

Q3500

Electrical, Optical & Thermal
Imaging & Test Systems

Battery Inspection System

Q3500 Battery Inspection System measures the internal resistance and open circuit voltage of a cell. The system displays and classifies the data compared to reference tolerance values for pass/fail conformance. Specially customized test jigs are configured and enable easy and safe tests to various type of cells such as cylindrical, pouch and prismatic battery. For a large-scale production line, Q3500 can be integrated into the automated in-line operating system.

IR

OCV

TRA

FRA

Automation

In-Line

Cylindrical

Pouch

Prismatic

Battery Inspection System

Q3500 Battery Inspection System Q3500 In-line OCV Test Software

System Status

Entry Tray → Check BCR → Load Tray → Measure → Unload Tray → Export Tray → Power ON → Power OFF → Maintenance

of OK Tray: 000100 # of NG Tray: 000005 Total Tray: 000105 Tact Time: 00:00:30

Color Information: Pin Error (Blue), Over IR (Red), Under IR (Yellow), Over OCV (Red), Under OCV (Blue), No Data (Green)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	3.5651082	3.5656024	3.5654988	3.5659976	3.5650588	3.5654542	3.5651477	3.5653258	3.5655508	3.5655024	3.5653555	3.5655716	3.5664718	3.5667187	3.5659087	3.5658692
2	3.5660569	3.5652665	3.5656619	3.5654048	3.5650667	3.5654246	3.5656123	3.5649616	3.5659728	3.5665191	3.5655529	3.5659198	3.5661655	3.5665310	3.5662544	3.5654444
3	3.5658889	3.5650099	3.5659210	3.5659561	3.5652962	3.5656619	3.5655327	3.56493217	3.5655516	3.5650567	3.5662341	3.5663532	3.5661556	3.5664520	3.5655333	3.5663829
4	3.5646635	3.5647624	3.5655135	3.5652171	3.5644759	3.5656617	3.5652863	3.5653653	3.5653284	3.5661359	3.5665904	3.5657407	3.5660371	3.5662248	3.5655728	3.5659388
5	3.5666298	3.5661655	3.5657802	3.5659024	3.5657901	3.5653355	3.5660173	3.5660965	3.5649007	3.5644957	3.5650294	3.5652962	3.5646044	3.5650785	3.5654740	3.5655431
6	3.5659778	3.5656913	3.5656913	3.5657901	3.5658593	3.5658790	3.5656815	3.5656321	3.5644759	3.5644265	3.5652764	3.5655419	3.5657308	3.5655728	3.5654740	3.5657012
7	3.5660742	3.5651258	3.5654322	3.5653800	3.5655310	3.5648612	3.5660756	3.5661161	3.5648118	3.5651875	3.5652965	3.5657596	3.5654936	3.5664421	3.5646813	3.5652270
8	3.5667187	3.5704134	3.5658983	3.5657605	3.5652073	3.5651062	3.5658494	3.5650409	3.5648317	3.5653061	3.5644957	3.5651576	3.5647921	3.5649304	3.5656296	3.5655925
9	3.5650687	3.5656913	3.5651974	3.5652264	3.5645648	3.5654048	3.5653061	3.5648118	3.5657704	3.5649995	3.5662742	3.5651678	3.5659482	3.5651875	3.5661260	3.5656815
10	3.5657901	3.5653061	3.5650590	3.5653357	3.5648106	3.5651181	3.5642290	3.5655728	3.5653029	3.5653159	3.5667404	3.5650409	3.5658296	3.5657605	3.5656593	3.5667187
11	3.5662347	3.5651875	3.5656618	3.5655431	3.5654998	3.5656619	3.5659284	3.5654345	3.5657308	3.5651279	3.5659383	3.5659785	3.5661359	3.5664147	3.5655333	3.5659877
12	2.9832326	3.5659679	3.5656617	3.5649205	3.5644463	3.5655135	3.5649007	3.5657111	3.5661754	3.5657012	3.5657308	3.5655036	3.5661312	3.5653061	3.5661458	3.5660569
13	3.5664619	3.5650687	3.5657605	3.5650291	3.5654147	3.5654641	3.5657407	3.5648711	3.5645142	3.5654839	3.5652171	3.5645550	3.5651776	3.5650588	3.5646340	3.5655333
14	3.5663335	3.5662050	3.5667484	3.5662641	3.5651678	3.5703146	3.5658889	3.5653555	3.5646439	3.5656123	3.5661458	3.5660272	3.5641899	3.5652363	3.5650785	3.5656815
15	3.5664915	3.5655925	3.5653357	3.5653335	3.5667879	3.5655409	3.5657012	3.5662248	3.5651875	3.5647921	3.5661853	3.5654936	3.5649995	3.5656123	3.5664421	3.5653950
16	3.5660371	3.5663335	3.5655530	3.5664619	3.5665804	3.5662841	3.5664025	3.5659381	3.5651678	3.5655925	3.5656518	3.5647822	3.5652171	3.5666371	3.5662347	3.5651427

