



ISIC Check API Integration Manual

ALIVE Platform

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Revision History

Date	Version	Author	Description of Changes
01. 10. 2014	1.0	Radek Klein	Initial release.
19. 06. 2018	3.1	Lukas Kabicek	Due to GDPR implications the card validity start and card validity end parameters will be no longer returned by <i>POST /verifications</i> endpoint. A new restriction will be applied for <i>POST /receipts</i> endpoint. Each verification should be linked to just one transaction. These changes were deployed to the production environment on 1 st January 2019.
09. 08. 2018	3.2	Radek Klein	Cardholder date of birth can be newly verified using <i>POST /verifications</i> endpoint.
03. 09. 2018	3.3	Lukas Kabicek	Revision history was added. Document graphics and formatting was changed.
25. 10. 2019	3.4	Lukas Kabicek	Test environment base URL was changed.
27. 11. 2020	3.5	Lukas Kabicek	A new <i>PHONE</i> card verification mode was added. A new usage rate limit type <i>CARD</i> was added to the enum of card verification failure eligibility errors. The document structure was changed for better intelligibility.
13. 1. 2021	3.6	Lukas Kabicek	An option to verify if the card is valid longer than specified date was added to the <i>POST /verifications</i> endpoint.

Introduction

ISIC, ITIC, IYTC and ALIVE cards can be automatically verified online through the REST API of the application Discount Manager. The verification works for both local and foreign cards and verifies them based on the combination of card number and name of the cardholder or the unique RFID chip number (UID).

Cards can be also using Mifare, DESFire or EM-Marine contactless chips. In case the card is not found based on the chip number it is necessary to verify it based on the combination of card number and name on the card.

The API provides three services available for the verification and tracking of discount usage:

- **POST /verifications** – Create new card verification request
- **POST /receipts** – Report discount usage
- **PUT /receipts/{id}/status** – Revoke discount usage

API Specification

Authentication

- All API **endpoints are secured** to prevent unauthorized access so the client must be successfully authenticated to be able to call them.
- Client authentication is secured by **HTTP Basic** access authentication. The API is **not session based**.
- Data transfers are encrypted using **SSL**.

Content Type

- All requests and responses use **JSON** data format (**application/json** content-type). Clients should also include request header parameter **Accept: application/json** to receive correct response data format.

Charset

- All requests should be sent with **UTF-8** charset specified in the header.

Parameter and Attribute Validations

- The API validates request body parameters and returns appropriate validation errors.
- The error messages are only in English language.
- Date data type attributes are expected and returned in format “yyyy-MM-dd”.
- Datetime data type attributes use ISO 8601 extended format.
 - In API requests, date and time values are expected in local timezone with specification of the offset from UTC (e.g. for UTC+5 timezone the format should be “2020-08-03T14:35:26+05:00” meaning you would like to send data for specified day and time with time shift of 5 hours ahead of UTC).
 - In API responses, date and time values are always in UTC.

Responses Handling

- Clients are requested to ignore all unknown attributes in API responses to preserve compatibility in the future.
- The order of parameters in JSON responses is not significant and may change over time. Clients are requested to not rely on it.

Data Model

General Object Models

API Responses

API responses contain HTTP code and response body with pre-defined structure as described below. In case of error the human readable error messages should be used only for debugging purposes and are not meant to be displayed to the end users.

Validation Errors

Failed validation is reported as **HTTP 400 Bad Request** response.

```
1 {
2   "message": "General message.",
3   "errors": [
4     {
5       "path": "parameterPath",
6       "code": "errorCode",
7       "params": {},
8       "message": "english message"
9     }
10  ]
11 }
```

Validation errors are being reported by various subsystems where some of these already translate their messages (while omitting the error code), some of them report only the error code and error parameters.

Data Object Models

Card Verifications

[MODEL] Card Verification

Parameter Name	Data Type	Description
id	Integer	Unique card verification identifier.
createdOn	Datetime	Date and time when the verification was created (ISO 8601 extended format).

cardNumber	String	Card number from the verification request.
cardholderName	String	Name of the cardholder from verification request.
cardholderDateOfBirth	Date	Date of birth of the cardholder. Returned only if the verification parameter is present in the original request.
mode	String	Verification mode.
discountId	Integer	Related discount identifier.
result	String	Verification result.
reason	String	Reason for failed verification (see below for possible reasons).
cardType	String	Verified card type.
chipNumber	String	Unique RFID chip number (UID) from the verification request.
eligibilityErrors	Array	Errors from checking restrictions for the specified discount (only checked when discountId parameter is set).
cardValidLongerThan	Date	Confirmation that the verified card is valid longer than specified date. Returned only if the verification parameter is present in the original request.

