Kaiko

MIGRATION GUIDE

Delta Surfaces Constant, TradFi

Amberdata → Kaiko

2026

www.kaiko.com

1 At a glance

What this endpoint gives you: Amberdata's **Delta Surfaces Constant** for US-listed options becomes Kaiko's **TradFi Delta Surface Constant**. For one US-listed equity or ETF (IBIT, MSTR, COIN, ...), one row per 5-minute bucket and constant maturity: the implied volatility at the at-the-money point and at the 0.10, 0.20, 0.30 and 0.40 deltas on the call and the put side, on twelve fixed tenors from 5 to 504 days, with the spot price. The values are SpiderRock's constant-maturity volatility grid, served as the vendor publishes it, on both sides.

What changes for you

- New endpoint and key: call `/analytics/volatility/tradfi-delta-surface-constant` with your Kaiko API key in the `X-Api-Key` header (§2).
- The ticker is lowercase: `currency=IBIT` becomes `base_asset=ibit` ; `quote_asset` is optional and always `usd` (§3, §6).
- `timeInterval=minute` becomes `interval=5m` (`5m` default, `1h` , `1d`); `daysToExpirationStart/End` become `start_days_to_expiry/end_days_to_expiry` , with the same meaning (§3).
- Volatilities are now returned as decimals, for example `0.32` where Amberdata returned `32` (percent), rounded to 5 decimals (§5, §7).
- Field names move to snake_case, for example `deltaPut10` becomes `delta_put_10` , `daysToExpiration` becomes `days_to_expiry` , and `timestamp` becomes `value_time` (§5).
- The same 23 underlyings are served (§6).

Coverage & distribution

Data type: Time series, one row per 5-minute bucket and tenor, newest bucket first

Sampling: Every 5 minutes during the US session (13:30 to 20:00 UTC on US daylight time), the bucket on the hour, or one bucket per trading day

Metrics: ATM and 0.10 / 0.20 / 0.30 / 0.40 delta call and put volatilities · 12 tenors: 5, 10, 21, 42, 63, 84, 105, 126, 189, 252, 378, 504 days

Underlyings: 23 US-listed crypto ETFs and crypto-exposed equities (§6)

Range: Up to 7, 90 or 3,660 days per request (5m, 1h, 1d)

History: From 14 October 2026; a backfill to extend the available history is in progress

Distribution: REST API

2 Endpoint & authentication

	Amberdata (today)	Kaiko (new)
Method	GET	GET
Base URL	`https://api.amberdata.com`	`https://api.kaiko.io`
Path	`/markets/derivatives/analytics /volatility/delta-surfaces /constant/tradfi`	`/analytics/volatility /tradfi-delta-surface-constant`
Auth	API key header `x-api-key`	API key header `X-Api-Key` (your Kaiko key)

Header names are not case-sensitive: `x-api-key` and `X-Api-Key` are the same header, only the key changes. **Versioning:** Amberdata reports its version in `payload.metadata.api-version` (`2023-09-30`). Kaiko takes an optional `api_version` query parameter (default and current `2026-10-01`) and returns it in `meta.api_version`.

3 Request parameters

Amberdata param	Kaiko param	Change	Notes
`currency` (required)	`base_asset` (required)	RENAMED	The ticker, written in lowercase: `IBIT` becomes `ibit` (§6).
None	`quote_asset` (optional)	NEW	Always `usd`, the default; you can omit it.
`startDate` (optional)	`start_time` (optional)	RENAMED	Inclusive on both sides. ISO 8601 with a time zone.
`endDate` (optional)	`end_time` (optional)	RENAMED	Exclusive on both sides. ISO 8601 with a time zone.
`timeInterval` (optional)	`interval` (optional)	RENAMED	`minute` → `5m` (default), `hour` → `1h`, `day` → `1d`.
`daysToExpirationStart` (optional)	`start_days_to_expiry` (optional)	RENAMED	Inclusive lower bound, in days, on both sides.
`daysToExpirationEnd` (optional)	`end_days_to_expiry` (optional)	RENAMED	Exclusive upper bound, on both sides: 21 to 64 keeps the 21, 42 and 63-day tenors.
`timeFormat` (optional)	None	REMOVED	No longer needed: Kaiko always returns times as ISO 8601 strings.
None	`sort` (optional)	NEW	`desc` (default, newest first, as with Amberdata) or `asc`.
None	`api_version` (optional)	NEW	Pins the response format to a version. Default `2026-10-01`.

Window, sampling and limits

- **Boundary, the same as Amberdata:** the window is `[start_time, end_time)`, meaning that the bucket at `start_time` is included and the one at `end_time` is not.
- **Sampling:** with `5m` you receive every bucket of the US session. With `1h` you receive the bucket on each hour (`hh:00` UTC), as with Amberdata's `hour`. With `1d` you receive one row per tenor and New York trading day, taken from the 15:00 America/New York bucket (19:00 UTC on US daylight time, 20:00 UTC otherwise), as with Amberdata's `day`. Two cases differ from Amberdata, which served no row at all for such a day: when that bucket is missing, Kaiko serves the latest bucket available before it on that day, so that the day still has a row; and for the day in progress, Kaiko serves the latest bucket so far, a provisional value that is replaced once the 15:00 bucket exists.
- **Defaults:** without dates, both sides return the latest bucket. With `start_time` alone, Kaiko returns everything from that time until now. With `end_time` alone, Kaiko cannot infer a window and returns 200 with an empty `data` array; we recommend always sending both bounds.
- **Limits, the same as Amberdata:** up to 7 days per request at `5m`, 90 days at `1h`, 3,660 days at `1d`. A wider window returns a 400 error whose message names the maximum. The whole window comes back in a single response; there is no pagination to handle.
- **Tenor filter:** `start_days_to_expiry` is inclusive and `end_days_to_expiry` exclusive, as Amberdata's; a start at or after the end returns a 400 error. Please note that Kaiko does not recognise Amberdata's values: `interval=minute` or an uppercase ticker also return a 400 error.
- **Time format:** ISO 8601 with a time zone, e.g. `2026-10-23T13:50:00.000Z`. Amberdata also accepted a time without a time zone; Kaiko requires one and returns a 400 error otherwise.

4 Response envelope & metadata

The fields around the data, the wrapper your parser reads before reaching the numbers. This envelope is **identical on every Amberdata endpoint**.

Amberdata field	Kaiko field	Change	Notes
`status`	None	REMOVED	Use the HTTP status code (200).
`title`	None	REMOVED	No equivalent on success.
`description`	None	REMOVED	No equivalent on success.
`payload.data`	`data`	RENAMED	Top level. **Array**, one row per bucket and tenor.
`payload.metadata`	`meta`	RENAMED	Top level.
`api-version`	`api_version`	RENAMED	`2026-10-01` (Amberdata: `2023-09-30`).
None	`count`	NEW	Rows in `data`.
None	`next_url`	NEW	Always `null` (one page).
None	`url`	NEW	Your request URL, with `api_version`.

At Amberdata, `api-version` sits inside `payload.metadata`. At Kaiko, `api_version`, `count`, `next_url` and `url` sit inside `meta`.

Errors and empty results

- **Ticker not served:** where Amberdata returned 200 with an empty `data` array, Kaiko returns **404** with the code `unknown_instrument` (for example "spy-usd is not a served US-listed option underlying"), so that a wrong ticker is caught immediately.
- **Uppercase ticker:** Amberdata accepted any case; Kaiko expects lowercase and returns **400** for `IBIT`, for example.
- **Start equal to or after end:** Kaiko returns **400**.
- **No data in the window:** outside the session, on a weekend or with a tenor filter that keeps nothing, both sides return 200 with an empty `data` array.
- **Missing key:** a request without an API key returns **401** with the code `missing_api_key`.
- **Missing or invalid parameter:** both sides return 400. Kaiko error bodies follow the `application/problem+json` standard (RFC 9457): they carry a `status`, a `title`, a `detail` message that names the parameter at fault, and the code `invalid_parameter`.

