Kaiko

MIGRATION GUIDE

# Spot – OB Depth – Pressure

HTTP REST

Amberdata → Kaiko

2026

www.kaiko.com

## 1 At a glance

**What this endpoint gives you.** Order book pressure: the imbalance between resting bids and asks within given distances of the reference price, as a net size, a total size and a percentage, at several depth levels.

What changes for you

- **Exchange and instrument move into the URL path**, and the market ( `{instrument_class}` ) becomes explicit (see §2–3).
- **Six depth levels instead of eight.** 5, 25, 50, 100, 200 and 500 bps are on both sides; Amberdata's 300 and 400 bps levels have no Kaiko equivalent. Suffixes move from basis points ( `005` ) to percent ( `0_05` ).
- **Reference price differs.** Kaiko measures the levels from the **mid price** (fixed; `slippage_ref` does not apply); Amberdata from the best bid / best ask (see §7).
- **One row per snapshot, no time bucketing**; snapshots every 30 seconds.
- **Units are unchanged**: net and total size in base asset, imbalance in percent.
- **Default page size is 10 snapshots**; paginate with `next_url` .

### Coverage & distribution

**Data type:** Order book snapshot analytics (pressure)

**Markets:** CEX spot

**Snapshot frequency:** Kaiko: every 30 seconds (one row per snapshot). Amberdata: 1 minute

**Distribution:** REST API

## 2 Endpoint & authentication

| | Amberdata (today) | Kaiko (new) |
|---|---|---|
| **Method** | GET | GET |
| **Base URL** | `https://api.amberdata.com/markets/spot/analytics` | `https://us.market-api.kaiko.io` (or `eu.market-api.kaiko.io` ) |
| **Path** | `/depth/pressure` | `/v2/data/order_book_snapshots.v1/exchanges/{exchange}/{instrument_class}/{instrument}/snapshots/pressure` |
| **Auth** | API key header `x-api-key` | API key header `X-Api-Key` (same mechanism, new key) |

### Kaiko API family: Classic (versioned)

This endpoint belongs to Kaiko's existing versioned API. Its URL structure and response envelope differ from Kaiko's New API grammar endpoints ( `market-data` ), such as OHLCV Batch and Tickers.

## 3 Request parameters

| Amberdata param | Kaiko param | Change | Notes |
|---|---|---|---|
| `exchange` (query, required) | `{exchange}` (path) | RENAMED | Moves to the URL path. Kaiko exchange code, e.g. `gdax` → `cbse` (see §6). |
| — | `{instrument_class}` (path) | NEW | Market: `spot`. |
| `pair` (query, required) | `{instrument}` (path) | RENAMED | Moves to the URL path. Kaiko instrument code, e.g. `btc_usd` → `btc-usd` (see §6). |
| `startDate` (optional) | `start_time` | RENAMED | Inclusive lower bound on both sides. Amberdata: seconds, milliseconds or ISO 8601. Kaiko: ISO 8601. Optional; automatically included in continuation tokens. |
| `endDate` (optional) | `end_time` | RENAMED | Exclusive upper bound on both sides. ISO 8601 on Kaiko. |
| `timeFormat` (optional) | — | REMOVED | Amberdata default `hr` (human-readable). Kaiko returns both Unix milliseconds and ISO 8601 (see §5). |
| — | `page_size` | NEW | Optional. Snapshots per page; default **10** on this endpoint. |
| — | `sort` | NEW | Optional. `asc` or `desc` (default). |
| — | `continuation_token` | NEW | Pagination; use `next_url` as returned. |
| — | `slippage`, `limit_orders`, `slippage_ref` | NEW | Shared order book snapshot parameters, echoed in `query`. **Not used by Pressure.** |

## 4 Response envelope & metadata

The fields around the data. The Amberdata envelope is **identical on every Amberdata endpoint**; the Kaiko envelope is the one shared by Kaiko's order book snapshot endpoints.

| Amberdata field | Kaiko field | Change | Notes |
|---|---|---|---|
| `status` / `title` / `description` | `result` | RENAMED | Single string (`"success"`) instead of the HTTP-style status object. Error handling must be rewritten. |
| `payload.data` | `data` | RENAMED | Array holding the snapshot rows (see §5), now at the top level. |
| `payload.metadata.api-version` | `query.data_version` | RENAMED | Data version (`v1`), inside the echoed `query` object. |

| Amberdata field | Kaiko field | Change | Notes |
|---|---|---|---|
| — | `query` | NEW | Echo of the request, including the defaults applied ( `sort` , `page_size` , `slippage_ref` ...). |
| — | `time` , `timestamp` | NEW | Server response time (ISO 8601 and Unix milliseconds). |
| — | `continuation_token` , `next_url` | NEW | Pagination: call `next_url` for the next page. |
| — | `access` | NEW | Time range your API key can access ( `access_range` ) and data range ( `data_range` ). |

## 5 Response - data fields

One row per snapshot, no time bucketing. Formulas on Kaiko, for each level X (% of the mid price): `mid_price` = (best bid + best ask) / 2; `pressureX` = bid depth − ask depth; `total_volumeX` = bid depth + ask depth; `pressure_percentX` = 100 × pressure / total volume. Levels: `005` → `0_05` , `025` → `0_25` , `050` → `0_5` , `100` → `1` , `200` → `2` , `500` → `5` . All Kaiko values are decimal strings.

