



Maxwell Propulsion Systems, Inc.

Super Novo Vias

19132 59th Dr. NE

Arlington WA 98223

360.474.8118 Phone; 360.474.8299 Fax

Electrical System Recommendations

Wire size

MPS electrical drawings include wire sizes for the complete engine system. For builder added components such as flight instruments and radios, we recommend using the following table to determine wire size of most short lengths found in the airplane cabin. First determine the amount of current used by the device by measuring with an ammeter or by finding the max current in documentation from the manufacturer. Once the load per circuit is added, choose an appropriate size circuit breaker. Then choose the wire size based on the circuit breaker size, not the actual load each of the devices use. Due to mechanical strength of a single wire, 20 AWG is the smallest size recommended for wires not supported in bundles. Many devices such as radios and trim systems may have multiple conductor harnesses made from wires smaller than 20, and that is acceptable.

| AWG | AMPS | AWG | AMPS |
|-----|------|-----|------|
| 2 | 108 | 4 | 81 |
| 6 | 60 | 8 | 44 |
| 10 | 33 | 12 | 25 |
| 14 | 19 | 16 | 13 |
| 18 | 9 | 20 | 6 |

Batteries

The MX1 engine management system uses a maximum 11 amps of power to run the two computers, 4 fuel pumps, and entire spark and injector systems. When deciding which batteries to use, we recommend determining the amount of reserve capacity needed in event of alternator failure. As an example, the FAA requires 2 hours of battery reserve for certified engines that are electronically controlled. Currently we recommend using two Odyssey PC 925 that have 28 amp hours each.