Kaiko

MIGRATION GUIDE

Gamma Normalized in USD

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 sums the dealers' gamma exposure across every strike and expiry into one number per hour, normalized to a 1% move in spot: the amount of underlying dealers (the market makers) would have to trade to stay delta-hedged if spot moved by 1%, in units of the underlying and in USD. A negative value means dealers are net short gamma, so their hedging amplifies a move; a positive value means they are net long gamma, so their hedging dampens it. It is the hourly series behind the classic "gamma exposure" chart. Kaiko calls this product Normalized USD Gamma Exposures. The strike-by-strike detail behind each hour is served by the companion endpoint `/analytics/trades-flow/gamma-exposures-snapshots`, covered in its own guide.

What changes for you

- You will call a new endpoint, `/analytics/trades-flow/normalized-usd-gamma-exposures`, 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).
- You can now select a window: Amberdata always returned its whole series, while Kaiko accepts optional `start_time` and `end_time` parameters, for example `2026-10-01T00:00:00.000Z`. Without them, the whole history is returned, as before (§3).
- The order is reversed by default: Kaiko returns the oldest hour first, as a chart reads it, where Amberdata returned the newest hour first. Send `sort=desc` to keep Amberdata's order (§3).
- `timeFormat` is removed: timestamps are always ISO 8601 strings. Field names follow Kaiko's snake_case: `snapshotTimestamp` becomes `timestamp`, `normalizedGammaNative` becomes `normalized_gamma_native` and `normalizedGammaUSD` becomes `normalized_gamma_usd` (§5).
- The measure and its units are unchanged, so there is nothing to convert. The snapshot label changes meaning: Kaiko's row labelled 12:00 is the book 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: Hourly time series, one row per snapshot hour

Metrics: Normalized dealer gamma for a 1% spot move, in the underlying and in USD

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 hour available a few minutes after the hour

Range: Any window; the whole history without dates

History: At least the last two years, hour by hour

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/normalized-usd`	`/analytics/trades-flow/normalized-usd-gamma-exposures`
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.
None	`start_time` (optional)	NEW	**Inclusive** start of the window, as an RFC 3339 timestamp with a time zone, for example `2026-10-01T00:00:00.000Z` (seconds or milliseconds, at most three fractional digits). Amberdata had no date parameter: omit it to get the whole history.
None	`end_time` (optional)	NEW	**Exclusive** end of the window: it covers `[start_time, end_time)`. The same format rule as for `start_time` applies.
None	`sort` (optional)	NEW	`asc` (default, oldest hour first) or `desc` (newest first, Amberdata's order).
`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	`api_version` (optional)	NEW	Lets you pin the response format. The default is `2026-10-01`.

Defaults and limits

- **No dates:** if you include no dates, the whole history is returned, oldest hour first, as Amberdata returned its whole series on every call. Send `sort=desc` to read it newest first, as on Amberdata.
- **Window:** `[start_time, end_time)` selects the snapshot hours it contains. An hour 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 row.
- **One date only:** if you only provide `start_time`, the window runs from that time up to now. If you only provide `end_time`, it runs from the start of the history to that time.
- **No maximum:** the window can be as long as you need. A window starting before the history simply returns what the history holds, and the whole window comes in one response, without pagination.
- **Checks:** the start must be before the end, otherwise Kaiko returns a 400 error.
- **Parameter names:** Kaiko rejects a parameter it does not know with a 400 error (for example `timeFormat: unknown parameter`), so please rename every Amberdata parameter, `currency` 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 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 hour in the window:** Kaiko returns a 200 response with an empty `data` array (`meta.count` = 0), for example for a window that ends before the history starts.
- **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:** Kaiko returns a 400 error.
- **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

The two measures keep their meaning and their units. Kaiko renames the fields in snake_case, writes the timestamp as an ISO 8601 string, and adds the quote currency to the row. 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
`normalizedGammaNative`	`normalized_gamma_native`	number	RENAMED
`normalizedGammaUSD`	`normalized_gamma_usd`	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` , as an ISO 8601 UTC string with milliseconds, for example `2026-10-01T00:00:00.000Z` . Amberdata returned epoch milliseconds by default (`1790812800000`) and an ISO string with `timeFormat=iso` .
- **normalized_gamma_native** is the dealers' gamma exposure of the whole book for a 1% move in spot, in units of the underlying: the sum over every instrument of the dealers' gamma level, times the index price, times 0.01. It is the amount of underlying dealers would trade to re-hedge if spot moved by 1%. Positive when dealers are net long gamma, negative when net short.
- **normalized_gamma_usd** is the same figure converted to USD at the hour's index price, with the same sign.
- **Nulls:** an hour where no instrument carries a published gamma is `null` in both measures, never `0` , since a `0` would read as a book with no exposure. Amberdata returned a number in every row, so please allow for `null` in your parser.

