



CURTIS

Instrumentation



## Digital Instrumentation

enGage<sup>®</sup> III Model 3000T





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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

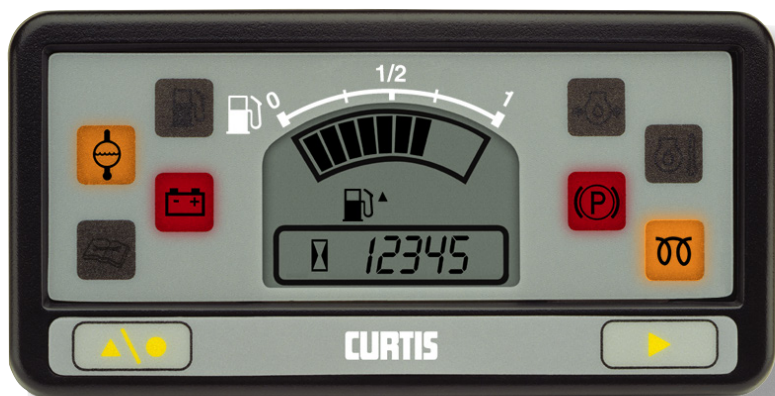
12-48VDC, with buttons, with backlighting

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.

## 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.

See a 360° view of Model 3000T at:  
[curtisinstruments.com/360view](http://curtisinstruments.com/360view)





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### FEATURES continued

- ▶ 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 without battery back-up.
- ▶ Attractive contemporary look enhances vehicle styling and maximizes readability.
- ▶ Reliable solid state design means no moving parts minimizing warranty costs.

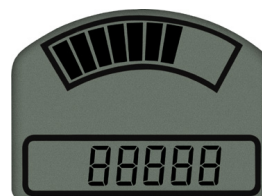




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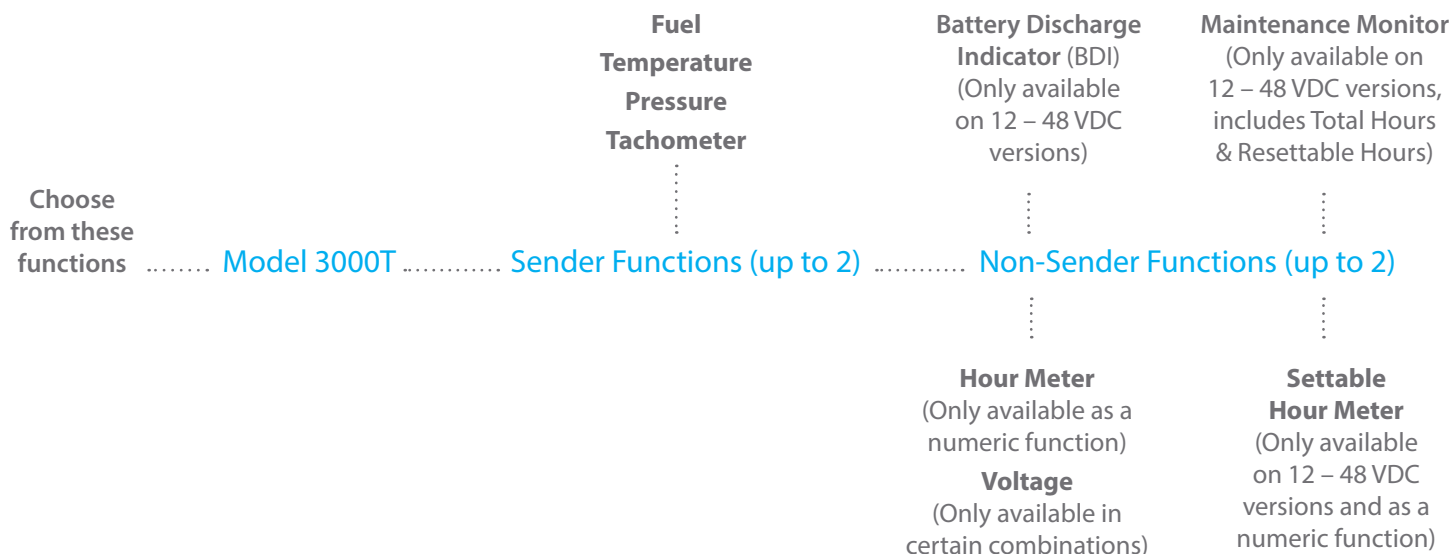
### MODEL ENCODEMENT

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.



