Kaiko

MIGRATION GUIDE

Gamma Snapshots (GEX)

Amberdata → Kaiko

2026

www.kaiko.com

1 At a glance

What this endpoint gives you: for the options of one underlying on one exchange, this endpoint estimates, hour by hour, the inventory that dealers (the market makers) hold in every traded option: their net position in contracts, the option's open interest signed by the side they lean to, and the gamma that position carries. Each row is one option at one snapshot hour, so a response is the dealers' gamma map strike by strike. Where dealers are long gamma, their hedging dampens moves around the strike; where they are short gamma, it amplifies them, and the hourly series shows how that map shifts with the flow. Kaiko calls this product Gamma Exposure Snapshots. The book-level figure for a 1% move in spot is served by the companion endpoint `/analytics/trades-flow/normalized-usd-gamma-exposures`, covered in its own guide.

What changes for you

- You will call a new endpoint, `/analytics/trades-flow/gamma-exposures-snapshots`, using your Kaiko API key in the `X-Api-Key` header (§2).
- The underlying is now expressed with lowercase parameters: `exchange=deribit` becomes `exchange=drbt`, and `currency=BTC` becomes `base_asset=btc`. The quote currency is optional and defaults to `usd`, the inverse options: for example `currency=BTC_USDC` becomes `base_asset=btc` with `quote_asset=usdc` (§3, §6).
- Dates are now timestamps with a time zone: `startDate` and `endDate` become `start_time` and `end_time`, for example `2026-10-01T01:00:00.000Z`. The window stays the same, `[start, end)` on the snapshot hours, at most 24 hours of hourly snapshots, and no dates still return the latest snapshot (§3).
- `timeInterval` becomes `interval`: `hour` becomes `1h` (default) and `day` becomes `1d`, the midnight snapshot, up to 31 days per request. `timeFormat` is removed: timestamps are ISO 8601 strings (§3).
- Field names follow Kaiko's snake_case: `snapshotTimestamp` becomes `timestamp`, `instrumentNormalized` becomes `instrument` in Kaiko's instrument code, and `putCall` becomes `option_type` with the values `call` and `put` (§5).
- The measures and their units are unchanged, so there is nothing to convert. The snapshot label changes meaning: Kaiko's row labelled 12:00 is the position at 12:00 exactly, where Amberdata's row labelled 12:00 was computed about an hour later and could include trades of the hour that followed. To line up the two series, compare Amberdata's row at 12:00 with Kaiko's row at 13:00 (§7).
- A pair the exchange does not list is now an error: Kaiko returns a 404, not an empty result (§4).

Coverage & distribution

Data type: One row per option and snapshot hour, newest hour first

Metrics: Dealer net inventory, dealer total inventory (signed open interest), gamma level and index price, with the option's expiry, strike and type

Exchange: Deribit (`drbt`), inverse and linear options. Our teams are working to extend this coverage to further exchanges

Underlyings: Every option listed on the exchange, selected by base asset and quote asset (§6)

Frequency: Hourly, each snapshot available a few minutes after the hour

Range: Up to 24 hours of hourly snapshots, or 31 days of daily ones, per request; the latest snapshot without dates

History: From 17 November 2022

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/trades-flow/gamma-exposures-snapshots`	`/analytics/trades-flow/gamma-exposures-snapshots`
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 value is now the Kaiko code (§6): `deribit` → `drbt`. Lowercase only: `DRBT` returns a 400 error (Amberdata accepted any case).
`currency` (required)	`base_asset` (required) + `quote_asset` (optional, default usd)	RENAMED	`BTC` becomes `base_asset=btc`: `quote_asset` defaults to `usd`, the inverse options. `BTC_USDC` becomes `base_asset=btc` and `quote_asset=usdc`. Lowercase only.
`startDate` (optional)	`start_time` (optional)	RENAMED	**Inclusive**, as before. Please use an RFC 3339 timestamp with a time zone, for example `2026-10-01T01:00:00.000Z` (seconds or milliseconds, at most three fractional digits). A date on its own or a time without zone, which Amberdata accepted, returns a 400 error.
`endDate` (optional)	`end_time` (optional)	RENAMED	**Exclusive**, as before: the window covers `[start_time, end_time)`. The same format rule as for `start_time` applies.
`time Interval` (optional)	`interval` (optional)	RENAMED	`hour` becomes `1h` (the default) and `day` becomes `1d`: the 00:00 snapshot of each day, up to 31 days per request. Any other value returns a 400 error.
`timeFormat` (optional)	None	REMOVED	Timestamps are always ISO 8601 strings (§5). Sending it returns a 400 error: you can simply remove it from your requests.
None	`sort` (optional)	NEW	`desc` (default, newest hour first, as on Amberdata) or `asc`. Within one hour, rows are always in instrument order.
None	`api_version` (optional)	NEW	Lets you pin the response format. The default is `2026-10-01`.

