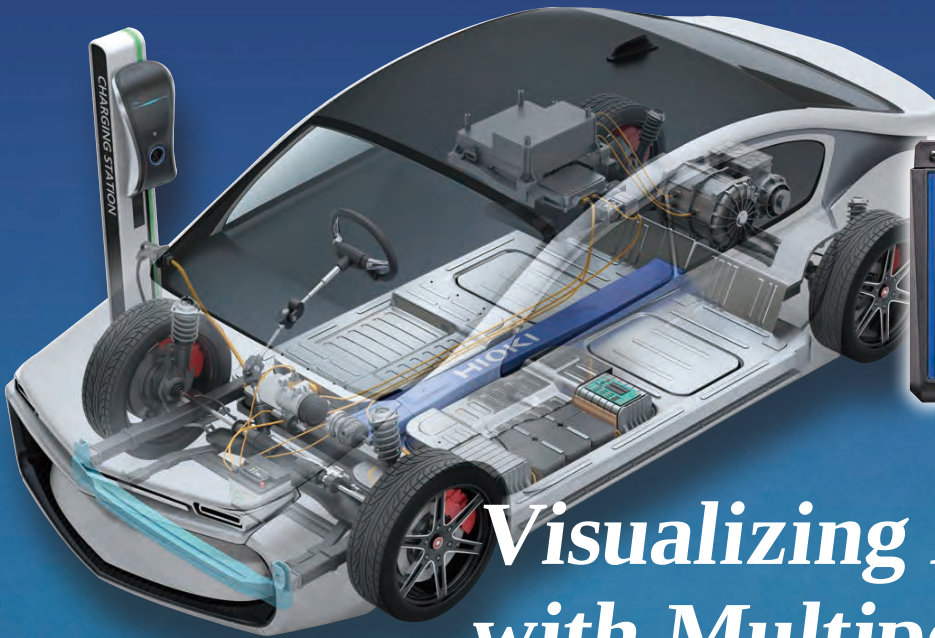


# HIOKI

MEMORY HiLOGGER LR8450, LR8450-01  
Current Measurement Solutions for EV Development



MEMORY HiLOGGER LR8450, LR8450-01

## Visualizing Energy Loss with Multipoint Current Consumption Measurement

To reduce EV energy loss and extend driving range, it's necessary to make high-accuracy measurements. This ensures that non-drivetrain energy is also used efficiently.

By combining the Hioki Memory HiLogger LR8450 with a current module and AC/DC current sensor, you can measure and record current at multiple points. Analyzing data accurately is key to reducing energy consumption.

**Compact contactless clamp-on sensor: just 77 mm long**

**NEW**

AC/DC CURRENT SENSOR CT7812 (2A AC/DC)  
CT7822 (20A AC/DC)



Measurable conductor diameter:  $\phi 5$  mm



Compact, contactless, and high-accuracy

Multiple sensors can be easily installed, even in confined spaces and locations with complex wiring.



Broad operating temperature range

Thanks to the operating temperature range of  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$ , low-level DC current can be measured with a high degree of accuracy, even in environments where the ambient temperature varies.

**Two current module types: Wireless and plug-in**

**NEW**

WIRELESS CURRENT MODULE  
LR8536

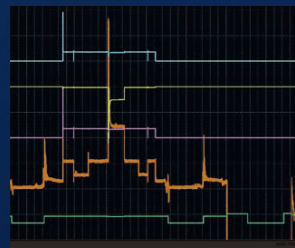


Extended measurement on battery power

Up to five sensors can be connected to a single current module. Wireless modules can operate on battery power for 5 hours or more.

**NEW**

CURRENT MODULE  
U8556



High-speed sampling

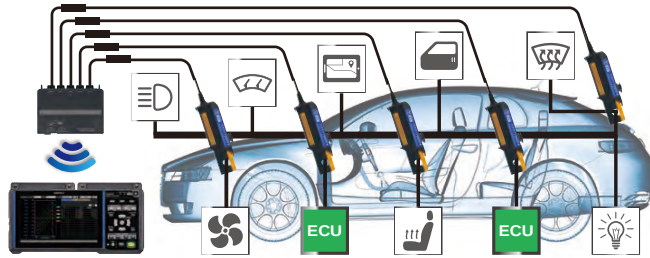
Five channels can be measured simultaneously with a sampling speed of up to 1 ms. As a result, you can capture even momentary changes in current value.

