

# MaxDim Mini Dual P/N 9100-001-F

## Installation and Operating Instructions

### **PARTS SUPPLIED 9100-001-F:**

- 1 ea MaxDim Mini Control P/N 9100-001-F, including STC logbook copy
- 4 ea Fully Insulated Blue Female #6 Crimp on Ring Lug Connectors for 14-16 AWG Wire.
- 4 ea 6-32 X 1/4 Button Head Socket SS screws including #6 SS Internal Lock Washer
- 1 ea 1/16 in Long Handle Key Allen Wrench
- 1 ea 5/64 in Long Handle Key Allen Wrench
- 1 ea Reference Panel Label
- 1 ea Knob

### **NEW INSTALLATION:**

1. Locate a convenient place for the MaxDim Mini Control. Drill a (3/8") at the location where the center of the MaxDim Mini is desired
2. Determine the total current that the circuit will be required to carry.
3. Test Position the MaxDim Mini Control and determine the length of the wires required.
4. Remove the MaxDim Mini Control and proceed with the installation. From the **WIRE SIZE-CURRENT CAPACITY TABLE**, select the wire size required. If the installation is in an Aircraft, use only MIL-W-16878E/4 Type E, Teflon insulated, Silver-Plated Copper Wire.
5. Find the location of the power source.
6. Install a breaker of 'Calculated Size', see Wiring Diagram for sizing.
7. Run a Red wire from the Breaker to the MaxDim Mini controller positive (POS) terminal, (note that the positive terminal is marked in red) then Select and crimp Blue Solderless Ring Lug Connector on the end of the red wire. Attach the ring connector onto the POS connector on the MaxDim Mini controller using a washer and a SS screw .
8. Using the same technique that was used with the Red wire, run a Black wire from the red ring terminal on the MaxDim to system ground. The common (Gnd) Wire is simply a signal wire used by the unit. It does not carry heavy currents during operation. Use a Blue Solderless Ring Lug Connector for this wire.
9. Again using the same technique that was used with the Red wire, run a wire from the output CKT1 on the dimming circuit. Select and crimp on a Blue Crimp on ring Connector the end of the wire. Attach the ring connector onto the connection the MaxDim Mini controller using a washer and a Button Head Socket SS screw. Repeat for CKT2
10. With the MaxDim Mini Control inserted from the rear into the 3/8" drilled hole and with the reference label placed over the threads on the MaxDim Mini Control, install a washer and a nut to hold the MaxDim Mini Control in place. Before tightening the nut, insure that the label is vertically aligned.
11. Install the knob using the 1/16 in Long Handle Key Allen Wrench provided.

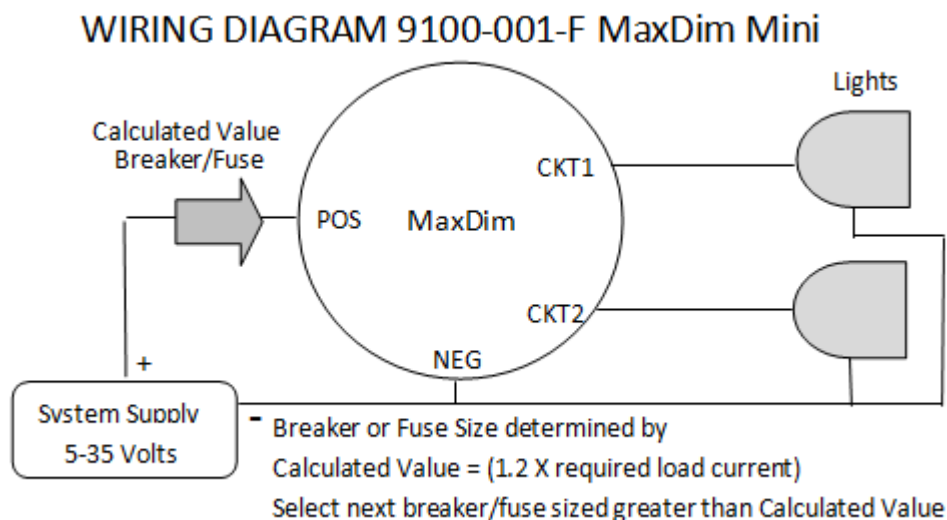
### **EXISTING/REPLACEMENT INSTALLATION:**

1. Locate a convenient place for the MaxDim Mini Control. Drill a (3/8") at the location where the center of the MaxDim Mini is desired. Determine the Positive supply, MaxDim Mini circuits, and negative ground wiring.

