

# **SPECIFICATIONS and OPERATING FEATURES**

S1111981

11/11/98

Model: UBG-16 and UBG-16T

Weight: Unit only: 22 oz., One probe and 6 foot cable: 3.5 oz., One Probe and 20 foot cable: 7 oz.

Environmental: Meets TSO C43a

Power Requirements: 7.5 to 30 Volts, 3/10 Amp.

Display: Plasma (viewable in direct sunlight). Display dims for night operation.

Accuracy: 1/2% in accordance with TSO C43a.

Power-up Test: Flashes all bars, segments and nomenclature.

Probes: Type K, Ungrounded (for improved accuracy, stability and reliability).

Extension Cables: Type K, any length or size. Non-Temp cables are tin/copper.

Channels: Maximum of 16 Channels.

EGT and CHT Analyzer Channels: 1 to 7, programmable from front panel (left channels for EGTs and right channels for CHTs).

EGT Bar Resolution: 1 to 104°F per Bar, programmable from front panel.

CHT Bar Resolution: 33°F per Bar.

Lean Operating Mode:

- A. Activated after 10°F rise in hottest EGT.
- B. Peak detected when 5°F decrease in any EGT or TIT.

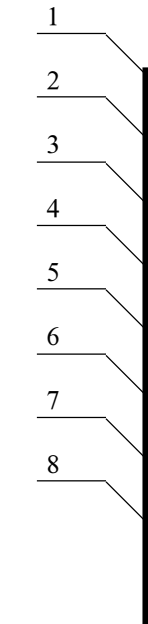
Scan Rate: Programmable from 1 to 9 second per channel.

# UBG-16 Wiring Diagram

## Right Channels

For monitoring CHT's and other temperatures or functions.

- Channel #1.
- Channel #2.
- Channel #3.
- Channel #4.
- Channel #5.
- Channel #6.
- Channel #7.
- Channel #8.

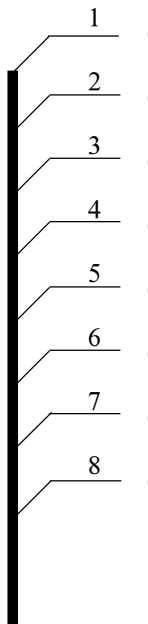


Right Extension Cable Harness.

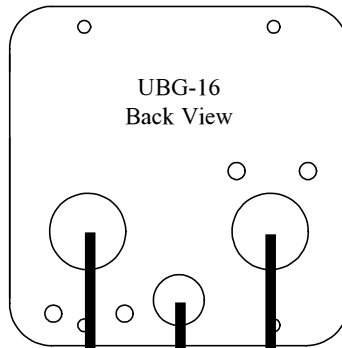
## Left Channels

For monitoring EGT's and other temperatures or functions.

- Channel #1.
- Channel #2.
- Channel #3.
- Channel #4.
- Channel #5.
- Channel #6.
- Channel #7.
- Channel #8.



Left Extension Cable Harness.



Connecting Wire Harness.

Note: Any channel used to measure a temperature must be connected to a Type K thermocouple extension cable.

Note: The first 4 or 6 channels on the left and right must be used to monitor EGT and CHT respectively.

Note: If using the 7th column of bars to display TIT or Oil Temp, the probe must be connected to the next LEFT channel after the last EGT channel.

Note: OAT or Carb Temp must be connected to channel 7 or 8 on the left or right. These are "precision" channels.

Note: Any left or right channel will accept any one of E.I.'s probes or Functional Modules.

Note: Varying cable lengths will not affect accuracy.

	<u>Description</u>	<u>Connects To:</u>
White/Orange	Display Dimming.	CP-1 Intensity Control Pot.
Red	Power Lead.	12/24 Volt Bus. via 5 amp fuse.
Black	Ground Lead.	Ground
White/Grn	(Optional) RS232 Data Output Line. Connect to MUX-8 to record data.	
White/Yel	(Optional) External Warning Control Line. Can be connected to a relay to control an external light, buzzer, etc. This line grounds when a warning is blinking on the display. Current must be limited to 1/10 amp maximum.	

# Appendix A

## Adding a Temperature Probe to the UBG-16 or UBG-16T

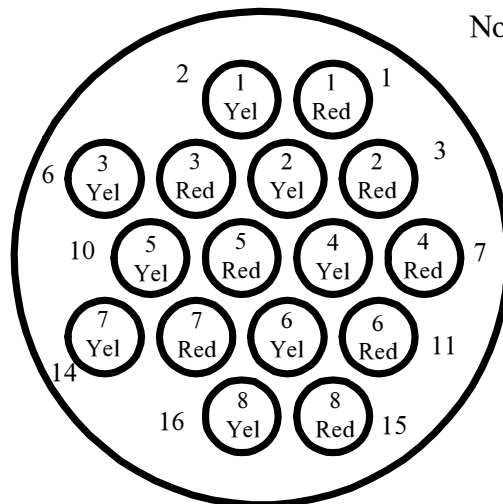
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If you have an unused channel and would like to add an extension cable and probe to your instrument, perform the following steps:

1. Order an XCS Extension Cable (at the proper length) and appropriate probe from Electronics International Inc.
2. Disconnect the cable harness at the Circular Connector on the back of the UBG.
3. Insert the the XCS Extension Cable into the Circular Connector at the proper location (see below). Once these connectors are installed do not try to remove them without an extraction tool. Unless an extraction tool is used you can damage the Circular Connector. An extraction tool may be purchased from Electronics International Inc.
4. Follow the appropriate steps in the Installation Instructions for mounting the probes and routing the Extension Cables.
5. Reconnect the cable harness to the Circular Connector at the back of the UBG.

Extension Cable Harness  
Back View (wire side)

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Note: 1 Red = Channel #1 Red wire.  
1 Yel = Channel #1 Yel wire.

# Appendix B

## UBG-16 or UBG-16T

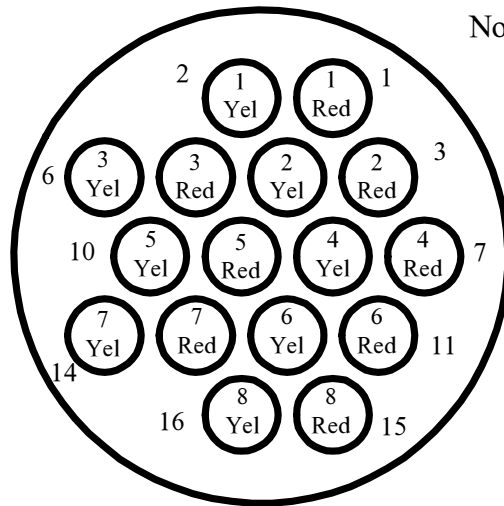
### Circular Connectors

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Extension Cable Harness, Back View (wire side)

OR

Instrument Connector, Front View

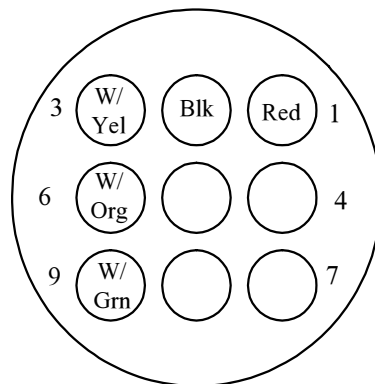


Note: 1 Red = Channel #1 Red wire (Gnd)  
1 Yel = Channel #1 Yel wire (Signal)

Connecting Cable Harness, Back View (wire side)

OR

Instrument Connector, Front View



Note: See Wiring Diagram for hook up information.