



---

# K2/ifsc

---

MMTS I. data types

Prepared in 2001 by Effice Kft., based on the  
authorisation of the Budapest Stock Exchange

For internal use only, by the Budapest Stock Exchange and its members

Version 1.3

The K2/ifsc program was prepared by Effice Kft.  
E-mail: <effice@effice.hu>

## ***Contents***

1.	<i>Data types of the MMTS I. trading system.....</i>	<i>3</i>
2.	<i>Values of the MMTS I new order fields .....</i>	<i>5</i>
3.	<i>Values of the MMTS I order amendment fields .....</i>	<i>6</i>
4.	<i>Values of the MMTS I order withdraw fields.....</i>	<i>7</i>
5.	<i>Values of the MMTS I Tick up/Tick Down fields .....</i>	<i>8</i>
6.	<i>Values of the MMTS I Market Maker order fields.....</i>	<i>9</i>
7.	<i>Values of the MMTS I OrderMethodSet.....</i>	<i>10</i>

## **Index of modifications**

<b>Version</b>	<b>Author</b>	<b>Date</b>	<b>Summary of modifications</b>
1.1	Effice Kft.	2001	First version
1.2	BSE	04/02/2005	Revised version Market Maker and Tick up/Tick down function fields added
1.3	BSE	04/04/2005	Corrected documentation Order of fields for Tick up/Tick down corrected in the document

## ***1. Data types of the MMTS I. trading system***

---

**Price** The MMTS internal representation of the price, a positive integer.

$$P = p * 10^d$$

where  $p$  is the price rounded off according to the minimum possible price fluctuation (tick size), and  $d$  is the number of price decimal places<sup>1</sup>.

**Yield** The MMTS internal representation of the yield, a positive integer.

$$Y = y * 10^d$$

where  $y$  is the yield and  $d$  is the number of yield decimal places<sup>2</sup>.  
The yield ( $y$ ) is expressed as a percentage of basic denomination for the security.

**SecBoardId** Security ID (MMTS terminology calls it a *secboard*). It represents the trading method of a given *Security* on a given *board*.

Form: 0<BoardId><SecId>. The length of the *BoardId* is always BOARDID\_LEN, while that of the *SecId* is SECID\_1\_LEN and there is no separating 0 between the two. Thus the length of the data of the *SecBoardId* is 1 + BOARDID\_LEN + SECID\_1\_LEN which is supplemented with spaces so that it would be as long as IFS\_SECBOARDID\_LEN during the queries. In the case of order requests, the *BoardId* and the *SecId* must be given separately. However, when querying the securities board (SecBoard), the compound *SecBoardId* is given.

**Date** A date with the format of YYYYMMDD, given as an integer value.

**Time** Time with the format of HHMMSS, given as an integer value.

**OrderMethods** 32 characters, each either a '0' or a '1'; '0' is used when the given characteristic cannot be or has not been set, and '1' is used when it can be or has been set.

0. Market
1. Limit
3. Negotiated Deal
5. Market Maker
10. Yield
11. Fill Undisclosed (Hidden quantity or Iceberg)
12. Stop
13. Settlement day
15. Fill All Or None
16. Fill Minimum
17. Fill Any portion
23. Good Till Time
24. Session order
25. Day order
26. Good Till Date
27. Good Till Cancel
28. Immediate withdraw (Fill or Kill)

---

<sup>1</sup> The PriceDecimals field of the securities record.

<sup>2</sup> The YieldDecimals field of the securities record.

**BuySell** A 'B' or an 'S' character. (Character 'E' in case of withdraw, tick amendment or Market Maker order entry)

**OpCode** Character 'A' (the fields are connected by an *and*) or character 'O' (the fields are connected by an *or*). At present, only value 'A' is allowed.

**PopCode** The '=', '<' or '>' characters. (the price or yield of the orders =, ≤ or ≥ the value given in the withdraw). At present, only the '=' value is allowed.

**OrderStatus** It is a single-character code:

- 'A' Amended
- 'M' Matched
- 'O' Open
- 'I' Inactive stop order
- 'U' Unapproved
- 'W' Withdrawn
- 'E' Expired
- 'C' Unconfirmed
- 'Y' Unconfirmed buy
- 'L' Unconfirmed sell
- 'D' Disabled

**Status** It is a single-character code:

- 'A' Active
- 'S' Suspended
- 'D' Defunct

**SecState** It is a single-character code which depends on the settings in the database:

- 'A' Active
- 'F' Frozen
- 'N' No matching
- 'R' Reporting only
- 'S' Suspended

**PrimDist** 'S'

**VisibleStat** 'Y' or 'N'

**IndexSec** 'Y' or 'N'

**EntitlementIndicator** '(space)'

**DeliveryBasis** Depends on the setting in the database. At present: '(space)'

**DepositoryType** Depends on the setting in the database, an 'I' or a 'P'.

**NegdeallInit** Depends on the setting in the database, an 'E' or a 'B' or a '(space)'.

**AnnounceInd** A 'Y' or a '(space)'.

**PrivateOB** '(space)'

**ApproveOrders** 'Y' or 'N'

**Security\_on** A 'Y' or an 'N' or a '(space)'.

**TradeSource** Contains an 'A' for trades resulting from automated order matching or an 'F' for negotiated deals (Fixed trades).