5 Response data fields

Amberdata field	Kaiko field	Type	Change
`timestamp`	`value_time`	string	RENAMED
`exchange`	None	string	REMOVED
`currency`	None	string	REMOVED
`daysToExpiration`	`days_to_expiry`	integer	RENAMED
`indexPrice`	`index_price`	number	RENAMED
`multiplier`	`multiplier`	number	IDENTICAL
`atm`	`atm`	number	IDENTICAL
`deltaPut10`	`delta_put_10`	number	RENAMED
`deltaPut20`	`delta_put_20`	number	RENAMED
`deltaPut30`	`delta_put_30`	number	RENAMED
`deltaPut40`	`delta_put_40`	number	RENAMED
`deltaCall10`	`delta_call_10`	number	RENAMED
`deltaCall20`	`delta_call_20`	number	RENAMED
`deltaCall30`	`delta_call_30`	number	RENAMED
`deltaCall40`	`delta_call_40`	number	RENAMED

- **value_time** is the bucket time, ISO 8601 (`"2026-10-23T13:50:00.000Z"`); Amberdata returned it as epoch milliseconds by default (`1792763400000`).

- **exchange, currency** are no longer repeated in the rows: the ticker is in your request and in `meta.url`.
- **days_to_expiry** is the constant maturity in whole days, one of the vendor's twelve tenors; rows are listed by ascending tenor within a bucket, as Amberdata.
- **index_price** is the spot price of the underlying in dollars, the same on every tenor of a bucket.
- **atm, delta_put_*, delta_call_*** are the vendor's grid points: the at-the-money volatility and the volatility at the 0.10, 0.20, 0.30 and 0.40 put and call deltas. A point the vendor did not publish is `null`, on both sides.

Units: volatilities are annualised. Amberdata: percent (`32` = 32%, with the full floating-point expansion, e.g. `31.999999284744263`). Kaiko: decimal (`0.32` = 32%), rounded to 5 decimals. `index_price` and `multiplier` keep their values.

6 Exchange & venue names

For this endpoint there is no exchange parameter: the options are US-listed, and the venue is fixed on both sides (Amberdata returned `exchange: "tradfi"` in every row, Kaiko does not repeat it).

Same coverage, lowercase ticker: Kaiko serves the same 23 underlyings as Amberdata, with `quote_asset=usd` for all of them. The only change is the case of the ticker you send: Amberdata's uppercase `currency` becomes Kaiko's lowercase `base_asset`, `IBIT` → `ibit`, `MSTR` → `mstr`. Please note that an uppercase ticker returns a 400 error.

Served underlyings: ARKB, BITB, BITO, BITQ, BITX, BMNR, COIN, CRCL, EETH, ETHA, ETHE, ETHU, FBTC, FETH, GBTC, GME, IBIT, MARA, MSTR, MSTU, MSTY, SATO, SBET. History on Kaiko starts on 14 October 2026 for every underlying; the Kaiko teams are working on a backfill to extend the available history.

7 Will your values change?

Short answer

The data is the same: the vendor's constant-maturity grid, redistributed without any calculation on either side. The volatilities match once divided by 100 and rounded to 5 decimals; `index_price` and `multiplier` are unchanged. The same dates return the same buckets.

- **Same source and method:** SpiderRock's `LiveSurfaceFixedGrid`, one grid per ticker, tenor and 5-minute bucket; neither Amberdata nor Kaiko interpolates it. The grid is indexed by distance from the at-the-money point and each column names the option delta that distance corresponds to, the same naming on both sides.
- **Units and precision:** decimal instead of percent, and 5 decimals instead of the raw floating-point expansion, so `31.999999284744263` becomes `0.32`.
- **Snapshot within the bucket:** the vendor refreshes its grid several times per 5-minute bucket. Kaiko keeps the first refresh it receives in the bucket; Amberdata kept the last. On an active day the two values can differ by a few hundredths of a volatility point on some buckets, with no systematic sign.
- **Daily rows:** the same 15:00 America/New York bucket as Amberdata. Kaiko additionally serves a row when that bucket is missing (the latest one available before it) and for the day in progress (a provisional value, see §3).

