

# 4th Generation Battery Interface Unit (4GBIU)



**Wireless current probe  
for portable testing, even  
in harsh conditions**

## Typical Uses

- End-of-line or predelivery vehicle electrical check-out or current-based testing (ECOS/CBT)
- Digital recording of electrical circuit behavior
- Wireless current monitoring or auditing of control or power wiring

The Dynetics 4th Generation Battery Interface Unit (4GBIU) is a comprehensive wireless current probe test platform featuring the latest embedded wireless and hall-effect transducer technologies. Dynetics engineered the components and enclosure for the most demanding environments. The end product is a small form factor, accurate, and rugged test tool.

The 4GBIU is designed to integrate seamlessly with Dynetics Electrical Test Systems' current-based testing (CBT) software, but the device firmware can be customized to operate with other third-party operator interface software platforms.

## Wireless current probe

### Product features

- 200A DC current range
- Rechargeable batteries with capacity for entire shift operation
- 802.11 a/b/g/n wireless support
- Enterprise class wireless security and authentication protocols
- Lightweight (< 22 oz)
- Ergonomic one-piece design
- Large aperture hall-effect opening
- Rugged injection molded case
- Configuration via USB
- Programmable signal conditioning and conversion
- Software customization available for added compatibility

## Electrical specifications

Current range	200A DC
Output sensitivity	4 mV/A (fully differential w.r.t. Vcc/2)
Accuracy	±1.5% of reading +-40 mA
Conductor position sensitivity	±1.5% relative to center reading
Resolution	±1 mA
Zero drift (0 to +50°C)	±20 mA / °C
Error due to Earth's magnetic field	±5 mA typical
Frequency range	DC to 10 kHz (-3 db)
Temperature coefficient	±0.05% of reading / °C
Power supply	Internal rechargeable batteries (optional external power: 5 to 17 Vdc)
Working voltage	SELV

## General specifications

Maximum conductor size	26-mm diameter
Operating temperature range	-20 to +85 °C
Storage temperature range	-20 to +85 °C
Operating humidity	15% to 85% (non-condensing)
Dimensions	14.5" x 2.2" x 1.5"
Weight	21.5 ounces
Drop	1 meter to concrete surface
Case material	DuPont Zytel® 70G33L
Chemical resistance	Resists most oils, lubricants, solvents, etc.

## Wireless specifications

Technology	IEEE 802.11 a/b/g/n DSSS, WiFi compliant
Frequency	2.412 ~ 2.484 GHz (802.11 b/g/n) 4.900 ~ 5.925 GHz (802.11 a/n)
Data rate	Up to 65 Mbps (with auto fallback)
Protocols	ARP, TCP, UDP, ICMP, DHCP, DNS, HTTP, HTTPS, SMTP, TFTP, Telenet
RF power	12 to 17 dBm based upon mode
Security	IEEE 802.11i encryption: AES-CCMP and TKIP encryption, WPA2-Enterprise (EAP, PEAP, LEAP), WPA2-PSK, WPA-PSK 64/128-bit WEP

## Application notes

### DynMeter

- PC-based Windows application
- Interfaces wirelessly with 4GBIU
- Streams current measurements from 4GBIU to PC for visualization and recording in real-time
- User-customizable sampling rate

### Calibration stand

- Off-board fixture for verifying calibration of 4GBIU
- Operator interface through CBT hand terminal
- Calibration certification tracked through Dynetics CBT server

### Current-based testing

- Suite of software and hardware products for comprehensive vehicle electrical testing
- Capable of testing hundreds of electrical circuits from map lights to window motors
- All data stored in central server database
- Rich graphical reporting system for tracking vehicle defects and identifying process problems

Dynetics Vehicle Information Technologies

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