Transactions

[MODEL] Transaction

Parameter Name	Data Type	Description
createdOn	Datetime	Date and time when the transaction was created.
id	Integer	Unique transaction identifier.
discountId	Integer	Related discount identifier.
verificationId	Integer	Unique card verification identifier.
amountPaid	Number	Amount of money the cardholder paid (including VAT).
issuedOn	Datetime	Date and time when the transaction was made.

Enums

Card Verifications

[ENUM] Card Type

Value	Description
ISIC	ISIC card (for higher educational institution full-time students).

ISIC_SCHOLAR	ISIC SCHOLAR card (for primary/elementary school full-time students; in the Czech Republic it is also known as ISIC Školák).
ITIC	ITIC card (for teachers).
IYTC	IYTC card (for youth people).
ALIVE	ALIVE card (for members of sport associations and other companies, part-time students, non-teaching staff of schools and university graduates; issued only in the Czech Republic).

[ENUM] Mode

Value	Description
CARDHOLDER	Card verification based on a combination of cardholder's name and card number.
CHIP	Card verification based on the unique RFID chip number (UID) located in the plastic card. Mifare (including DESFire subtypes) and EM-Marine RFID chip types are supported.
PHONE	Card verification based on the cardholder's phone number.

[ENUM] Result

Value	Description
SUCCESSFUL	Successful card verification.
FAILED	Failed card verification due to one or more of the failure reasons and potentially also failure eligibility errors. See [ENUM] Failure Reason and [ENUM] Failure Eligibility Error .

[ENUM] Failure Reason

Value	Description
INVALID_NUMBER	Card number does not have a valid format.
CHECK_LETTER_MISMATCH	Provided card number check letter (at its very end) is missing or is not valid.
INVALID_CHIP_NUMBER	Provided RFID chip number (UID) does not have a valid format.
CARD_NOT_FOUND	Card with the specified card number or RFID chip number (UID) was not found.
CARD_CANCELLED	Card with the specified card number or RFID chip number (UID) has been cancelled.
CARD_EXPIRED	Card with the specified card number or RFID chip number (UID) is already expired.
CARD_VALID_IN_FUTURE	Card with the specified card number or RFID chip number (UID) is not valid yet.
NAME_MISMATCH	Provided cardholder's name does not match the name displayed (printed) on the card.
DATE_OF_BIRTH_MISMATCH	Provided cardholder's date of birth does not match the date on the card.

CARD_VALIDITY_ENDS_EARLIER	The validity period of the verified card ends earlier or on a day specified in the API request. This parameter is verified as the very last one.
NOT_ELIGIBLE	Provided card or cardholder is not eligible for specified discount. See [ENUM] Failure Eligibility Error .
OTHER	Other unspecified card verification failure.

[ENUM] Failure Eligibility Error

The following discount restrictions are checked:

- Card type
 - { "code": "cardType.invalidValue", "params": { "allowed": ["ALLOWED_CARD_TYPES"] } }
- Card issuer
 - { "code": "cardIssuer.invalidValue", "params": { "allowed": ["ALLOWED_ISSUER_IDS"] } }
- Usage rate
 - { "code": "rateQuota.exceeded", "params": { "limit": "USAGE_LIMIT", "interval": "USAGE_INTERVAL", "type": "DAY|WEEK|MONTH|YEAR|CARD" } }
- Cardholder age
 - { "code": "cardholderAge.outOfRange", "params": { "min": "MIN_AGE", "max": "MAX_AGE" } }
- Day of the week
 - { "code": "dayOfWeek.invalidValue", "params": { "allowed": "MONDAY|TUESDAY|WEDNESDAY|THURSDAY|FRIDAY|SATURDAY|SUNDAY" } }
- Time of the day
 - { "code": "timeOfDay.outOfRange", "params": { "min": "MIN_TIME", "max": "MAX_TIME" } }
- Student status
 - { "code": "onlyForStudents.notEligible", "params": [] } }
- Minimal card validity length
 - { "code": "minCardValidity.notEligible", "params": [] } }

Format of the restrictions is similar to validation errors. However currently only *codes* and *params* are supported. It is possible that a fully translated messages for end users will be added in the future.

Transactions

[ENUM] Status

Value	Description
ISSUED	Successfully completed transaction.
REVOKED	Revoked transaction (e.g. when the customer cancelled the order, returned the product etc.).

Resources

Card Verifications

Card verification service is a core of the ISIC Check. It is designed to verify card validity based on a combination of several attributes identifying card and its cardholder. Mandatory attributes may be completed by several optional attributes to verify additional cardholder and/or card properties.

