



BMLL Data Feed

Futures Reference Master

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Version: 1.3

1.1. Introduction

The BMLL Data Feed: Futures Reference Master gives a daily master file of reference data for futures in the BMLL universe. It allows users to quickly identify particular securities within other BMLL Data Feed products.

1.2. Dataset schema

Basic Types

Type	Content	Text representation
BOOLEAN	A True or False boolean value.	1,0
INT32	A 32 bit signed integer.	12345
INT64	A 64 bit signed integer.	12345
DOUBLE	IEEE 64-bit floating point value.	123.4567
BYTE_ARRAY	An arbitrarily long byte array.	"VODAFONE GROUP"
NUMBER	A number with defined precision (total digits allowed) and scale (number of digits allowed to the right of the decimal point). Unless otherwise specified, the default is precision 38 and scale 0.	12345
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"
TIMESTAMP_NTZ	Nanoseconds since 1970 in UTC. Timestamp will be represented in ISO format in text format.	20220302-11:23.5712345789
FLOAT	IEEE 64-bit floating point value.	123.4567
DATE	A calendar date consisting of a year, month, and day, without including any time or time zone components.	2025-01-01

1.3. Schema

Field Name (Snowflake / Databricks)	Field Name (Parquet)	Type (Snowflake / Databricks)	Type (Parquet)	Description
MIC	MIC	VARCHAR	BYTE_ARRAY	The Market Identifier Code (MIC) is used to uniquely identify the exchange for which the trade is reported.
TICKER	Ticker	VARCHAR	BYTE_ARRAY	The ticker as provided by the exchange
LISTING_ID	ListingId	NUMBER	INT64	The BMLL identifier represents the listing
INSTRUMENT_ID	InstrumentId	NUMBER	INT64	The BMLL identifier represents the instrument
PRODUCT_CODE	ProductCode	VARCHAR	BYTE_ARRAY	Product Code as supplied by the exchange.
CONTRACT_TYPE	ContractType	VARCHAR	BYTE_ARRAY	• Normalised Type of the Listing. Mappings are provided per dataset. Can take values: • - Outright • - Spread • - Inter Exchange • - Inter Product Spread • - Pack and Bundle • - Strip • - Butterfly • - Condor • - Other • - Unknown
MATURITY_MONTH_YEAR	MaturityMonthYear	VARCHAR	BYTE_ARRAY	The month and year on which the Listing matures, in format YYYYMM.
CURRENCY_CODE	CurrencyCode	VARCHAR	BYTE_ARRAY	The currency of the order book information; as provided by the exchange.

BMLL Data Feed: Daily Reference - Futures

Field Name (Snowflake / Databricks)	Field Name (Parquet)	Type (Snowflake / Databricks)	Type (Parquet)	Description
ASSET_CLASS	AssetClass	VARCHAR	BYTE_ARRAY	Normalised Type of the Listing. Mappings are provided per dataset. Mapping detail is provided in section 1.5
CFI	CFI	VARCHAR	BYTE_ARRAY	ISO 10962 Classification of Financial Instruments Code. Populated where provided from the exchange.
DESCRIPTION	Description	VARCHAR	BYTE_ARRAY	Long description of the Listing.
DISPLAY_NAME	DisplayName	VARCHAR	BYTE_ARRAY	The name of the Listing.
EXCHANGE_CONTRACT _TYPE	ExchangeContr actType	VARCHAR	BYTE_ARRAY	Exchange provided contract type.
EXPIRY_DATE	ExpiryDate	DATE	INT32	Last trading date of the future
FIGI	FIGI	VARCHAR	BYTE_ARRAY	The Financial Instrument Global Identifier, when available. See https://www.openfigi.com/ for more details
ISIN	ISIN	VARCHAR	BYTE_ARRAY	The International Securities Identification Numbering value unique for the instrument, where available.
INSTRUMENT_TYPE	InstrumentType	VARCHAR	BYTE_ARRAY	The type of asset that the listing represents, selected from the list: - Equity - Funds - Debt - Entitlements - Futures - Other Will be Futures in this case.

