MaxPulse P/N 9200-000-A/B
Installation and Operation Instructions

First:

Determine an appropriate location for the MaxPulse Controller using the following guidelines:

A) The location must be within reach of the Pilot in Command while seated at the design eye position, without requiring excessive body movement.

B) The location must be such that the pilot has an unobstructed view of the switch and is able to accurately determine switch positions with minimal head movement.

Parts Supplied P/N 9200-000-A

- 1ea Landing Light Controller, P/N 9200-000-A, including STC logbook copy.
- 1ea fully insulated red female crimp-on spade connectors for 16-22 AWG wire.
- 3ea fully insulated blue female crimp-on spade connectors for 14-16 AWG wire.
- 1ea panel placard
- 1ea installation template
- 1ea 1/16" long handle key Allen wrench
- 1ea knob

Parts Supplied P/N 9200-000-B

- 1ea Landing Light Controller, P/N 9200-000-B, including STC logbook copy.
- 1ea fully insulated red female #6 crimp-on ring terminals for 16-22 AWG wire.
- 3ea fully insulated blue female #6 crimp-on ring terminals for 14-16 AWG wire.
- 4ea #6-32 X 1/4" button head socket SS screws
- 4ea #6 SS internal lock washer
- 1ea 1/16" long handle key Allen wrench
- 1ea 5/64" long handle key Allen wrench
- 1ea panel placard
- 1ea installation template
- 1ea knob

INSTALLATION 9200-000-A or B

1. Drill two holes using the template provided. Drill the first one (3/8”) at the location where the center of the MaxPulse is desired. Drill the second (anti-rotation) hole (11/64”), offset to the right from the first 3/8” hole.
2. Determine the positive supply, lighting circuits, and chassis ground wiring locations, reference the "Typical Wiring Diagrams" located on page 3.
3. Test position the MaxPulse Landing Light Controller to determine if any additional wire is required.
4. Determine the current that the circuits will be required to carry.
5. Remove the MaxPulse Controller and proceed with the installation. From the **WIRE SIZE-CURRENT CAPACITY TABLE**, select the wire size required. Use MIL-W-16878E/4 Type E, Mil-W-22759/16, Teflon insulated Copper Wire, or an equivelent.

6. Install a 25 amp, maximum, breaker between the power supply to the MaxPulse POS terminal. Calculate the optimum size using the formula on the wiring diagram.

MaxPulse 9200-000-A Wiring

1. Run a red wire from the breaker to the MaxPulse Controller positive (POS) terminal, then install a blue female solderless crimp spade connector. Push the female connector onto the POS male terminal on the MaxPulse Controller.
2. Using the same technique that was used with the red wire, run a black wire from the GND terminal on the MaxPulse Controller to system ground or chassis ground. The common (GND) wire is simply a signal wire used by the unit. It does not carry heavy currents during operation. Use a red female solderless crimp connector for this wire. Either color coded wires or labels may be used to identify the wires.
3. Again using the same technique that was used with the red wire, run a blue wire from the CKT1 output to circuit #1. Crimp a blue female solderless spade connector to the end of the blue wire and push it onto the CKT1 terminal on the MaxPulse Controller. Duplicate this procedure with a green wire for wiring CKT2 to circuit #2.

MaxPulse 9200-000-B Wiring

1. Duplicate the same technique that was used to install the 9200-000-A, but instead use the supplied ring terminals instead of the spade connectors.
2. Each wire is connected to the MaxPulse with ring terminals and secured to the respective terminals on the MaxPulse with 6-32 X 1/4" button head socket SS screws including the #6 external star lock washer.