Defaults and limits

- **Boundary, the same as Amberdata:** the window `[start_time, end_time)` selects the snapshot hours it contains. A snapshot at `start_time` is included, one at `end_time` is not, and the bounds need not fall on the hour: 12:30 to 13:30 returns the 13:00 snapshot.
- **No dates:** if you include no dates, the latest snapshot is returned, one row per option, with either interval, exactly as on Amberdata. If no snapshot was written in the last 3 hours, the response is empty.
- **One date only:** if you only provide `start_time`, the window runs from that time up to now, within the limit below. If you only provide `end_time`, the 24 hours (or, with `interval=1d`, the 31 days) before it are returned. Amberdata required both dates or none.
- **Maximum window:** 24 hours with `interval=1h` and 31 days with `interval=1d`, as on Amberdata. A wider window returns a 400 error naming the limit, never a narrowed result. For a longer span, please send one request per day or per month.
- **Whole window returned:** Amberdata capped a response at 10,000 rows, so a full day of hourly snapshots came back cut short. Kaiko returns every snapshot hour of the window in one response, without pagination.
- **Checks:** the start must be before the end, otherwise Kaiko returns a 400 error (Amberdata returned an empty result).
- **Parameter names:** Kaiko rejects a parameter it does not know with a 400 error (for example `timeInterval: unknown parameter`), so please rename every Amberdata parameter, `currency` and `timeFormat` included.

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**, one row per option and hour.
`payload.metadata`	`meta`	RENAMED	Now at the top level.
`api-version`	`api_version`	RENAMED	`2026-10-01` (Amberdata: `2023-09-30`).
None	`count`	NEW	Number of rows returned.
None	`next_url`	NEW	Always `null` (one response per window).
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

- **No snapshot in the window,** or none in the last 3 hours when you send no dates: both APIs return a 200 response with an empty `data` array (`meta.count` = 0 on Kaiko).
- **Underlying not found** (a misspelled `base_asset` or `quote_asset` , or a pair the exchange does not list): Kaiko returns a 404 error with the code `unknown_instrument` and a detail naming the pair, where Amberdata returned a 200 response with an empty `data` array. An `exchange` outside the served list returns a 400 error on both sides; Kaiko's names the allowed values.
- **Uppercase values:** Amberdata accepted any case. Kaiko returns a 400 error, for example for `BTC` or `DRBT` .
- **Start equal to or after end, or a window wider than 24 hours:** Kaiko returns a 400 error (Amberdata returned a 400 error for the wide window, and an empty result for the inverted one).
- **Missing or invalid key:** Kaiko returns a 401 error with the code `missing_api_key` or `invalid_api_key` .
- **Missing, unknown 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

Every measure keeps its meaning and its unit. Kaiko renames the fields in snake_case, writes the two timestamps as ISO 8601 strings, and identifies the option with its instrument code instead of the normalized name. Every key is present on every row.

Amberdata field	Kaiko field	Type	Change
`exchange`	`exchange`	string	RENAMED
`currency`	`base_asset` `quote_asset`	string	RENAMED
`snapshotTimestamp`	`timestamp`	string	RENAMED
`instrumentNormalized`	`instrument`	string	RENAMED
`expirationTimestamp`	`expiry`	string	RENAMED
`strike`	`strike`	number	IDENTICAL
`putCall`	`option_type`	string	RENAMED
`dealerNetInventory`	`dealer_net_inventory`	number	RENAMED
`dealerTotalInventory`	`dealer_total_inventory`	number	RENAMED
`gammaLevel`	`gamma_level`	number	RENAMED
`indexPrice`	`index_price`	number	RENAMED

- **exchange, base_asset, quote_asset** echo your request (`drbt` , `btc` , `usd`), where Amberdata returned `deribit` and `BTC` .

