EVALUATOR EOL

End-of-Line Battery Testing Systems

EMISSIONS

ELECTRIFICATION

CAV

DATA

- Supply of the complete battery test station
- Fully integration in production automation
- Worker-oriented operator guidance via touch screen operator panel
- DMC scan including connection to production database
- Manual or fully automated adaption
- Pressure, leak and performance tests
- BMS implementation and test

HORIBA Automotive

EVALUATOR EOL

The End-of-Line system of the Evaluator series is tailored to the needs of complex production processes for batteries. The customer specific designed solutions allow a wide range of application areas, from prototype or low volume production lines to fully automated factories. The Evaluator series focuses not only on the test equipment, but also on the design of the station as a whole. This includes the topics safety, test item adaption, housing, data handling and communication to other systems.

Product carrier provied easy handling of any test item transport including self-coupling or quick connection systems for the trolleys. The cost-efficient design can contain conveyer belts with semi-automated or fully-automated product-specific battery bonding. As option, the system can be equipped with industrial PC or operator panel. The station is controlled via production software for simplified start and stop of procedures.

Furthermore, the EOL system allows automated display of pass / fail criteria and read / write access to customer production database. High safety standards with a fail-safe PLC control ensures maximum performance under safe conditions.

TESTING ENVIRONMENT	
SAFETY CABIN	Door monitoring Sensors Exhaust air monitoring Extinguishing device
ADAPTION	Manual Fully automated
TEST ITEM TRANSPORTATION	Heavy weight trolley Implementation of EOL test station into product line
CHILLER	Cooling water and draining station
SAFETY FEATURES	Fail safe PLC control PLC controlled 3-level alarming system

ELECTRICAL TESTS	
INPUT PARAMETER TEST	Customized (temperature and cell voltage control, BMS communication test, etc.)
BMS TEST	Plausability test of sent values Reading out the error status State change of the battery Function test of the HV contactors Interlock test Behavior in case of crash
OPEN CIRCUIT VOLTAGE	Comparison of BMS data and measured voltage Calculation of SOC
INSULATION TEST	Internal insulation resistance test Insulation resistance measurement
PERFORMANCE TEST	Capacity test Pulse power test Adjusting the SOC
DIELECTRIC STRENGTH	Voltage proof Up to several kV

CHARGING-DISCHARGING UNIT	
ENERGY RECOVERY	≥ 95 %
CASCADABILITY	Up to 1,000 kW
RANGE	Up to 1,000 A/1,000 V
ACCURACY	± 0.03 % MV, ± 0.015 % FS

INTERFACES	
DATA LOGGING	SQL database Backup server Connection to production database
SCANNER	DMC scanner for identification of test items
CAN GATEWAY	BMS communication Writing and reading of dbc files Implementation of external devices
CONNECTIVITY	Profinet File based (csv., xml., pdf., mdf. etc.)

PRESSURE- AND LEAK TESTS	
COOLER LEAKAGE AND BLOCKAGE	Flow volume at excess pressure (approx. 15 bar)
HOUSING	Flow volume at light low atmospheric or excess pressure

OPERATION	
OPERATOR PANEL	Worker oriented One-button operation
CLIENT PC	Experts level Diagnosis and supervision

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