

Banknote Recycler

BA-08-41S

Technical Manual



1 Overview

BA-08-41S banknote recycler is a compact and versatile core component, capable of single banknote recognition, deposit, recycling change, and automatic banknote replenishment. It is highly reliable, user-friendly, and easy to maintain. By recycling received banknotes for change, it reduces idle cash within automated devices, lowers the frequency of cash box and replenishment box replacements, and minimizes time spent on cash replenishment, counting, and box replacement. This reduces cash exposure risks and statistical cost losses while saving time on downtime for accounting and cash transportation, thereby improving overall operational efficiency.

Main application scenarios:

Mainly used in retail and gaming industry.

Ideal for self-service kiosk and vending machines integration, customer self-service payments, automatic payment and change devices for parking lots, retail stores, gas station, and gaming machines, ticket vending system, cash automation at point-of-sale positions.

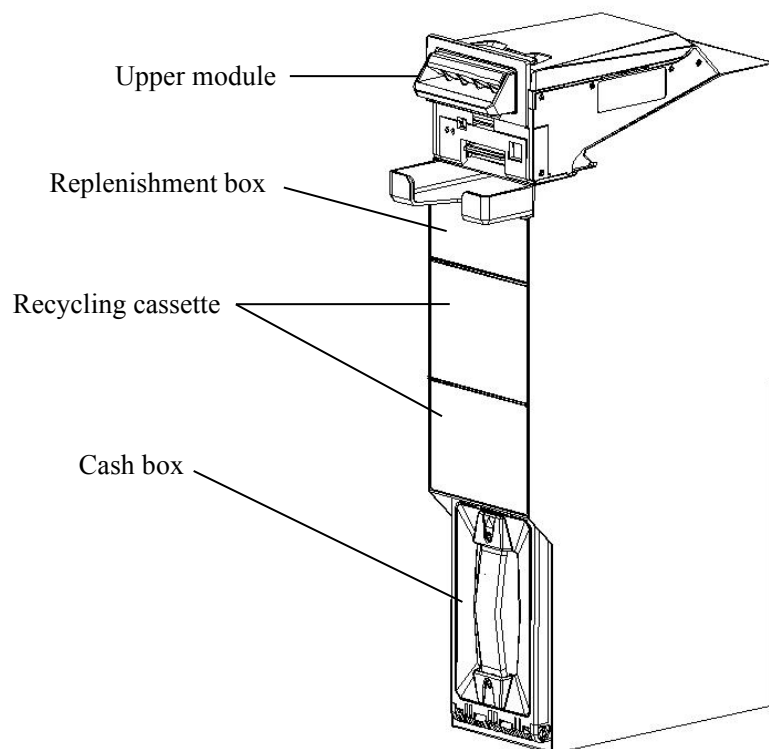
2 Model and Meaning

BA-08-41S: banknote recycler, equipped with 4 recycling drums and 1 replenishment box.

3 Size

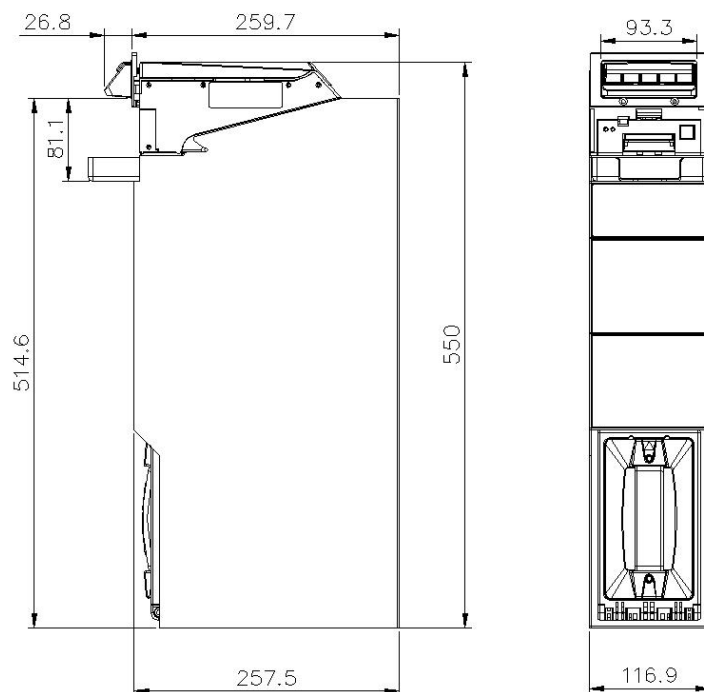
3.1 Module Composition

BA-08-41S banknote recycler - consists of an upper module, recycling cassette, replenishment box, and cash box, as shown in the figure below.



