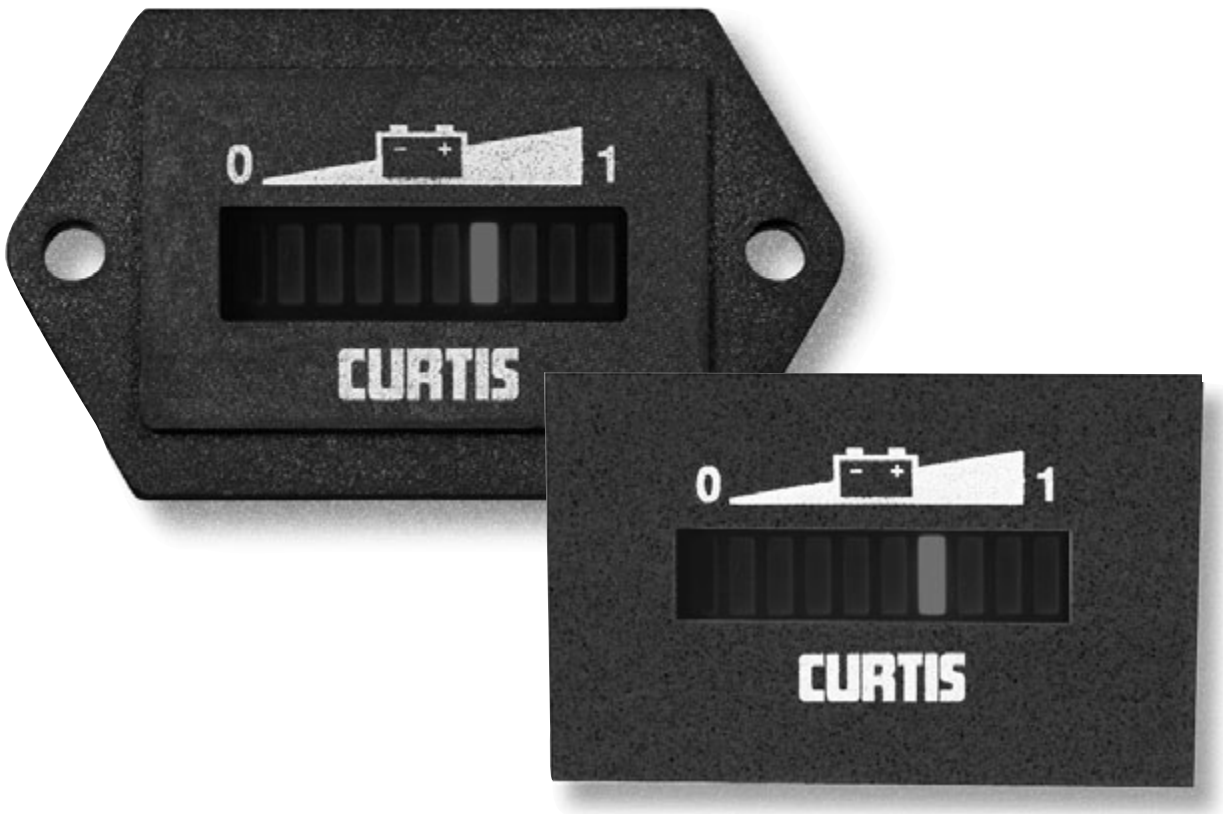
CURTIS®

MODEL 906
Battery “Fuel” Gauge

CE



Read Instructions Carefully !

Safety Instructions

This instrument was manufactured and tested according to the applicable technical standards. It complies with all the safety regulations as shipped from the factory.

Installation and startup must be performed by skilled personnel.

Failure to install and operate the unit in accordance with these instructions may result in damage or injury.

If safe operation of the instrument can no longer be ensured, stop and secure it against accidental operation.

If instrument failure or malfunction may cause personal injury or material damage, use additional safety measures such as limit switches, guards, etc.

Read the Operating Instructions carefully before startup.

Note the safety instructions marked with this warning symbol in this manual!

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1. MODEL ENCODEMENT

906 t uu v w x y z

906 t	**uu**	**v**
*Case Style**	*Voltage (volts)*	*Reset Level/Type*
F, J, T, TX,Y, Z = Rectangle	12	B = 2.09 VPC(1) (OCR)(2),
D = Din	24	2.35 VPC (HVR)(3) w/memory**
P = Module (no case)	36	H = 2.09 VPC (OCR),
		2.35 VPC (HVR)

* The Model 906 modules (906P) are supplied with critical components exposed. User must encase module to provide adequate protection, depending on application and conditions. For proper mechanical support, all four pins are soldered to the PC board. Module face is a 10-mm minimum from the PC board when flow soldered.

** The “memory” will save the previous “state-of-charge” if the instrument is reconnected to a battery that is not fully charged. “Memory” requires an external 3-volt battery, Curtis Part No. 1177, to operate.

(1) VPC = Volts per Cell

(2) OCR = Open Circuit Reset (battery swapped)

(3) HVR = High Voltage Reset (instrument remains attached

w

Discharge Profile

N = 2.04 VPC at Full
1.73 VPC at Empty

G = 1.97 VPC at Full
1.75 VPC at Empty

W = 2.02 VPC at Full
1.85 VPC at Empty

x

Output/Options

A = No Option

D = Output Signal
5 ±0.5 V above Empty
0-0.1 V at Empty,
10 KΩ impedance

M = Configured for
Memory Option
(Output Option and
Memory cannot
be combined)

y

Output/Options

A = No Option

z

Artwork

O = Curtis

2. TECHNICAL SPECIFICATIONS

2.1 Electrical

Operating Voltage

Operating Range: ±25% of nominal voltage

Operating Current

Voltage (VDC)	Nominal Current (mA)	Maximum Current (mA)
12	16	22
24	12	16
36	12	16

2.2 Mechanical

Display

10-digit, red LED

Terminals

T, TX = 3/16" blade

F/Z = 1/4" blade

J/Y = 4-pin Packard Connector

P = solder pins

Recommended Panel Cutouts

F, J, T, TX, Y, Z Case: 36.8 mm x 24.1 mm ±0.25
D Case: 45.3 mm x 22.3 mm ±0.1

2.3 Environmental

Temperature

Operating: –40 to +85°C

Storage: –50 to +90°C

Humidity

95% RH non-condensing at 38°C

Shock and Vibration

Meets SAE J 1378

3. INSTALLATION

Connecting Model 906

Pin 1 = Battery +

Connects to the vehicle's first battery positive (+) terminal closest to the battery.

Pin 2 = Battery –

Connects to the vehicle's first battery negative (–) terminal closest to the battery.

Pin 3 = Output Signal or Memory Battery + or No Option

Output Signal option: 5 VDC ±0.5 VDC (90 µA current source) above Empty, 0-0.1 VDC at Empty (source) 1 VDC maximum (90 µA sink);