Field Name (Snowflake / Databricks)	Field Name (Parquet)	Type (Snowflake / Databricks)	Type (Parquet)	Description
IS_ALIVE	IsAlive	VARCHAR	BYTE_ARRAY	Boolean to indicate the existence of the Listing by time. If a Listing is marked as alive, the expectation is that we should be able to retrieve a Limit Order Book for it, even if that LOB is empty. Note - for Futures data, only listings marked IsAlive will be in the dataset
IS_STRATEGY	IsStrategy	VARCHAR	BYTE_ARRAY	Boolean to indicate whether this contract is a strategy (e.g. calendar spread) or an outright order book. Equivalent to `ContractType != "Outright"``
MARKET_DATA_LEVEL	MarketDataLevel	VARCHAR	VARCHAR	L2 or L3 to indicate granularity of Limit Order Book data
MATURITY_DATE	MaturityDate	DATE	INT32	The date on which the Listing matures (i.e settles)
OPERATING_MIC	OperatingMIC	VARCHAR	BYTE_ARRAY	The Operating MIC of the venue. Reserved for future use
REFERENCE_DATE	Date	DATE	INT32	The date of the reference data

1.4. Data Model

There are three core concepts with the reference model - Listing, Instrument and Market, with differences depending on whether the exchange is an equity or futures exchange.

Market

A Market represents a distinct venue for the execution of orders on tradable instruments; e.g. an Exchange, Systematic Internaliser, MTF, ATS or OTC market:

- If a venue has multiple order books, trading the same securities simultaneously and independently, then they are distinct Markets.
- If a venue has multiple segments for different securities (e.g. main board & small cap), then they are kept as a single Market.
- Where a group company owns and operates multiple venues with different rules, geographic focus or holiday calendars, then those venues are distinct Markets.

In addition, a Market can represent a consolidated source of pricing data, such as a trade reporting system (e.g. Cboe BOTC), a consolidated price feed (e.g. US SIP), or OTC prices set by an organisation (e.g. ECB daily F/X rates).

Every Market is uniquely and permanently identified by a primary key: in this data product that is the MIC Code. This is often the same as the ISO 10383 Market Identifier Code. However, most ISO MIC codes are not BMLL Markets. Certain use cases require markets which do not have a MIC code but we wish to include in our standard. For example, in the US Equities SIP tape, we include an '@' (at sign) at the beginning. This is to deliberately contrast to standard MIC codes.

Listing

The Listing is the primary entry point to accessing BMLL's order book data, via the ListingId attribute, and represents a set of orders and trades on one symbol on one market. Each Listing is only on one Market. The fields of a ListingId vary depending on the relevant schema, as described below.

Instrument

In BMLL Equities, an Instrument represents a grouping of fungible Listings across multiple venues. In BMLL Futures, an Instrument represents a futures product, such as "E-Mini S&P", and the Listings associated with that Instrument represent all of the tradeable contracts, both outrights and strategies, that the venue lists under that product

1.5. Notes

AssetClass

AssetClass provides a normalised way to view the underlying asset that the listing represents. In general, we use the first level from the CFI code (ISO 10962) wherever

possible to map to InstrumentType. However, when this is not available, we map based on exchange provided fields.. Possible values for AssetClass are:

AssetClass	CFI mapping	ICE Market Type
Equity	FFB*, FFS*, FFI*, KE	40, 170,171,172, 207-215
Rates	FFN*, KR	131, 177, 185, 200, 202, 203
Commodities	FC*, KT	0-24, 36, 41-127, 133-168, 173-176, 179-184, 188-197, 205, 206, 216-320
Futures		209
Credit	FFD*, KC	
FX	FFC*, KF	39
Other	Other F and S, KY, KM	26, 178

Normalised MIC

BMLL generally identifies venues using the ISO20022 Market Identifiers Code (MIC). Whilst this works well in general, segment and operational MIC codes are not always used in a consistent manner. Within BMLL, we use a single MIC code to represent a venue.

The MIC used aims to consistently map trading mechanisms of the lit order book in question, rather than particular segments of the market. For example, all futures on ICE London will have the MIC code IFLL, rather than individual segment mic codes.

1.6. Format and file structure

Data is delivered as a single file per market per date, as a parquet file.

- **{YYYY}**: Year
- **{MM}**: Month
- **{DD}**: Date
- **{Product}**: The product you are subscribing
 - **Reference**: REFERENCE
- **{Region}**: The region of the venue, such as APAC, AMERICAS, EMEA and GLOBAL
- **{MIC}**: Market Identifier Code (MIC) is a unique four-character code that identifies stock markets and exchanges for trading and referencing computer systems

File Structure:

{YYYY}/{MM}/{DD}/REFERENCE/{Region}/reference-future-{MIC}-YYYYMMDD.parquet

1.7. Data arrival times

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