

DESIGN SPECIFICATION  
P/N 97010003-1  
Manchester - ARINC 429 Adapter

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i. OPERATING INSTRUCTIONS

The Unit, by it's design has no independent operating instructions. Being an integral part of the on board Air Data Computer output bus, the operating instructions for that system will need to be followed.

ii. EQUIPMENT LIMITATIONS

The unit converts the ADS-80's, Manchester Encoded output to ARINC-429 Format.  
The adapter being a Digital to Digital Adapter is limited to the outputs of the ADC. The available Labels and Data Updates are dependent to the ports accessed.  
The design of the unit is such as to cause minimal degradation of the input signal and to convert the data in the fastest and most accurate means possible.

iii. MAJOR COMPONENT

Equipment Supplied

1. Part Number 97010003-1

Equipment Required But Not Supplied

- |                             |                                |
|-----------------------------|--------------------------------|
| 4 Standard Mounting Screws  | Determined By Install          |
| 1 Connector Standard DA 25S | AMP P/N 205208-1 or equivalent |
| 1 Back Shell with retainer. | AMP P/N 745121-2 or equivalent |

Interconnect Block Diagram



(Illustration iv-1)

iv. SPECIFICATIONS

SPECIFICATION

CHARACTERISTICS

Physical Dimensions:

|        |        |
|--------|--------|
| Height | 1.130" |
| Length | 4.205" |
| Width  | 4.7"   |
| Weight | 1 lb.  |

Temperature Range

|           |                |
|-----------|----------------|
| Start Up  | -20 C to +70 C |
| Operation | -40 C to +70 C |
| Storage   | -55 C to +85 C |

Altitude 50,000 ft.

Power Requirements 28 VDC @ .3A Nominal

Digital Inputs Manchester Labels: 1 to 13

Outputs ARINC 429 Labels: 102, 203, 204, 205, 206, 207, 210,  
211, 212 and 213

Accuracy +/- LSB of Input

Limitations: Limited to the Manufactures specifications of the units making up the interface.

## v. INSTALLATION PROCEDURES

### 1. INTRODUCTION

This section contains information relative to the installation of the adapter to assure satisfactory performance of the unit. (See Sections "6" and "7" for detailed mechanical and wiring diagrams.)

### 2. UNPACKING AND INSPECTING EQUIPMENT

After unpacking the unit, make a visual inspection of the unit for evidence of damage incurred during shipment. If claim for damage is to be made, save the shipping container to substantiate the claim.

### 3. PREINSTALLATION CHECK

Perform a continuity and power check on the wiring harness before connecting equipment.

### 4. POWER REQUIREMENTS

The adapter operates from a standard 27.5 VDC provide circuit protection with an in line 1 AMP breaker on the 27.5 VDC

### 5. POST INSTALLATION CHECK

There is no in-aircraft adjustment required for the unit. All alignment and adjustment procedures are accomplished during bench maintenance. Follow the manufactures check out procedures of the on board systems, to determine indications being driven by the unit are accurate.

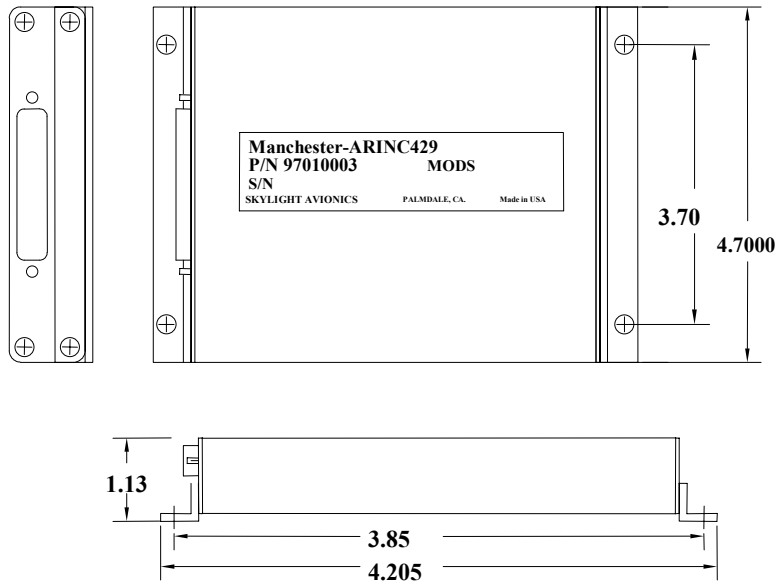
### 6. PREFLIGHT CHECK

Follow the manufactures check out procedures of the on board systems, to determine indications being driven by the unit are accurate.

vi. INSTALLATION MECHANICAL DIAGRAMS

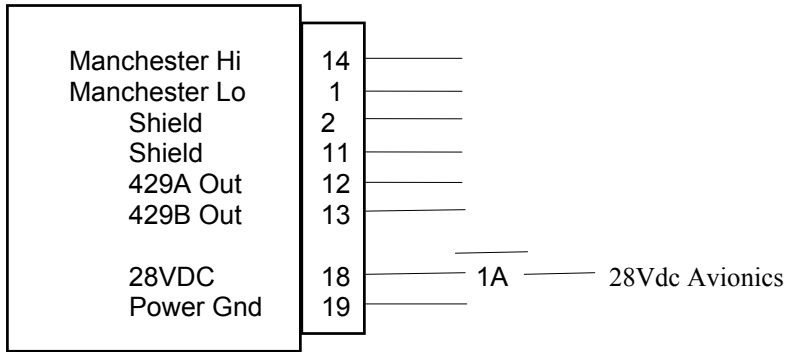
The adapter is designed for flat mounting anywhere on board the aircraft, pressurized or unpressurized compartments. The unit has four (4) mounting holes for number (6) size screws. (NOTE: Screws and other miscellaneous mounting hardware are NOT included with unit.

MECHANICAL DRAWING



Unit Connector - DB-25P, Mate - DB-25S  
Mechanical Drawing of 97010003-1  
(Illustration vi-1)

vii. INSTALLATION ELECTRICAL



P/N 97010003-1: Pin Out  
(Illustration vii-1)