



SAFE 328
Avionics Cooling Fan

Installation Manual

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1.0 Introduction

This sheet describes the installation of the SAFE 328 Blower with fault detection output. It is intended for use by FAA certified repair stations to install the SAFE 328 and includes both mechanical and electrical installation information. The installer should insure that the SAFE 328 is operating according to its intended function.

1.1 Product Description

The SAFE 328 is an avionics cooling fan that provides an operating indication. When the fan is normally operating, this output is at low impedance. The output goes to high impedance whenever the RPM of the motor drops below a preset threshold, signaling the connected avionics of the reduction in cooling from the SAFE 328.

1.2 Technical Characteristics

1.2.1 Physical Characteristics

Width 1.25" Height 4.75"

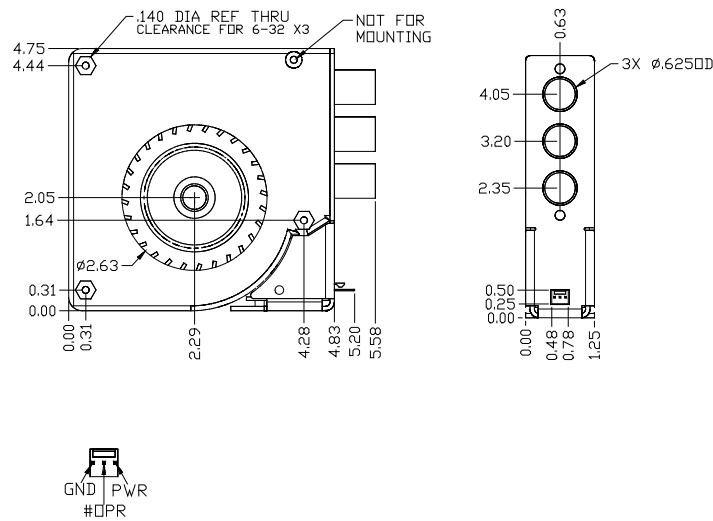


Figure 1-1
Dimensions for Serial Numbers 101 - 9999 and 20000 and Up

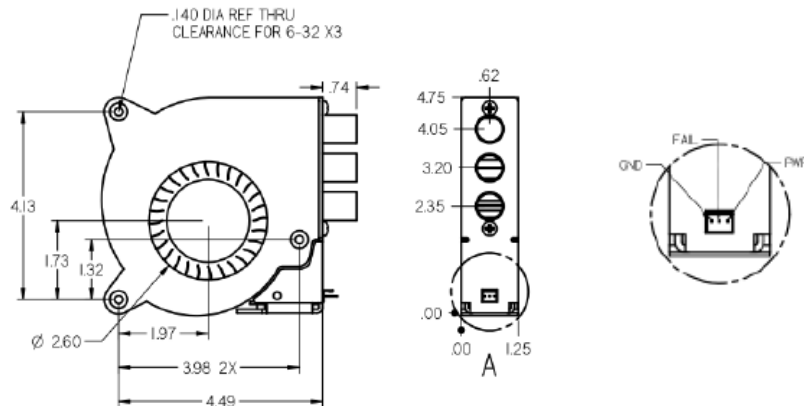


Figure 1-2
Dimensions Serial Numbers 10001 - 19999

1.2.2 Operational Characteristics

| | |
|------------------------|---|
| Operating Voltage | 22-31Vdc |
| Current | Operating .400 Amps Nominal |
| | Start-up .550 Amps |
| Air Flow (All Ports) | 20 CFM No Static Pressure (10CFM @ .08 H2O Static Pressure) |
| Operating Temp | -20 to +55° C |
| Max Operating Altitude | 55,000 Feet |

1.2.3 Certification

FAA-PMA PQ0894SW Diamond DA40
DO 160D [F1]BAA[S2R2U(F,B2,M)]XXXXXXXXZBAZA[XX]M[XXXX][XX]XX

2.0 Installation Procedures

2.1 General

The SAFE 328 is supplied with a mounting connector and four contacts. One of two optional installation kits are supplied with the SAFE 328. Kit number one includes the mating connector housing and the mating pins. The alternate kit supplies only the mating pins. All SAFE 328's are shipped with a mating connector housing on the units connector. This helps protect the pins during shipment. That mating connector housing is to be used with the alternating kit. Only three contacts are required and the spare one is provided in case one is destroyed during installation. The SAFE 328 is mounted with three (3) number 6 or 8 screws. Cooling air is ducted to the device to be cooled using aircraft approved tubing. Unused ports should be capped.

2.2 Equipment Required

2.2.1 Supplied

SAFE 328 System Includes:

| | |
|--------------------|-----------|
| SAFE 328 Fan | 305467-00 |
| Installation Kit 1 | 305477-00 |
| Mating Connector | 305479-03 |
| Mating Pins | 305478 |

Alternate Installation Kit 306519

| | |
|-------------|--------|
| Mating Pins | 305478 |
|-------------|--------|

| Description | Manufacturer | Series Number | Manf. Part Number | Sandia Part Number |
|-------------------|--------------|---------------|------------------------|--------------------|
| Connector Housing | Molex | 2695 | 22-1-3037 | 305479-03 |
| Crimp Contact | Molex | 2759 | 08-50-0114 | 305478 |
| Hand Crimper Tool | Molex | NA | *11-01-0185 or CR2262C | NA |
| Extraction Tool | Molex | NA | *11-03-0022 | NA |
| Insertion Tool | Molex | NA | *63812-0000 | NA |

Figure 2-1
Connector item Part Numbers

2.4 Electrical

The SAFE 328 operates on 28Vdc. It will provide a low on the Fan Fail pin (center pin) of the connector when operating normally. When airflow drops to 65% of nominal, as determined by fan RPM, the Fan Fail pin will output a high. An external pull-up is required. Power to SAFE 328 can be supplied from the aircraft buss or from the unit to be cooled if an output is available. If connected to the aircraft buss, the SAFE 328 should be protected by a 1.0 amp fuse or breaker.

2.5 Calibration

No calibration of the SAFE 328 is required. The unit is tested by slowing the fan manually and observing a high on the Fan Fail pin. Allow the fan to return to normal speed and observe a low on the Fan Fail pin.

2.6 Continued Airworthiness

Maintenance of the SAFE 328 is on condition only. No scheduled maintenance is required.