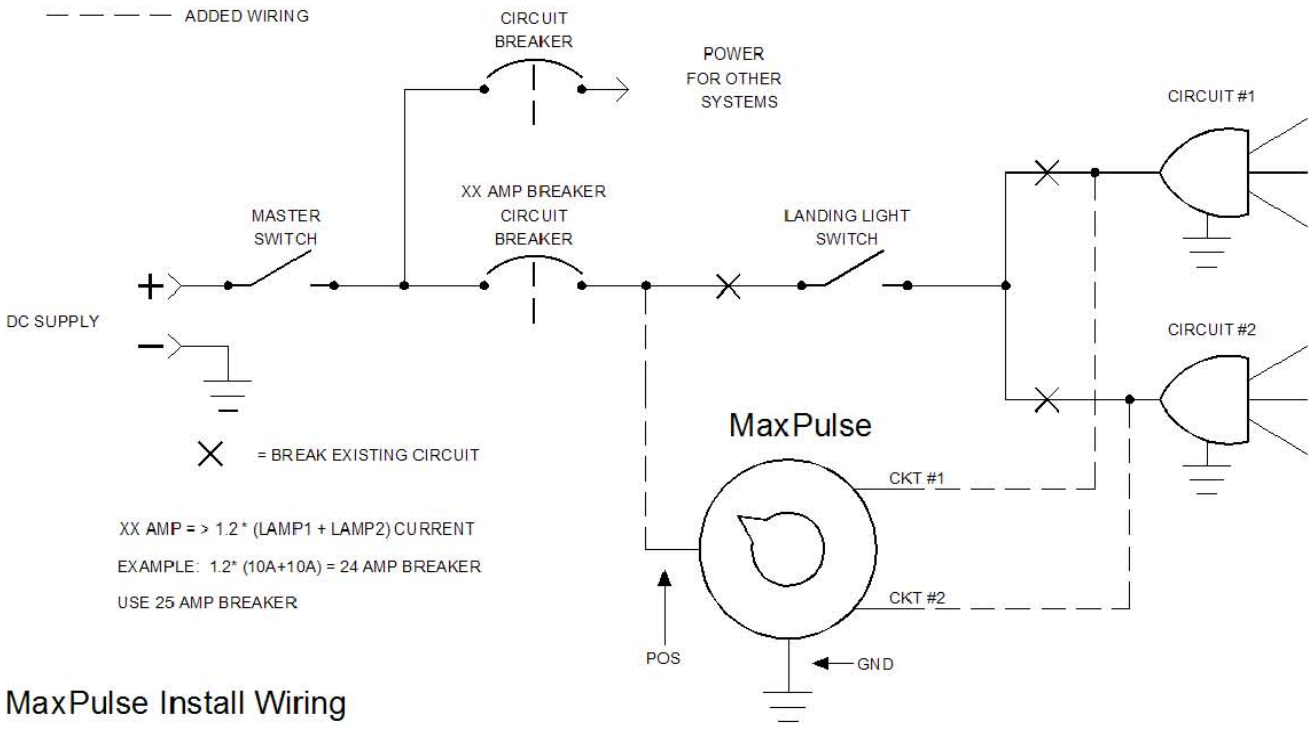
MaxPulse 9200-000-B Connections

- Locate the 5/64" long handle key Allen wrench.
- Insert the Allen wrench into the head of the button head screw.
- Place the #6 internal star lock washer onto the button head screw.
- Place the ring terminal with the crimped-on wire onto the button head screw.
- Screw the button head screws into the appropriate threaded terminals on the MaxPulse.

