Kaiko

MIGRATION GUIDE

Monthly vs Daily Volatility Ratio

Amberdata → Kaiko

2026

www.kaiko.com

1 At a glance

What this endpoint gives you: one row per day of a spot pair's history, with the day's open, high, low and close, the realized volatility of the day's **calendar month taken as a single bar** (from the month's high and low), and the **30-day daily realized volatility**. Comparing the two helps you see mean reversion, intra-month volatility and trends. Neither API provides a ratio field: to obtain the ratio, simply divide the monthly value by the daily one.

What changes for you

- You will call a new endpoint, `/analytics/volatility/monthly-vs-daily-volatility-ratio`, using your Kaiko API key in the `X-Api-Key` header (§2).
- The pair is now expressed with two lowercase parameters: `pair=btc_usd` becomes `base_asset=btc` and `quote_asset=usd`. Exchange codes also change, for example `gdax` becomes `cbse` (§3, §6).
- Timestamps are now returned as ISO 8601 strings, for example `"2026-09-30T00:00:00.000Z"` instead of `1790726400000` (milliseconds). This is the format Amberdata returned with `timeFormat=iso`, so the `timeFormat` parameter is no longer needed.
- Volatilities are now returned as decimals, for example `0.3214` where Amberdata returned `32.14` (percent). To keep Amberdata's scale, simply multiply by 100.
- Field names now use snake_case, for example `dailyHistoricalVolatility30Days` becomes `daily_realized_volatility_30d` (§5).
- The methodology remains the same. Kaiko's 30-day daily volatility starts on 2016-01-01 at the earliest (§7).

Coverage & distribution

Data type: A daily series, with one row per UTC day (stamped 00:00 UTC)
Monthly volatility: Parkinson on the calendar month's high and low, annualised by √12
Daily volatility: Parkinson over the last 30 daily bars, annualised by √365
Source: Spot exchange daily OHLC · one exchange and one pair per request
Exchanges: 26 spot exchanges, including the Amberdata venues listed in §6
Range: The full series in one response, up to the last complete month
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 /realized-volatility/monthly-vs-daily-ratio`	`/analytics/volatility /monthly-vs-daily-volatility-ratio`
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
`exchange` (required)	`exchange` (required)	RENAMED	The name is unchanged, but the values are now Kaiko codes (§6), for example `gdax` → `cbse`. Codes must be lowercase: `CBSE` returns a 400 error.
`pair` (required)	`base_asset` + `quote_asset` (both required)	RENAMED	`btc_usd` becomes `base_asset=btc` and `quote_asset=usd`. Both must be lowercase: `BTC` returns a 400 error.
`timeFormat` (optional)	None	REMOVED	Kaiko timestamps are always ISO 8601 strings, the same as Amberdata's `timeFormat=iso`. You can simply remove this parameter from your requests.
None	`api_version` (optional)	NEW	Lets you pin the response format. The default is `2026-10-01`.

Range and limits

- **No date parameters, on both sides:** every request returns the pair's full series in one response, with the newest day first and without pagination.
- **Last row:** the series ends with the last complete month. The month in progress appears once it ends, on both sides.
- **First row:** the series starts with the pair's price history on the requested exchange (§7).

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` (one per day).

Amberdata field	Kaiko field	Change	Notes
None	`next_url`	NEW	Always `null`, since everything comes in one 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

- **Pair not available on the exchange:** Amberdata returned a 200 response with an empty `data` array. Kaiko returns a **404** error with the code `unknown_instrument` (for example "cbse does not publish doge-chf").
- **Uppercase codes:** Amberdata returned a 200 response with an empty `data` array (no match). Kaiko returns a **400** error.
- **Pair with no complete month yet:** both APIs return a 200 response with an empty `data` array.
- **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`	`timestamp`	string	RENAMED
`dailyOpen`	`daily_open`	number	RENAMED
`dailyHigh`	`daily_high`	number	RENAMED
`dailyLow`	`daily_low`	number	RENAMED
`dailyClose`	`daily_close`	number	RENAMED
`monthlyHigh`	`monthly_high`	number	RENAMED
`monthlyLow`	`monthly_low`	number	RENAMED
`monthlyHistoricalVolatility`	`monthly_realized_volatility`	number	RENAMED
`dailyHistoricalVolatility30Days`	`daily_realized_volatility_30d`	number	RENAMED

- **timestamp:** this field is now an ISO 8601 string (`"2026-09-30T00:00:00.000Z"`), whereas Amberdata returned a number of milliseconds by default.
- **monthly_high, monthly_low, monthly_realized_volatility:** these values are the same on every day of a calendar month (they use the month's highest high and lowest low).
- **daily_realized_volatility_30d:** this value is `null` on the first days of a series, before the pair's volatility history starts (2016-01-01 at the earliest, §7).

Units: volatilities are annualised. Amberdata expressed them in percent (`32.14` = 32.14%), while Kaiko uses decimals (`0.3214` = 32.14%). Prices are in the quote asset. Kaiko returns them exactly as traded (for example `0.09386`), whereas Amberdata returned single-precision values (for example `0.09386000037193298`). Neither API repeats the exchange or the pair in the rows.