Top =  
Bar-graph Display

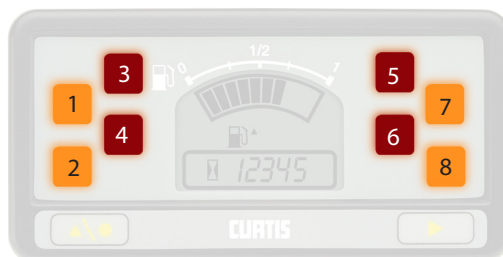
Bottom =  
Numeric Display



### 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+.

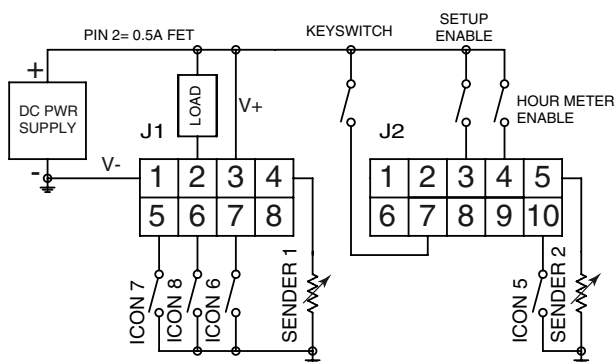


..... These 4 icon LEDs are Switched to Ground. Icons (5 - 8) are independent of the micro-processor and illuminate only when its corresponding input is switched to ground.

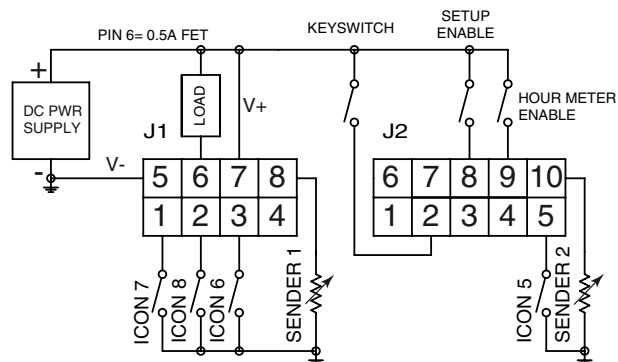
### TYPICAL WIRING DIAGRAM



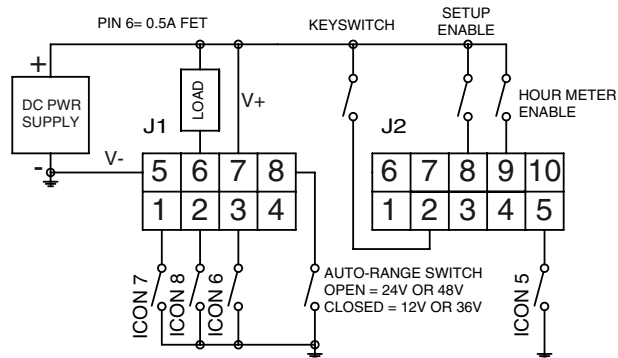
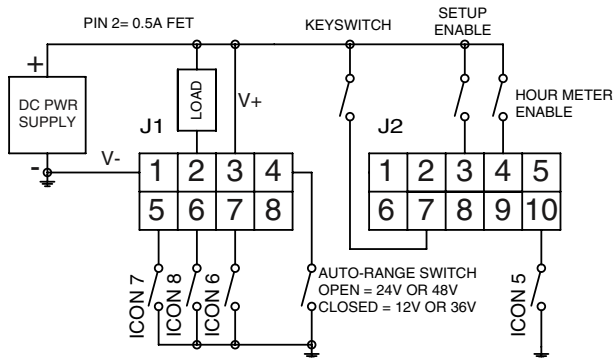
**Molex**



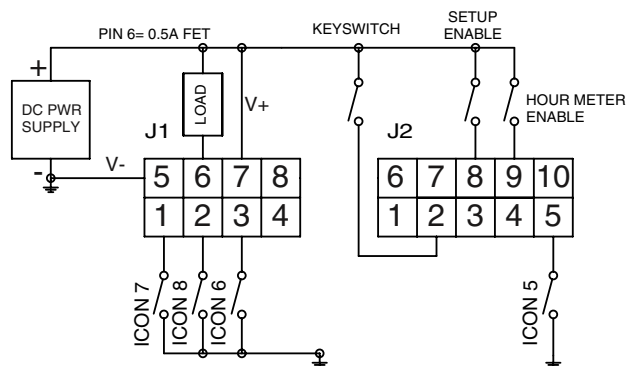
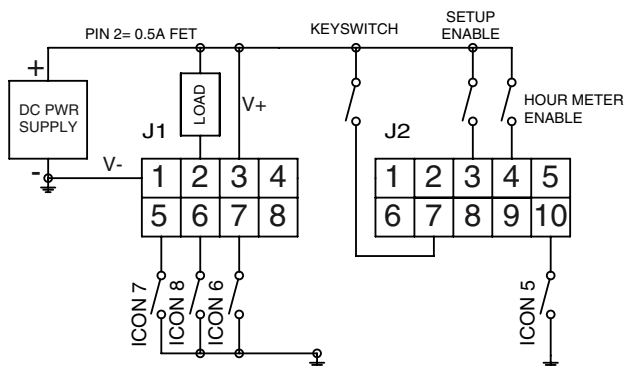
**AMP**



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



BDI (with auto-ranging switch)

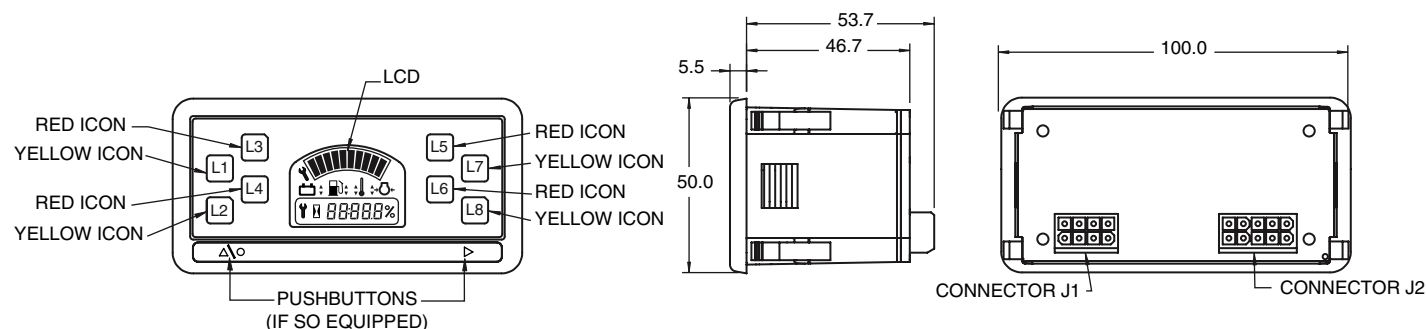


Voltmeter



### 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)
- ▶ Manufactured under ISO 9001 certified Quality Management system.
- ▶ UL recognized & CE certified.
- ▶ **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.



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### 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.



The Curtis Difference   
You feel it when you drive it



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Specifications subject to change without notice

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