



## **EDX Markets™ FIX Specifications – Market Data (UAT)**

**EDX Markets**

v1.0.10

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## Change Log

Date	Section / Message(s)	Description
3/4/2024	N/A	Initial v1.0 release of FIX Market Data specifications for EDX Markets match engine.
3/14/2024	Logon Message	v1.0.1 - Updated sample Logon message to include standard header/footer.
4/4/2024	Market Data Incremental Refresh	v1.0.2 - Added TradeID to Market Data Incremental Refresh messages for reporting trades.
4/8/2024	Interaction Model	v1.0.3 - Added interaction model.
4/10/2024	Security List	v1.0.4 - Removed references to unsupported AggregatedBook field.

4/19/2024	Security List	v1.0.5 - Added references to fields 996, 1716, and 561.
5/1/2024	Throttle Limits	v1.0.6 - Added Throttle Limits
5/13/2024	Sequence Reset	v1.0.7 - Added Sequence Reset section.
6/10/2024	Market Data Snapshot Full Refresh (OUT)	v1.0.8 - Removed aggregated price-level snapshot information from MDEntrySize.
6/10/2024	Sample Messages Multiple Entries Snapshot – Aggregated Price Level Data	v1.0.8 - Removed sample
6/10/2024	Market Data Subscription Request (IN)	v1.0.8 - Updated MarketDepth Tag 264
7/30/2024	Overview	v1.0.9 <ul style="list-style-type: none"> <li>- Interaction model broken down into several models for each corresponding message.</li> <li>- Sequence Reset interaction model added.</li> <li>- Test Request section added.</li> <li>- Resend Request section added.</li> <li>- Separated standard header into (IN) and (OUT) messages.</li> </ul>
7/30/2024	Logon	v1.0.9 <ul style="list-style-type: none"> <li>- Value/Comment added for tag 553 (Username) and tag 554 (passphrase)</li> <li>- Tag 1408 (DefaultCstmApplVerID) no longer in Logon (IN)</li> <li>- Tag 141 (Reset Sequence Number Flag) in Logon (OUT) req'd changed to Y.</li> <li>- Updated Logon (OUT) sample message.</li> <li>- Added Logout (IN) matrix.</li> <li>- Logout (IN) and Logout (OUT) sample messages added.</li> </ul>
7/30/2024	Test Request	v1.0.9 <ul style="list-style-type: none"> <li>- Added Test Request interaction model.</li> <li>- Added Test Request (OUT) matrix.</li> <li>- Added Test Request (OUT) sample message.</li> <li>- Added Heartbeat (IN) sample message.</li> </ul>
7/30/2024	Resend Request	v1.0.9 <ul style="list-style-type: none"> <li>- Added Resend Request interaction model.</li> <li>- Added Resend Request (OUT) matrix.</li> <li>- Added Sequence Reset (IN) matrix.</li> <li>- Added Reject (OUT) matrix.</li> <li>- Added Resend Request (OUT) sample message.</li> <li>- Added Sequence Reset (IN) sample message.</li> </ul>

		<ul style="list-style-type: none"> <li>- Added Reject (OUT) sample message.</li> </ul>
7/30/2024	Security List Request	v1.0.9 <ul style="list-style-type: none"> <li>- Added Security List Request interaction model.</li> <li>- Security List (OUT) changed Tag 146 (NoRelatedSym) req'd to Y.</li> <li>- Changed tag 969 (MinPriceIncrement) req'd to Y.</li> <li>- Changed tag 996 (UnitOfMeasure) req'd to Y.</li> <li>- Changed tag 1716 (UnitOfMeasureCurrency) req'd to Y</li> <li>- Changed tag 561 (RoundLot) req'd to Y.</li> <li>- Added req'd Y to Standard Footer.</li> <li>- Added Security List Request (IN) sample message.</li> <li>- Added Security List (OUT) sample message.</li> </ul>
7/30/2024	Security Status Request	v1.0.9 <ul style="list-style-type: none"> <li>- Added Security Status Request interaction model.</li> <li>- Added Security Status Request (IN) matrix.</li> <li>- Security Status (OUT) changed tag 324 (SecurityStatusReqID) req'd to Y.</li> <li>- Tag 326 (SecurityTradingStatus) changed req'd to Y and added values.</li> <li>- Removed Tag 60 (TransactTime)</li> <li>- Added values to tag 327 (HaltReason)</li> <li>- Business Message Reject (OUT) matrix added.</li> <li>- Security Status Request Snapshot (IN) sample message added.</li> <li>- Security Status Request Snapshot Plus Updates (IN) sample message added</li> <li>- Security Status Request Disable Previous snapshot Plus Updates (IN) sample message added.</li> <li>- Security Status Ready to Trade (OUT) sample message added.</li> <li>- Security Status Halt (OUT) sample message added.</li> <li>- Security Status Resume (OUT) sample message added.</li> <li>- Security Status Suspended (OUT) sample message added.</li> </ul>