# Current sensing solutions

## 1 Extended, simultaneous recording of multipoint current data

### Reduce energy consumption

- Simultaneously record up to 55 channels of multipoint AC/DC current measurement data (when using the LR8450-01)
- By ascertaining how much current is used at a particular location, you can make improvements to use energy efficiently and reduce energy use
- Measure a broad range of current magnitudes, from large, high-current-consumption pumps and air-conditioning compressors to low-current-consumption interior accessories and ECUs



## 2 Slide-action clamp/release sensors

### Dramatically reduce man-hours

- Compact, contactless clamp-on sensors can be easily connected to cables in confined locations
- Use a wireless module to dramatically reduce wiring man-hours



## 3 Simultaneous recording of various phenomena

### Comprehensively analyze entire vehicles

- Simultaneously verify minuscule current of ECUs in sleep-mode
- Combine with an extensive range of available LR8450 measurement modules to simultaneously record variations in driving conditions and current consumption
- Entire vehicle analysis by combining CAN signal data with measured current consumption and other phenomena such as vibrations and temperature

## Principal Specifications

### NEW AC/DC Current Sensors

|                               | AC/DC CURRENT SENSOR CT7812    | AC/DC CURRENT SENSOR CT7822 |
|-------------------------------|--------------------------------|-----------------------------|
| Rated current                 | 2 A AC/DC                      | 20 A AC/DC                  |
| Measurable conductor diameter | φ5 mm or less                  |                             |
| Output rate                   | 0.1 V/A                        | 0.01 V/A                    |
| Operating temperature range   | -40°C to 85°C (-40°F to 185°F) |                             |
| Cord length                   | 4 m                            |                             |
| Connector type                | Hioki PL14                     |                             |

### NEW Current Modules

|                     | WIRELESS CURRENT MODULE LR8536                                  | CURRENT MODULE U8556 |
|---------------------|-----------------------------------------------------------------|----------------------|
| Type                | Wireless<br>(Battery operation: 5 h or more)                    | Plug-in              |
| Number of channels  | 5 (simultaneous sampling of all channels)                       |                      |
| Data refresh period | 1 ms                                                            |                      |
| Measurement targets | DC current, AC current (RMS)<br>Varies with current sensor used |                      |
| Input terminal      | Hioki PL14                                                      |                      |

### Data Loggers

|                                       | MEMORY HILOGGER LR8450-01                                  | MEMORY HILOGGER LR8450              |
|---------------------------------------|------------------------------------------------------------|-------------------------------------|
| Type                                  | Model with wireless LAN                                    | Standard model                      |
| Maximum number of connectable modules | 4 plug-in modules + 7 wireless modules                     | 4 plug-in modules                   |
|                                       | Modules are sold separately                                |                                     |
| Maximum number of current channels    | Up to 55<br>With U8556(plug-in) × 4 + LR8536(wireless) × 7 | Up to 20<br>With U8556(plug-in) × 4 |
| Pulse input                           | 8 channels                                                 |                                     |
| Alarm output                          | 8 channels                                                 |                                     |

### Combined accuracy

#### ■ AC/DC CURRENT SENSOR CT7812

| Range    | Resolution | Instantaneous value (DC) |
|----------|------------|--------------------------|
| 2.0000 A | 0.0002 A   | ±0.38% rdg. ±0.0037 A    |
| 200.0 mA | 0.1 mA     | ±0.38% rdg. ±2.4 mA      |

#### ■ AC/DC CURRENT SENSOR CT7822

| Range    | Resolution | Instantaneous value (DC) |
|----------|------------|--------------------------|
| 20.000 A | 0.002 A    | ±0.38% rdg. ±0.037 A     |
| 2.000 A  | 0.001 A    | ±0.38% rdg. ±0.024 A     |

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