



## FDS INITIUM

### Flight Data System

The Initium – Flight Data System (FDS) is a ruggedized fully integrated instrument consisting of a dual microprocessor-based Data Acquisition and Control Unit (DACU) and Digitally Temperature Compensated Electronic Pressure Scanners (ESP) designed specifically for onboard vehicle pressure monitoring. The FDS is capable of operating up to eight miniature 16, 32 or 64 channel pressure scanners, equipped with Digital Temperature Compensation (DTC). The FDS will perform all pressure data acquisition duties and calculate engineering unit conversions internally while transmitting temperature corrected pressure data back to the host over an UDP or TCP/IP Ethernet connection in-flight.

The FDS utilizes calibration data stored on-board the ESP Scanners to correct for non-linearity and thermal shifts while an on-line re-zero corrects for any zero drift of the sensors. The FDS supports all DTC Scanner functions including programmable deranging capability, sensor temperature readouts, and internal calibration valve shift control and position detection when equipped within the scanner. “Live @ Power up” mode uses stored scanner configurations to greatly reduce initialization times and automatically return to data acquisition mode, perfect for unintended power cycle events. Communication is via TCP/IP protocol for configuration while acquired data is transmitted via UDP Multicast direct to the user’s data recording hardware or Host Group (IGMP).

### Features

- Live @ Power up Data Acquisition
- Auto-Rezero via switch closure
- Digital Temperature Compensation
- Hardware Pre-configuration Settings

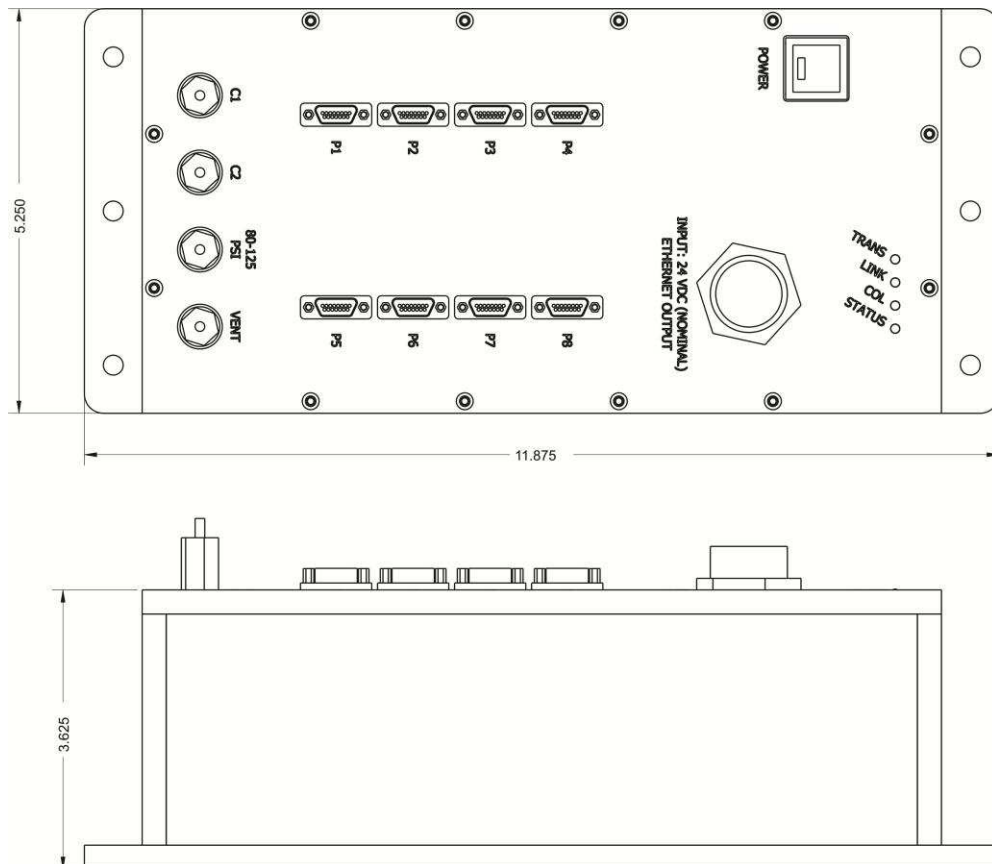
### Benefits

- Automatic UDP Transmission of Data Packets
- Reduction in Zero Drift
- Reduction in temperature induced errors
- Reduction in startup time following power cycle

## Performance Specifications

PARAMETER	PARAMETER	UNITS	COMMENTS
Type of ESPs Supported	16MS / 32HD / 64HD		DTC Series
Number of ESPs Supported	1 to 8		Any combination of 16, 32 or 64 ports scanners
<b>Static Accuracy</b>			
@ 100% Range	±0.05		Range ≥ 5 psid
	±0.10	%FS	Rang ≥ 10 in WC to < 5 psid
	±0.25		Range < 10 in WC
@ 33% Range	±0.10	%FS	Range ≥ 5 psid
<b>Total Thermal Error</b>			
@100% Range	±0.002		Range ≥ 5 psid
	±0.004	%FS/°C	Rang ≥ 10 in WC to < 5 psid
	±0.01		Range < 10 in WC
@ 33% Range	±0.003	%FS/°C	Range ≥ 5 psid
Measurement Resolution	±0.003	%FS	
Throughput Rate in Engineering Units	650	Hz	32 Channel Scanners
Interface	10/100 Base-T		Auto-negotiating, half or full duplex
Protocol	TCP and UDP		Broadcast and Multicast Modes
Supply Voltage	28	VDC	18 -36 VDC
Supply Current	1.2	A	1.2A Typical, with full load
Supply Voltage	100-250	VAC	Via 9IFC Interface
Operating Temperature	0-70	°C	
Storage Temperature	0-80	°C	
Size	11.875 x 5.250 x 3.625	Inches	L x W x H
Weight	8	Lbs	

## Dimensions



## Ordering Information

### **FDS1-0000000000**

Initium Flight Data System

### **Related Hardware:**

#### **9082-0AAAAB0000**

Universal Power and Ethernet Cable (5 feet minimum / 329 feet maximum)

#### **91FC-0301000000**

Universal AC Power Supply and Interface

#### **PSCB-ABBBB0000**

Pressure Scanner Interface Cable (1 foot minimum / 150 feet maximum)

#### **16MS-AABBCC1D00**

16 Channel Micro Pressure Scanner, DTC

#### **32HD-AABBCC1D20**

32 Channel Pressure Scanners, DTC

#### **64HD-AABBCC1D20**

64 Channel Pressure Scanners, DTC

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