

T7 Release 5.0

Xetra Instrument Reference Data Guide

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|---------|-------------|
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Abstract

This document provides an overview about the instrument reference data for Xetra Frankfurt customers on T7.

Keywords

Xetra, T7, Reference Data Interface, Reference Data File, Common Report Engine

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1 List of Abbreviations, Acronyms and Definitions

Please find a list of all the abbreviations used in the document.

| | |
|------------|--|
| CRE | Common Report Engine |
| CSV | Comma-separated-values |
| ETC | Exchange Traded Commodities |
| ETF | Exchange Traded Funds |
| ETN | Exchange Traded Notes |
| MIC | Market Identifier Code |
| RDF | Reference Data File |
| RDI | Reference Data Interface |
| T7 | Trading System developed by Deutsche Börse Group |

2 Introduction

T7 for Cash Market offers instrument reference data on four different sources:

- **Common Report Engine:** On the Common Report Engine the Reference Data File (T7 RDF) is available containing all tradable instruments for the current business day. It is generated one time per day and its creation is on each Start-Of-Day. For more information, please refer to *T7 Market & Reference Data Interfaces* on the path

*Xetra.com / Technology / T7 trading architecture / System documentation /
Market and Reference Data Interfaces*

Please find more details about the Common Report Engine in the document *Common Report Engine User Guide* in the following path

*Xetra.com / Technology / T7 trading architecture / System documentation / Reports /
Common Report Engine User Guide*

- **Reference Data Interface (T7 RDI):** This interface provides products' and instruments' reference data which are available for trading on T7. For more information, please refer to *T7 Market & Reference Data Interfaces* on the path

*Xetra.com / Technology / T7 trading architecture / System documentation /
Market and Reference Data Interfaces*

- **Cash Market Member Section:** In the Cash Market member section the instrument Reference Data File (T7 RDF) will be available on the following path:

*Deutsche-boerse-cash-market.com / Member Section / Cash Market Member Section /
Cash Market Resources / Instruments*

For more information regarding the instrument reference data file, please refer to *T7 Market & Reference Data Interfaces* on the path:

*Xetra.com / Technology / T7 trading architecture / System documentation /
Market and Reference Data Interfaces*

- **Instrument reference data on public website:** Instrument reference data (asci file) will be available on public website xetra.com on the following path:

Instruments > All tradable instruments

Besides instrument reference data, csv-files will be generated which contains static information for each instrument. These will only be changed 1-2 times a year, for example order profiles and trading schedules. Major changes of the static files will be communicated in advance with sufficient lead-time.

3 Change Log

| Date | Version | Description |
|------------|---------|--|
| 12.04.2017 | 1.0 | Creation of version 1.0. |
| 27.04.2017 | 1.1 | Creation of version 1.1: <ul style="list-style-type: none">• Added Chapter 3 Change Log.• Modified description of file name of instrument reference data file on public webpage.• Modified description of file name of static reference data on public webpage.• Modified field name “CCP eligible Code”. |
| 08.06.2017 | 1.2 | Creation of version 1.2: <ul style="list-style-type: none">• Added field “Iceberg” in Chapter 6.2 Order Profile.• Added valid values for “CCP eligible Code” and “Instrument Type”. |
| 04.07.2017 | 1.3 | Creation of version 1.3: <ul style="list-style-type: none">• Added note to Chapter 5.1 Formatting of the file. |

4 Further reading

The following documents provide additional information to complement this manual:

- T7 Functional and Interface Overview
- T7 Functional Reference
- T7 Market Data & Reference Data Interfaces – Manual
- Common Report Engine User Guide

5 Public website

5.1 Formatting of the file

The file is created in accordance with the following specifications:

| | |
|---|---------------|
| File extension | CSV |
| Fields delimiter | ; (semicolon) |
| Decimal symbol | . (point) |
| Digit grouping symbols (thousands separator) | , (comma) |

The name of the file will follow the pattern T7 (XETR) All tradable instruments <BusinessDay>.

With:

BusinessDay: format 'DD.MM.YYYY'

Please note, when importing the file into a tool like, e.g. Excel or MS-Access, you have to make sure that the decimal character is configured accordingly, either in the tool itself or in the operation system, e.g. the Regional Settings in Windows.

5.2 File Record Layout

All fields listed below are sorted in the same order as shown in the instrument file. All data is provided in string format (Alphanumeric) delimited by semicolon.

Line 1 provides the MIC of the market, e.g. Market: XETR

Line 2 provides the date of the last update of the file, e.g. Date Last Update: 31.03.2017.

Line 3 provides the column names listed below.

