Kaiko

MIGRATION GUIDE

Term Structures Constant & Floating

Amberdata → Kaiko

2026

www.kaiko.com

1 At a glance

What this endpoint gives you: for one underlying with listed options, you receive a snapshot of its at-the-money implied volatility term structure. Each row is one maturity and gives the at-the-money volatility together with the **forward volatility** between that maturity and the previous one. Amberdata's two endpoints, **Term Structures Constant** (fixed tenors) and **Term Structures Floating** (listed expiries), become one Kaiko endpoint, **Forward Volatility**, with a `maturity_type` parameter:

Amberdata endpoint	Kaiko request
`.../term-structures/forward-volatility/constant`	`/forward-volatility?maturity_type=constant`
`.../term-structures/forward-volatility/floating`	`/forward-volatility?maturity_type=floating`

What changes for you

- You will call a new endpoint, `/analytics/volatility/forward-volatility`, using your Kaiko API key in the `X-Api-Key` header (§2).
- `maturity_type` defaults to `constant`: if you used the floating endpoint, please set `maturity_type=floating`. Otherwise, you will receive the fixed tenors without any error (§3).
- The underlying is split into two lowercase parameters: `currency=BTC` becomes `base_asset=btc` and `quote_asset=usd`. Exchange codes also change, for example `deribit` becomes `drbt` (§3, §6).
- `timestamp` becomes `value_time` and keeps the same behaviour: you get the latest snapshot by default, or the snapshot as of the time you provide (§3).
- Volatilities are now returned as decimals, for example `0.293` where Amberdata returned `29.3` (percent).
- Field names now use snake_case: `fwdAtm` becomes `fwd_atm`, `daysToExpiration` becomes `days_to_expiry` and `expirationTimestamp` becomes `expiry`, which is also present (as `null`) on constant rows (§5).

Coverage & distribution

Data type: One snapshot per request, one row per maturity (ascending)
Constant: Fixed tenors of 1, 2, 3, 7, 14, 21, 30, 60, 90 and 180 days
Floating: Each listed expiry
Metrics: ATM implied volatility · forward volatility from the previous maturity
Snapshots: Every minute · the latest one by default
Exchanges: Deribit, OKX and Bybit options · 18 underlyings (§6)
History: From October 2024 at the earliest, later for some underlyings (§6)
Distribution: REST API

2 Endpoint & authentication

	Amberdata (today)	Kaiko (new)
Method	GET	GET

	Amberdata (today)	Kaiko (new)
Base URL	`https://api.amberdata.com`	`https://api.kaiko.io`

Path	`/markets/derivatives/analytics`
	`/volatility/term-structures`
	`/forward-volatility`
	`/constant or /floating`
		`/analytics/volatility`
		`/forward-volatility`
		`+ maturity_type`

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
Path `/constant` or `/floating`	`maturity_type` (optional)	NEW	`constant` (default) or `floating`. It replaces the end of the Amberdata path.
`exchange` (required)	`exchange` (required)	RENAMED	Same name, now with Kaiko codes (§6): `deribit` → `drbt`, `bybit` → `bbit`. Lowercase only.
`currency` (required)	`base_asset` + `quote_asset` (both required)	RENAMED	`BTC` → `btc` + `usd`, `BTC_USDC` → `btc` + `usdc` (§6). Lowercase only.
`timestamp` (optional)	`value_time` (optional)	RENAMED	Same "as of" behaviour, with the latest snapshot by default. ISO 8601 with a time zone.
`timeFormat` (optional)	None	REMOVED	Kaiko times are always ISO 8601 strings, Amberdata's default format for these endpoints. You can simply remove it from your requests.
None	`api_version` (optional)	NEW	Lets you pin the response format. The default is `2026-10-01`.

Snapshot and history

- **maturity_type:** one parameter replaces the two paths. It defaults to `constant`, so a request without it returns the fixed tenors.
- **Latest snapshot:** without `value_time`, Kaiko returns the latest snapshot, as Amberdata did.
- **Past snapshot, the same as Amberdata:** with `value_time`, you get the newest snapshot at or before it, up to 4 hours earlier. Each row's `value_time` is the snapshot actually returned (`00:00:30` returns `00:00:00`). Please use ISO 8601 with a time zone, for example `2026-10-20T00:00:00.000Z`. Amberdata also accepted a date alone or a time without zone, but Kaiko returns a 400 error for both, as well as for a time in the future.
- **Order:** maturities ascending, one snapshot per response, as on Amberdata.
- **History:** from October 2024 at the earliest, later for some underlyings (§6).

