



## Aircraft and Medical Instruments

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### **1 1/4" & 2 1/4" FLAP POSITION/TRIM INDICATOR USING DB-9 Connector**

#### Installation Instructions:

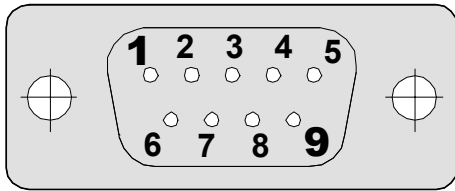
**Notes:** *Additional mounting brackets and connecting rods will be necessary in order to connect the mechanical drive mechanism to the transducer.*

*All adjustments should be completed before indicator is mounted in instrument panel.*

1. Installation of the transducer will be different for each aircraft type. Look at **Figure One** for reference. The transducer connecting linkage will have to be fabricated so as to produce an angular movement of the transducer's shaft anywhere from 30°-180°. This linkage can be connected directly to an actuator rod, a cable driven pulley, the flap axle or wherever you can get the required movement for the transducer.
2. Install linkage so that the mechanical deflection produces a clockwise motion. All linkages to the transducer will have to be supplied by you. Make sure that the full motion of the mechanical system can be achieved after transducer installation.
3. Connect the black wire from the connector, Pin9, to ground, connect the red wire, Pin 1, to 14 or 28 volts through a 1 Amp. max. fuse or breaker.
4. With the flaps up or trim centered, and power on to the indicator, adjust the transducer to give a zero/centered reading on indicator. This adjustment is done by loosening the set screw and turning the zero adjust slot on the transducer. Tighten the set screw when done.
5. Move mechanical mechanism to max. deflection and adjust the gain of indicator until the indicator reads correct deflection. This is done by removing the tape on the indicator and inserting a screwdriver into the hole and turning the small potentiometer. The transducer's gain can also be adjusted by moving the #1 linkage mount in, more gain, or out, less gain. These two adjustments may need to be alternately adjusted for the proper indication. CAUTION. Excess force on screwdriver can damage the potentiometer.
6. Once maximum is set, return to zero and make sure indicator reads zero. If necessary, repeat steps 4 and 5. **Make sure the transducer and all linkages move freely through entire range of travel.**
7. Turn off power and mount the indicator into aircraft's instrument panel.
8. Route cable from indicator to transducer position, make sure power connections of harness are on the indicator end. Supplied harness is 20 ft long and can shortened or lengthened by adding 24 ga. stranded wire.
9. With settings established tighten all screws and locking nuts. Place a locking compound on all set screws, nuts, and the shaft end of transducer.

#### Flap Position/Trim Indicator Information

Input Voltage: 10-28 Volts DC  
Current Drain: Max 100 mA  
Transducer: 5K ohm potentiometer, UMA PN: 1H1 w/harness



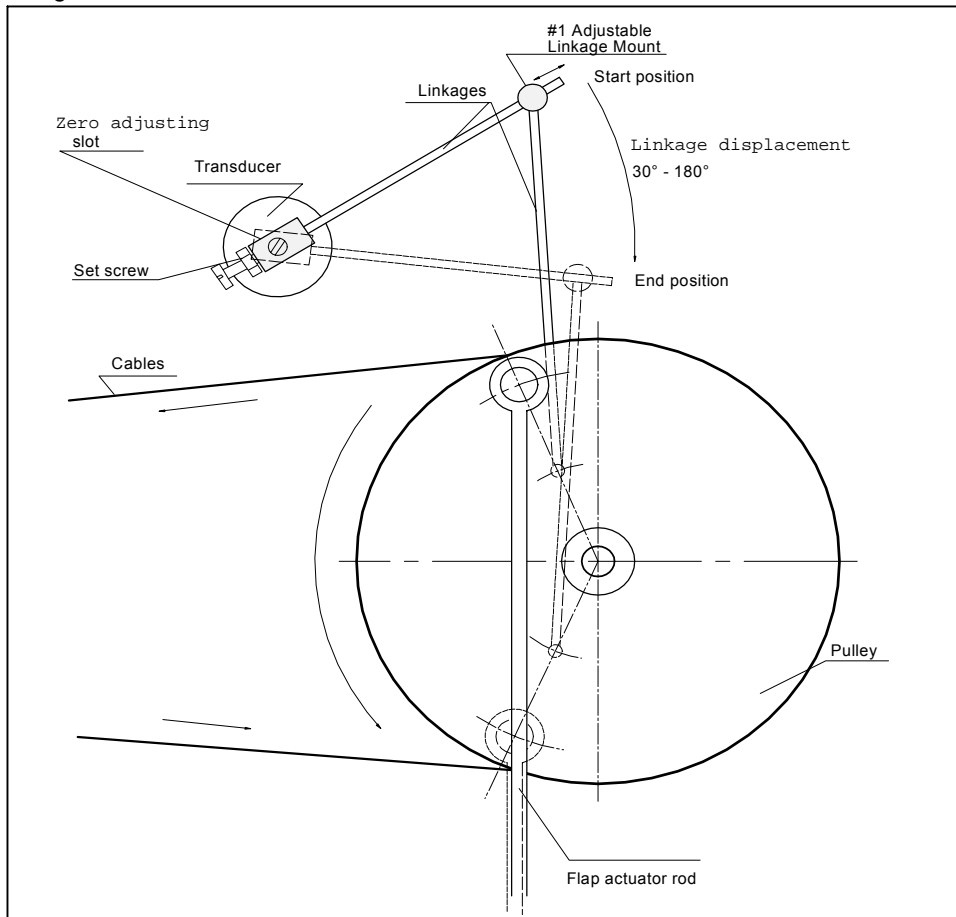
Pin 3 connects to one end of pot.  
 Pin 8 connects to the other end of pot  
 Pin 5 connects to wiper of pot  
 (The pot is in the transducer)

As viewed from solder side of connector

#### PIN DESIGNATION FOR ELECTRONIC INSTRUMENTS

- Pin 1 Voltage Input (14 or 28 volt systems)
- Pin 2 Voltage Input (Internally connected to pin 1)
- Pin 3 Regulated Voltage output to Sender (Only when sender requires voltage)
- Pin 4 Negative Input (Used for Thermocouple and Ammeter negative input)
- Pin 5 Positive / Primary Input (Used in all gauges)
- Pin 6 EL Lighting Input (Internal lighting only)
- Pin 7 EL Lighting Input (Internal lighting only)
- Pin 8 Signal GND (Internally connected to pin 9)
- Pin 9 GND (Connect to aircraft ground)

Figure One



#### TYPICAL INSTALLATION