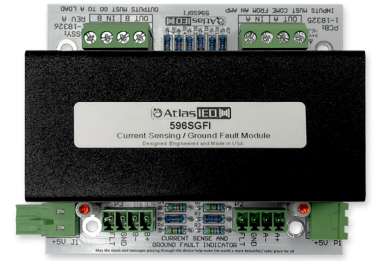




# 596SGFI

## DUAL CURRENT SENSING GROUND FAULT INDICATOR



### TECHNICAL DATA SHEET

#### PRODUCT SUMMARY

The Model 596SGFI is a dual channel, current sensing / ground fault detector module. In conjunction with the GCK Monitor / Test system, it can be used to monitor the current being drawn from the amplifier by a speaker circuit. When connected to a floating amplifier output it can detect a ground fault on a speaker line.

The 596SGFI is a current to voltage conversion device that is wired in series with the loudspeakers connected to a power amplifier output. The audio monitor output terminals are normally connected to the audio input of a 1544ZOP or the monitoring input of an AtlasIED monitor device. The voltage available at the output terminals is a function of the current delivered to the speakers.

Once the test signal level and the amplifier gain are set, the amplifier output voltage remains constant during normal testing conditions unless a fault occurs in the amplifier. The speaker line impedance varies due to changes in environmental conditions such as humidity and temperature, or due to a change in equivalent speaker circuit impedance because of speakers opening or shorting.

To detect ground faults, the 596SGFI requires external +5 VDC power. No power is required to measure speaker load current. The 596SGFI can be mounted in a SNAPTRACK (part # 3TK2-48) which is available at TE Connectivity ([www.tti.com](http://www.tti.com)). The modules can be 'daisy-chained' together, requiring power to be run to the first module in the chain only, thereby simplifying the installation.

#### KEY FEATURES

- Provides a signal for speaker line trouble detection or monitoring
- Can be used with low impedance, 25 V, 70.7 V and 100 V speaker circuits
- Detects ground faults in floating output amplifier speaker circuits
- Two circuits on one module
- Each circuit has LED indicator and dry relay contact indication of ground fault
- Mounts to SNAPTRACK
- Works with 1544ZOP and other AtlasIED Monitor / Test Systems
- Can utilize relay indication to interface with other, custom-built reporting systems

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#### ELECTRICAL

Maximum speaker line current through 596SGFI	3 Amps	
Frequency Response, monitor output	20Hz	-15 dB +/- 3dB
	2 kHz	0 dB +/- 1 dB
	20 kHz	0 dB +/- 1dB
Total Harmonic Distortion, THD+N, monitor output	<0.3% THD+N @ 1 kHz	
Ground Fault Detection Loss	>30 dB (As measured by the Monitor/Test System)	
Max. Current Drain	95 mA (ground fault detected, +5 V supply)	
Quiescent current drain	4mA	

#### CONNECTORS

Speaker Line In/Out	4-position terminal block, 5.0 mm, Dinkle EHK5V-04P	
Monitor/Relay Output	4-position compression-type screw terminal block, 3.81 mm, Dinkle ECH381-04P Mating Connector: 4-position terminal block, 3.81 mm screw plug, Dinkle EC381V-04P	
5VDC IN	2-position terminal block, RA, 5.08 mm, Dinkle 2EHDR-02P Mating Connector: 2-position 5.08 mm screw plug, Dinkle 2ESDV-02P	
5VDC Passthrough	2-position Terminal Block RA, 5.08 mm, Dinkle 2ESDCR-02P	

#### MECHANICAL

Size	Height	3.80"
	Width	3.25"
	Depth	1.5"
Mounting Configuration	SNAPTRACK	3TK2-48

#### ENVIRONMENTAL

Operating Temperature Range	(+32 °F - +104 °F) 0 °C - +40 °C
Storage Temperature Range	(-40 °F - +158 °F) -40 °C - +70 °C