The instrument reference data starts with line 4:

| Sequence Number | Field name | Description |
|-----------------|-----------------------|---|
| 1 | Market Segment Status | This field indicates whether the instrument is already tradable in T7. Published = Instrument is not tradable on T7 Active = Instrument is tradable on T7 |
| 2 | Instrument Status | Instrument Status |
| 3 | Instrument | Instrument description |
| 4 | ISIN | ISIN of the instrument |
| 5 | Product ID | Relevant for ETFs which planned to be grouped along to same underlyings. |
| 6 | Instrument ID | Former "Isix": Instrument ID, unique identifier across the corresponding back end environment. |

| Sequence Number | Field name | Description |
|--|--------------------------------------|--|
| 7 | WKN | Wertpapierkennnummer |
| 8 | Mnemonic | Instrument mnemonic |
| 9 | MIC Code | MIC Code of the market |
| 10 | CCP eligible Code | Indicator whether instrument is CCP eligible: Y = Instrument is CCP eligible N = Instrument is not CCP eligible |
| 11 | Trading Model Type | Trading Model Types: ContinuousTrading = Continuous Trading with Auctions OneAuction = One Auction MultipleAuctions = Multiple Auction |
| 12 | Product Assignment Group | Product Assignment Group, e.g. DAX1. |
| 13 | Product Assignment Group Description | Description of the Product Assignment Group. |
| 14 | Designated Sponsor Member ID | DS Member Member ID. For more than one DS, Member IDs are separated with "#", the Member ID of the delegated member is separated with "*" at the end of the field. |
| 15 | Designated Sponsor | DS Member long name. For more than one DS, members' long names are separated with "#", the members' long name of the delegated member is separated with "*" at the end of the field. |
| 16 | Price Range Value | Maximum allowable quote spread (absolute value). Conditionally provided if Price Range Percentage is absent. |
| 17 | Price Range Percentage | Maximum allowable quote spread (percentage value). Conditionally provided if Price Range Value is absent. |
| 18 | Minimum Quote Size | Market Making Parameter: Minimum Quote Size. |
| 19 | Instrument Type | Instrument type: CS = Common stock / Equity ETF = Exchange Traded Funds ETN = Exchange Traded Notes ETC = Exchange Traded Commodities OTHER = Other |
| 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58 | Tick Size (1-20) | A tick size represents a limit price/range step. Twenty different tick sizes are possible for an instrument. |
| 21 | Upper Price Limit Max | Maximum price for that instrument. Upper price limit max represents a limit range for which a tick size applies. |

| Sequence Number | Field name | Description |
|--|--------------------------------|--|
| 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59 | Upper Price Limit (2-20) | Upper Price Limit represents a limit range for which a tick size applies. There are a total of twenty possible for an instrument. |
| 60 | Number of Decimal Digits | Displayed decimals |
| 61 | Unit of Quotation | The unit in which an instrument is quoted/stated when buying or selling, e.g. shares (number of items). |
| 62 | Market Segment | This field indicates the type of Market Admission, e.g. Open Market, Regulated Market. |
| 63 | Market Segment Supplement | This field indicates the market segment supplement, e.g. XTF Exchange Traded Funds. |
| 64 | Clearing Location | Identifier for the location at which trades are cleared. |
| 65 | Primary Market MIC Code | Market Identifier Code (ISO 10383) of the "home market", where the first IPO took place. |
| 66 | Reporting Market | Market Identifier Code (ISO 10383) required for reporting to supervisory authority. |
| 67 | Settlement Period | This field indicates the number of business days from trade execution after which settlement is to be effected. |
| 68 | Settlement Currency | Currency used for settlement. |
| 69 | Closed Book Indicator | Indicates whether the Order book is closed during auction trading. |
| 70 | Market Imbalance Indicator | Controls if during auction call/volatility interruption/extended volatility interruption phase a surplus (side and volume) at the indicative price (if crossed order book) or the best bid/best ask limit and quantity (if uncrossed order book) is displayed to the market. |
| 71 | CUM/EX Indicator | CUM/EX Indicator: 'C' = Cum Capital Adjustment or Dividend: Last trading day before a Capital Adjustment or Dividend. Orders will be deleted for the next trading day. 'E' = Ex Capital Adjustment or Dividend: First trading day after Capital Adjustment or Dividend. Open orders have been deleted before start of day. |
| 72 | Minimum Iceberg Total Volume | Minimum Iceberg Total Volume |
| 73 | Minimum Iceberg Display Volume | Minimum Iceberg Display Volume (Peak) |

