Kaiko

MIGRATION GUIDE

Variance Risk Premium

Amberdata → Kaiko

2026

www.kaiko.com

1 At a glance

What this endpoint gives you: one row per day for BTC or ETH, with the **implied volatility** the options market priced 30 days earlier (Deribit's DVOL), the **realized volatility** that followed over those 30 days, and their difference, the **variance risk premium**. A positive premium means options were priced above the risk that materialised.

What changes for you

- You will call a new endpoint, `/analytics/volatility/variance-premium`, using your Kaiko API key in the `X-Api-Key` header (§2).
- `currency=BTC` becomes `base_asset=btc`, in lowercase and without a quote asset (§3, §6).
- The request shape stays the same: there are no dates, and you get the full daily series in one response, including the 30 future-dated rows.
- The order is reversed: Kaiko returns the newest day first, whereas Amberdata returned the oldest first (§3).
- Volatilities are now returned as decimals, for example `0.848` where Amberdata returned `84.8` (percent). The premium is also no longer rounded to an integer, for example `0.158` instead of `16` (§7).
- Field names have been updated: `closeDvol` becomes `dvol`, `historicalVolatility30days` becomes `realized_volatility_30`, `vrp30` becomes `variance_premium_30` and `timestamp` becomes `value_time` (§5).

Coverage & distribution

Data type: Daily series, one row per UTC day (stamped 00:00 UTC), newest first

Implied leg: Deribit DVOL close, observed 30 days before the row date

Realized leg: 30-day Parkinson realized volatility of BTC/USD or ETH/USD on Coinbase, annualised by √365

Premium: Implied minus realized

Range: The full series in one response, up to 30 days after today

History: From April 2021

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/variance-premium`	`/analytics/volatility/variance-premium`
Auth	API key header `x-api-key`	API key header `X-Api-Key` (your Kaiko key)

Header names are not case-sensitive, so `x-api-key` and `X-Api-Key` refer to the same header: only the key itself changes. **Versioning:** Amberdata reported its version in `payload.metadata.api-version` (`2023-09-30`). Kaiko accepts an optional `api_version` query parameter (the default and current version is `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	`BTC` → `btc`, `ETH` → `eth`. Lowercase only. No quote asset.
`timeFormat` (optional)	None	REMOVED	Kaiko times are always ISO 8601 strings, the same as Amberdata's `timeFormat=iso`. You can simply remove it from your requests.
None	`exchange` (optional)	NEW	`drbt` (Deribit), the default and only value.
None	`api_version` (optional)	NEW	Lets you pin the response format. The default is `2026-10-01`.

Range and order

- **No date parameters, on both sides:** every request returns the full daily series in one response, without pagination.
- **Order:** Kaiko returns the **newest day first**, whereas Amberdata returned the oldest first. If you read the latest value from the end of the array, please read it from the start instead.
- **Future-dated rows, as on Amberdata:** the series runs up to 30 days after today. On those rows the volatility has not been realized yet, so `realized_volatility_30` and `variance_premium_30` are `null` until the day arrives.
- **History:** from April 2021.

4 Response envelope & metadata

These are the fields around the data, in other words 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	Please use the HTTP status code (200) instead.
`title`	None	REMOVED	There is no equivalent on success.
`description`	None	REMOVED	There is no equivalent on success.
`payload.data`	`data`	RENAMED	Now at the top level. An **array** with one row per day.
`payload.metadata`	`meta`	RENAMED	Now at the top level.
`api-version`	`api_version`	RENAMED	`2026-10-01` (Amberdata: `2023-09-30`).
None	`count`	NEW	The number of rows in `data` (days).
None	`next_url`	NEW	Always `null`, since there is a single page.
None	`url`	NEW	Your request URL, including `api_version`.

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

Errors and empty results

- **Asset without a DVOL index:** Amberdata returned a 200 response with an empty `data` array (for example `DOGE`). Kaiko returns a **404** error with the code `unknown_instrument` (for example "drbt does not serve a volatility index for doge").
- **Uppercase or Amberdata codes:** Amberdata accepted any case. Kaiko returns a **400** error (for example `BTC`, `exchange=deribit`).
- **Missing or invalid parameter:** both APIs return a 400 error. Kaiko errors are `application/problem+json` (RFC 9457) bodies that include `status`, `title`, a `detail` message naming the parameter, and the code `invalid_parameter`.