- **timestamp** is the snapshot hour, always at `:00`, and **expiry** the option's expiry, both as ISO 8601 UTC strings with milliseconds, for example `2026-10-01T01:00:00.000Z`. Amberdata returned epoch milliseconds by default (`1790816400000`) and an ISO string with `timeFormat=iso`.
- **instrument** is Kaiko's instrument code: the exchange's own option name in lowercase, without separators, so `DERIBIT-BTC-13NOV26-80000.0-P` becomes `btc13nov2680000p`, `DERIBIT-BTC-06NOV26-95000.0-C` becomes `btc6nov2695000c` (no leading zero on the day, no trailing `.0` on the strike) and `DERIBIT-BTC_USDC-27NOV26-100000.0-C` becomes `btcusdc27nov26100000c` (§6).
- **option_type** is `call` or `put`, where Amberdata returned `C` or `P`. **strike** is unchanged, in the currency of the underlying's index.
- **dealer_net_inventory** is the net number of contracts dealers hold in the option, long minus short, built from the signed flow of every trade since the instrument's first one and capped so that it never exceeds the total. Positive means dealers are net long the option.
- **dealer_total_inventory** is the option's open interest in contracts, signed by the side dealers lean to overall: positive when their long-gamma flow dominates, negative when their short-gamma flow does.
- **gamma_level** is `dealer_total_inventory` times the option's latest published gamma (per 1 dollar move of the underlying), with the same sign: the dealers' gamma exposure in the option, the brick that the normalized endpoint sums across strikes. As on Amberdata, a far strike often shows a very small value, or `0` once rounded.
- **index_price** is the index price recorded with the option's latest ticker, in USD.
- **Nulls:** a value Kaiko cannot compute is `null`, never `0`: no published gamma gives a `null` `gamma_level`, no open interest gives a `null` `dealer_total_inventory` and `gamma_level`, and `dealer_net_inventory` is `null` when it cannot be computed. Amberdata returned a number in every field, so please allow for `null` in your parser. A `0` is a real value, for example a position opened and closed out.

6 Exchange & venue names

For this endpoint, the venue is an **options exchange**. Please map the identifier you send and receive as follows:

Amberdata name	Kaiko code	Exchange
deribit	drbt	Deribit

The underlying is now a pair. Amberdata's `currency` named one book, for example `BTC` for the inverse options and `BTC_USDC` for the linear ones. Kaiko names the same book with `base_asset` and `quote_asset`, where `usd` selects the inverse options and `usdc` the linear ones:

Amberdata `currency`	Kaiko `base_asset`	Kaiko `quote_asset`	Options
BTC	btc	usd	Inverse, settled in BTC
ETH	eth	usd	Inverse, settled in ETH
BTC_USDC	btc	usdc	Linear, settled in USDC
ETH_USDC	eth	usdc	Linear, settled in USDC
SOL_USDC	sol	usdc	Linear, settled in USDC
XRP_USDC	xrp	usdc	Linear, settled in USDC

Each row names its option with Kaiko's instrument code instead of Amberdata's normalized name:

Amberdata `instrumentNormalized`	Kaiko `instrument`	Option
`DERIBIT-BTC-13NOV26-80000.0-P`	`btc13nov2680000p`	BTC inverse put, 13 Nov 2026, strike 80,000
`DERIBIT-BTC-06NOV26-95000.0-C`	`btc6nov2695000c`	BTC inverse call, 6 Nov 2026, strike 95,000
`DERIBIT-BTC_USDC-27NOV26-100000.0-C`	`btcusdc27nov26100000c`	BTC linear call, 27 Nov 2026, strike 100,000

Every option listed on the exchange is served, so any other underlying follows the same rule. A pair the exchange does not list returns a 404 error (§4). Deribit is the exchange served today, and our teams are working to extend this coverage to further exchanges. History on Kaiko starts on 17 November 2022.

7 Will your values change?

Short answer

The measures are the same: the dealers' net inventory and signed open interest in contracts, the gamma level per dollar of the underlying and the USD index price, estimated from the same trade-by-trade reading of who initiated each trade. There is no unit to convert. What changes is the naming, the time format and the meaning of the snapshot label: Kaiko's row is the position at the labelled hour exactly, where Amberdata's row, computed about an hour later, could include trades of the hour that followed. To line up the two series, compare Amberdata's row at 12:00 with Kaiko's row at 13:00.