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 maturity.
`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` (maturities).
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

- **Underlying not listed 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 "drbt does not serve doge-usd").
- **Uppercase or Amberdata codes:** Amberdata accepted any case. Kaiko returns a **400** error (for example `BTC`, `deribit`, `maturity_type=CONSTANT`).
- **No snapshot in the 4 hours before `value_time`:** Kaiko returns 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`	`value_time`	string	RENAMED
`exchange`	None	string	REMOVED
`currency`	None	string	REMOVED
`expirationTimestamp` (floating only)	`expiry`	string	RENAMED

Amberdata field	Kaiko field	Type	Change
`daysToExpiration`	`days_to_expiry`	number	RENAMED
`atm`	`atm`	number	RENAMED
`fwdAtm`	`fwd_atm`	number	RENAMED

- **value_time** is the snapshot returned, as an ISO 8601 string (`"2026-10-20T00:00:00.000Z"`), the same format as Amberdata's default for these endpoints.
- **exchange and currency** are no longer repeated in the rows: they are in your request and in `meta.url` , with `maturity_type` .
- **expiry** is the listed expiry on floating rows (ISO 8601). On constant rows it is `null` . Amberdata did not return this field on those rows.
- **days_to_expiry** is the fixed tenor on constant rows (`1` to `180`) and the fractional days from `value_time` to `expiry` on floating rows (for example `0.3333`).
- **atm** is the at-the-money implied volatility at that maturity. It is `null` on a constant tenor beyond the listed expiries (never extrapolated), as on Amberdata.
- **fwd_atm** is the forward volatility from the previous maturity, `sqrt((atm² T - atm_prev² T_prev) / (T - T_prev))` with T in years (days / 365). It is `null` on the shortest maturity, when either `atm` is `null` , and when the total variance falls with maturity.

Units: `atm` and `fwd_atm` are annualised volatilities. Amberdata expressed them in percent (`29.3` = 29.3%), while Kaiko uses decimals (`0.293` = 29.3%).

6 Exchange & venue names

For this endpoint, the venue is an **options exchange**. Please map the exchange and the currency you send (the same for constant and floating):

Amberdata exchange	Amberdata currency	Kaiko exchange	base_asset	quote_asset	History from
deribit	BTC	drbt	btc	usd	Oct 2024
deribit	ETH	drbt	eth	usd	Oct 2024
deribit	BTC_USDC	drbt	btc	usdc	Aug 2025
deribit	ETH_USDC	drbt	eth	usdc	Aug 2025
deribit	SOL_USDC	drbt	sol	usdc	Oct 2024
deribit	XRP_USDC	drbt	xrp	usdc	Oct 2024
deribit	AVAX_USDC	drbt	avax	usdc	Jan 2026
deribit	TRX_USDC	drbt	trx	usdc	Jan 2026
deribit	HYPE_USDC	drbt	hype	usdc	Jun 2026
okex	BTC	okex	btc	usd	Oct 2024
okex	ETH	okex	eth	usd	Oct 2024

Amberdata exchange	Amberdata currency	Kaiko exchange	base_asset	quote_asset	History from
bybit	BTC_USDT	bbit	btc	usdt	Jun 2025
bybit	ETH_USDT	bbit	eth	usdt	Jun 2025
bybit	SOL_USDT	bbit	sol	usdt	Jun 2025
bybit	XRP	bbit	xrp	usdt	Sep 2026
bybit	DOGE	bbit	doge	usdt	Sep 2026
bybit	MNT	bbit	mnt	usdt	Sep 2026
bybit	XAUT	bbit	xaut	usdt	Sep 2026

These are Kaiko's **options** exchange codes: Bybit is `bbit` here, not the spot code `bbsp`. On Amberdata, Bybit's XRP, DOGE, MNT and XAUT had no `_USDT` suffix, but on Kaiko their `quote_asset` is `usdt`, like the other Bybit underlyings. Amberdata's codes (for example `deribit`) return a 400 error.

Coverage as of today: these are the underlyings served today, and our teams are working to extend this coverage.

7 Will your values change?

Short answer

The calculation is the same for both maturity types: once volatilities are divided by 100, the values are directly comparable with Amberdata's.

- **Same methodology:** the ATM volatility is read off the delta surface: the constant-maturity tenors for `constant`, and each listed expiry for `floating`. The forward volatility is the variance strip between consecutive maturities, with the same `null` cases as Amberdata.
- **Same snapshot selection:** Kaiko returns the latest snapshot by default, or the newest one at or before `value_time` within 4 hours, as Amberdata did with `timestamp`.