5 Response data fields

Amberdata field	Kaiko field	Type	Change
`timestamp`	`value_time`	string	RENAMED
`exchange`	None	string	REMOVED
`instrument`	None	string	REMOVED
`closeDvol`	`dvol`	number	RENAMED
`historicalVolatility30days`	`realized_volatility_30`	number	RENAMED
`vrp30`	`variance_premium_30`	number	RENAMED

- **value_time** is the realized day at 00:00 UTC, as an ISO 8601 string (`"2026-11-22T00:00:00.000Z"`), 30 days after the index close it carries. Amberdata returned a number of milliseconds by default.
- **exchange and instrument** are no longer repeated in the rows: they are in your request and in `meta.url`.
- **dvol** is the DVOL close at 00:00 UTC, 30 days before `value_time`.
- **realized_volatility_30** is the Parkinson realized volatility over the 30 days ending at `value_time`, from each day's high and low on Coinbase, annualised by √365. It is `null` on the future-dated rows.
- **variance_premium_30** is `dvol - realized_volatility_30`, computed before rounding, so it can differ by 0.001 from the difference of the two columns shown. It is `null` exactly when `realized_volatility_30` is.

Units: all three are annualised volatilities. Amberdata expressed them in percent (`84.8` = 84.8%), while Kaiko uses decimals with 3 decimal places (`0.848` = 84.8%).

6 Exchange & venue names

For this endpoint, the venue is the exchange **publishing the volatility index**. Please map the currency you send:

Amberdata currency	Kaiko exchange	base_asset	Realized leg	History from
BTC	drbt	btc	BTC/USD, Coinbase	Apr 2021
ETH	drbt	eth	ETH/USD, Coinbase	Apr 2021

The index is Deribit's DVOL. On Kaiko, `exchange` is optional and defaults to `drbt`, its only value, and there is no `quote_asset`.

7 Will your values change?

Short answer

The calculation is the same: once divided by 100, the values are directly comparable with Amberdata's. The premium is now given to 0.1 point instead of a whole point.

- **Same methodology:** the implied leg is the DVOL close 30 days earlier, and the realized leg is the 30-day Parkinson realized volatility on Coinbase spot, annualised by √365. The premium is implied minus realized, computed from the unrounded values.
- **Precision:** Amberdata rounded `closeDvol` and `historicalVolatility30days` to one decimal and `vrp30` to an integer, whereas Kaiko returns all three with 3 decimals. For example, on 2021-04-23, Amberdata returned `84.8`, `69` and `16`, and Kaiko returns `0.848`, `0.69` and `0.158`.

8 Before / after example

Request

Amberdata

```
GET https://api.amberdata.com
    /markets/derivatives/analytics
    /volatility/variance-premium
    ?currency=BTC
x-api-key: <your-amberdata-key>
```

Kaiko

```
GET https://api.kaiko.io
    /analytics/volatility
    /variance-premium
    ?base_asset=btc
X-Api-Key: <your-kaiko-key>
```

Response (real responses, first two rows as returned. Same series, opposite order: Amberdata starts with the oldest day, Kaiko with the newest, a future-dated row)

Amberdata


```
{
  "status": 200,
  "title": "OK",
  "description": "Successful request",
  "payload": {
    "data": [ {
      "timestamp": 1619136000000,
      "exchange": "deribit",
      "instrument": "btc",
      "closeDvol": 84.8,
      "historicalVolatility30days": 69,
      "vrp30": 16
    }, {
      "timestamp": 1619222400000,
      "exchange": "deribit",
      "instrument": "btc",
      "closeDvol": 95,
      "historicalVolatility30days": 68.8,
      "vrp30": 26
    },
    … 2,036 more days, to 2026-11-22
    ],
    "metadata": {
      "api-version": "2023-09-30"
    }
  }
}
```


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```
{
  "data": [ {
    "value_time": "2026-11-22T00:00:00.000Z",
    "dvol": 0.381,
    "realized_volatility_30": null,
    "variance_premium_30": null
  }, {
    "value_time": "2026-11-21T00:00:00.000Z",
    "dvol": 0.371,
    "realized_volatility_30": null,
    "variance_premium_30": null
  },
  … 2,036 more days, back to 2021-04-23
  ],
  "meta": {
    "api_version": "2026-10-01",
    "count": 2038,
    "next_url": null,
    "url": "https://api.kaiko.io/analytics/
volatility/variance-premium?
base_asset=btc&api_version=2026-10-01"
  }
}
```