws

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