

SAFE 328
Avionics Cooling Fan
With Fault Detection

INSTALLATION INSTRUCTIONS



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.

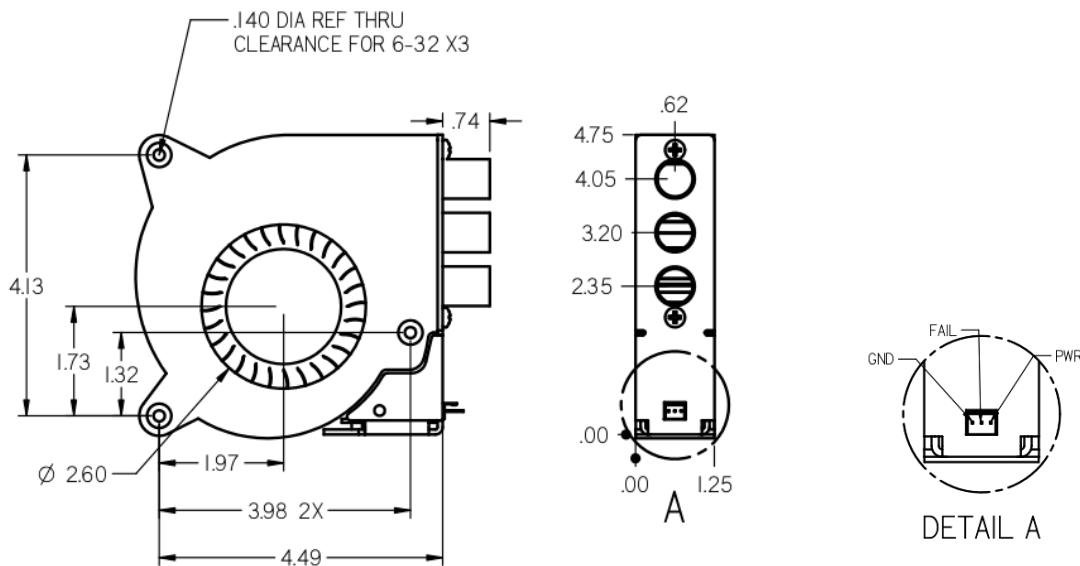
1.1 PRODUCT DESCRIPTION

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" |
| Depth | 5.58" | Weight | 0.7 lb |



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 H ₂ O 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. 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 | 305477-00 |
| Mating Connector | 305479-03 |
| Mating Pins | 305478 |

2.2.1 REQUIRED BUT NOT SUPPLIED

Three (3) Number 6-32, 8-32 or equivalent mounting screws

2.3 MOUNTING

The SAFE 328 mounts with three (3) number 6-32 or 8-32 or equivalent machine screws.

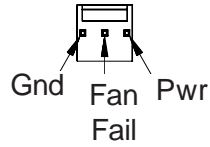
DO NOT BLOCK AIRFLOW INLET

Caution

SAFE 328 Units S/N's 10001 and above May Not Properly Indicate "Fan Fail" If The Fan Is Stopped Completely. Consequently, Consideration Should Be Given To Preventing Foreign Objects That Could Stop The Rotation From Entering The Fan.

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.



| 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 |

*or equivalent

Mating Connector and Contact Information

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.