Error Status

Error Code: Error Level: Error Description:

PLC DMM Temperature Unit BCR Safety Unit

Reset Error Stop Buzzer Stop Alarm Retry BCR Reset Pin Error Origin Unload Tray Restart



Internal Resistance (IR)

Open Circuit Voltage (OCV)

Time Response Analysis (TRA)

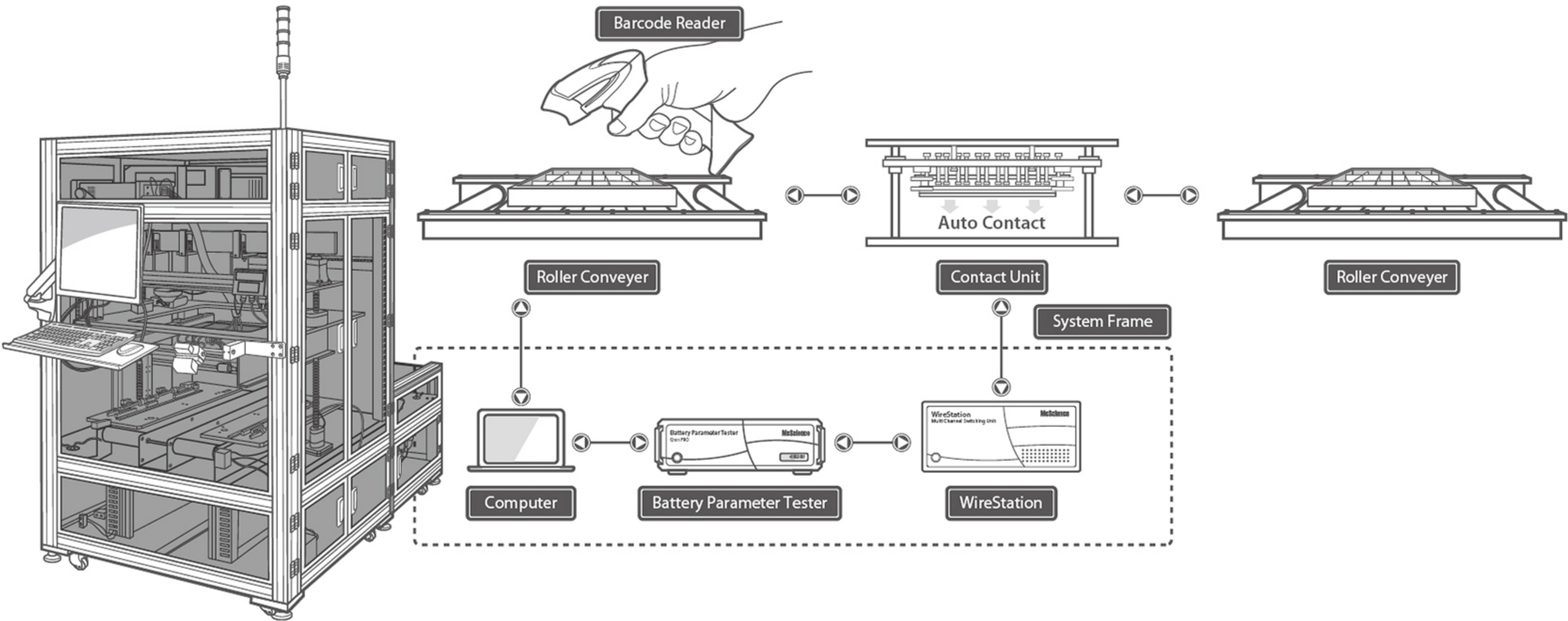
Frequency Response Analysis (FRA)



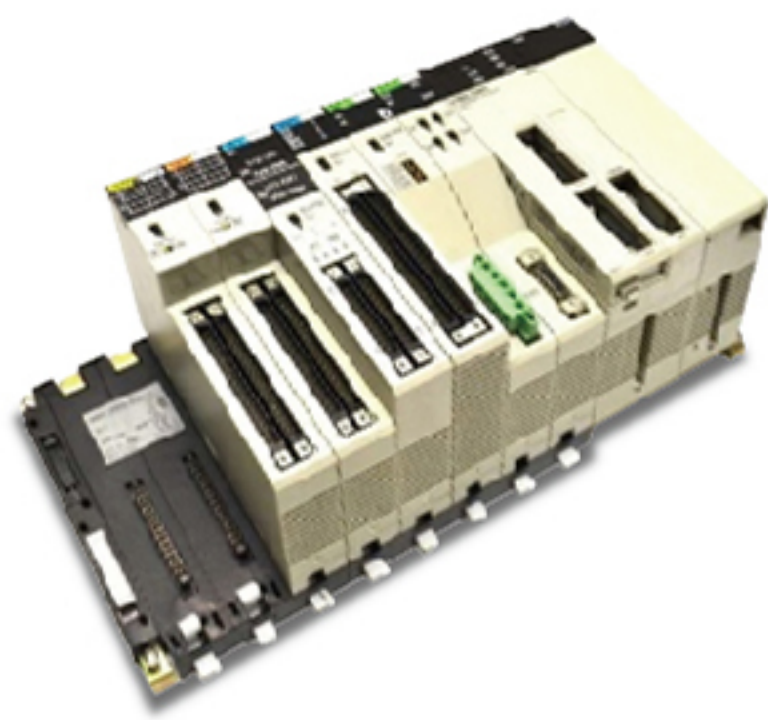
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System Configuration



System Components



<PLC Unit>



<Loader/Unloader>



<Gripper>



<Tester>



<Battery Inspection S/W>

System Specification

Product Name		Q3500 Battery Inspection System
Main Features		Open Circuit Voltage Measurement, Internal Resistance Measurement
Battery Type		Cylindrical, Pouch, Prismatic
System Configuration		Main Frame, Gripper Unit, IR/OCV Tester, Bar Code Reader, PLC Unit, Temperature Sensor, Safety Sensor, UPS, Software, PC
Dimension / Weight / Utility		Dimension : (W)1,800 mm X (D)1,200 mm X (H)2,000 mm / Weight(kg) : 1,500kg / Electricity : 220V, 30A, 3 Phase/ Air : 6.0 kg/cm ²
# of Test Sample / Tact Time		256 Samples per Tray / < 60sec
Open Circuit Voltage	Voltage Range	-5V ~ +5V
	Accuracy	< ±0.5mV
	Measurement Time	Std. 100msec
Internal Resistance	Control	Current Control
	Accuracy	< ±0.5mΩ
	Test Frequency	1kHz Sine Wave
Contact		Customized Gripper
Safety		Over Temperature, Smoke Protection, Flame Sensor, Over Current Protection, EMO S/W
Option		Transient Voltage Measurement, Impedance Measurement