3.2 Dimensions

BA-08-41S banknote recycler : Dimensions: depth 259.7 × width 116.9 × height 550 (unit: mm)



4 Features

- **Single banknote insertion**, with support for four orientations, enabling fast deposits.
- Based on experienced banknote recognition and anti-counterfeiting technology.
- Compact, secure international multi-currency acceptance and recognition system.
- Supports up to **four different banknote denominations** for recycling, offering optimized and flexible change solutions.
- Drum-based escrow technology ensures stable and reliable banknote recycling.
- Replenishment box provides faster, more convenient, and secure small change supply.
- Reduces cash box replacement frequency and minimizes coin usage.
- Cash box with optional electronic ID for easy automatic identification and management.
- Maintenance-friendly, with quick on-site troubleshooting of jams without tools.

5 Module Features

Upper Module:

- Universal entry indicator lights for user convenience.
- Outlet bundle up to 15 banknotes for dispensing.
- Fast banknote acceptance, about 2 seconds per note.
- Banknote correction device ensures smooth operation.
- Coin prevention at the inlet and ergonomic bill insertion design.
- Industrial-grade electronic components for harsh environments (high/low temperatures, humidity).
- Triple anti-counterfeiting technology with over 100,000 recognition scan points.
- Multi-spectral full-width image scanning (CIS technology) and multi-channel magnetic signal detection for high-security note recognition.

Recycling Cassette:

- Cycles up to 4 different denominations, with a total capacity of 140 banknotes, monitored in real-time.
- Last-in, first-out (LIFO) ensures original bills are returned;
- Configurable denominations via software.
- Reliable drum-based recycling technology for compact design.
- Intelligent sorting of received banknotes; non-recyclable bills are excluded to reduce jams and improve satisfaction.

Replenishment Box:

- Durable construction with optional **dual-lock design**.
- Unique electronic identification tag.
- Drawer-style, independent box with no electrical connections; high reliability.
- Auto-allocation to recycler drum; secure loading by operators in the back office.
- Supports mixed-denomination loading; highly scalable.

Cash Box:

- Engineered plastic for durability and light weight; high-security anti-theft lock.
- Unique electronic identification tag.
- Drawer-style, independent box with no electrical connections; high reliability.

6 Technical parameters

	Item	Performance Specifications
Cash in	Cash input direction	Vertical banknote feeding
	Inlet capacity	Single note
	Orientation	No restrictions
Identify	Currency	Support 100 different denominations of banknotes (one or more countries) at the same time
	Material	Paper, plastic-based (polymer)
	Real banknote acceptance rate	≥99%
	Banknote size	Length range: 120~168 mm; Width range: 60~85 mm
Detection Methods	Optical	Full-frame image sensor (CIS technology)
	Magnetic	Multi-width magnetic sensor detection
Speed	Accepting speed	About 2 secs /note
	Dispensing speed	About 1 note/sec
Capacity	Recycling drum	4 drums (2 drums/recycling cassette)
	Recycling denomination	Up to 4 denominations
	Recycling capacity	140 notes (35 note x 4 drums)
	Cash box	1000 ± 50 notes
	Replenishment box	300 notes
	Outlet capacity	Bundle up to 15 notes (for dispensing)

MCBF	100000 notes
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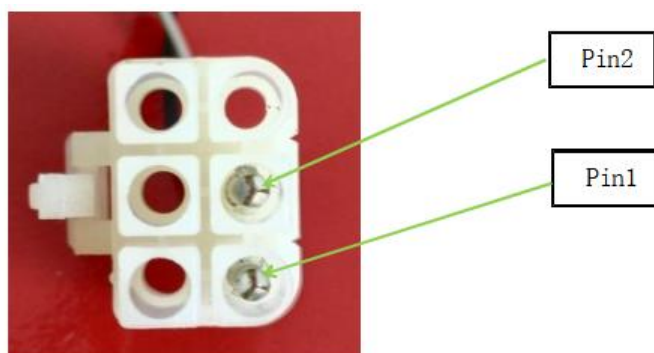
Environment

Environment	Operating temperature	0℃ ~ 50℃
	Storage temperature	-20℃ ~ 60℃
	Humidity	20%RH ~ 90%RH (non-condensing)
Upgrade	Upgrade method	With online download and upgrade function
Weight	Cash box (empty box)	2kg
	Complete Machine	14.6kg
Electromagnetic compatibility		Comply with relevant national standards GB/T 17626

7 Electrical Specifications

Project	Specifications
Power interface	24V±10% +5A
USB interface	USB2.0 Device Type A plug (spare)
UART Serial Port	RS232: three-wire (RXD, TXD, GND) Baud rate: 19200 bps Inspection method: No inspection Communication parameters: Data bit: 8 bits, Start bit: 1 bit, Stop bit: 1 bit

Power interface:



管脚号	电气特性
Pin1	+24V
Pin2	GND

UART serial port: