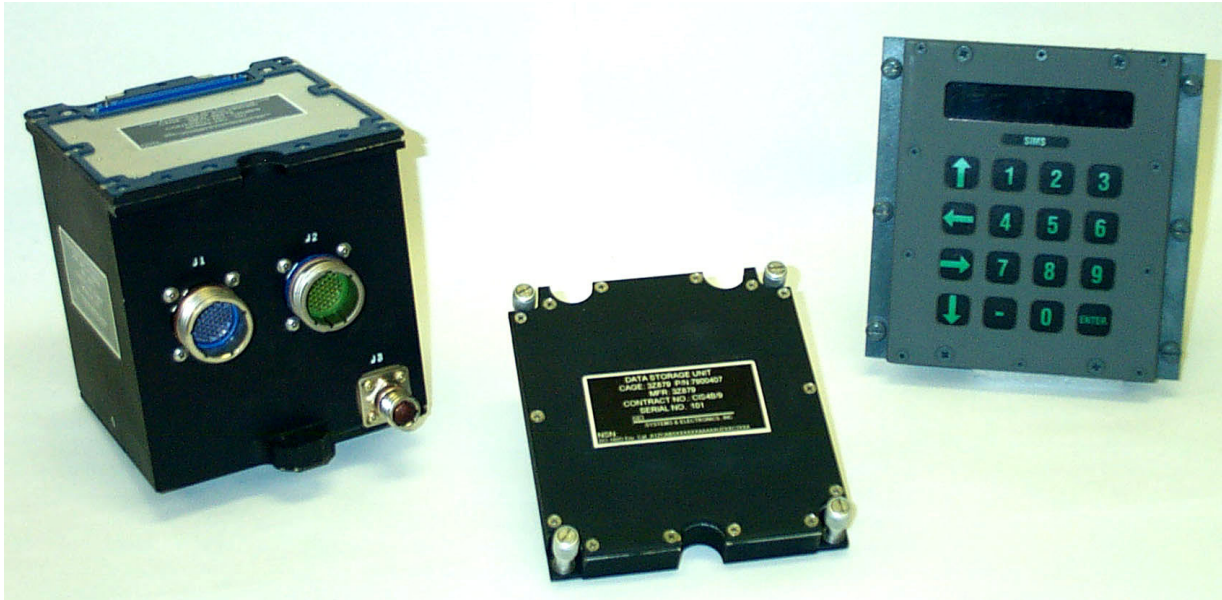


STRUCTURAL INTEGRITY MONITORING SYSTEM



Systems & Electronics, Inc. (SEI) *Structural Integrity Monitoring System (SIMS)* is the airborne portion of SEI's Health and Usage Monitoring System (HUMS). It consists of a Data Acquisition and Processing Unit (DAPU), a Data Storage Unit (DSU), and an optional Control/Display Unit (CDU).

The DAPU has analog, discrete, and strain gauge inputs, discrete outputs, as well as RS-422 and ARINC 429 data buses.

The DSU has 128 Mb of non-volatile memory, expandable to 256 Mb.