**DissemStatus**

'N' Notmatched

'I' Nodelayed

'D' Delayed

'S' Sent

'R' Released

'L' Lapsed

**PriceParamArray** It is a string type field.

This field defines the price step (tick size) for a given security & board pair. The tick size can be defined in ranges, and additionally it can be defined as an exact value or as a percentage of the order's real price. The price parameter structure is as follows:

L|V|Pdec|n:m,[n:m], ...

Where:

- L is "P" or "Y" and indicates whether the lookup range refers to a price or a yield;
- V is "D", "P" indicating whether the parameter value defaults to price/yield (as per the first parameter), or is a percentage;
- Pdec is a single digit integer defining the number of decimal places (pricedecimals) for price values in general.
- [n:m] are pairs of values that make up the array where n is the starting price/yield of the lookup range and m is the parameter value that applies to the range

The first range always starts at zero and ends at the start of the following range. The last range ends at infinity.

e.g. P|D|2|0:0.015,1.50:0.05

Meaning a price based rule where the parameters for the price ranges are:

Range  $\geq 0$  and  $< 1.50 = 0.015$

Range  $\geq 1.50 = 0.05$

## ***2. Values of the MMTS I new order fields***

---

When a new order is entered, the fields of the order entry record may accept the following values<sup>3</sup>:

**TrdAccId** The character string ID of a trading account.

**BuySell** BuySell type.

**OrderMethodSet** An OrderMethods type masked by the *OrderMethods* field included in the security record.

---

<sup>3</sup> The brackets imply non-mandatory data. If these are not given, then in the case of an INT type, we have to put in 0, the NOT\_DEFINED value, while in the case of a STRING type, we have to put in spaces.

**BoardId** The character string ID of the trading board. Its value can be found in the *BoardId* field of the security record.

**SecId** The character string ID of the security. Its value may be cut from the *Id* field of the security record.

**[Price]** MMTS Price type.

**[Yield]** MMTS Yield type.

**Quantity** Quantity, a positive integer.

**[Hidden]** Quantity disclosed, a positive integer.

**[BrokerRef]** A character string field which can be completed by the broker freely.

**[ExpDate]** MMTS Date type.

**[ExpTime]** MMTS Time type.

**[TriggerPrice]** MMTS Price type.

**[SettleDate]** MMTS Date type.

**[MinFillQty]** Minimal quantity, a positive integer.

**[InternalRef]** A character string field which can be freely completed, it will not be sent to the MMTS.

### ***3. Values of the MMTS I order amendment fields***

---

When an order is modified, the fields of the order entry record may accept the following values:

**OrdNo** The order number of the order to be amended. Its value can be found in the *OrdNo* field of the order record.

**[TrdAccId]** The character string ID of the trading account.

**[OrderMethodSet]** OrderMethods type, masked by the *Order-Methods* field included in the security record. Only the following types of orders may be set:

- 23. Good Till Time
- 24. Session order
- 25. Day order
- 26. Good Till Date
- 27. Good Till Cancel

**[Price]** MMTS Price type.

**[Yield]** MMTS Yield type.

**[Quantity]** Quantity, a positive integer.

**[Hidden]** Quantity disclosed, a positive integer.

**[BrokerRef]** A character string field which can be completed by the broker freely.

**[ExpDate]** MMTS Date type.

**[ExpTime]** MMTS Time type.

**[TriggerPrice]** MMTS Price type.

**[SettleDate]** MMTS Date type.

**[MinFillQty]** Minimum quantity, a positive integer.

**[OUserId]** The character string ID of the user.

**[InternalRef]** A character string field which can be freely completed, it will not be sent to the MMTS.

If the given field is a 0 or an empty string, then it will not be modified. If the value of the BrokerRef field is a " \*" string, then the content of the field will be deleted in the new order.

#### ***4. Values of the MMTS I order withdraw fields***

---

When an order is withdrawn, the fields of the order entry record may accept the following values:

**[OrdNo]** The order number of the order to be withdrawn. Its value can be found in the *OrdNo* field of the order record.

**[TrdAccId]** The character string ID of the trading account.

**[BuySell]** BuySell type.

**[BoardId]** The character string ID of the trading board. Its value can be found in the *BoardId* field of the security record.

**[SecId]** The character string ID of the security. Its value may be cut from the *Id* field of the security record.

**[Price]** At present it can only be 0.

**[Yield]** At present it can only be 0.

**[BrokerRef]** A character string field which can be freely completed by the broker. In this case it will not be sent to the MMTS.

