



**MODEL 3000T**



**DESCRIPTION**

The Curtis enGage™ III is a three function, microprocessor based instrument that can be factory or user defined to monitor various functions, including fuel, temperature, pressure, voltage, battery state of charge and maintenance/status.

2 versions: 12VDC, no buttons, no backlighting  
12-48VDC, with buttons, with backlighting

**APPLICATION**

Industrial and commercial vehicles, including: material handling, outdoor power and construction equipment, engine driven stationary devices, commercial cleaning equipment, and golf / light-on-road. Ideally suited for monitoring scheduled maintenance, warranty and leasing intervals.

**QUALITY COMPLIANCE**

Manufactured under ISO 9001 certified Quality Management System. UL recognized & CE certified.

**FEATURES**

- Integrated dash design allows monitoring of the vehicle with a single, compact panel resulting in enhanced vehicle differentiation and minimized instrumentation expense.
- enGage™ III accepts two sender inputs and displays those functions either simultaneously (one as a bargraph, one numeric) or by toggling (either automatically or manually via the front-panel buttons).
- Multiple functions in one programmable unit:
  - Lower overall stocking requirements.
  - Reduced installation time and labor.
  - Reduced vehicle instrumentation count.
  - Ease of ordering.
  - Volume pricing/purchasing advantages.
- Field programmable maintenance monitor allows dealers and/or users to program maintenance intervals for their specific application.
- Settable hour meter allows replacement of a failed hour meter without loss of total elapsed time.
- Flexible output modes include flashing LCD segments, LED warning icons and FET (0.5A) which allow the equipment designer to define critical parameters and to choose appropriate notification methods.
- Curtis battery monitoring technology means proven algorithm protection capabilities which provide reliable state of charge information.
- Sealed front panel buttons allow easy:
  - Setting of maintenance interval.
  - Setting of battery monitoring profile.
  - Re-setting of maintenance hours.
  - Setting of total hour meter.
  - Toggling the display between multiple functions.
- Clock function allows vehicle operator easy and safe access to time of day status.
- Snap-Fit design and integrated connector lowers installation and production costs and eliminates traditional mounting hardware kits. (Optional mounting bracket avail.)
- Rated IP65 front and rear (AMP version, when connected) providing a sealed, rugged instrument.
- EEPROM non-volatile memory retains usage data with out battery back-up.
- Attractive contemporary look enhances vehicle styling and maximizes readability.
- Reliable solid state design means no moving parts minimizing warranty costs.

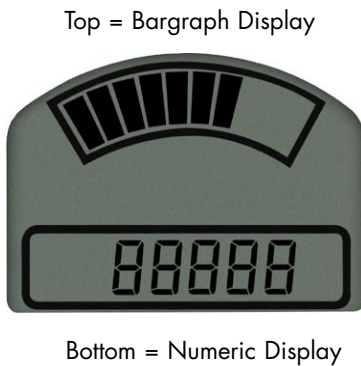
**CURTIS INSTRUMENTS, INC.**  
200 KISCO AVENUE  
MT. KISCO, NY 10549 USA  
TEL (914) 666-2971  
FAX (914) 666-2188

**CURTIS INSTRUMENTS, (UK) LTD.**  
5 UPPER PRIORY STREET  
NORTHAMPTON NN1 2PT, ENGLAND  
TEL 44 (0) 1604-629755  
FAX 44 (0) 1604-629876

**CURTIS INSTRUMENTS INDIA PRIVATE LTD.**  
1199, GHOLE ROAD  
PUNE 411004, INDIA  
TEL 91 (0) 20-5531288  
FAX 91 (0) 20-5539192

## MODEL ENCODEMENT

You can select 2 or 3 functions which can be displayed in the top, bar-graph display or the bottom, numeric display. Pick 1 function to be displayed in each or 2 for the top and 1 for the bottom, or 1 for the top and 2 for the bottom.



### Choose from these functions:

#### Sender Functions (up to 2)

**Fuel**  
**Temperature**  
**Pressure**  
**Tachometer**

#### Non-Sender Functions (up to 2)

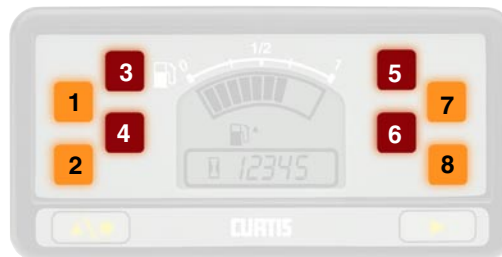
**Battery Discharge Indicator (BDI)**  
(Only available on 12 - 48 VDC versions)  
**Maintenance Monitor**  
(Only available on 12 - 48 VDC versions, includes Total Hours & Resettable Hours)  
**Hour Meter**  
(Only available as a numeric function)  
**Settable Hour Meter**  
(Only available on 12 - 48 VDC versions and as a numeric function)  
**Voltage**  
(Only available in certain combinations)

To determine your model number and/or to request a free sample, go to [www.curtisinst.com](http://www.curtisinst.com) and click on the "Configure Your Own Gauge" link in the Products Menu.