- **Same computation:** on both sides, each trade is read for its initiator and adds its open-interest change to the dealers' long-gamma or short-gamma inventory of the option. The net inventory is the long inventory minus the short one, capped by the open interest; the total inventory is the open interest signed by the larger of the two; and the gamma level is the total inventory times the option's latest gamma.
- **Same direction reading:** Kaiko follows the same approach as Amberdata's `amberdataDirection` to decide who initiated a trade: it reads the aggressor from the top of book before the trade (price against bid, ask, mid and mark, and the implied volatilities), it treats the legs of a block trade together, and it falls back to the venue's side when the reading is undecided.
- **Snapshot label, the one-hour shift:** on Kaiko, the row labelled 12:00 counts every trade strictly before 12:00:00 and none after it, and takes the gamma and the index price last published at or before 12:00. It is available a few minutes after the hour. Amberdata's row labelled 12:00 was computed about an hour later and could include trades between 12:00 and 13:00, up to the moment it was computed. So the row to compare with Amberdata's 12:00 is Kaiko's 13:00, and the latest snapshot without dates is the current hour's on Kaiko where it was the previous hour's on Amberdata.
- **Expiry hour:** an option that expires at 08:00 UTC is in the rows up to 07:00 and no longer in the 08:00 row, on both sides.
- **Units:** contracts for the two inventories, gamma per dollar of the underlying for `gamma_level`, and USD for `index_price` and `strike`, on both sides. There is no implied volatility in this row, so nothing is rescaled.
- **Nulls:** a value that cannot be computed is `null` on Kaiko (§5), where Amberdata always returned a number.
- **Default window and limits:** the latest snapshot without dates, at most 24 hours of hourly snapshots or 31 days of daily ones per request, and the whole window in one response (§3).
- **History:** Kaiko's history starts on 17 November 2022. A window before that date returns an empty `data` array.

8 Before / after example

Request (the same position on both sides: Amberdata's 00:00 snapshot of 1 October 2026, served by Kaiko under the 01:00 label, BTC inverse options)

Amberdata

```
GET https://api.amberdata.com
    /markets/derivatives/analytics
    /trades-flow/gamma-exposures-snapshots
    ?exchange=deribit
    &currency=BTC
    &startDate=2026-10-01T00:00:00
    &endDate=2026-10-01T00:01:00
x-api-key: <your-amberdata-key>
```

Kaiko

```
GET https://api.kaiko.io
    /analytics/trades-flow
    /gamma-exposures-snapshots
    ?exchange=drbt
    &base_asset=btc
    &quote_asset=usd
    &start_time=2026-10-01T01:00:00.000Z
    &end_time=2026-10-01T01:01:00.000Z
X-Api-Key: <your-kaiko-key>
```

Response (real responses; one option shown, the 100,000 call of 16 October 2026; the fields are regrouped in the same order on both sides)

Amberdata

```
{
  "status": 200,
  "title": "OK",
  "description": "Successful request",
  "payload": {
    "data": [
      {
        "exchange": "deribit",
        "currency": "BTC",
        "snapshotTimestamp": 1790812800000,
        "instrumentNormalized":
          "DERIBIT-BTC-16OCT26-100000.0-C",
        "expirationTimestamp": 1792137600000,
        "strike": 100000,
        "putCall": "C",
        "dealerNetInventory": 13.099999999999996,
        "dealerTotalInventory": 43.9,
        "gammaLevel": 0.00043900000000000005,
        "indexPrice": 83469.67
      },
      ... more rows, one per option ...
    ],
    "metadata": {
      "api-version": "2023-09-30"
    }
  }
}
```

Kaiko

```
{
  "data": [
    {
      "exchange": "drbt",
      "base_asset": "btc",
      "quote_asset": "usd",
      "timestamp": "2026-10-01T01:00:00.000Z",
      "instrument": "btc16oct26100000c",
      "expiry": "2026-10-16T08:00:00.000Z",
      "strike": 100000,
      "option_type": "call",
      "dealer_net_inventory": 13.099999999999996,
      "dealer_total_inventory": 43.9,
      "gamma_level": 0.00043900000000000005,
      "index_price": 83469.67
    },
    ... more rows, one per option ...
  ],
  "meta": {
    "api_version": "2026-10-01",
    "count": 799,
    "next_url": null,
    "url": "https://api.kaiko.io/analytics/trades-
flow/gamma-exposures-snapshots?
exchange=drbt&base_asset=btc&quote_asset=usd&start
_time=2026-10-01T01%3A00%3A00.000Z&end_time=2026-1
0-01T01%3A01%3A00.000Z&api_version=2026-10-01"
  }
}
```