

AlicePad – Communication protocol

Version: 1.0.0

Date: 2021/08/05

1 Communication

- **Type:** TCP Socket
- **Port:** 1075

2 Protocol Packages

2.1 Request Package

In order to start an operation, must be sent the follow data package:

PS	PV	DS	ID	DS	OP	DS	AM	DS	PE
#	1		123		1		100		#\n

- DS – data splitter (fix as '|');
- PS – package start (fix as '#');
- PV – protocol version (at this moment is fix as '1');
- ID – identifier to match the request with the received responses (set by client side);
- OP – operation type ([Table 1 – Operation types](#));
- AM – operation amount in cents;
- PE - package end (fix as '#\n').

After that, AlicePad server it will respond with [Start Response Package](#).

If the [Start Response Package](#) result is success means that the operation has started. When the operation has finished, the AlicePad server it will respond with [End Response Package](#).

If the [Start Response Package](#) result isn't success means that the operation it wasn't started and the [End Response Package](#) will never be received.

2.2 Start Response Package

PS	PV	DS	ID	DS	OP	DS	RE	DS	PE
#	1		123		1		0		#\n

- DS – data splitter (fix as '|');
- PS – package start (fix as '#');
- PV – protocol version (at this moment is fix as '1');

- ID – identifier set by client in request package;
- OP – operation type ([Table 1 – Operation types](#));
- RS – result of the request made by the client ([Table 2 – Start package response results](#));
- PE - package end (fix as '#\n');

2.3 End Response Package

PS	PV	DS	ID	DS	OP	DS	AM	DS	TI	DS	TO	DS	ST	DS	FR	DS	FE	PE
#	1		123		1		100		135		35		4		0		0	#\n

- DS – data splitter (fix as '|');
- PS – package start (fix as '#');
- PV – protocol version (at this moment is fix as '1');
- ID – identifier set by client in request package;
- OP – operation type ([Table 1 – Operation types](#));
- AM – operation amount in cents;
- TI – total input amount in cents;
- TO – total output amount in cents;
- ST – operation final state ([Table 3 – Operation final states](#));
- FR – fail reason ([Table 4 – Fail reasons](#));
- FE – fail error ([Table 5 – Fail Errors](#));
- PE - package end (fix as '#\n');

3 Tables

3.1 Table 1 – Operation types

1	Payment
99	Cancel current operation

3.2 Table 2 – Start package response results

0	Success (Operation has started)
1	Error occurred (Request refused)
2	Invalid package (Request refused)
3	Busy (Machine is busy)

3.3 Table 3 – Operation final states

4	Finished with success
5	Canceled
6	Failed (read “FR” for more details: Table 4 – Fail reasons)

3.4 Table 4 – Fail reasons

0	No fail. Operation finished with success.
1	No change or change/refund deliver failed
2	Polling timeout
3	All recyclers in error
4	Database inconsistency found
5	Front door open
6	Error occurred (read “FE” for more details: Table 5 – Fail Errors)
7	Machine shutdown
255	Critical timeout

3.5 Table 5 – Fail Errors

3100	A valid coin didn't reach the credit sensor within 500ms
3101	There are 2 coins in one pocket, both will be rejected
3102	Coin was rejected because credit sensor is busy detecting previous coin(s) or is blocked
3103	Credit sensor is permanently blocked
3104	Unknown or inhibited coin was accepted
3105	Valid coin was rejected
3106	Jumping coin. One coin is generating multiple signals on coin exit sensor
3107	Blocking could not be solved. Diskmotor was switched off
3108	Interfering light on CP or measurement sensors detected
3109	Coin Jam in validation area or validation sensor needs cleaning
3110	Coin return mechanism activated
3111	Trash cycle timeout, trash door possibly blocked
3200	Bill jammed in transport (unsafe mode)
3201	Bill jammed in stacker
3202	Stacker faulty
3203	Stacker jammed
3204	Bill jammed in transport (safe mode)
3205	Anti-string mechanism faulty
3206	Route fail because escrow is empty
3207	Route bill failed

3208	Bill acceptor in error state
3300	Recycler without or not existing quantity of bills/coins
3301	Recycler not responding
3302	Coin or bill acceptor disabled, fatal error occurred or recovery failed
3303	Belt (payout or collect) motor in error
3304	Sorter motor in error
3305	Recycler output bloqued or obstrocted
3399	Communication protocol error (closed, timeout, invalid packet, nack, IO)

4 Examples

4.1 Payment request refused

Client → AlicePad	#1 123 1 100#\n	Client requests a payment of 100 cents.
Client ← AlicePad	#1 123 1 3#\n	Payment request refused because machine is busy.

4.2 Payment request accepted and finished with success

Client → AlicePad	#1 123 1 100#\n	Client requests a payment of 100 cents.
Client ← AlicePad	#1 123 1 0#\n	Payment request accepted and operation has started.
Operation is running. Inserted cash until the payment was completed.		
Client ← AlicePad	#1 123 1 100 135 35 4 0 0#\n	Payment finished with success.

4.3 Payment request accepted and failed

Client → AlicePad	#1 123 1 100#\n	Client requests a payment of 100 cents.
Client ← AlicePad	#1 123 1 0#\n	Payment request accepted and operation has started.
Operation is running. Inserted cash but an hardware error occurred.		
Client ← AlicePad	#1 123 1 100 20 20 6 6 3103#	Payment failed.