Prismatic Battery Barcode Scanning Inspection Eight Bin Sorting Machine

Item Number: FX09

Introduction

Prismatic battery barcode scanning inspection and eight bin sorting equipment combines OCV voltage and internal resistance testing with database upload MES connectivity and reliable automated classification for aluminum shell cell production lines requiring accurate traceable quality decisions at scale.

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Application	Description	Key Benefit
Prismatic aluminum-shell cell final inspection	Scan and electrically inspect prismatic aluminum-shell batteries after loading them onto the infeed belt.	Combines cell identification, voltage testing, resistance testing, and sorting within one operating sequence.
OCV-based cell grading	Direct cells into the configured process grades after voltage measurement.	Supports organized handling of cells according to defined voltage sorting requirements.
Internal-resistance classification	Use the specified resistance measurement ranges to support resistance-related selection or pairing criteria.	Provides an automated route from resistance measurement to instructed grade placement.
Battery cell matching preparation	Inspect cells before downstream grouping or matching operations where different voltage and internal-resistance conditions must be managed.	PC settings can be changed when the required detection and matching criteria differ.
MES-connected production monitoring	Connect the station with MES for real-time monitoring and retrieval of uploaded testing data.	Makes inspection and sorting information available to connected manufacturing systems.
Database-backed quality records	Record measurement results from the tester to the industrial control computer and upload the data to a database.	Supports retained, cell-associated records for review and production traceability.
Operator-loaded automated sorting lines	Use the system where personnel load cells and automated mechanisms perform pickup, inspection, conveying, and sorting.	Delivers a clear division between manual loading and automated processing steps.
Battery process grade management	Configure sorting grades in the PC when different voltage and internal-resistance products require different matching settings.	Enables the sorting layout to follow changing process requirements without altering the core handling sequence.

Parameter	Specification
Site-facing item number	FX09
Equipment function	Battery barcode scanning, inspection, database upload, MES connection for real-time monitoring and retrieval, and sorting to corresponding 8+1 grades according to process requirements
Applicable battery type	Prismatic aluminum-shell battery
Sorting configuration	8+1 grades
Operating sequence	Operator places battery on cell loading belt; front-end detection identifies the battery; pickup cylinder clamps the cell; barcode scanning and voltage/internal-resistance testing are completed; conveyor transfers the cell to the sorting station; PC-commanded sorting manipulator assigns the grouping grade
Polarity requirement for voltage and internal-resistance testing	Product voltage and internal resistance can be tested without distinguishing positive and negative terminals
Grade-setting adjustment	When voltage and internal-resistance products requiring detection and matching differ, grade settings must be changed on the PC

Parameter	Specification
Recommended probe replacement interval	1 month
Product yield	99.5% (only refers to product scrap caused by equipment reasons)
Capacity / speed	≥20PPM (varies slightly according to employee operating proficiency)
Equipment utilization rate	≥95% (only failures caused by the equipment)
Electrical supply voltage	220V 60Hz
Permitted voltage fluctuation	Less than ±10%
Equipment power	2.5KW
Air source requirement	≥0.6Mpa (provided by customer)
Voltage measurement resolution	0.1mV
Voltage measurement range	20V
Voltage measurement accuracy	±0.01%rdg.±3dgt
Resistance measurement ranges	3Ω and 30mΩ
Resistance measurement accuracy	±0.5%rdg.±5dgt
Applicable battery width	100-180mm
Applicable battery thickness	20-60mm
Applicable battery height	50*120mm
Base-frame construction	Load-bearing base frame with square-tube welded structure
Upper-frame construction	Sealed frame using aluminum-alloy profile structure with acrylic sealing
Operating interface	Independently operated industrial control computer and touchscreen for each unit
Layout and installation direction	Designed according to the layout drawing in the technical-agreement appendix
Ergonomic requirement	Machine design should provide good ergonomic performance