| Sequence Number | Field name | Description |
|-----------------|---|---|
| 74 | EMDI Incremental A - Unnetted | Incremental address for EMDI Unnetted multicast stream A. |
| 75 | EMDI Incremental A – Unnetted Port | EMDI Port address A for EMDI Unnetted. |
| 76 | EMDI Incremental B – Unnetted | Incremental address for EMDI Unnetted multicast stream B. |
| 77 | EMDI Incremental B – Unnetted Port | Port address B for EMDI Unnetted. |
| 78 | EMDI Snapshot A – Unnetted | Snapshot address for EMDI Unnetted multicast stream A. |
| 79 | EMDI Snapshot A – Unnetted Port | EMDI Port address A for EMDI Unnetted. |
| 80 | EMDI Snapshot B – Unnetted | Snapshot address for EMDI Unnetted multicast stream B. |
| 81 | EMDI Snapshot B – Unnetted Port | EMDI Port address B for EMDI Unnetted. |
| 82 | EMDI Market Depth – Unnetted | Market depth for EMDI Unnetted. |
| 83 | EMDI Snapshot Recovery Time Interval - Unnetted | Recovery interval (duration of one cycle). |
| 84 | EMDI Address A - Netted | Incremental address for EMDI Netted multicast stream A. |
| 85 | EMDI Port A - Netted | Port address A for EMDI Netted. |
| 86 | EMDI Address B - Netted | Incremental address for EMDI Netted multicast stream B. |
| 87 | EMDI Port B - Netted | Port address B for EMDI Netted. |
| 88 | EMDI Market Depth – Netted | Market depth for EMDI Netted. |
| 89 | EMDI Market Depth Time Interval - Netted | Netting interval for low bandwidth feeds (0=no netting). |
| 90 | EMDI Recovery Time Interval - Netted | Recovery interval (duration of one cycle). |
| 91 | EOBI Incremental A | Address A for EOBI Incremental multicast stream (Order by Order). |
| 92 | EOBI Incremental Port A | Port address A for EOBI Incremental. |
| 93 | EOBI Incremental B | Address B for EOBI Incremental multicast stream. |
| 94 | EOBI Incremental Port B | Port address B for EOBI Incremental. |
| 95 | EOBI Snapshot A | Address A for EOBI Snapshot multicast stream. |
| 96 | EOBI Snapshot Port A | Port address A for EOBI Snapshot multicast stream. |
| 97 | EOBI Snapshot B | Address B for EOBI Snapshot multicast stream. |
| 98 | EOBI Snapshot Port B | Port address B for EOBI Snapshot multicast stream. |

6 Static Files

In order to reduce the data sent via RDI and the size of the files on the CRE and the Xetra website xetra.com, reference data that rarely change like order profiles or trading schedules will only be provided via static csv-files on the CRE, Cash Market Member Section and the Xetra website xetra.com. Members have to process both files. Major changes of the static files will be communicated in advance with sufficient lead-time. Beside of major changes, the files need to be processed whenever a new instrument is added to Xetra on T7.

The files contain order profiles (e.g. Limit Order allowed) and trading schedules assigned to each Xetra instrument traded on the T7 platform as well as files for the descriptions of the Market Segment Supplements an instrument is assigned.

Static files for Xetra will be available on the Xetra and Cash Market Website under the following path:

*xetra.com or deutsche-boerse-cash-market.com / Instruments /
All tradable instruments*

The name of the zip-file will follow the pattern T7 (XETR) Static Instrument Reference Data <BusinessDay>.

With:

BusinessDay: format 'DD.MM.YYY'

Furthermore, the static file will be available on the Common Report Engine as a zip file. The file name will follow the pattern

<MIC_EnvironmentNr>_<Name>_<ReportID>_<MemberID>_<BusinessDay>_<MIC>.zip

With:

MIC_Environment number, i.e. 51 for production and 52 for simulation

Name: always FIL

ReportID: always RDF02

MemberID: always PUBLI

BusinessDay: format 'YYYYMMDD'

MIC: MIC Code of the market, e.g. XETR

Example:

51FILRDF02PUBLI20170328XETR.zip

6.1 Formatting of the files

Each csv-file will follow basic format rules. Every data record will be in one line; fields separated by a delimiter – “;”.

1. If a field is empty because it is optional and has no value, only the delimiter will be written into the csv-file.
2. The first row in the csv-file contains the column headers.

The file names will follow the pattern <YYYYMMDD>_<name>.csv.

6.2 Order Profile

T7 for Xetra categorizes orders according to Order Profiles. The exchange defines these order profiles and enables or disables them for individual products.

