



BATTERY CYCLERS

BCS Integration Solutions.

Integration in Industry 4.0 environments



BioLogic's BCS Battery Cyclers in Industry 4.0

BioLogic's Premium and Essential Battery Cycler are designed to integrate seamlessly into modern, connected testing environments.

Beyond high-performance battery testing, the BCS series is built to operate as a fully integrated component of digital laboratories, automated test benches, pilot lines, and industrial environments.

BioLogic offers a complete set of integration solutions based on three complementary tools, API-REST, BT-Drive, and OPC-UA, allowing customers to connect the BCS series to their existing software and automation ecosystems while preserving performance, reliability, and data integrity.

Why Integration Matters?

Industry 4.0 is driven by connectivity, automation, and data-driven decision making. Battery testing systems need to operate not just as standalone instruments, but as fully integrated components of digital laboratories, pilot lines, and production environments.

BioLogic's integration solutions allow customers to:

- Automate complex testing workflows
- Centralize control & supervision of multiple systems
- Enable real-time monitoring, alarms, & data exchange
- Interface with third-party hardware, software, & PLCs
- Prepare test data for advanced analytics & AI

BCS System Integrations

External Systems

Integration Interfaces

BCS Systems
900/1000 Series



Associated Services

BioLogic also offers complementary integration services based on customer specifications. Each solution is unique & formulated after a structured process: requirement analysis, feasibility assessment, specification, development, testing, then delivery.

Tailored Services

- Custom interfaces & dashboards
- Integration with third-party systems
- Architectures for specific applications

Training & Support

- Dedicated training & onboarding
- In-person or remote trainings
- Continued support

Integration Solutions for Battery Testing

REST API

The REST API is the foundation of BCS integration. It is a mature, validated, and fully supported interface offering the same functional coverage as BT-Test™. It enables external applications to communicate directly with the BCS system using standard web technologies.

- Used internally by BT-Test™
- HTTP-based client/server architecture
- Compatible with all programming languages & operating systems



Best for:

Integrators & developers requiring detailed access to BCS systems



BT-Drive
(Python Library)

BT-Drive (Python Library)

BT-Drive is a high-level Python library built on top of the REST API. It simplifies integration reduces development time by focusing on essential workflows.

- Python-based, fast to learn & deploy
- Up to 5x fewer lines of code vs. REST API
- Up to 20x faster development time vs. REST API
- Readable, self-explanatory code

Best for:

R&D labs that require rapid prototyping

OPC-UA

OPC-UA is an open, platform-independent industrial communication standard widely used in Industry 4.0 & smart manufacturing.

- Standardized & interoperable
- Secure (authentication & encryption)
- Supports real-time data, alarms, & events
- Compatible with PLCs & industrial SCADA systems



Best for:

Automated test stands, pilot lines, industrial environments

Case Example:

A large R&D facility managing hundreds of test channels, multiple climatic chambers, & various safety-critical equipment requires a unified integration solution. Operating at this scale, fragmented control systems & manual data handling are no longer viable & a centralized operational control is required. With BioLogic integrated solutions, this lab can achieve a fully integrated environment with automated workflows.

The result: Fewer manual interventions, consistent data, & reliable multi-channel test campaigns.



We serve our customers worldwide through our subsidiary offices and our extensive distribution network.

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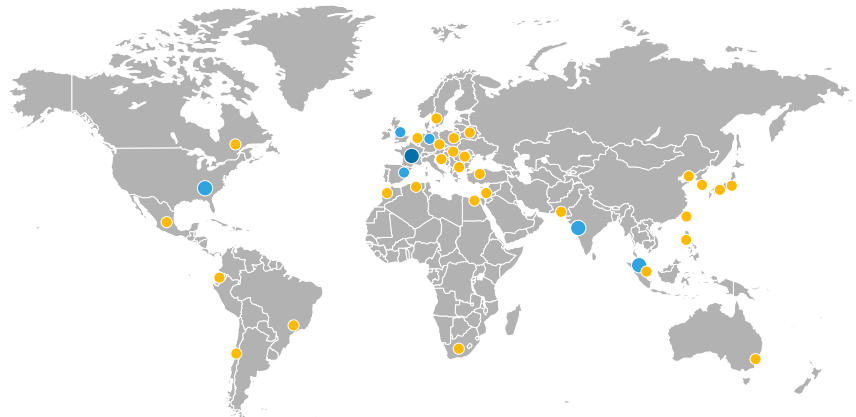
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Always by your side. Wherever you are.

We here at BioLogic pride ourselves on the quality and robustness of our instruments. However if you, for whatever reason, encounter a problem with your Battery Cycler, our global support network will help find you a solution quickly and effectively.

If you need more information, or perhaps a little inspiration, you can browse our ever-growing support database with hundreds of Learning Center articles, application/technical notes and support videos at www.biologic.net.



Application notes



Learning center



Tutorials



Videos

[biologic.net](http://www.biologic.net)

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