| Amberdata field | Kaiko field | Change | Notes |
|---|---|---|---|
| `exchange` , `pair` | — | REMOVED | Not repeated per row; recoverable from the request path or `query` . |
| `timestamp` | `poll_timestamp` , `poll_date` | RENAMED | Time at which Kaiko took the raw order book snapshot: Unix milliseconds and ISO 8601. |
| — | `timestamp` | NEW | Timestamp provided by the exchange; `null` when the exchange does not provide one. |
| `midPrice` | `mid_price` | RENAMED | Number → decimal string. |
| `pressure{XXX}Net` | `pressure{L}` | RENAMED | Bids minus asks, in base asset, within the level; `null` when the captured book does not reach the level. Same sign convention as Amberdata: positive when bids exceed asks. |
| `pressure{XXX}Percentage` | `pressure_percent{L}` | RENAMED | Net divided by total size, **in percent on both sides**. |
| `pressure{XXX}TotalSize` | `total_volume{L}` | RENAMED | Bids plus asks, in base asset, within the level. |
| `pressure300*` , `pressure400*` | — | REMOVED | No 300 or 400 bps level on Kaiko. |

## 6 Exchange & instrument names

Kaiko identifies venues and instruments with its own normalized codes, which differ from Amberdata's names. Codes can also differ by market for the same venue (e.g. Binance spot and options).

### Reference

The mapping rules and the full code lists apply to every endpoint and are described in the **Exchange, Asset & Instrument Mapping** migration guide ( `exchange-instrument-asset-codes.pdf` ).

## 7 Will your values change?

### Short answer

Pressure uses the same formulas on both sides, but levels are measured from the mid price on Kaiko and from the best bid / best ask on Amberdata, so the volume inside each level, and therefore net, total and percentage, differ slightly. The gap is largest on the narrowest levels.

- **Reference price.** Levels start from the mid price on Kaiko (not configurable), from the BBO on Amberdata. The effect is largest on the narrowest levels (5 and 25 bps).
- **Levels.** 300 and 400 bps are not available on Kaiko.
- **Order book depth captured.** Values at wide levels depend on how much of the book each provider captures; Amberdata caps depth on some venues (e.g. 100 or 1000 orders); Kaiko, like Amberdata, captures the depth each exchange makes available, and cannot collect the full book from every exchange: on some venues, wide levels under-represent the book.
- **Levels not reached.** When the captured order book does not extend to a level, Kaiko returns `null` for that level, as on its other order book snapshot endpoints.
- **Number representation.** Kaiko returns decimal strings; compare as decimals.

## 8 Before / after example

### Request

**Amberdata**

```
GET https://api.amberdata.com/markets/spot/
analytics
    /depth/pressure
    ?exchange=gdax
    &pair=btc_usd
    &startDate=2025-03-01
    &endDate=2025-03-02
x-api-key: <your key>
```

**Kaiko**

```
GET https://us.market-api.kaiko.io
    /v2/data/order_book_snapshots.v1
    /exchanges/cbse/spot/btc-usd
    /snapshots/pressure
    ?start_time=2025-03-01T00:00:00Z
    &end_time=2025-03-02T00:00:00Z
X-Api-Key: <your key>
```

### Response

Amberdata: example from its documentation (shortened). Kaiko: real sample, request without parameters. Different dates, so values are not comparable.

**Amberdata**


```
{
  "status": 200,
  "title": "OK",
  "description": "Successful request",
  "payload": {
    "data": [
      {
        "exchange": "gdax",
        "pair": "btc_usd",
        "midPrice": 84297.735,
        "pressure005Net": 3.80466251,
        "pressure005Percentage":
13.333760348234334,
        "pressure005TotalSize": 28.53405499,
        "pressure025Net": -2.7184777299999467,
        "pressure025Percentage":
-2.157767634675136,
        "pressure025TotalSize":
125.98565695000003,
        ... (050, 100, 200, 300, 400, 500)
        "timestamp": "2025-03-01 00:00:00 000"
      },
      ...
    ]
  }
}
```


**Kaiko**


```
{
  "query": {
    "metric": "pressure",
    "exchange": "cbse",
    "instrument_class": "spot",
    "instrument": "btc-usd",
    "slippage": 0,
    "limit_orders": 10,
    "slippage_ref": "mid_price",
    "sort": "desc",
    "page_size": 10,
    "data_version": "v1",
    ...
  },
  "time": "2026-11-01T13:27:57.678243994Z",
  "timestamp": 1793539677678,
  "data": [
    {
      "poll_timestamp": 1793539653638,
      "poll_date": "2026-11-01T13:27:33.638Z",
      "timestamp": 1793539650874,
      "mid_price": "77854.235",
      "pressure0_05": "-0.2888536999999989",
      "pressure_percent0_05":
"-1.3298768390155131",
      "total_volume0_05": "21.72033466",
      ... (0_25, 0_5, 1, 2, 5)
    },
    ...
  ],
  "result": "success",
  "continuation_token": "...",
  "next_url": "https://us.market-
api.kaiko.io/...",
  "access": { ... }
}
```