Installation Completion

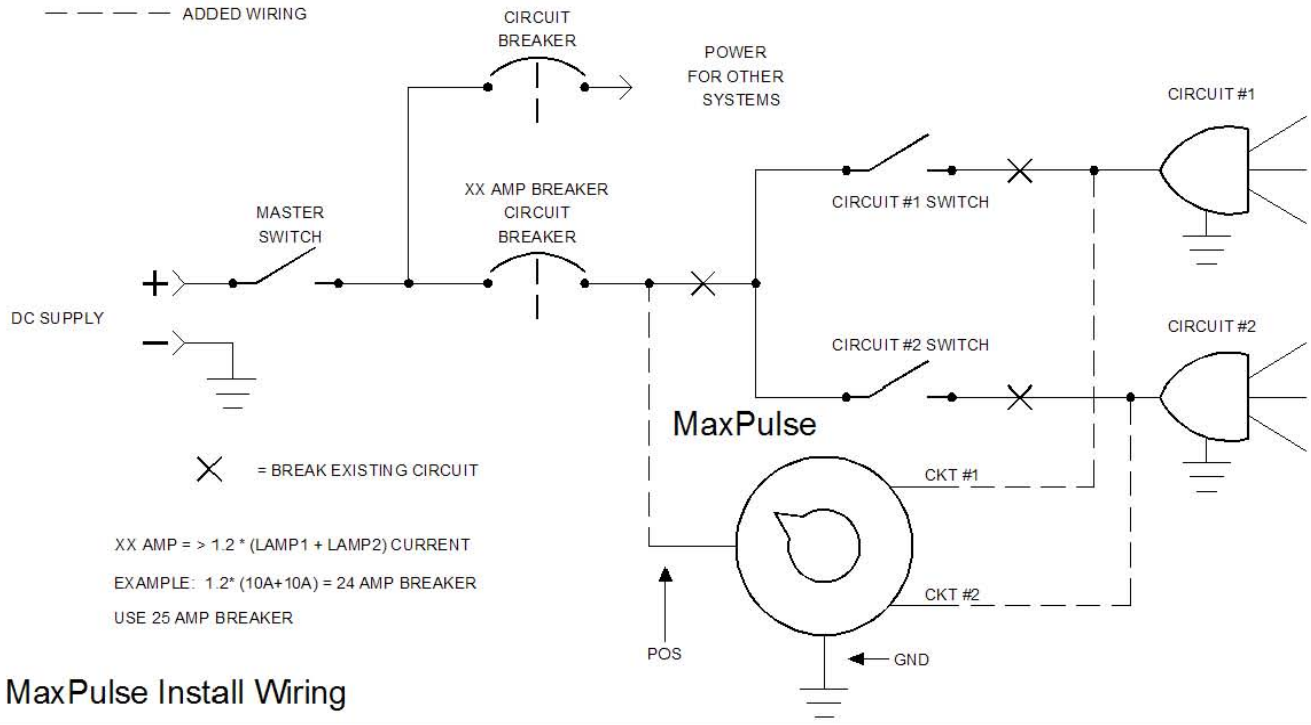
1. With the MaxPulse Control inserted from the rear into the 3/8” drilled hole and with the placard placed over the threads on the MaxPulse, install a washer and nut to hold the MaxPulse Controller in place.
2. Before tightening the nut, insure that the anti-rotation plastic pin is seated in the 11/64” hole and the placard is aligned so that the most counter-clock wise position of the switch lines up with the "Off' position of the placard.
3. Install the knob using the provided 1/16” hex key.

Typical Dual/Single Landing/Clearance Light Switch Wiring Diagram



MaxPulse Install Wiring

Typical Dual/Single Landing/Clearance Light Switch Wiring Diagram



MaxPulse Install Wiring

Seaton Engineering Corp.

Covers MaxPulse 9200-000-A and B

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AWG	Diameter	Diameter	Ohms Per	Ohms Per	Maximum	AWG	De-rated Current	
Gauge	Inches	mm	1000 Ft	km	Ampere	Gauge	Single	Bundled
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

After completion of the installation, perform a functional test in accordance to the instructions found in the Instructions for Continued Airworthiness, document number 9150-008.

Please check website at WWW.SEATONENG.COM for the latest revision of these instructions

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.

ON 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 a defective product. 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 Corporation, Loon Lake, WA

MaxPulse Physical/Electrical/Operational Specifications

VoltageRange: 12 to 35VDC
Max Current: 10 A Per Circuit
Capacity Per Circuit:
120 Watts @12 VDC
240Watts @ 24 VDC
280 Watts @ 28 VDC

Operating Temperature Range: -20°C to +50 °C

Internal Temperature Protect: +85 °C

Storage Temperature: -40°C to +100°C

Maximum Internal Temperature: @20 A +15 °C above ambient.

Enclosure Material: Bayer FR110 Resin Meets UL 94 Flame Rating: V-2 (0.03in) V-0 (0.059in) 5VB (0.098in) 5VA (0.13in)

MaxPulse Eight Function Modes:

X = Both Circuits OFF
S= Starboard Circuit On
P = Port Circuit On
P+S = Port and Starboard Circuits On
A44 = Alternate P & S 44 Times/Minute
B44 = Both P & S on & off 44 Times/Minute
A88 = Alternate P & S 88 Times/Minute
A120 = Alternate P & S 120 Times/Minute