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

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 covers at least the last two years.

7 Will your values change?

Short answer

The measure is the same: the dealers' gamma exposure of the whole book for a 1% spot move, in the underlying and in USD, computed with the same formula from the same per-instrument snapshots. There is no unit to convert. What changes is the naming, the time format, the default order and the meaning of the snapshot label: Kaiko's row is the book 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 hour sums the dealers' gamma level of every instrument of the book (its signed open interest times its latest gamma), then multiplies the sum by the hour's index price, the average of the index prices recorded on the instruments' latest tickers, and by 0.01 for the underlying amount, and by that index price again for USD.
- **Snapshot label, the one-hour shift:** on Kaiko, the row labelled 12:00 sums the positions built from every trade strictly before 12:00:00 and none after it, with 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 hour of the series is the current hour on Kaiko, where it was the previous hour on Amberdata.

- **Expiry hour:** the options that expire at 08:00 UTC count in the rows up to 07:00 and no longer in the 08:00 row, on both sides.
- **Units:** units of the underlying (for example BTC) for `normalized_gamma_native` and USD for `normalized_gamma_usd`, on both sides, so nothing is rescaled.
- **Nulls:** an hour with no published gamma on any instrument is `null` on Kaiko (§5), where Amberdata always returned a number.
- **Default window and order:** the whole history without dates, oldest hour first (Amberdata: newest first, no window selection), and any window length (§3).
- **History:** Kaiko's history covers at least the last two years, and a window that ends before it returns an empty `data` array.

8 Before / after example

Request (BTC inverse options; Amberdata returns its whole series, Kaiko selects its 17:00 row of 9 October 2026)

Amberdata

```
GET https://api.amberdata.com
    /markets/derivatives/analytics
    /trades-flow/gamma-exposures/normalized-usd
    ?exchange=deribit
    &currency=BTC
x-api-key: <your-amberdata-key>
```

Kaiko

```
GET https://api.kaiko.io
    /analytics/trades-flow
    /normalized-usd-gamma-exposures
    ?exchange=drbt
    &base_asset=btc
    &quote_asset=usd
    &start_time=2026-10-09T17:00:00.000Z
    &end_time=2026-10-09T18:00:00.000Z
X-Api-Key: <your-kaiko-key>
```

Response (real responses, same field order on both sides; Amberdata's 16:00 row and Kaiko's 17:00 row are the same book)

Amberdata

```
{
  "status": 200,
  "title": "OK",
  "description": "Successful request",
  "payload": {
    "data": [
      {
        "exchange": "deribit",
        "currency": "BTC",
        "snapshotTimestamp": 1791561600000,
        "normalizedGammaNative":
          1135.1594263561192,
        "normalizedGammaUSD": 93876196.92237641
      },
      ... more rows, newest first ...
    ],
    "metadata": {
      "api-version": "2023-09-30"
    }
  }
}
```

Kaiko

```
{
  "data": [
    {
      "exchange": "drbt",
      "base_asset": "btc",
      "quote_asset": "usd",
      "timestamp": "2026-10-09T17:00:00.000Z",
      "normalized_gamma_native":
        1135.1594263561192,
      "normalized_gamma_usd": 93876196.92237641
    }
  ],
  "meta": {
    "api_version": "2026-10-01",
    "count": 1,
    "next_url": null,
    "url": "https://api.kaiko.io/analytics/trades-
flow/normalized-usd-gamma-exposures?
exchange=drbt&base_asset=btc&quote_asset=usd&start
_time=2026-10-09T17%3A00%3A00.000Z&end_time=2026-1
0-09T18%3A00%3A00.000Z&api_version=2026-10-01"
  }
}
```