

# INSTALLATION MANUAL

## SAFE 528

Avionics Cooling Fan  
With Fault Detection



### 1.1 INTRODUCTION

This sheet describes the installation of the SAFE528 Blower with fault detection output. It is intended for use by air-frame manufacturers and certified repair stations to install the SAFE528 and includes both mechanical and electrical installation information. The installer should insure that the SAFE528 is operating according to its intended function.

### 1.2 PRODUCT DESCRIPTION

The SAFE528 is an avionics cooling fan that provides an operating indication. When the fan is normally operating, this 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 SAFE528.

### 1.3 TECHNICAL CHARACTERISTICS

#### 1.3.1 PHYSICAL CHARACTERISTICS

Width	2.10"	Height	5.13"
Depth	6.74"	Weight	1.19 lb

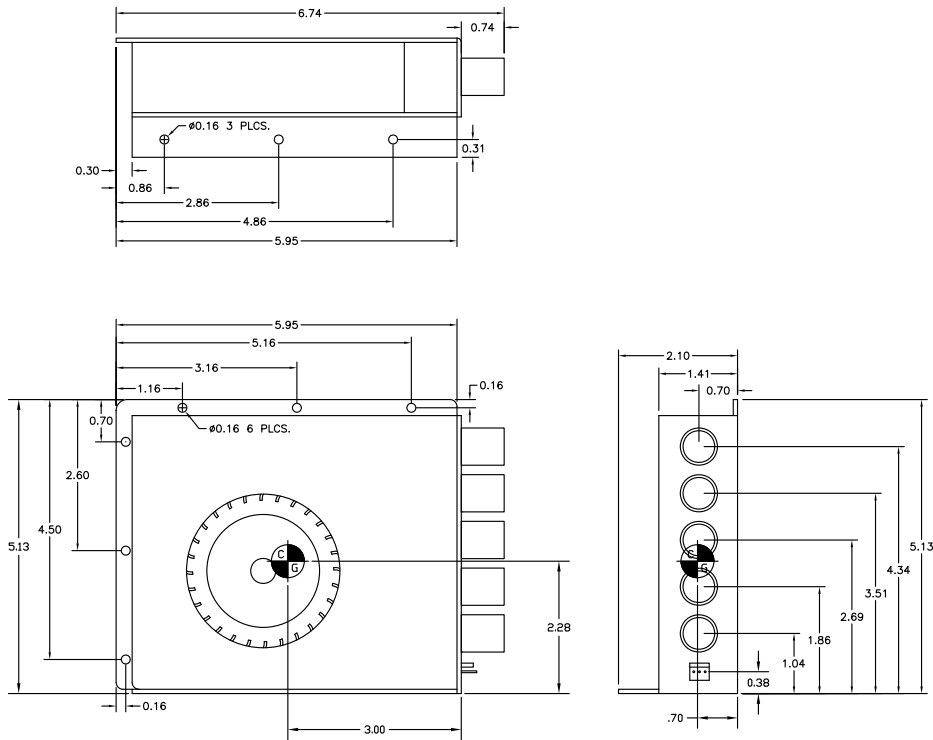


Figure 1  
Dimensional Drawing

#### 1.3.2 OPERATIONAL CHARACTERISTICS

Operating Voltage	22-31 Vdc		
Current	Operating	.400 Amps	Nominal
	Start-up	.550 Amps	
Air Flow (All Ports)	20 CFM No Static Pressure (10CFM @ .08 H <sub>2</sub> O Static Pressure)		
Operating Temp	-20 to +55 °C		
Max Operating Altitude	55,000 Feet		

### 1.3.3 CERTIFICATION

FAA-PMA

Beechcraft A36

DO 160D

[F1]BAA[S2R2U(F,B2,M)]XXXXXXXXZBAZA[XX]M[XXXX][XX]XX

## 2.0 INSTALLATION PROCEDURES

### 2.1 GENERAL

The SAFE528 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 SAFE528 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

SAFE528 System	705722-00
Includes:	
SAFE528 Fan	305722-00
Installation Kit	305477-00
Mating Connector	305479-03
Mating Pins	305478

#### 2.2.2 REQUIRED BUT NOT SUPPLIED

Three (3) or six (6) Number 6-32, 8-32 or equivalent mounting screws depending on mounting.

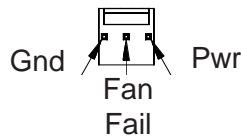
### 2.3 MOUNTING

The SAFE528 mounts with three (3) or six (6) 6-32 or 8-32 or equivalent machine screws depending on mounting.

**DO NOT BLOCK AIRFLOW INLET**

### 2.4 ELECTRICAL

The SAFE528 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 SAFE528 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 SAFE528 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 SAFE528 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 SAFE528 is on condition only. No scheduled maintenance is required