**OpCode** 'A'

**PopCode** '='

**[OUserId]** User ID. Its value can be found in the *Id* field of the user record.

**[FirmId]** Company ID. Its value can be found in the *Id* field of the firm record.

**[OrderDate]** MMTS Date type.

**[InternalRef]** A character string field which can be freely completed, it will not be sent to MMTS.

Those orders will be withdrawn whose fields concurrently comply with the values given in the withdraw order entry record (*and* relation). Empty fields or fields with a 0 value in the withdraw order entry record will not be taken into consideration.

### **ATTENTION !!!**

**If on deleting (withdrawing) orders the OrderNo field and the other non-mandatory (not obligatory) fields of the delete record (order cancellation record) are empty or 0, then all the orders belonging to the given firm will be withdrawn. Therefore special care should be taken when the OrderNo field is left empty.**

## ***5. Values of the MMTS I Tick up/Tick Down fields***

---

When initiating a Tick up/Tick down, the fields of the order entry record may accept the following values<sup>4</sup>:

**[TrdAccId]** The character string ID of a trading account.

**[BuySell]** BuySell type.

**[BoardId]** The character string ID of the trading board. Its value can be found in the *BoardId* field of the security record.

**[SecId]** The character string ID of the security. Its value may be cut from the *Id* field of the security record.

**Tick** Signed integer. (The number of ticks the price will be moved up or down with.)

**[UserId]** User ID. Its value can be found in the *Id* field of the user record.

**[FirmId]** Company ID. Its value can be found in the *Id* field of the firm record.

**[BrokerRef]** A character string field which can be freely completed by the broker. In this case it will not be sent to the MMTS.

**[InternalRef]** A character string field which can be freely completed, it will not be sent to the MMTS.

---

<sup>4</sup> The brackets imply non-mandatory data. If these are not given, then in the case of an INT type, we have to put in 0, the NOT\_DEFINED value, while in the case of a STRING type, we have to put in spaces.



Those orders will be modified whose fields concurrently comply with the values given in the modification (tick up/tick down) order entry record (*and* relation). Empty fields or fields with a 0 value in the modification order entry record will not be taken into consideration.

## ***6. Values of the MMTS I Market Maker order fields***

---

In case of a Market Maker order entry, the fields of the record specifying the market maker order may accept the following values:

**BoardId** The character string ID of the trading board. Its value can be found in the *BoardId* field of the security record.

**SecId** The character string ID of the security. Its value may be cut from the *Id* field of the security record.

**BuySell** BuySell type.

**Replace** In case of 1 existing Market Maker orders for the given security will be withdrawn, in case of 0, the withdrawal of the existing Market maker orders for the given security depends on the settings in the MMTS.

**[BuyTrdAccId]** The character string ID of the trading account.

**[BuyOrderMethodSet]** An OrderMethods type masked by the *OrderMethods* field included in the security record.

**[BuyPrice]** MMTS Price type.

**[BuyYield]** MMTS Yield type.

**[BuyQuantity]** Quantity, a positive integer.

**[BuyHidden]** Quantity disclosed, a positive integer.

**[BuyBrokerRef]** A character string field which can be completed by the broker freely.

**[SellTrdAccId]** The character string ID of the trading account.

**[SellOrderMethodSet]** An OrderMethods type masked by the *OrderMethods* field included in the security record.

**[SellPrice]** MMTS Price type.

**[SellYield]** MMTS Yield type.

**[SellQuantity]** Quantity, a positive integer.

**[SellHidden]** Quantity disclosed, a positive integer.

**[SellBrokerRef]** A character string field which can be completed by the broker freely.

**[InternalRef]** A character string field which can be freely completed, it will not be sent to MMTS.

## **7. Values of the MMTS I OrderMethodSet**

---

In the OrderMethodSet only those types may be given whose value is 1 in the *set* specified by the OrderMethodSet field of the security record, that is the following condition has to be fulfilled:

```
(OrderMethodSet & secboard.OrderMethodSet) ==  
OrderMethodSet
```

(the *secboard* indicates the given security board record).

Only one type can be selected from within the following groups:

- Market; Limit.
- Fill All or None orders; Fill Minimum order; Fill Any portion order.
- Good Till Time, Good Till Date; Session order; Day order.

If the order is a market order, then it cannot be a Fill *Minimum order* and an *Immediate withdraw* at the same time.

If the following characteristics (order types) are given, the appropriate order entry fields must be completed:

**Yield** Yield.

**Hidden** Disclosed quantity.

**Stop** TriggerPrice.

**Settlement day** SettleDate.

**Fill All or None** MinFillQty.

**Fill Minimum order** MinFillQty.

**Good Till Time** ExpireTime.

**Good Till Date** ExpireDate.

For Market Maker orders only the following order method types can be specified:

**Market Maker order** (Mandatory for Market Maker orders)

**Yield**

**Limit order**

**Hidden** (Undisclosed, Iceberg)

**Session order**

**Day order**

*Notes*

---