## WARNING ICON DEFINITION

- Customer selects icon symbol from ISO/SAE standard.
- Colors and layout are fixed as shown. Custom colors or locations require minimum order quantities – please contact factory.

These 4 icon LEDs are programmable. Icons (1 - 4) can be associated to a specific gauge function or customized through the microprocessor, subject to minimum quantity requirements. Icons can also be controlled by switching to V+.

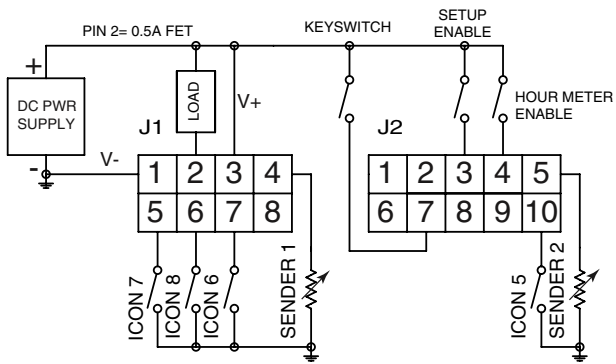


These 4 icon LEDs are Switched to Ground. Icons (5 - 8) are independent of the micro-processor and illuminate only when its corresponding input is switched to ground.

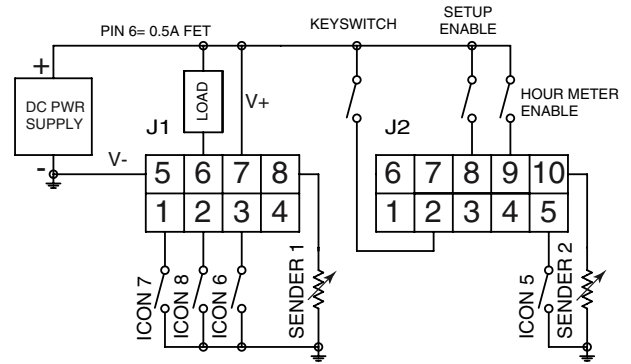
# MODEL 3000T

## TYPICAL WIRING

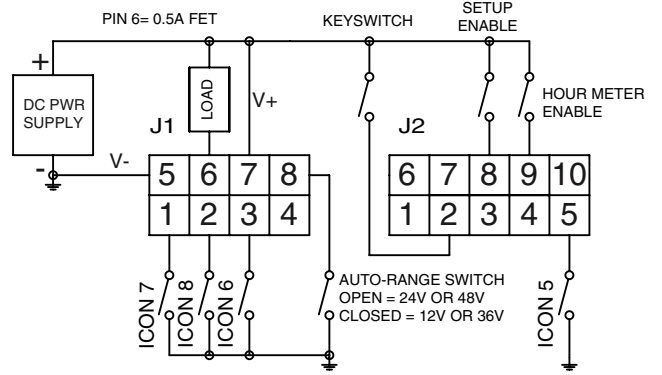
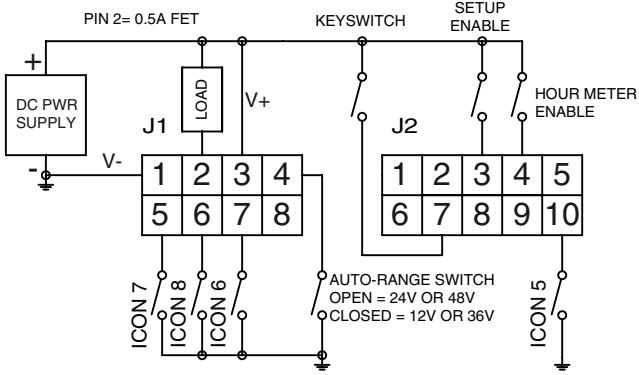
Molex



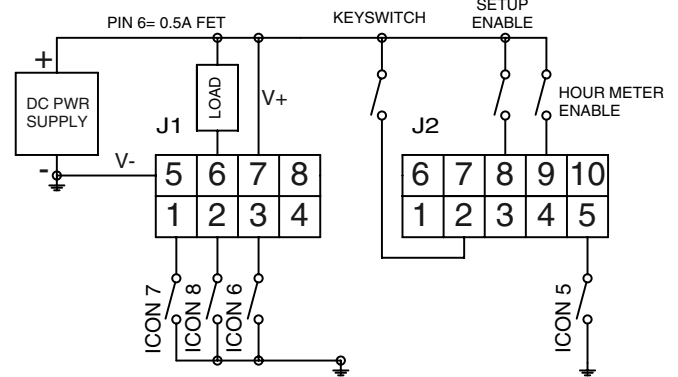
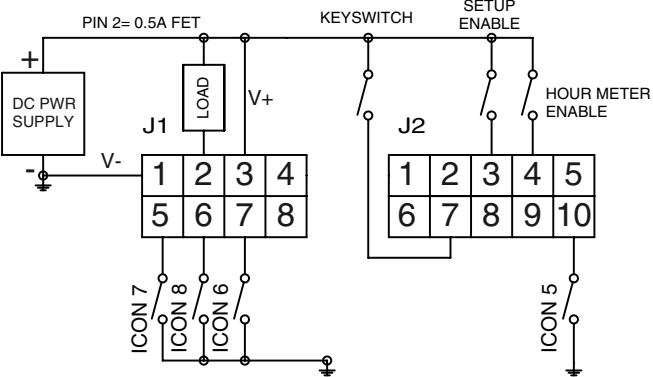
AMP



Resistive based sender input (i.e. temp, fuel and pressure).