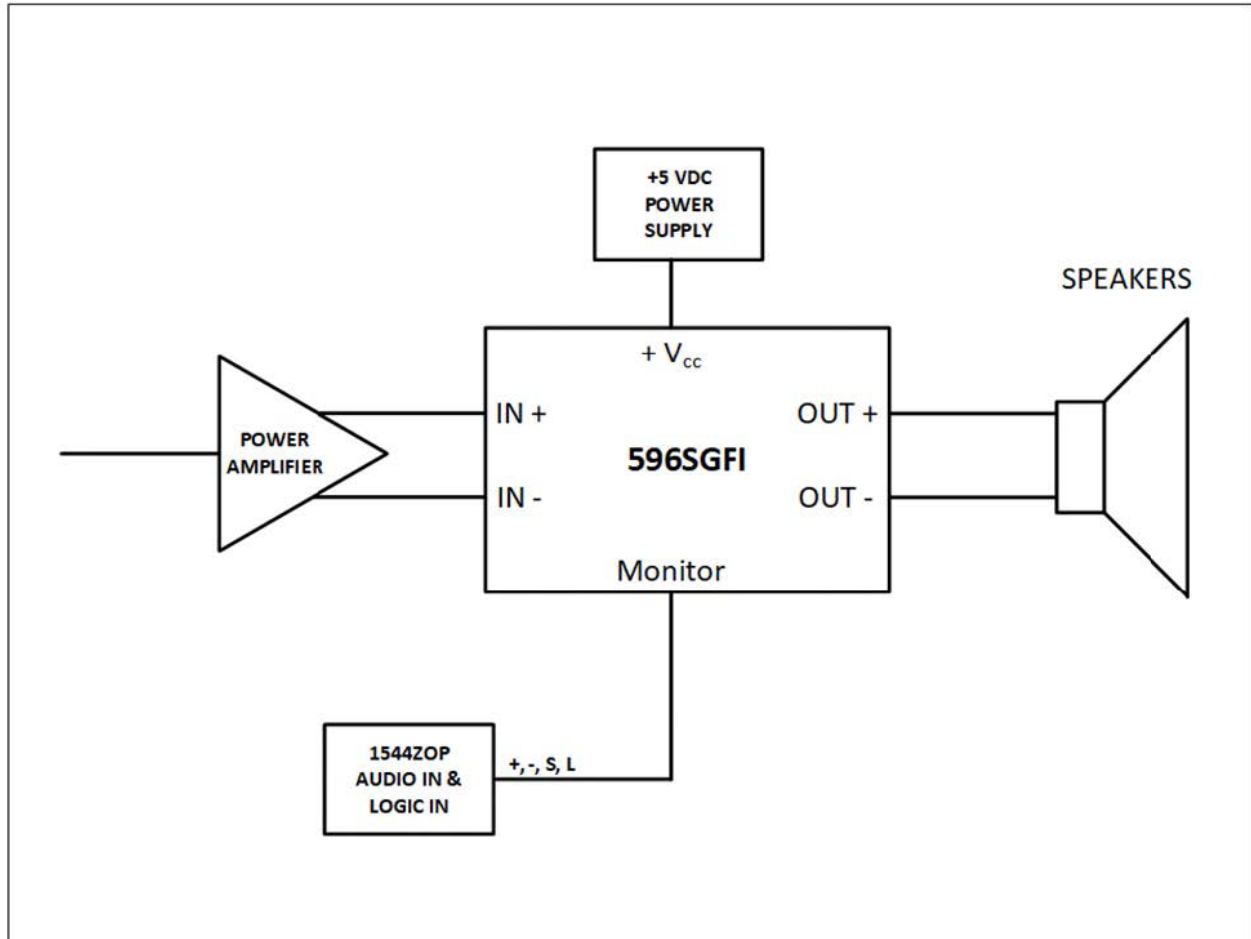
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## TECHNICAL DATA SHEET