Card verification service offers three different modes described in the table below. The client's authentication account is limited to use only those card verification modes which were allowed in the backend system based on a mutual agreement with the ISIC account manager.

Card Verification Mode	Description
CARDHOLDER	Card verification based on a combination of cardholder's name and card number.
CHIP	Card verification based on the unique RFID chip number (UID) located in the plastic card. Mifare (including DESFire subtypes) and EM-Marine RFID chip types are supported.
PHONE	Card verification based on the cardholder's phone number.

Individual card verification modes including sample requests and responses are described below.

POST /verifications

Cardholder Mode

A card verification based on cardholder's name and card number.

Request Body Parameters

Parameter Name	Data Type	Mandatory	Description
cardholderName	String	Yes	Cardholder's name as displayed (printed) on the card.
cardNumber	String	Yes	Card number including initial and end letters.
discountId	Integer	No	Unique discount identifier provided by the client's ISIC account manager. Card verification service will check discount restrictions.
cardholderDateOfBirth	Date	No	Cardholder's date of birth.
cardValidLongerThan	Date	No	To check if the verified card is valid longer than specified date.

Response

- HTTP 201 – Created + *[MODEL] Card Verification*

Sample Request Body

```
1 {
2   "cardNumber": "S420539013044P",
3   "cardholderName": "John Doe",
4   "discountId": 12700,
5   "cardholderDateOfBirth": "1997-03-12",
6   "cardValidLongerThan": "2021-12-31"
7 }
```

Sample Response Body – Success

```
1 {
2   "id": 3044020,
3   "createdOn": "2021-01-12T18:21:45+00:00",
4   "cardNumber": "S420539013044P",
5   "cardholderName": "John Doe",
6   "mode": "CARDHOLDER",
7   "discountId": 12700,
8   "result": "SUCCESSFUL",
9   "cardType": "ISIC",
10  "cardholderDateOfBirth": "1997-03-12",
11  "cardValidLongerThan": "2021-12-31"
12 }
```

Sample Response Body – Failure

```
1 {
2   "id": 3044026,
3   "createdOn": "2020-11-27T11:29:28+00:00",
4   "cardNumber": "S420539013044P",
5   "cardholderName": "John Doe",
6   "mode": "CARDHOLDER",
7   "discountId": 12700,
8   "result": "FAILED",
9   "reason": "NOT_ELIGIBLE",
10  "cardType": "ISIC",
11  "cardholderDateOfBirth": "1997-03-12",
12  "eligibilityErrors": [
13    {
14      "code": "rateQuota.exceeded",
15      "params": {
16        "limit": 1,
17        "interval": 1,
18        "type": "CARD"
19      }
20    }
21  ]
22 }
```

Chip Mode

A card verification based on unique RFID chip number (UID). Mifare (including DESFire subtypes) and EM-Marine RFID chip types are supported.

Request Body Parameters

Parameter Name	Data Type	Mandatory	Description
chipNumber	String	Yes	Unique RFID chip number (UID) located in the plastic card.
discountId	Integer	No	Unique discount identifier provided by the client's ISIC account manager. Card verification service will check discount restrictions.
cardholderDateOfBirth	Date	No	Cardholder's date of birth.
cardValidLongerThan	Date	No	To check if the verified card is valid longer than specified date.

Response

- HTTP 201 – Created + *[MODEL] Card Verification*

Sample Request Body

```
1 {
2   "chipNumber": "EB16CF53",
3   "discountId": 12700,
4   "cardholderDateOfBirth": "1997-03-12",
5   "cardValidLongerThan": "2021-08-31"
6 }
```

Sample Response Body – Success

```
1 {
2   "id": 3044022,
3   "createdOn": "2021-01-12T18:21:45+00:00",
4   "mode": "CHIP",
5   "discountId": 12700,
6   "result": "SUCCESSFUL",
7   "cardType": "ISIC",
8   "chipNumber": "EB16CF53",
9   "cardholderDateOfBirth": "1997-03-12",
10  "cardValidLongerThan": "2021-08-31"
11 }
```

Sample Response Body – Failure

```
1 {
2   "id": 3044031,
3   "createdOn": "2020-11-27T17:25:50+00:00",
```

```

4   "mode": "CHIP",
5   "discountId": 12700,
6   "result": "FAILED",
7   "reason": "CARD_NOT_FOUND",
8   "chipNumber": "A41F2C74",
9   "cardholderDateOfBirth": "1997-03-12"
10 }

```

Phone Mode

A card verification based on cardholder's phone number.