BDI (with auto-ranging switch)

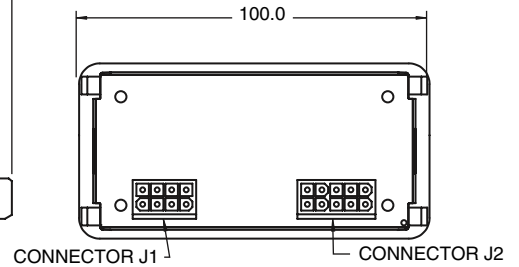
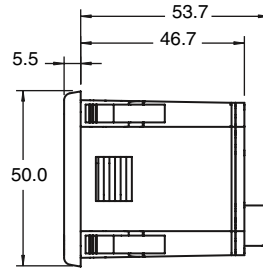
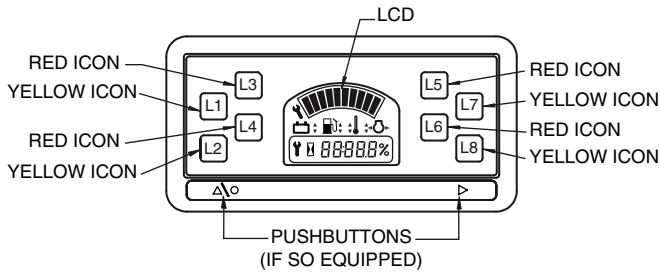


Voltmeter

# MODEL 300T

## DIMENSIONS mm

12-48V Molex unit shown



	MOLEX MATING CONNECTORS		AMP MATING CONNECTORS	
	J1	J2	J1	J2
CONNECTOR	MOLEX #39-01-2105	MOLEX #39-01-2085	AMP #794821-1	AMP #794781-1
PIN	MOLEX #39-00-0039		AMP #770904-1	
GASKET			AMP #784772-8	AMP #1-794772-0
WIRE SEAL			AMP #794758-1	

### NOTES:

- 1) CASE MATERIAL: ABS/PC BLEND, BLACK
- 2) LENS MATERIAL: POLYCARBONATE
- 3) PANEL CUTOUT SIZE: 45 +.6/-0 X 92 +.8/-0
- 4) ALL SENDER CHARACTERISTICS TO BE DETERMINED

## SPECIFICATIONS

- Operating voltages  
12VDC nominal (9 to 15VDC)  
12-48VDC nominal (9 to 60VDC)
  - Operating temperature  
-40°C to +85°C
  - Storage temperature  
-50°C to +90°C
  - Humidity  
95% RH (non-condensing) at +38°C
  - Shock  
SAE J 1378 March 83. Amplitude  
44-55 g, half sine, 9-13 ms duration
  - Vibration  
SAE J 1378  
Double amplitude of 1.53mm with  
frequency sweep for 10-80-10 Hz  
(20 g max) at 1 minute intervals
  - Sealing  
IP-65 (face), IP-40 (rear Molex), IP-65 (rear AMP with  
connector installed)
  - Output signal format (Power MOSFET)  
N channel MOSFET (switches ground side only)  
Programmable; capable of sinking up to 0.5A, maximum
  - Adjustable BDI Discharge Profile Range  
Full: 1.80 – 2.30 V/cell (Factory set at 2.04 V/cell)  
Empty: 1.50 – 2.20 V/cell (Factory set at 1.73 V/cell)  
100 mV/cell is minimum differential between full & empty
  - BDI Open Circuit Reset Level factory set at 2.09 V/cell
  - Maximum Current Ratings\*  
12VDC Only Models: 155 mA @ 15VDC  
12 – 48VDC Models: 140 mA @ 60VDC
- \* Maximum current draw listed based upon all icons illuminated.  
Each icon draws 15mA.

**NOTE** - BDI, Maintenance Monitor, Settable Hours and Time of Day functions require programming buttons on front display.  
Buttons NOT available on units rated 12VDC only.

## OPTIONS & ACCESSORIES

17633800-01 – AMP Based Installation Kit

Includes a pre-assembled mating connector with over 5" of crimp-connect terminated wires and an installation booklet.

17633800-02 – Molex Based Installation Kit

Includes a pre-assembled mating connector with over 5" of crimp-connect terminated wires and an installation booklet.

17633307 – Mounting Bracket.

12690AMPkit10 – AMP mating connector kit (10 pin)

Includes a connector housing, pins, seals.

12690AMPkit8 – AMP mating connector kit (8 pin)

Includes a connector housing, pins, seals.

**WARRANTY** Two year limited warranty from time of delivery.