### DIAGRAMS



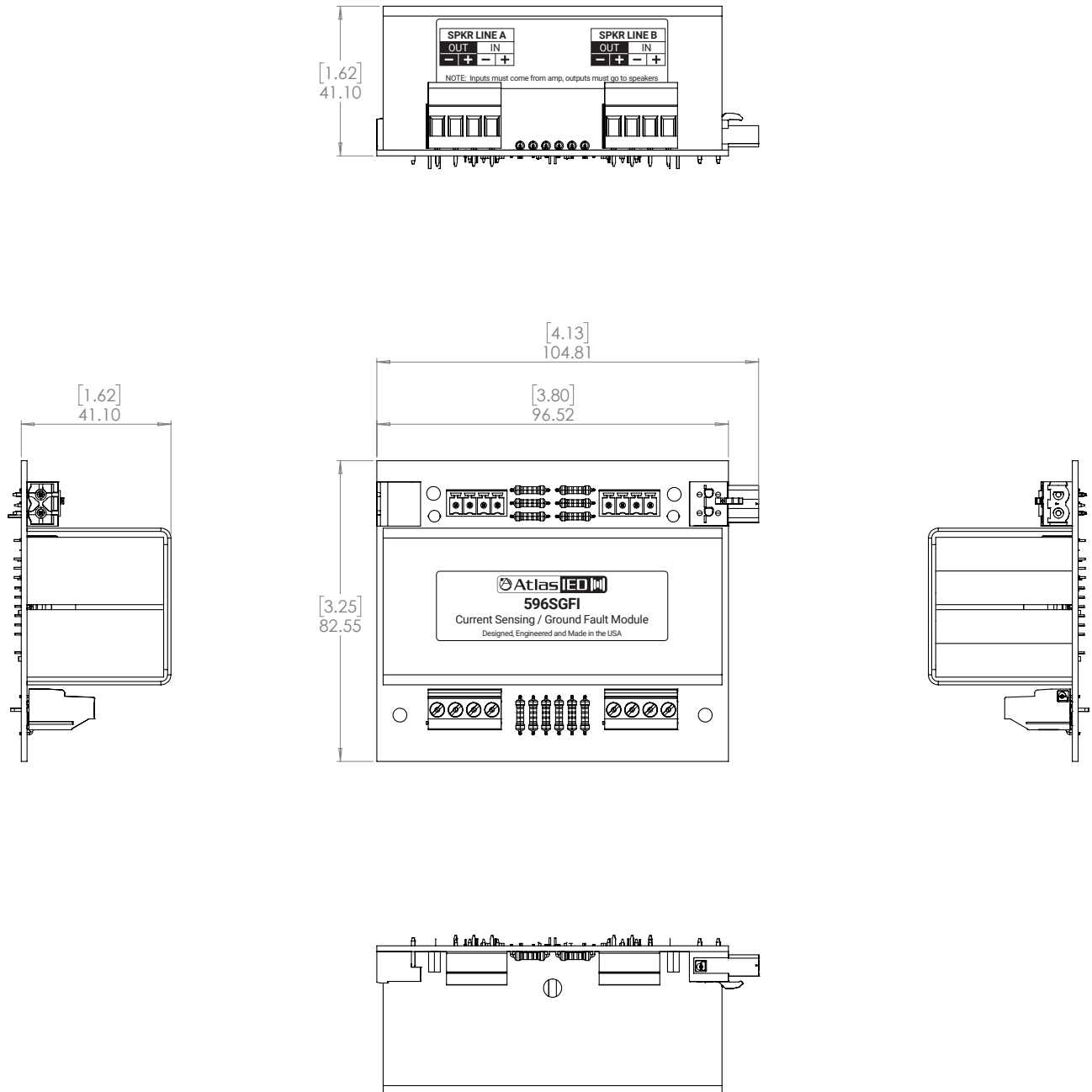
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### TECHNICAL DATA SHEET

### DIMENSIONAL DRAWINGS



# 596SGFI

## DUAL CURRENT SENSING GROUND FAULT INDICATOR



### TECHNICAL DATA SHEET

#### ARCHITECT AND ENGINEER SPECS

The speaker line current sensor and ground fault detector shall be the AtlasIED 596SGFI. It shall be a module containing two current sensing/ground fault detection circuits. Connections to the amplifier and loudspeaker circuits shall be via provided connectors. The current sensing function shall work with amplifiers utilizing either floating output topology or with grounded output topology. The module shall provide an output voltage that varies in relation to the speaker line current. This line audio monitor voltage shall be available on provided 4-pin Euroblock-type connectors. The speaker line ground fault function shall work with amplifiers featuring a floating (non-ground-referenced) output. A speaker line ground fault shall be indicated by an LED indicator and the closing of a relay contact. The contact closure shall be available for connection to user-supplied equipment via the same 4-pin Euroblock connector used for the audio monitor output. The module shall contain two independent circuits and their input/output connectors. The speaker line ground fault indication function shall require the use of an external 5 VDC power supply which is connected using the provided 2-pin Euroblock-style connector. A mating 2-pin connector shall be provided to allow multiple modules to be "daisy-chained" and share one power supply. The current sensor/ground fault indicator module shall be 3.80" (9.65 cm) x 3.25" (8.26 cm) x 1.5" (3.81 cm) in size. The module shall be mountable using TE Connectivity model 3TK2-48 SNAPTRACK.

The speaker line current sensor / ground fault indicator module shall be compatible with the AtlasIED 1544ZOP and GCK Monitor / Test System. The module shall be the AtlasIED 596SGFI Speaker Line Current Sensor and Ground Fault Indicator.

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