An additional table is provided that gives the assignment of order profiles, per product and instrument type (Order Profile Assignment Table).

The file name will have the pattern <YYYYMMDD>_orderProfiles.csv.

Example:

20170317_orderProfiles.csv

For additional information, please see the Order Profiles chapter of the Functional Reference document.

The order profile table includes the following attributes:

| Field | Description |
|-----------------------|--|
| OrderProfileId | Id of the Order Profile. |
| Full Name | Name of the Order Profile, e.g. Limit. |
| Regular | Indicator, which defines whether the order type is a Regular Order (Limit + Market Order). |
| Stop | Indicator whether Stop Orders are allowed. |
| TSO | Indicates whether Trailing Stop Order is allowed. |
| OCO | Indicator whether One-Cancels-the-Other Order is allowed. |
| Iceberg | Indicator whether Iceberg order is allowed. |
| Limit | Indicates whether a limit order can be entered for the order profile. |
| Market | Indicates whether market order can be entered for the order profile. |
| OAO | Trading of the order is restricted to Opening Auction only. |
| AOO | Trading of the order is restricted to Auction only. |
| CAO | Trading of the order is restricted to Closing Auction only. |
| BOC | Execution restriction Book-or-cancel is allowed. |
| IOC | Execution restriction Immediate-or-cancel is allowed. |
| FOK | Execution restriction Fill-or-kill is allowed. |

| Field | Description |
|---------|--|
| GFD | Validity of the order is Good-For-Day. |
| GTD/GTC | Validity of the order is Good-Till-Date. |

The layout of the order profile will be as follows (example values):

| OrderPr ofield | Full Name | Regular | Stop | TSO | OCO | Iceberg | Limit | Market | OAO | AOO | CAO | BCC | IOC | FOK | GFD | GTD/GTC |
|-------------------|-----------|---------|------|-----|-----|---------|-------|--------|-----|-----|-----|-----|-----|-----|-----|---------|
| 10 | Limit | Y | N | N | N | N | N | N | N | N | Y | N | Y | Y | Y | Y |
| 11 | Market | Y | N | N | N | N | N | N | N | N | N | Y | Y | Y | Y | Y |
| ... | .. | ... | .. | .. | | | | | | | | | | | | |
| ... | .. | .. | .. | .. | | | | | | | | | | | | |

6.3 Order Profile Assignment

The following table lists the order profiles assigned to each instrument.

For additional information, please refer to the document "T7 Functional Reference"¹.

The file name will have the pattern <YYYYMMDD>_orderProfileAssignment.csv.

The order profile assignments table includes the following fields:

| Field | Description |
|----------------|---------------------------------|
| Mnemonic | Mnemonic of the instrument. |
| ISIN | ISIN of the instrument. |
| InstrumentId | InstrumentId of the instrument. |
| OrderProfileId | Id of the Order Profile. |

¹ Please refer to the Xetra website xetra.com under the following path: Technology / T7 trading architecture / T7 System documentation / Overview and Functionality.

The layout of the order profile is as following (example values):

| Mnemonic | ISIN | InstrumentId | OrderProfileId |
|----------|--------------|--------------|----------------|
| BMW | DE000519003 | 35245 | 10 |
| BMW | DE000519003 | 35245 | 11 |
| | | | |
| SIE | DE0007236101 | 45258 | 10 |
| SIE | DE0007236101 | 45258 | 11 |
| | | | |

6.4 Trading Schedules

This file lists the trading schedules defined for all Xetra instruments. The reference to the instruments is possible via the identifier "standardSchedule".

The file name will be <YYYYMMDD>_tradingSchedule.csv.

The trading schedule file includes following fields:

| Field | Description |
|------------------|---------------------------------------|
| standardSchedule | Name of the trading schedule. |
| event | Name of the event, e.g. Start Of Day. |
| time | Time of the event. |

Only schedules for current business day (vs trading holiday) will be displayed.

The file for customers look like as follows (example values):

| standardSchedule | Event | Time |
|--------------------|------------------|----------|
| SCHED_FFM_CT1_FULL | Pre Trading | 07:00:00 |
| SCHED_FFM_CT1_FULL | Opening Auction | 08:50:00 |
| SCHED_FFM_CT1_FULL | Intraday Auction | 13:15:00 |
| SCHED_FFM_CT1_FULL | Closing Auction | 17:30:30 |
| SCHED_FFM_CT2_FULL | Pre Trading | 07:30:00 |
| SCHED_FFM_CT2_FULL | Opening Auction | 08:50:00 |
| | | |

6.5 Trading Schedule Assignment

The file Trading Schedule Assignment lists for all Xetra instruments the assigned trading schedule the instrument is following.