APPROVALS

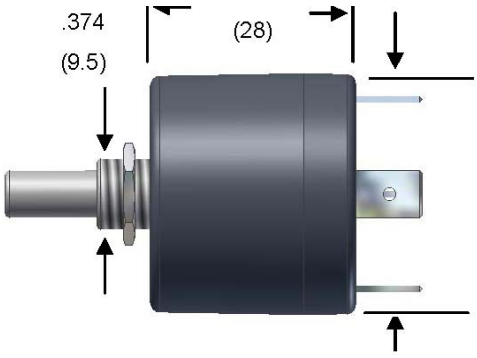
FAA PMA STC SA01861SE

RTCA/DO160E Qualified

Ordering:

MaxPulse P/N 9200-000-A Spade Terminals

MaxPulse P/N 9200-000-B Ring Terminals



Weight: 1 oz (28g)

Covers MaxPulse 9200-000-A and B

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Seaton Engineering Corp.

United States of America

Department of Transportation - Federal Aviation Administration

Supplemental Type Certificate

Number SA01861SE

This certificate, issued to

Seaton Engineering Corp.
40145 Sunset Drive
Loon Lake, WA. 99148

*certifies that the change in the type design for the following product with the limitations and conditions therefore as specified hereon meets the airworthiness requirements of Part * of the * Regulations.*

Original Product—Type Certificate Number: * See attached Federal Aviation Administration (FAA)
Make: Approved Model List (AML) SA01861SE for approved
Model: aircraft models and applicable airworthiness regulations

Description of the Type Design Change Installation of Landing Light Controller in accordance with Seaton Engineering Corp. master drawing list as listed on AML SA01861SE. This modification must be inspected and maintained in accordance with the Instructions for Continued Airworthiness (ICA) Document Number 9150-008, Revision D, dated June 25, 2013, or later FAA-accepted revision.

Limitations and Conditions: Approval of this change in type design applies to only the aircraft listed on AML SA01861SE. This approval should not be extended to models on which other previously approved modifications are incorporated unless it is determined by the installer that the relationship between this change and any of those other previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of that aircraft. Aircraft modified in accordance with this supplemental type certificate must be operated in accordance with a copy of the applicable FAA-approved Aircraft Flight Manual Supplement (AFMS) as listed on AML SA01861SE. A copy of this certificate, the applicable AFMS, and the ICA, must be maintained as part of the permanent records of the modified aircraft.

If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: August 23, 2007 *Date reissued:* December 1, 2011; July 16, 2019

Date of issuance: July 23, 2008 *Date amended:* July 19, 2017

FEDERAL AVIATION ADMINISTRATION

By direction of the Administrator

(Signature)

Acting Manager, Seattle ACO Branch
(Title)

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years, or both. This certificate may be transferred or made available to third persons by licensing agreements in accordance with 14 CFR 21.47. Possession of this Supplemental Type Certificate (STC) document by persons other than the STC holder does not constitute rights to the design data nor to alter an aircraft, aircraft engine, or propeller. The STC's supporting documentation (drawings, instructions, specifications, flight manual supplements, etc.) is the property of the STC holder. An STC holder who allows a person to use the STC to alter an aircraft, aircraft engine, or propeller must provide that person with written permission acceptable to the FAA. (Ref. 14 CFR 21.120). This certificate may be transferred in accordance with FAR 21.47.

FAA Form 8110-2 (5/14)

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

OBSERVATION: Please refer to seatoneng.com for the latest revision of Document 9150-008

Upon completion of the installation, perform the functional test procedure. During the functional test, the following actions and observations should be made.

The installer should check each communication, navigation, or surveillance radio receiver in the airplane following the MaxPulse Landing Light Controller installation. For radio receivers that can be tuned to multiple channels, tune the receiver to low, mid and high channels.

For all other radio receivers in the airplane, turn on the radios and monitor the audio output or displays for interference when the MaxPulse Landing Light Controller is turned on. If adverse interference is noted on the radio audio output or displays and trouble shooting does not uncover errors in the installation or wire routing, remove the MaxPulse from the airplane.

The MaxPulse has passed the RTCA/DO-160E Sec 21 testing for electromagnetic emissions/interference and it is extremely unlikely that any interference should occur.

