SERIES 50

12 BIT, 1, 2, or 4 CHANNEL HIGH SHOCK ANALOG RECORDERS

DESCRIPTION

The Series 50 is a family of miniaturized, high shock, solid-state, 4-channel recorders designed to acquire transducer data in shock environments of up to 100,000 G's. The epoxy-encapsulated unit can be configured for a variety of transducer inputs to accommodate automotive crash testing, blast testing, mining applications, weapon testing, or testing in hostile field environments. The Series 50 also includes 2, 4, or 8 additional digital channels (Model 51, 52, or 54 respectively) for recording events. Low power consumption allows instrumentation build-up weeks before the test and extends the time for data retrieval after the test. Data retrieval is accomplished using a personal computer. Software supplied with the recorder enables retrieval, storage, display, and printing of the data.

FEATURES

-- Small Size
-- 1, 2, or 4 Analog Channels
-- 2, 4, or 8 Digital Channels
-- 12 Bit Resolution (4096 steps)
-- Low Power with 3.3 or 5 Volt Logic
-- Single Battery Operation
-- Differential Input
-- 6-Pole Low Pass Filter
-- High Sample Rate
-- Pre-Trigger Data Retention
-- Software Support
-- Reusable
-- Expandable Memory (to 256K Data Points)

Recorder Type	Model 51	Model 52	Model 54
Number of Channels	1	2	4
Standby Current	80 Microamps[1]	80 Microamps[1]	80 Microamps[1]
Data Acquisition Current	70 Milliamps[1]	70 Milliamps[1]	80 Milliamps[1]
Data Retention Current	80 Microamps[1]	80 Microamps[1]	80 Microamps[1]

[1]Typical current

FACTORY SELECTABLE OPTIONS

--Storage Capacity Expandable to 256K Data Points (512K bytes)
--Sample Rate / Filter Frequency (Limited Options)
--3.3 Volt or 5.0 Volt Logic
--Pre-Trigger Memory Size (Limited Options)
--User Defined Package Shape

SERIES 50

ELECTRICAL SPECIFICATIONS

Amplifier Input ..... Differential
Low-Pass Filter Type ..... 6-Pole Butterworth
Digitizer Amplitude Resolution ..... 12 Bits (4096 Digital Steps)
Storage Capacity ..... 64K Data Points (128K Bytes) or 256K Data Points (512K Bytes)[2]
Triggers ..... 3.3 or 5 Volt Pulse[3]
Supply Voltage ..... 6 to 10 Volts[3]
Supply Voltage for External Sensor ..... 3.3 or 5.0 volts[3]
Supply Current for External Sensor Per Channel ..... 10 Milliamps (Maximum)[3]

[2] Selectable at Factory ONLY [3] Varies with 3.3 or 5 volt logic

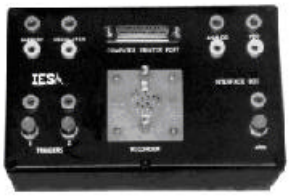
PHYSICAL SPECIFICATIONS

Temperature Range ..... 0 C to 75 C
Length. ..... 2.53" (64.3 mm)
Diameter ..... 1.25" (31.8 mm)
Weight ..... 4 oz. (116 Grams)
Maximum Shock Level ..... 100,000 G's

NOTE: The Recorder is fully epoxy-encapsulated with the exception of the input terminals and the output PC Board connector. The outer shell is stainless steel.

STANDARD CONFIGURATION

Recorder	Model 51	Model 52	Model 54
Sample Rate/Channel	800 KHz	400 KHz	200 KHz
Low Pass Filter Bandwidth	100 KHz	55 KHz	30 KHz
Memory Size (Data Points)	64K	64K	64K
Pre Trigger Data/Channel	1819 Bytes	1934 Bytes	1988 Bytes
Resistors (Pull-Down)	220KΩ	220KΩ	220KΩ
Logic (Volts)	3.3	3.3	3.3



AI-50 Interface Box

DATA RETRIEVAL

Software is supplied to retrieve, store, display, examine, and print data. The software requires a 386 based PC computer configured with a mouse, VGA graphics, a hard disk, a high density floppy, and a minimum of 2 Meg expanded memory. A PostScript laser printer is highly recommended for data printout. Data analysis software is available. An AI-50 Interface Box (shown above) is required to retrieve the data and must be purchased separately.

PostScript is a registered trademark of Adobe Systems Inc.
Specifications and options subject to change without notice.

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