Request Body Parameters

Parameter Name	Data Type	Mandatory	Description
cardholderPhone	String	Yes	Cardholder's phone number. It may be sent with or without the international prefix (606912554 as well as +420606912554 or 00420606912554 values are accepted).
cardholderName	String	No	Cardholder's name as displayed (printed) on the card.
discountId	Integer	No	Unique discount identifier provided by the client's ISIC account manager. Card verification service will check discount restrictions.
cardholderDateOfBirth	Date	No	Cardholder's date of birth.
cardValidLongerThan	Date	No	To check if the verified card is valid longer than specified date.

Response

- HTTP 201 – Created + *[MODEL] Card Verification*

Sample Request Body

```

1 {
2   "cardholderPhone": "+420606912554",
3   "cardholderName": "John Doe",
4   "discountId": 12700,
5   "cardholderDateOfBirth": "1997-03-12",
6   "cardValidLongerThan": "2021-04-16"
7 }

```

Sample Response Body – Success

```

1 {
2   "id": 3044023,
3   "createdOn": "2021-01-12T18:21:45+00:00",
4   "cardholderName": "John Doe",
5   "mode": "PHONE",
6   "discountId": 12700,

```

```

7   "result": "SUCCESSFUL",
8   "cardType": "ISIC",
9   "cardholderPhone": "+420606912554",
10  "cardholderDateOfBirth": "1997-03-12",
11  "cardValidLongerThan": "2021-04-16"
12 }

```

Sample Response Body – Failure

```

1 {
2   "id": 3044034,
3   "createdOn": "2020-11-27T17:29:32+00:00",
4   "cardholderName": "John Doe",
5   "mode": "PHONE",
6   "discountId": 12700,
7   "result": "FAILED",
8   "reason": "NOT_ELIGIBLE",
9   "cardType": "ISIC",
10  "cardholderPhone": "+420606912554",
11  "cardholderDateOfBirth": "1997-03-12",
12  "eligibilityErrors": [
13    {
14      "code": "onlyForStudents.notEligible"
15    }
16  ]
17 }

```

Transactions

POST /receipts

This service is used to report discount usage by cardholder. It should be called once the transaction was finished. To each verification (distinguished by *verificationId*) can be linked just one transaction.

Request Body Parameters

Parameter Name	Data Type	Mandatory	Description
discountId	Integer	Yes	Related discount identifier.
verificationId	Integer	Yes	Related verification identifier.
issuedOn	Datetime	Yes	Date and time when the transaction was made.
amountPaid	Number	Yes	Amount of money the cardholder paid (including VAT).

Response

- HTTP 201 – Created + *[MODEL] Transaction*

Sample Request Body

```
1 {
2   "discountId": 12700,
3   "verificationId": 3044023,
4   "issuedOn": "2020-11-27T10:20:14Z",
5   "amountPaid": 152.12
6 }
```

Sample Response Body – Success

```
1 {
2   "createdOn": "2020-11-27T11:20:15+00:00",
3   "id": 2152694,
4   "discountId": 12700,
5   "verificationId": 3044023,
6   "amountPaid": 152.12,
7   "issuedOn": "2020-11-27T12:20:14+00:00"
8 }
```

Sample Response Body – Failure

```
1 {
2   "message": "Validation failed with 1 error(s).",
3   "errors": [
4     {
5       "path": "receipts",
6       "code": "tooMany",
7       "message": "Receipt already exists for verification."
8     }
9   ]
10 }
```

PUT /receipts/{id}/status

This service is used to revoke the discount usage, e.g. in case customer has returned a product. It can be called only for transactions that are not older than 30 days.

Request Body Parameters

Parameter Name	Data Type	Mandatory	Description
id	Integer	Yes	Unique identifier of the transaction.
status	String	Yes	Newly requested status of the transaction.

Response

- HTTP 200 – OK

Sample Request Body

```
1 {  
2   "status": "REVOKED"  
3 }
```

Sample Response Body

Response has no body, just HTTP 200 code in case of success.

Test Environment

The following details are necessary for web service integration testing. The client should ask its ISIC account manager for authentication details, discount IDs and test cards based on the business contract specification.

Documentation in Postman: will be specified after its completion

Base URL: <https://dm.test.aliveplatform.com/api>

Username: *ask your ISIC account manager*

Password: *ask your ISIC account manager*

Discount ID(s): *ask your ISIC account manager*

Sample Code

Sample scripts in PHP are available at <https://data.aliveplatform.com/isic-check/card-verification-php.zip>.

Production Environment

Authentication details for the production environment will be provided **after full implementation and successful tests against the test environment.**

Base URL: <https://dm.aliveplatform.com/api>

Username: *ask your ISIC account manager*

Password: *ask your ISIC account manager*

Discount ID(s): *ask your ISIC account manager*

Technical Support

Technical support for the API is provided by the ALIVE Platform support team at support@aliveplatform.com.