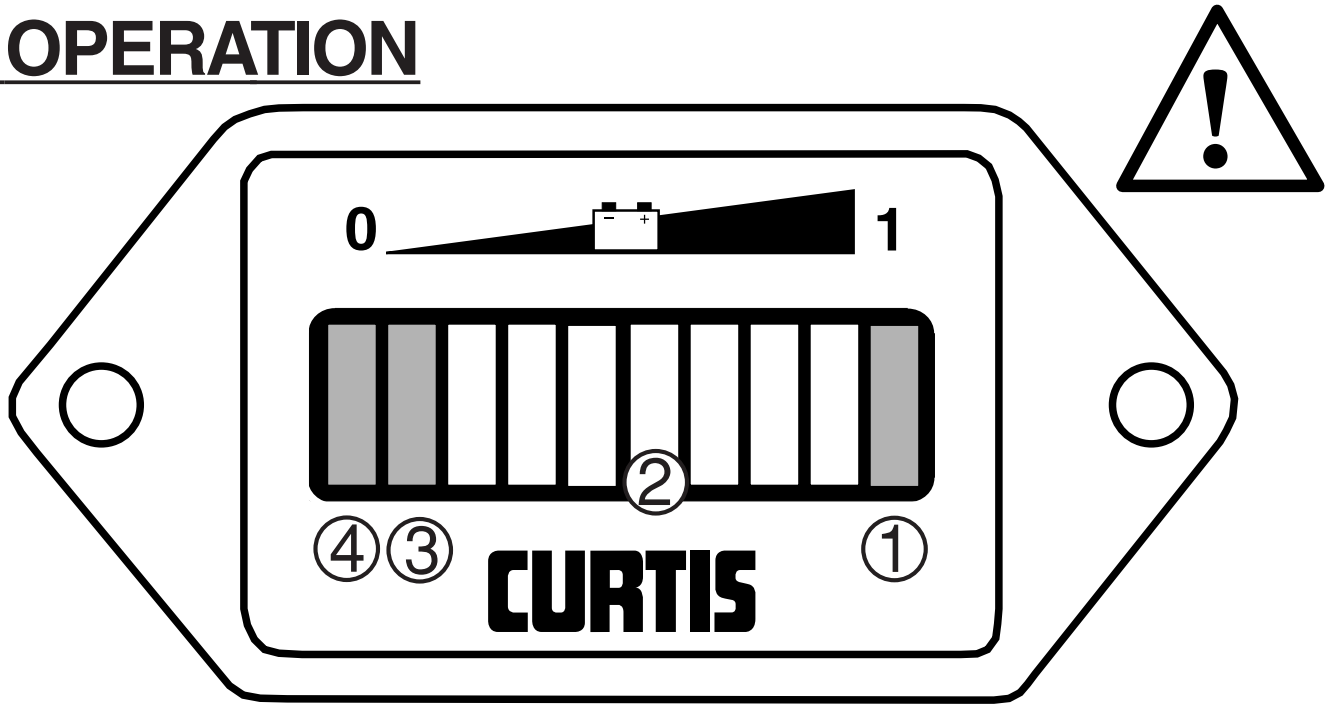
Memory Battery (Curtis Part No. 1177): Connect red lead to Pin 3, black lead to B –;

No Option: Pin 3 is left open.

Pin 4 = Keyswitch

Connects to switched terminal of the keyswitch.

4. OPERATION



Display

① Only when the battery is properly charged is the right-most LED lit.

② As the battery's state-of-charge decreases, successive LEDs light up, only one on at a time.

③ The 2nd-from-left LED flashes, indicating "energy reserve" (70% depth of discharge).

④ The 2 left-most LEDs alternately flash, indicating "empty" (80% depth of discharge).

Reset

OCR

Upon reconnection of battery, Model 906 will reset at or above proper voltage level.

HVR

Model 906 stays connected to battery during charging. Battery must remain at or above proper voltage level for a continuous 6 minutes.

5. TROUBLESHOOTING

The following checklist should help you troubleshoot any problem with Model 906.

Problem	Possible Cause
Keyswitch On and no display	Terminals not connected or improper voltage, Keyswitch not high
Stays at Full	Model 906 voltage does not match battery voltage
Will not reset	Model 906 voltage does not match battery voltage or battery not fully charged
Reset without charging battery	Not connected directly to battery terminals
Empty too soon	Model 906 voltage does not match battery voltage or terminals not connected directly to battery

6. MAINTENANCE

Curtis Model 906 series is not field serviceable. Defective units returned to the factory within the warranty period will be replaced without charge.

Guarantee - Curtis Instruments' products and/or components are guaranteed against defects in workmanship and material for a period of one year, or as defined in the individual product literature, from date of shipment from our factory, when applied in a proper application within specified ratings. This guarantee is limited to repair or replacement F.O.B. our factory. There is no further warranty or implied representation, guarantee, promise or agreement as to any Curtis Instruments product and/or component. Curtis Instruments, Inc., cannot assume responsibility or accept invoices for unauthorized repairs to its products and/or components, even though defective. In no case will Curtis Instruments' responsibility extend to products, components or equipment not of its manufacture. Under no circumstances shall Curtis Instruments, Inc., be liable for any special or consequential damages or loss of profits or other damages. Returned goods will not be accepted unless identified by a Curtis Return Material Authorization (RMA).

All specifications are subject to change without notice.

CURTIS

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