2. Test Position the MaxDim Mini Control and determine if an additional the lengths of the wires required.
3. Insure that a breaker for the MaxDim Mini Controller power source is installed in series with power source and sized to 'Calculated Value' as defined on the wiring diagram.
4. Remove the MaxDim Mini Control and proceed with the installation. From the wire size-current capacity table, select the wire size required if additional wire is required. If the installation is in an Aircraft, use only MIL-W-16878E/4 Type E, Teflon insulated, Silver-Plated Copper Wire.
5. Run Red wire from the Breaker to the MaxDim controller positive (POS) terminal, then Select and install a Blue Solderless Ring Lug Connector on the end of the red wire. Attach the connector onto the POS connector on the MaxDim controller.
6. Using the same technique that was used with the Red wire, run a Black wire from the male connect- or terminal on the MaxDim to system ground. The common (Gnd) wire is simply a signal wire used by the unit. It does not carry heavy currents during operation. Use a Blue Female Solderless Ring Lug Connector for this wire.
7. Again using the same technique that was used with the Red wire, run Blue wire from output CKT1 for the dimming circuit. Select and install a Blue Female Solderless Ring Lug Connector, on the end of the wire and attach it onto the male CKT1 connector on the MaxDim Controller. Repeat for CKT2.
8. With the MaxDim Mini Control inserted from the rear into the 3/8" drilled hole and with the reference label placed over the threads on the MaxDim Mini Control, install a washer and a nut to hold the MaxDim Mini Control in place.
9. Install the knob using the 1/16 in Long Handle Key Allen Wrench provided

#### FUNCTIONAL TEST:

1. Turn each knob fully counter clockwise and apply power to the system.
2. Slowly rotate the each knob clockwise. The Lamp MaxDim Mini Circuit will activate and with a con- tinued clockwise rotation the lamps will increase in intensity.
3. Fully Clockwise rotation applies the full voltage to the Lamp MaxDim Mini Circuit.
4. Fully Counterclockwise removes the voltage from the Lamp MaxDim Mini Circuit.
5. The Lamp MaxDim Mini Circuit voltage is continuously variable from off to full on.



## —SPECIFICATIONS—

**Voltage Range:** 5 to 35VDC

**Max Current:** 5 A Per Circuit

**Controlled Output:** 0 to 5/35 VDC

0 to 5 A, Per Circuit, 10A total

**Capacity:** Per Circuit

- 25 Watts @ 5 VDC
- 60 Watts @ 12 VDC
- 120 Watts @ 24 VDC
- 140 Watts @ 28 VDC

**Operating Temperature range:** -30°C to +65°C

**Internal Temperature Protect:** +85°C

**Storage Temperature:** -40°C to +100°C

**Maximum Internal Temperature:** @ 5 A  
+15 °C above Ambient.

**Enclosure Material:** Bayer FR 110 Resin

Meets UL 94 Flame Rating: V-2 (0.03in) V-0  
(0.059in) 5VB (0.098in) 5VA (0.13in)



**Approvals:** FAA PMA Pending

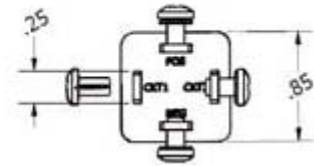
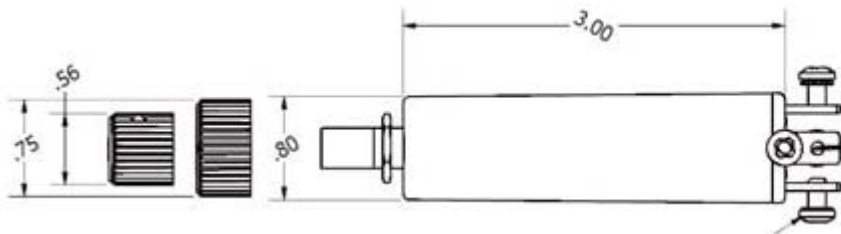
**RTCA/DO-160E** Tested/Qualified EMC