6 Exchange & venue names

For this endpoint, the venue is a **spot exchange** (not a derivatives venue). Please map the identifier you send as follows:

Amberdata name	Kaiko code	Exchange
`gdax`	`cbse`	Coinbase
`binance`	`binc`	Binance
`kraken`	`krkn`	Kraken
`bitstamp`	`stmp`	Bitstamp
`gemini`	`gmni`	Gemini
`okex`	`okex`	OKX
`bithumb`	`bthb`	Bithumb
`poloniex`	`polo`	Poloniex
`deribit`	`drbt`	Deribit

Kaiko also publishes this endpoint on 17 additional spot exchanges: `arkm` `bnus` `bfnx` `gpsp` `btmt` `btmx` `bvav` `bull` `bbsp` `gate` `huob` `kcon` `lmax` `merc` `mexc` `okcn` `upbt` . Amberdata's codes (for example `gdax`) return a 400 error.

7 Will your values change?

Short answer

The calculation is the same: once volatilities are divided by 100, the values are directly comparable with Amberdata's. The exception concerns OKX, Bithumb and Deribit (see Daily bars below). Elsewhere, the only difference is a negligible annualisation constant.

- **Same methodology:** the monthly value is the Parkinson volatility of the calendar month's highest high and lowest low, annualised by √12. The daily value is the Parkinson volatility over the last 30 daily bars, annualised by √365. The month in progress is not served until it ends.
- **Daily bars:** Kaiko cuts every daily bar at 00:00 UTC, on all exchanges. On some venues, Amberdata used the exchange's own trading day instead: 16:00 UTC on OKX, 15:00 UTC on Bithumb and 08:00 UTC on Deribit. On these exchanges the bars cover a different 24-hour window, so the values may differ from Amberdata's, and each row is stamped 00:00 UTC.
- **History:** the series starts with the pair's price history on the requested exchange (for example on 2015-01-08 for BTC/USD on Coinbase). The 30-day daily volatility starts on 2016-01-01 at the earliest, or later for pairs with a shorter trading history, and is `null` on the days before. The prices and the monthly values are filled on every row.

- **√12:** Amberdata used the rounded constant 3.4641, whereas Kaiko uses the exact √12. As a result, the monthly volatility is 0.00005% higher at Kaiko (relative), for example 32.13684% instead of 32.13683%.
- **Precision:** Amberdata returned single-precision values, whereas Kaiko returns prices exactly as traded and volatilities in double precision. The difference only appears around the seventh significant digit.

8 Before / after example

Request

Amberdata

```
GET https://api.amberdata.com
    /markets/derivatives/analytics
    /realized-volatility
    /monthly-vs-daily-ratio
    ?exchange=gdax
    &pair=btc_usd
x-api-key: <your-amberdata-key>
```

Kaiko

```
GET https://api.kaiko.io
    /analytics/volatility
    /monthly-vs-daily-volatility-ratio
    ?exchange=cbse
    &base_asset=btc
    &quote_asset=usd
X-Api-Key: <your-kaiko-key>
```

Response (real responses, two most recent days; prices as returned, volatilities rounded, fields reordered)

Amberdata


```
{
  "status": 200,
  "title": "OK",
  "description": "Successful request",
  "payload": {
    "data": [ {
      "timestamp": 1790726400000,
      "dailyOpen": 83638.421875,
      "dailyHigh": 85613.71875,
      "dailyLow": 82911.859375,
      "dailyClose": 83556.140625,
      "monthlyHigh": 87397,
      "monthlyLow": 74887.5,
      "monthlyHistoricalVolatility": 32.1368,
      "dailyHistoricalVolatility30Days": 38.8787
    }, {
      "timestamp": 1790640000000,
      "dailyOpen": 83456.7421875,
      "dailyHigh": 84557.0078125,
      "dailyLow": 82736,
      "dailyClose": 83638.421875,
      "monthlyHigh": 87397,
      "monthlyLow": 74887.5,
      "monthlyHistoricalVolatility": 32.1368,
      "dailyHistoricalVolatility30Days": 38.6254
    },
    … 3,558 more days, back to 2017-01-01
    ],
    "metadata": {
      "api-version": "2023-09-30"
    }
  }
}
```


Kaiko


```
{
  "data": [ {
    "timestamp": "2026-09-30T00:00:00.000Z",
    "daily_open": 83638.42,
    "daily_high": 85613.72,
    "daily_low": 82911.86,
    "daily_close": 83556.14,
    "monthly_high": 87397,
    "monthly_low": 74887.5,
    "monthly_realized_volatility": 0.321368,
    "daily_realized_volatility_30d": 0.388787
  }, {
    "timestamp": "2026-09-29T00:00:00.000Z",
    "daily_open": 83456.74,
    "daily_high": 84557.01,
    "daily_low": 82736,
    "daily_close": 83638.42,
    "monthly_high": 87397,
    "monthly_low": 74887.5,
    "monthly_realized_volatility": 0.321368,
    "daily_realized_volatility_30d": 0.386254
  },
  … 4,277 more days, back to 2015-01-08
  ],
  "meta": {
    "api_version": "2026-10-01",
    "count": 4279,
    "next_url": null,
    "url": "https://api.kaiko.io/analytics/
volatility/monthly-vs-daily-volatility-ratio?
exchange=cbse&base_asset=btc&quote_asset=usd&api_v
ersion=2026-10-01"
  }
}
```