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1 1/4 & 2 1/4 INCH AMMETER INSTALLATION INSTRUCTIONS (DB-9 Connector)
N15-x10X-xxxA-xxx

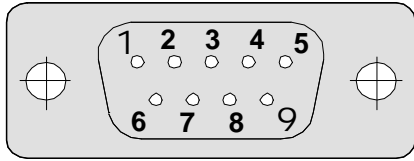
Additional wire will be necessary for installation of unit

1. Mount the ammeter in the desired location in aircraft's instrument panel.
2. Make sure the external shunt is rated at 50mV for full-scale reading of your ammeter.
Example: -30 to +30 ammeter takes a 50mV 30-amp shunt
3. **Disconnect battery before inserting shunt.** Mount the external SHUNT (UMA# 1CX) in the high current wiring of battery/alternator system. The electrical circuit connections will depend on the type of meter. For a **zero center meter**, (N15-x102-...), insert the shunt between the positive terminal of the battery and the rest of the electrical system **excluding** a high current connection to starter. This will monitor battery charging or discharging. For a **left zero meter**, (N15-x100-...) insert the shunt between the alternator and the buss/battery connection. This will measure total current from the alternator to the battery and load. Alternately, the shunt can be hooked from the alternator/battery connection to the buss. This will measure the current into all systems except the battery.
See wiring diagrams!
4. Next, using #18 to #24 wire connect the positive side (Pin 5) of the ammeter gauge to the same side of shunt that is connected to the alternator. Then connect the negative side (Pin 4) of the ammeter to the other side of shunt.
5. Connect wire from a Master switched power source of the aircraft to pin 1 or 2 of DB-9 Connector. Use a 1 amp inline fuse or circuit breaker. Connect pin 8 or 9 on DB-9 Connector to a suitable aircraft ground. Ensure this ground is connected to engine block. Use #18 to 24 AWG wire.
6. If this instrument has the Internal Lighting option, connect pins 6 and 7 to the Light Inverter (10-700-xx). Polarity is irrelevant. Be sure to twist the (20-24 AWG) wires a minimum of 8 turns per foot between inverter and instrument.
7. Make sure to route all wires away from sources of heat and moving parts.

NOTE: 1) ***Never connect the shunt DIRECTLY across the battery terminals.***
2) ***Periodically check all wiring for secure connections.***
3) ***If the operation of the meter seems backward, reverse the meter connections on the shunt.***
4) ***Pointer on your gauge should be around 6 o'clock position without a power!!***

SHUNTS	UMA#	1C1	30 Amp
		1C2	60 Amp
		1C3	80 Amp
		1C4	100 Amp
		1C5	150 Amp

Power Supply Voltage: 10 - 30 Volts DC
 Current Drain: Typically 75 - 100 mA

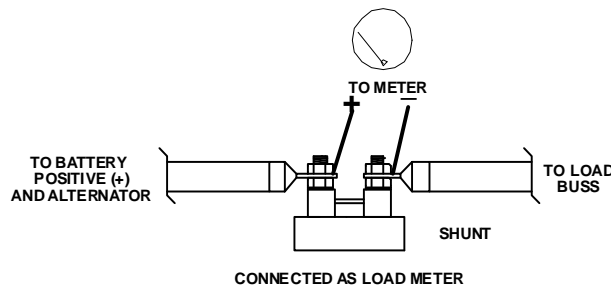
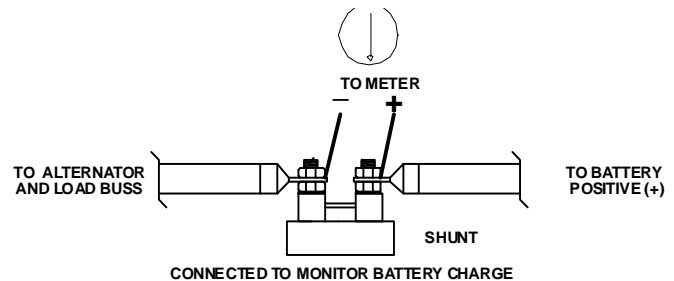
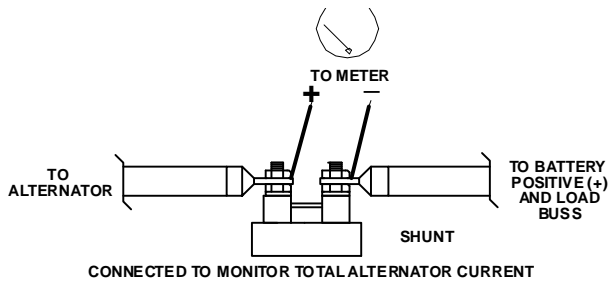


As viewed from solder side of connector

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)

WIRING DIAGRAMS FOR VARIOUS MEASUREMENT POSSIBILITIES



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UMA, Inc. warrants all products to be free from defects in material and workmanship under normal use and operation. UMA does not warrant any product which has been damaged as the result of accident, abuse, misuse, negligence, improper operational voltage, lighting, fire, flood, or other acts of God. Any indication that the unit has been opened can void the warranty. Under no circumstances shall UMA be liable for any loss or damage, direct, consequential or incidental, arising from the use of or inability to use this product. This warranty is limited to the repair or replacement, at the manufacturer's option, of any product or part thereof, which has been returned to UMA within the specified warranty period, and which after examination shall disclose to the customer service department's satisfaction that the product is defective. Transportation to the factory or authorized service center must be prepaid; the product after repair or replacement will be returned at the expense of the dealer or end customer. This warranty does not apply to any product or integral part thereof, which has been altered or serviced by other than the manufacturer or authorized service center.

The warranty period for equipment is twelve (12) months to the user.

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