



# BMLL Data Feed

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## Millisecond CBBO

**Date:** 2023-08-18

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## 1.1. Introduction

The BMLL Data Feed Millisecond CBBO (Consolidated Best Bid and Offer) dataset offers a millisecond view of the consolidated order book for the European region aggregated by price level with up to 10 levels of depth. The consolidated book contains lit quotes from all venues that have an order book allowing to trade the instruments considered in the same condition as a specific primary market (same currency, same reference primary market, same regulations). The millisecond CBBO allows market participants to understand how markets behave in a specific region and how much liquidity is available to market participants.

## 1.2. Dataset schema

### Basic Types

Type	Content	Text representation
bigint	8 byte signed integer	103403403403
char(n)	fixed length string containing letters, digits or '@'	XLON
date	Calendar date	YYYY-MM-DD
enum	string from a defined set	AUCTION
integer	4 byte signed integer	1234
price	8 byte binary floating point. All prices are rounded to a fixed number of decimal places. Trailing decimal zeros are not shown.	123.45
quantity	8 byte binary floating point, rounded to 4 decimal places	125
timestamp	Nanoseconds since 1970 in UTC. Timestamp will be represented in ISO format in text format.	20220302-11:23.5712345789
varchar	variable length string up to 500 characters. May contain quotes and special characters. All text will be utf8-encoded unless indicated differently. Ticker and ISO codes should be ASCII compatible.	"Vodafone Group"
bool	Boolean	1, 0

## 1.3. Schema

One row in the dataset corresponds to a snapshot of the consolidated best-bid-offer book at a specific point-in-time.

Field Name	Type	Description
Ticker	varchar (ascii)	FactSet ticker. It refers to the unique identifier used within the FactSet financial data platform to represent a specific security. Here this is the ticker of the Primary Listing for which the CBBO is computed.
ISOExchangeCode	varchar (ascii)	The ISO code of the primary exchange associated with the Instrument. On stocks this ISO code will generally be one of, AMS, BRU, BUD, CSE, DUB, ETR, ICE, HEL, LIS, LIT, LON, MIL, MCE, OME, OSL, PAR, PRA, STO, SWX, RIS, TAL or WBO. In other classes, BATE, DXE, TQEX, TRQX may also be the main regional venue for the instrument.
TradeDate	date	The specific date on which a trade was executed - the date is derived from the LocalTimestamp.
EventTimestamp	timestamp	The UTC timestamp indicates the date and time at which the update occurred in UTC timezone.
LocalTimestamp	timestamp	The local timestamp indicates the date and time at which the update occurred in the timezone of the primary record associated with the venue.
TimestampNanoseconds	bigint	This column contains a representation of the time of the update as the number of nanoseconds since 1970-01-01 00:00:00.0 UTC.
TZOffset	int	The offset between the local timestamp and UTC in seconds. Note: This is based on the original listing location of the primary instrument. Format was +/- HHMM . This will be adjusted during the DST if such a change occurs.
Core CBBO fields (Price levels 1-10 are available)		
BidPrice[1-10]	price	The CBBO price of the price level on the bid side in local currency
BidQuantity[1-10]	quantity	The number of shares available in the CBBO at the price level on the bid side
BidNumOrders[1-10]	int	The number of distinct orders in the CBBO at given the price level on the bid side
AskPrice[1-10]	price	The CBBO price of the price level on the ask side in local currency
AskQuantity[1-10]	quantity	The number of shares available in the CBBO at the price level on the ask side
AskNumOrders[1-10]	bigint	The number of distinct orders in the CBBO at given the price level on the ask side
Additional fields		
BidLevelCount	int	Number of bid levels populated
AskLevelCount	int	Number of ask levels populated

Field Name	Type	Description
L2EventNo	bigint	L2EventNo is a data field that enables to sort rows of financial data that occur at the same timestamp. The first event of a particular day or specific event is labelled as 1 in the L2EventNo field. L2EventNo increases then with every update.
MIC	varchar	The Market Identifier Code (MIC) is used to uniquely identify the primary exchange associated with the symbol for which the L2-book is reconstructed.
ExchangeTicker	varchar	The original ticker on the primary exchange.
BMLLObjectId	bigint	The ObjectId identifier is the primary identifier used within BMLL APIs to represent a specific financial instrument or security.
CurrencyCode	char(3) (ascii)	The currency of the order book information; as provided by the exchange.

### 1.4. Data arrival times

Full product coverage and arrival times are available at <https://data.bmlitech.com>.

### 1.5. Notes

**File delivery:** CBBO symbols are computed in files grouped according to the MIC code of the primary venue. They can be distributed according to this convention, or repackaged for specific universes. The fact files are packaged by primary venues means all symbols for a specific primary are delivered at the same moment, and that files built on custom universes are likely to require the availability of data from all venues that contribute to the universe.

**Crossed book and visible liquidity:** CBBO files are composed from the visible book of all venues which have liquidity at a specific point of time. It is possible for the files to contain locked or crossed markets. Visible liquidity currently includes all bids and quotes visible on the venue - even at times when other markets may not be open, but venues in an auction state do not contribute to the CBBO. In Europe, we combine the primary exchange and corresponding lit MTFs (Aquis, Turquoise and CBOE).