



Battery Monitoring System







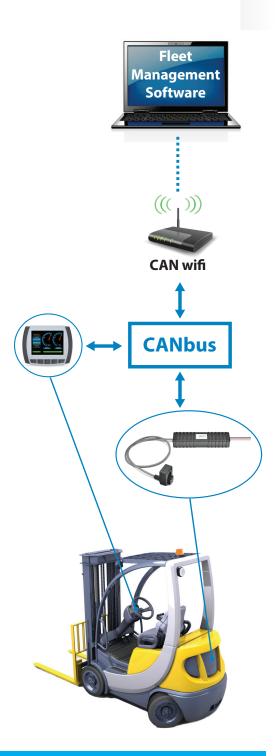
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The Curtis Acuity® Battery Monitoring System is a device that mounts directly to an industrial vehicle lead acid battery. It measures, records and transmits battery performance data throughout the battery's life. Curtis Acuity® is ideal for use in electric vehicles for material handling, airport ground support, floor cleaning, light-on-road, golf/utility and aerial work platforms.

See the Acuity Battery Monitoring System in action at: curtisinstruments.com/360view

FEATURES

- ► Highly accurate State-of-Charge calculation that uses battery voltage, current, temperature and time to maximize vehicle up-time.
- Acuity provides the data to determine if the battery has been operated within the conditions of its warranty.
- Because Acuity is permanently attached to the battery, information is collected consistently and accurately no matter when or how often the battery is moved, without interruption.
- ► The data from Acuity allows the optimization of a battery fleet to ensure that vehicle productivity is maximized.
- Acuity data is communicated via CANbus, which allows easy integration with Curtis enGage® displays, motor controllers and hand-held programmers.
- ► CANbus isolation eliminates ground loops that can cause component damage as well as data errors due to differences in ground potentials among the nodes on the CANbus.
- ▶ Installation of Acuity is simple and non-invasive to minimize cost and the need for special hardware. No cutting of cables or drilling into the battery.
- ▶ Integral Real-Time-Clock allows date and time stamping of significant events related to the battery or any vehicle component on the CANbus.
- ▶ By measuring, recording and communicating battery current, voltage, temperature and use-time, Acuity can compensate for the effects of variations in load, duty cycle and operating temperature of any given application.
- Acuity calculates the Percent of Rated Capacity remaining in the battery as an indication of remaining battery life.
- Curtis Acu-Set software, when installed on a computer that is connected to an Acuity via a CAN-to-USB dongle, allows:
 - Acuity to be configured to match the specific battery on which it is mounted.
 - Historical data from Acuity to be uploaded a PC.
 - Instantaneous battery performance data to be viewed on a PC (Power Prover mode).
 - Recording of battery data for a user-specified period of time or specific vehicle operation.







SPECIFICATIONS

Electrical

Operating Voltage Range

2448D = 18 to 60 VDC72140D = 60 to 180 VDC

Isolation

500 VAC per UL 583

Shock

UL 583

Transients

IEC 6100-4-4, test level 2

Reverse Voltage Protection

Acuity will not be damaged if connected to the battery with inverted polarity.

Short Circuit Protection

All inputs and outputs (except CANbus) shall withstand continuous short circuit to negative (B–) or positive (B+) voltage.

CANbus Isolation

Eliminates ground loops that can cause component damage as well as data errors due to differences in ground potentials among the nodes on the CANbus.

Environmental

Operating & Storage Temperature Range

-30 to +55°C

Humidity

100% condensing per IEC 60068-2-30, Db

Environmental con't

Protection

IP67 per EN60529

Vibration

IEC 60068-2-6, Fc

Shock

IEC 60068-2-29, Eb

Chemical Resistance

Immune to the effects of contact with battery electrolyte, hydraulic fluid, water, baking soda.

EMC Specifications

Emissions

EN55022 Class B (Component Test) EN12895 (Vehicle Test)

Immunity

EN61000-4-3 (Component Test) EN12895 (Vehicle Test)

ESD

EN61000-4-2 (Component Test) EN12895 (Vehicle Test)

Regulatory Approvals

UL (Pending)

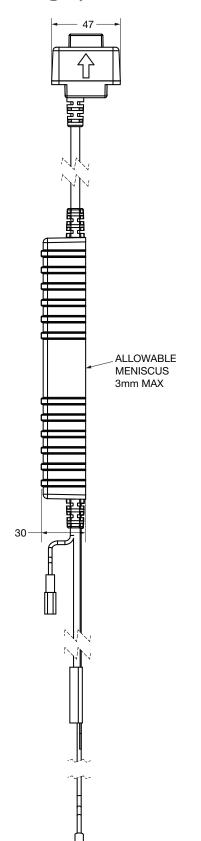
Recognition or component listing (UL583)

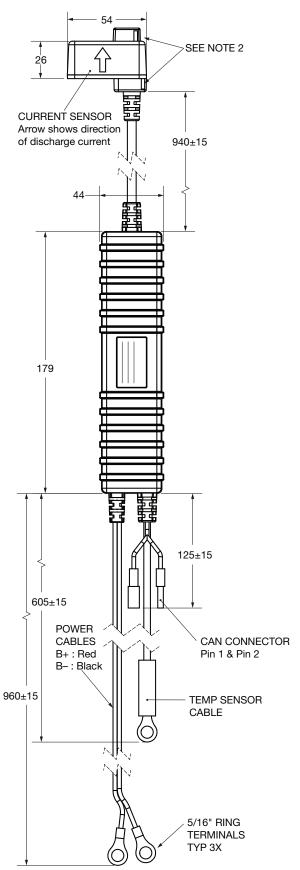






DIMENSIONS mm





NOTES:

- Case & Current Sensor Housing Material: Glass-filled PBT.
- 2. Current Sensor can accomodate most cable sizes up to 4/0.
- 3. Current Sensor to be held to battery cable by tie-wraps (2 places).
- Acid resistant tie-wraps should be used to secure unit.
- 5. This unit not fitted with a CAN termination resistor.

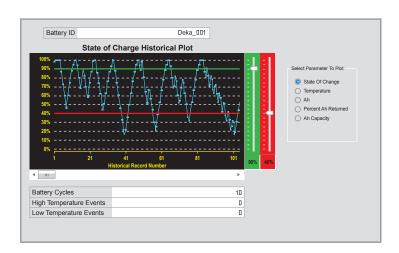




INFORMATION READOUT



The Acu-Set software translates the Acuity battery data into easy-to-read performance data. It also calculates Percent Rated Capacity (PRC) — the actual energy the battery can deliver as compared to its rated capacity.





Battery information is displayed in real time on the Curtis enGage® VII or any other CAN-based display.

WARRANTY

Two year limited warranty from time of delivery.





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Specifications subject to change without notice

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