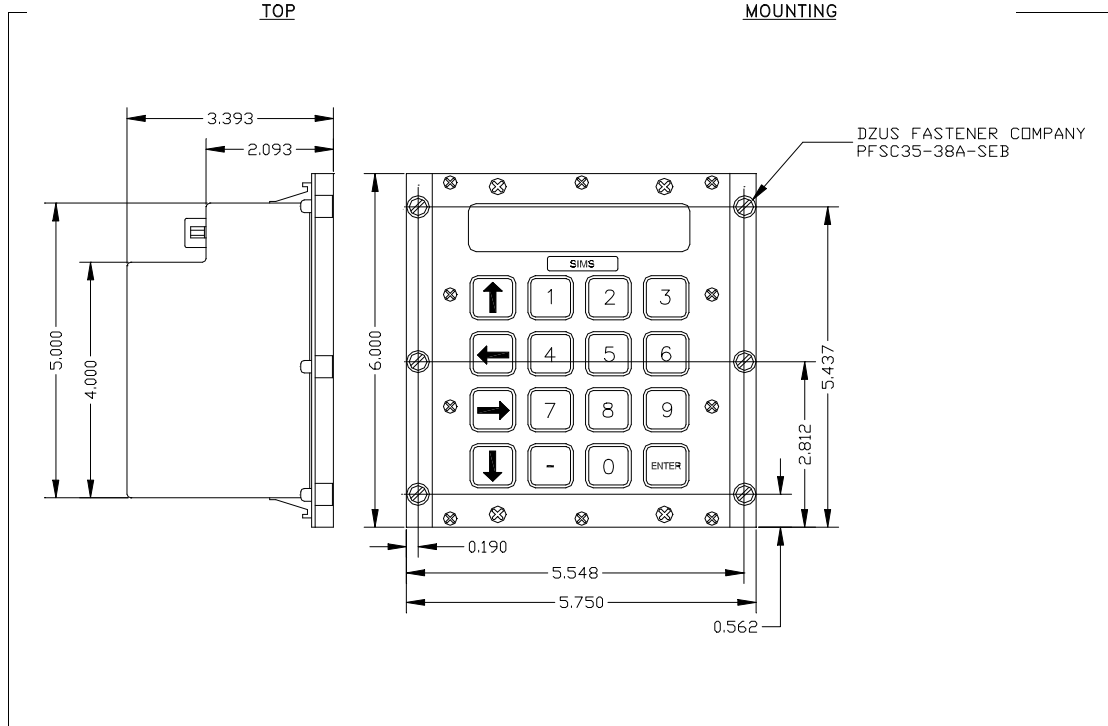
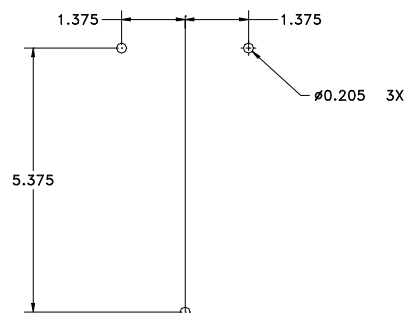
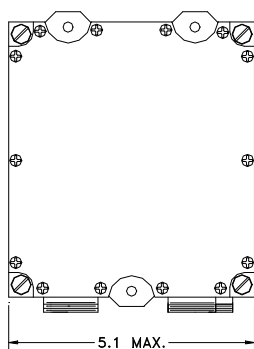
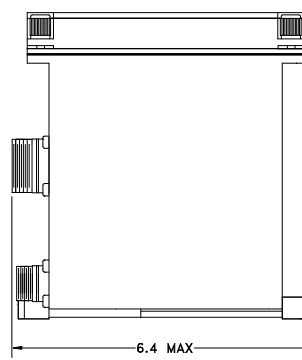
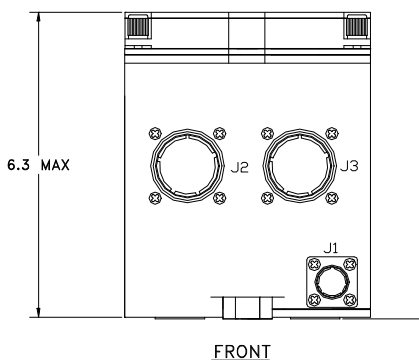
The CDU has 16 keys and a 2 line, 16 character display, dimmable along with aircraft instruments.

The SIMS low power consumption, light weight, and small size allow for easy aircraft installation.

**A Solution to Tracking
Aircraft Severity
of Operations.**

**Custom Configurations,
Aircraft Systems
Integration, and
Data Analysis Services
are Available**

- ◆ Designed to RTCA/DO-160D
- ◆ **Product Features:**
 - ◆ Twenty-six strain gauge inputs
 - ◆ +10 Vdc strain sensor excitation output
 - ◆ Six ±10 VDC differential inputs
 - ◆ Two RS-422 / One RS-232 ports
 - ◆ Four Rx / Two Tx ARINC 429 ports
 - ◆ Four high / four low level discrete inputs
 - ◆ Four high / four low level discrete outputs



SUMMARY SPECIFICATIONS—DAPU	
Parameter	Specification
Input voltage	+18 to 36 VDC
Power consumption	< 3 Watts
Weight	< 6 pounds
Strain gauge inputs (26)	±51.25 mV
Strain gauge excitation	+10 Vdc @ 500 mA
Analog channels (6)	± 10 Vdc differential
Communication interfaces	RS-232 (1) RS-422 (2) ARINC 429 Rx (4) ARINC 429 Tx (2)
Memory capacity	128 Mb Flash Expandable to 256 Mb
Discrete inputs (8)	Open/+28 Vdc (4) Ground/open (4)
Discrete outputs (8)	Open/ground (4) Open/+28 Vdc (4)
Operating Environment	-40°C to +71°C

SUMMARY SPECIFICATIONS—CDU	
Parameter	Specification
Input voltage	+18 to 36 VDC
Power consumption	< 3 Watts
Weight	< 2.5 pounds
Keypad	16 Keys Tactile Feedback Membrane Keys Green Backlighting
Display	Two Lines 16 Characters Per Line Alphanumeric and Symbols 16 Programmable Symbols Green LED
Dimming	Keypad and Display 0 to 5 Vdc 0 to 110 Vac optional
Communication interfaces	(1) RS-232 (2) RS-422
Operating Environment	-40°C to +55°C