**Potentiometers Rotation:** 270 Deg. Order P/N 9100-001-F

**Rotational Life:** 500KTurns



MaxDim Panel Placard



### ONE YEAR LIMITED WARRANTY

SEC will repair or replace, at its expense and at its option any device manufactured by SEC which in the normal use has proven to be defective in workmanship or material, provided that the customer returns the product prepaid to SEC along with proof of purchase of the product within one year and provides SEC with reasonable opportunity to verify the alleged defect by inspection. SEC will not be responsible for any asserted defect which has resulted from misuse, abuse or over stressing above the published specifications. SEC will under no circumstances be liable for incidental or consequential damages resulting from the defective products. This warranty is SEC's Sole warranty and sets forth the customer's exclusive remedy, with respect to defective products; all other warranties, express or implied, whether of merchantability, fitness for purpose, or otherwise, are expressly disclaimed by SEC.



**Seaton Engineering Corp.** Spokane Valley, WA 99016

### **CAUTION**

Most EFIS, GPS, etc. equipment with screens have their own MaxDim Mini control and only the steam gauge instruments and panel incandescent or LED lights are controlled by the independent MaxDim Mini controller. However, the installing technician and the owner must perform a post installation check for proper function and verification of compatibility with any existing equipment that might appear on these airplanes. With the possibility that there might be Electronic Flight Instrument Systems (EFIS) tied into the existing MaxDim Mini circuitry, the FAA has advised that the installing Technician and owner verify that they cannot dim any (EFIS) all the way to zero, so there is no danger of failure of this simple MaxDim Mini causing all the (EFIS) displays/instruments to be black. If this incompatibility exists the (EFIS) must be removed from the dimming circuit.

### **FAA REQUIREMENTS**

Amend the weight and balance records and make the necessary log book entry. Complete an FAA form 337 showing the installation of this equipment in accordance with the STC instruction and submit one copy to the FAA and one copy to the aircraft owner. File all data and a copy of the STC with the aircraft records.

### **INSTRUCTIONS FOR CONTINUED AIRWORTHINESS**

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Part 43.16 and 91.403 of the FAR's unless and alternative program has been FAA approved. **Airworthiness Limitation:** MaxDim Mini Light Controller P/N 9100-001-F, manufactured by Seaton Engineering Corporation has no repairable parts.

**General Engineering Data Regarding Wire Sizes and Current Capacities Capacity Data  
WIRE AND CABLE DERATING CRITERIA FROM MIL-STD-975**

<b>AWG</b>	<b>Diameter</b>	<b>Diameter</b>	<b>Ohms Per</b>	<b>Ohms Per</b>	<b>Maximum</b>	<b>AWG</b>	<b>Derated Current</b>	
<b>Gauge</b>	<b>Inches</b>	<b>mm</b>	<b>1000 Ft</b>	<b>km</b>	<b>Ampere</b>	<b>Gauge</b>	<b>Single</b>	<b>Bundled</b>
14	0.0641	1.6281	2.525	8.282	32	14	19.0	8.5
15	0.0571	1.4503	3.184	10.4435	28	15	16.6	7.4
16	0.0508	1.2903	4.016	13.1725	22	16	13.0	6.5
17	0.0453	1.1506	5.064	16.6099	19	17	11.2	5.6
18	0.0403	1.0236	6.385	20.9428	16	18	9.2	5.0
19	0.0359	0.9119	8.051	26.4073	14	19	8.1	4.4
20	0.032	0.8128	10.15	33.292	11	20	6.5	3.7
21	0.0285	0.7239	12.8	41.984	9	21	5.3	3.0
22	0.0254	0.6452	16.14	52.9392	7	22	4.5	2.5