BaSyTec

Battery Test Systems

We cover the whole range

BaSyTec Battery Test Systems

Our Systems are modular, flexible and user friendly

BaSyTec
Battery Test Systems

Guaranteed Accuracy:

- All testers come calibrated traceable to national standards according to ISO/IEC 17025 @ high confidence level

Powerful and comfortable Software

Common features:

- Comfortable, user-friendly system
- Network operation
- Multiple window user interface
- Local database system (Paradox, MySQL or PostgreSQL)
- **Genuine MS Windows software**, works with Windows 10 or 11
- BaSyTec Software license included in system price, no extra fee for features, updates and additional installations
- Tests run independent of the PC within the test system
- User management
- User defined user specific views
- **Central data storage** on **central SQL Server** (MySQL or MSSQL)
- **Central battery management** on central SQL Server
- Central project management on central SQL Server
- Battery database including nominal and limit values
- Additional battery parameters can be added to the battery database (only limited by the database)
- Battery parameters can be set and created within a test
- Battery parameters can be passed from test to test (also via central SQL server)
- Automatic firmware updates without user interference

Test plan definition

- Tab oriented test plan editor
- Wizzards or direct entry for all data fields
- Test plan length max. 256MB
- Loops, can be nested in multiple levels
- Macro’s, also with parameters, can be nested in multiple levels
- Cut+Paste for single fields or blocks, also between different test plans
- Multiple test plans can be opened at the same time
- **Integrated formula editor** to create user specific parameters for registration and control
- Includes first and second derivations
- All variables known in the system can be used in the formula editor
- Same test plan editor is used also for short pulses
- Dynamic sampling
- Global and block oriented termination criterias
- Multiple termination criterias for a single line, a block or the whole test plan
- Voltage, current and power can be limited within a block (also dynamically – use BMS limits)

BaSyTec Battery Test Systems

Worldwide more than 2200 BaSyTec Battery Test Systems in operation to support research, development, and production of different battery technologies since 1999

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- Battery data can be used within the test procedure
- Conditional jumps
- Import of current, power and voltage profiles in ASCII format (up to 1 000 000 lines)
- Linear ramps in current and voltage
- Cyclic voltammetry
- GITT (Galvanostatic intermittent titration technique)
- Differential voltage analyses
- Inputs of other channels can be used

Running tests

- Shutdown and restart of the PC during tests without data loss
- Test plans can be changed during run time
- All analyzes also possible during run time
- State of a test color-coded, colors can be defined by the user
- Online-graphs of running tests, user-defineable, also multiple tests at the same time

Data Analysis

- Powerful built-in tools to analyze data of single or multiple tests
- Script language
- Direct export of diagrams and tables via DDE to MS excel (diagrams as diagrams, not as pictures!)
- Direct export of diagrams and tables via cut+paste to MS Windows applications
- Automatic report generation with MS Word
- Export of tables in ASCII format (also automatic at end of test)
- Unlimited lines within 1 diagram, also from multiple tests
- Diagram templates can be saved, also with reference data
- Diagrams with background pictures
- Archive function
- Import+export of data and archives
- Diagram for interactive navigation in data

Interfaces

- Climate chamber interface (drivers for many chambers available)
- Open Software Interface (OSI)
  - To integrate any device which can be connected to a PC
  - Open (everybody may write his own device driver – drivers are Windows dll's)
  - Bidirectional
  - Fast and powerful
- Remote Control Interface (RCI)
  - To integrate the BaSyTec software
  - ASCII interface via TCP/IP or RS232
- CAN interface
  - Cheap and powerful
  - Send and receive
- SMBus Smart Battery Interface
- BaSyTec CMU data logger (for up to 4800 additional inputs)

BaSyTec Battery Test Systems

Our test systems are controlled by the powerful and comfortable BaSyTec software.
Complete product range from from small laboratory cells to large MW batteries

BaSyTec Product Range

	CTS	CTS-LAB	CTS-LAB XL	XCTS 40A	XCTS 60A	XCTS 80A	LPS -HR					HPS -HR	MRS -HR		RPS -HR
Voltage range	6V						2-10V		12-70V			2-70V	6V	80V	100-1500V
0V option / bipolar output	no	yes	yes	no			optional/optional						no		
FS voltage res. / accuracy	16Bit / 1mV			16Bit / 1mV			24Bit* / 0.02%								
FS current range	5A	3A	5A	40A	60A	80A	100µA - 8A	10A-60A	100µA - 800mA	1A-8A	10A-60A	10A-600A	100A-1000A	70A-570A	200A-1000A
FS current resolution / accuracy (each current range)	16Bit 1mA / 50µA 2.5µA / 200nA			16Bit 10/ 20mA	16Bit 1/10/ 30mA	16Bit 10/20/ 40mA	24Bit* / 0.05%								
current ranges	4			2	3	3	1	1-2	1		1-2	1-3			1-2
automatic dynamic range switching	yes						no								
automatic range switching	yes														
parallel operation / max. channels / max. current	yes / 4 20A	yes / 4 12A	yes / 4 20A	yes / 2 80A	opt / 10 600A	opt/10 800A	yes/4		no	yes/4		yes/4 2400A	yes/4 2400A	yes/4 1500A	opt/3 3000A
Max. output power / channel	30W	18W	30W	200W	300W	400W	600W					6kW	5.4kW	14kW	500kW
Energy recovery / to the grid	no			yes/optional			no/no						yes/yes		
constant voltage operation	digital						analog and digital						digital		
CP / CR operation	digital														
Std. aux inputs / channel	NTC temperature input						2 pcs Pt100/4W temperature inputs, NTC temperature input								4 Pt100/4W
Other options	Dig-IO, Ref.-El. input						Relay out, Dig-IO, BSD, SSMS, external charger								
optional EIS	Planned in 2025														
Software	BaSyTest with Open Software Interface (OSI) and Remote Control Interface (RCI)														
Datalogger	optional to be combined with BasyTec CMU datalogger. Up to 480 inputs per logger, up to 10 loggers per installation.														

Status: 8/2024

* Not yet supported by the BaSyTest software

BaSyTec

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