TEST PROCEDURE		Check
Rotate the MaxPulse rotary switch fully counter-clockwise to the FIRST position.	**X**	
Turn the **Master Power Switch** to the **ON** position. The light circuits should be off.	**ON**	
Rotate the MaxPulse switch clockwise to the SECOND position The Starboard light should come on and remain on.	**S▶**	
Rotate the MaxPulse switch clockwise to the THIRD position The Port light should come on and remain on.	**◀P**	
Rotate the MaxPulse switch clockwise to the FORTH position The Port and Starboard lights should come on and remain on.	**P+S**	
Rotate the MaxPulse switch clockwise to the FIFTH position The Port and Starboard lights should alternate on and off 44 times per minute**.**	**A44**	
Rotate the MaxPulse switch clockwise to the SIXTH position Both Port and Starboard lights should turn on and off 44 times per minute.	**B44**	
Rotate the MaxPulse switch clockwise to the SEVENTH position The Port and Starboard lights should alternate on and off 88 times per minute.	**A88**	
Rotate the MaxPulse switch clockwise to the EIGHTH position The Port and Starboard lights should alternate on and off 120 times per minute.	**A120**	
Return the **Master Power Switch** to the **OFF** position	**OFF**	

TEST COMPLETE

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: MaxPulse 9200-000-A/B Controllers, manufactured by Seaton Engineering Corporation, have no repairable parts and if a failure occurs, the part must be replaced in its entirety.

FAA APPROVED

AIRCRAFT FLIGHT MANUAL SUPPLEMENT

MaxPulse
Model 9200-000-A/B
Landing Light Controller

Aircraft: _____

Model: _____

R/N: _____

S/N: _____

FAA Approved : _____
for Manager, Seattle Aircraft Certification Office

Date: JUL 18 2008

Revised: FEB -5 2010

Aircraft Flight Manual Supplement

DESCRIPTION

The MaxPulse Landing Light Controller gives the pilot complete control of two landing or clearance light circuits. The light circuits, referenced as Port and Starboard in this document, may not necessarily be located in those positions. This is dependent upon the model of the aircraft and will have been predetermined during the installation of the MaxPulse controller.

The landing lights may be located on the Port and Starboard ends of the wings, in the middle of both wings, a single light in the nose wheel cowling, one light on either wing or one in the nose cowling and a wing. The pilot should locate these lights and familiarize him/her self with their location during ground inspection and establish that they are not defective and are functional with this procedure.

For future reference, this MaxPulse Aircraft Flight Manual Supplement should be retained in the basic aircraft manual.

Limitations: Do not operate MaxPulse Landing Light Controller in IMC conditions.

FUNCTIONAL OPERATION

To begin a functional checkout, place the MaxPulse rotary switch in the FIRST position. This sets the MaxPulse to its off position.	**X**
MaxPulse in SECOND position The Starboard light should come on and remain on.	**S**
MaxPulse in THIRD position The Port light should come on and remain on.	**P**
MaxPulse in FORTH position. The Port and Starboard lights should come on and remain on.	**P+S**
MaxPulse in FIFTH position The Port and Starboard lights should alternate on and off 44 times per minute.	**A44**
MaxPulse in SIXTH position Both Port and Starboard lights should turn on and off 44 times per minute	**B44**
MaxPulse in SEVENTH position . The Port and Starboard lights should alternate on and off 88 times per minute.	**A88**
MaxPulse in EIGHTH position The Port and Starboard lights should alternate on and off 120 times per minute.	**A120**

X OFF
S Starboard Circuit On
P Port Circuit On
P+S Port and Starboard Circuits Both On
A44 Alternate Circuits 44 Times/Minute
B44 Both Circuits turn on and off 44 Times/Minute
A88 Alternate Circuits 88 Times/Minute
A120 Alternate Circuits 120 Times/Minute

Seaton Engineering Corp.
Spokane Valley, WA 99016 509.928.0633

FAA Approved, Date: FEB - 5 2010

SEATON
ENGINEERING

To whom it may concern:

Please use this letter as evidence of permission granted by the holder of STC SA01861SE, to the user, to install Seaton Engineering's MaxPulse Landing Light Controller, model 9200-000-A or 9200-000-B in an aircraft included on the Approved Model List referenced by STC SA01861SE.

Jeff Christensen
President/CEO
Seaton Engineering Corporation
40145 Sunset Drive
Loon Lake, WA. 99148