8 Before / after example

Request

Amberdata

```
GET https://api.amberdata.com
    /markets/derivatives/analytics
    /volatility/delta-surfaces
    /constant/tradfi
    ?currency=IBIT
    &startDate=2026-10-23T13:50:00
    &endDate=2026-10-23T13:55:00
x-api-key: <your-amberdata-key>
```

Kaiko

```
GET https://api.kaiko.io
    /analytics/volatility
    /tradfi-delta-surface-constant
    ?base_asset=ibit
    &start_time=2026-10-23T13:50:00.000Z
    &end_time=2026-10-23T13:55:00.000Z
X-Api-Key: <your-kaiko-key>
```

Response (real responses, one 5-minute bucket, first two of its twelve tenors; fields reordered)

Amberdata


```
{
  "status": 200,
  "title": "OK",
  "description": "Successful request",
  "payload": {
    "data": [ {
      "timestamp": 1792763400000,
      "exchange": "tradfi",
      "currency": "IBIT",
      "daysToExpiration": 5,
      "indexPrice": 46.375,
      "multiplier": 100,
      "atm": 31.999999284744263,
      "deltaPut10": 36.50299906730652,
      "deltaPut20": 34.307000041007996,
      "deltaPut30": 33.27299952507019,
      "deltaPut40": 32.66200125217438,
      "deltaCall10": 32.34100043773651,
      "deltaCall20": 31.516999006271362,
      "deltaCall30": 31.43399953842163,
      "deltaCall40": 31.540998816490173
    }, {
      "timestamp": 1792763400000,
      "exchange": "tradfi",
      "currency": "IBIT",
      "daysToExpiration": 10,
      "indexPrice": 46.375,
      "multiplier": 100,
      "atm": 35.81399917602539,
      "deltaPut10": 41.589999198913574,
      "deltaPut20": 39.26100134849548,
      "deltaPut30": 37.83400058746338,
      "deltaPut40": 36.80700063705444,
      "deltaCall10": 36.10300123691559,
      "deltaCall20": 35.40999889373779,
      "deltaCall30": 35.27899980545044,
      "deltaCall40": 35.32400131225586
    },
    … 10 more tenors, 21 to 504 days
    ],
    "metadata": {
      "api-version": "2023-09-30"
    }
  }
}
```


Kaiko


```
{
  "data": [ {
    "value_time": "2026-10-23T13:50:00.000Z",
    "days_to_expiry": 5,
    "index_price": 46.375,
    "multiplier": 100,
    "atm": 0.32,
    "delta_put_10": 0.36503,
    "delta_put_20": 0.34307,
    "delta_put_30": 0.33273,
    "delta_put_40": 0.32662,
    "delta_call_10": 0.32341,
    "delta_call_20": 0.31517,
    "delta_call_30": 0.31434,
    "delta_call_40": 0.31541
  }, {
    "value_time": "2026-10-23T13:50:00.000Z",
    "days_to_expiry": 10,
    "index_price": 46.375,
    "multiplier": 100,
    "atm": 0.35814,
    "delta_put_10": 0.4159,
    "delta_put_20": 0.39261,
    "delta_put_30": 0.37834,
    "delta_put_40": 0.36807,
    "delta_call_10": 0.36103,
    "delta_call_20": 0.3541,
    "delta_call_30": 0.35279,
    "delta_call_40": 0.35324
  },
  … 10 more tenors, 21 to 504 days
  ],
  "meta": {
    "api_version": "2026-10-01",
    "count": 12,
    "next_url": null,
    "url": "https://api.kaiko.io/analytics/
volatility/tradfi-delta-surface-constant?
base_asset=ibit&start_time=2026-10-23T13:50:00.000
Z&end_time=2026-10-23T13:55:00.000Z&api_version=20
26-10-01"
  }
}
```