8 Before / after examples

Constant: request

Amberdata

```
GET https://api.amberdata.com
    /markets/derivatives/analytics
    /volatility/term-structures
    /forward-volatility/constant
    ?exchange=deribit
    &currency=BTC
    &timestamp=2026-10-20T00:00:00
x-api-key: <your-amberdata-key>
```

Kaiko

```
GET https://api.kaiko.io
    /analytics/volatility
    /forward-volatility
    ?maturity_type=constant
    &exchange=drbt
    &base_asset=btc
    &quote_asset=usd
    &value_time=2026-10-20T00:00:00.000Z
X-Api-Key: <your-kaiko-key>
```

Constant: response (real responses, two shortest tenors; values rounded, fields reordered)

Amberdata


```
{
  "status": 200,
  "title": "OK",
  "description": "Successful request",
  "payload": {
    "data": [ {
      "timestamp": "2026-10-20T00:00:00.000Z",
      "exchange": "deribit",
      "currency": "BTC",
      "daysToExpiration": 1,
      "atm": 25.7,
      "fwdAtm": null
    }, {
      "timestamp": "2026-10-20T00:00:00.000Z",
      "exchange": "deribit",
      "currency": "BTC",
      "daysToExpiration": 2,
      "atm": 29.3,
      "fwdAtm": 32.5
    },
    … 8 more tenors, to 180 days
    ],
    "metadata": {
      "api-version": "2023-09-30"
    }
  }
}
```


Kaiko


```
{
  "data": [ {
    "value_time": "2026-10-20T00:00:00.000Z",
    "expiry": null,
    "days_to_expiry": 1,
    "atm": 0.257,
    "fwd_atm": null
  }, {
    "value_time": "2026-10-20T00:00:00.000Z",
    "expiry": null,
    "days_to_expiry": 2,
    "atm": 0.293,
    "fwd_atm": 0.325
  },
  … 8 more tenors, to 180 days
  ],
  "meta": {
    "api_version": "2026-10-01",
    "count": 10,
    "next_url": null,
    "url": "https://api.kaiko.io/analytics/
volatility/forward-volatility?
maturity_type=constant&exchange=drbt&base_asset=bt
c&quote_asset=usd&value_time=2026-10-20T00:00:00.0
00Z&api_version=2026-10-01"
  }
}
```


Floating: request

Amberdata

```
GET https://api.amberdata.com
    /markets/derivatives/analytics
    /volatility/term-structures
    /forward-volatility/floating
    ?exchange=deribit
    &currency=BTC
    &timestamp=2026-10-20T00:00:00
x-api-key: <your-amberdata-key>
```

Kaiko

```
GET https://api.kaiko.io
    /analytics/volatility
    /forward-volatility
    ?maturity_type=floating
    &exchange=drbt
    &base_asset=btc
    &quote_asset=usd
    &value_time=2026-10-20T00:00:00.000Z
X-Api-Key: <your-kaiko-key>
```

Floating: response (real responses, two nearest expiries; values rounded, fields reordered)

Amberdata


```
{
  "status": 200,
  "title": "OK",
  "description": "Successful request",
  "payload": {
    "data": [ {
      "timestamp": "2026-10-20T00:00:00.000Z",
      "exchange": "deribit",
      "currency": "BTC",
      "expirationTimestamp":
        "2026-10-20T08:00:00.000Z",
      "daysToExpiration": 0.3333,
      "atm": 21.7,
      "fwdAtm": null
    }, {
      "timestamp": "2026-10-20T00:00:00.000Z",
      "exchange": "deribit",
      "currency": "BTC",
      "expirationTimestamp":
        "2026-10-21T08:00:00.000Z",
      "daysToExpiration": 1.3333,
      "atm": 27.4,
      "fwdAtm": 29.1
    },
    … 9 more expiries, to 2027-09-24
    ],
    "metadata": {
      "api-version": "2023-09-30"
    }
  }
}
```


Kaiko


```
{
  "data": [ {
    "value_time": "2026-10-20T00:00:00.000Z",
    "expiry": "2026-10-20T08:00:00.000Z",
    "days_to_expiry": 0.3333,
    "atm": 0.217,
    "fwd_atm": null
  }, {
    "value_time": "2026-10-20T00:00:00.000Z",
    "expiry": "2026-10-21T08:00:00.000Z",
    "days_to_expiry": 1.3333,
    "atm": 0.274,
    "fwd_atm": 0.291
  },
  … 9 more expiries, to 2027-09-24
  ],
  "meta": {
    "api_version": "2026-10-01",
    "count": 11,
    "next_url": null,
    "url": "https://api.kaiko.io/analytics/
volatility/forward-volatility?
maturity_type=floating&exchange=drbt&base_asset=bt
c&quote_asset=usd&value_time=2026-10-20T00:00:00.0
00Z&api_version=2026-10-01"
  }
}
```