The file name has the pattern <YYYYMMDD>_tradingScheduleAssignment.csv.

The file includes the fields as below:

| Field | Description |
|-------------------------|--------------------------------|
| InstrumentId | InstrumentId of an instrument. |
| standardSchedule | Name of the trading schedule. |

The standardSchedule denotes the schedule that is valid for the instrument's current Business day. The layout of the file is as follows:

| InstrumentId | standardSchedule |
|--------------|--------------------|
| 35245 | SCHED_FFM_CT1_FULL |
| 45258 | SCHED_FFM_CT1_FULL |
| | |
| | |

6.6 Market Segment and Market Segment Supplement

This file lists the Identifiers for the Market Segments and the Market Segment Supplements in order to provide the descriptions for them. The file contains all Market Segments and Market Segment Supplements of the market XETR.

The file name has the pattern <YYYYMMDD>_marketSegment.csv.

The file includes following fields:

| Field | Description |
|---------------------|---|
| Content type | Market Segment or Market Segment Supplement. |
| Identifier | Identifier of the Market Segment and Market Segment Supplement. |
| Description | Name of the Market Segment and Market Segment Supplement. |

The layout of the file is as follows:

| Content type | Identifier | Description |
|---------------------------|------------|-------------------------------------|
| Market Segment | 45 | Regulated Market – Prime Standard |
| Market Segment | 46 | Regulated Market – General Standard |
| | | |
| Market Segment Supplement | DEZ | Exchange Traded Commodities (ETC) |
| Market Segment Supplement | DX8 | Exchange Traded Notes (ETN) |
| | | |

7 Approach during Migration phase

7.1 Process during Migration step 1

Migration step 1 includes the migration of CCP-eligible equities and ETFs traded in Continuous Trading model in XETR.

In order to ease migration of Xetra (XETR), it will be done in two steps:

- Step 1 (26.06.2017) Trading of ETCs (optional for members)
- Step 2 (03.07.2017) Trading of all cash market products

As of 26 June trading of ETCs in Continuous Trading market model (XETR) is only possible on T7. In addition, these products can still be traded in the Continuous Auction market model on Xetra system (XFRA).

The ETCs will still be available on the Xetra system in XETR staying in trading phase "HALT".

The same approach will be applied for the second step of the migration on 3rd July. All instruments with MIC XETR will be traded on T7. On the Xetra system the instruments will still be available in the trading state HALT.

For the identification, which instruments can be traded on T7 and the Xetra system, the field "Market Segment Status" of the T7 reference data can be used. Instruments traded on the Xetra system will have the value "Published" whereas instruments traded on T7 will have the value "Active".

With change of business day from 19 to 20 June all instruments of MIC XETR will be loaded to T7. Starting on 20 June the reference data will be available both in T7 and Xetra and will be published separately for Xetra on the classic trading system and on T7. However, initially after launch of T7 Release 5.0, all instruments can only be traded on the Xetra system.

As of 26 June ETCs of MIC XETR can only be traded on T7. All other instruments can be traded on the Xetra system. In the T7 reference data ETCs are marked as traded on T7 in RDI, RDF and the ascii file (Market Segment Status = Active). All other instruments are still marked as traded on the Xetra system on RDI, RDF and the ascii file (Market Segment Status = Published). On the Xetra system, ETCs are available in the reference data but are set to the trading phase "HALT". Since the trading phase is not provided in the public reference data file, customers can identify the ETCs in the Xetra reference data:

- Xetra Reference Data ascii file on the public webpage field 97 Market Segment Supplement, value: Exchange Traded Commodities, ETC
- Xetra Reference Data File on the CRE field 54 Market Segment Supplement, value: ETC
- Enhanced Broadcast Solution mktSegCod, value: DEZ as Market Segment Supplement

After migration and starting on 3 July all instruments of MIC XETR can only be traded on T7. On T7 all instruments are marked as traded on T7 in RDI, RDF and the ascii file (Market Segment Status = Active). On the Xetra system, all instruments are still available in the reference data but are set to the trading phase "HALT". These instruments can be identified via the field "MIC Code" = XETR.

7.2 Process between Migration step 1 and 2

As the Xetra classic system will continue to host trading venue Börse Frankfurt (XFRA) for at least a year, both infrastructures (T7 for XETR and Xetra classic for XFRA) will run in parallel in the time between migration step 1 and step 2 e.g. the instrument reference data for Börse Frankfurt (XFRA, excluding Structured Products instruments) will still be available until the migration of step 2 has been completed.