		<ul style="list-style-type: none"> <li>- Security Status Post Only (OUT) sample message added.</li> <li>- Business Message Reject Invalid Symbol (OUT) sample message added.</li> <li>- Business Message Reject Incorrect Security Status Request ID (OUT) sample message added.</li> </ul>
7/30/2024	Market Data Request	v1.0.9 <ul style="list-style-type: none"> <li>- Added Market Data Request interaction model.</li> <li>- Changed tag 265 (MD Update Type) req'd to Y.</li> <li>- Added values to tag 269 (MDEntryType).</li> <li>- Standard Footer added req'd Y.</li> <li>- Changed tag 278 (MDEntryID) req'd to Y.</li> <li>- Changed tag 270 (MDEntryPx) req'd to Y.</li> <li>- Added tag 911 (TotNumReports).</li> <li>- Changed tag 262 (MDReqID) req'd to Y.</li> <li>- Changed tag 281 (MDReqRejReason) to Y.</li> <li>- Added tag 58 (Text).</li> <li>- Market Data Request Snapshot plus updated (IN) sample message added.</li> <li>- Market Data Request Disable Previous Snapshot Plus Update Request (IN) sample message added.</li> <li>- Market Data Snapshot Full Refresh (OUT) sample message added.</li> <li>- Market Data Incremental Refresh (OUT) sample message added.</li> <li>- Market Data Request Reject (OUT) sample message added.</li> </ul>
08/31/2024	Security List Request	v1.0.10 <ul style="list-style-type: none"> <li>- TAG 167, Instrument Type, added PERP</li> </ul>
08/31/2024	Market Data Incremental Refresh	v1.0.10 <ul style="list-style-type: none"> <li>- MD Entry Type added INDEX_VALUE, FINAL_MARK_PRICE, OPEN_INTEREST, PRELIMINARY_MARK_PRICE, FINAL_FUNDING_RATE, PRELIMINARY_FUNDING_RATE</li> </ul>

## Overview

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EDX Markets FIX specifications are based on the FIX Trading Community FIX 5.0 SP2 specifications.

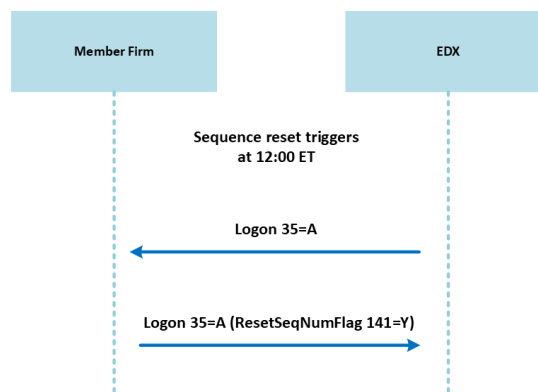
## Throttle Limits

The following throttle limits are applied at the FIX ID level and are administered by EDX market operations.

- Maximum messages per account: 100 messages per 5 seconds.
- In the event the user exceeds the throttle limits listed above, the user will be disconnected from the session and receive the message RATE\_LIMIT\_EXCEEDED as the reason for disconnecting.

## Sequence Reset

- A daily reset occurs at 12pm ET. We follow the FIX protocol convention for resetting sequence numbers back to 1.



## Test Request

- If your system fails to heartbeat with us in the interval initially declared in the logon message, EDX will issue a Test Request. When that happens, you must respond to that test request within the initially declared heartbeat interval with either a business message or a heartbeat.

## Resend Request

- If EDX detects a gap in the Message Sequence Number, there will be a Resend Request issued. When that happens, you can respond with the missing block of messages or perform a gap fill. This can be accomplished by sending a Sequence Reset Message (Tag 35=4), with the New Sequence Number (Tag 36) and whether you would like the gap in messaging filled (Tag 123 = Y/N). When a gap fill is requested, EDX will only send 'application' level messages. We also will not send any messages that would've been sent while the client was disconnected. We only store those historical messages when the engine thinks the client is connected.



## Supported Messages

The following convention is used in this document to indicate message direction:

- IN: a message type received by EDX.
- OUT: a message type originating from EDX.
- IN/OUT: a message type that can be sent to or from EDX.

The values under the “Required” column indicate one of the following:

- ‘Y’ – field is mandatory and must be sent or received as a part of the message.
- ‘N’ – field is not required and should be omitted unless otherwise directed by EDX.
- ‘N/A’ – Field is not used in the context of the message.

## Session Messages

### Standard Header (IN)

Tag	Field Name	Req'd	Values/Comments
8	BeginString	Y	'FIXT.1.1'. Message start. Must be the first field in the message.
9	BodyLength	Y	Length of the FIX message. Must be the second field in the message.
35	MsgType	Y	Type of FIX message. Must be the third field in the message.
34	MsgSeqNum	Y	Message sequence number.
52	SendingTime	Y	UTC timestamp. Time of message.
49	SenderCompID	Y	Message sender's ID. Assigned at onboarding (same as Username).
56	TargetCompID	Y	'EDXM'.
43	PossDupFlag	N	Required for retransmitted messages, whether prompted by the sending system or as the result of a resend request.
97	PossResend	N	Required when message may be duplicate of another message sent under a different sequence number.
122	OrigSendingTime	N	Required for message resent because of a resend request. If data is unavailable, set to same value as SendingTime.

### Standard Header (OUT)

Tag	Field Name	Req'd	Values/Comments
8	BeginString	Y	'FIXT.1.1'. Message start. Must be the first field in the message.

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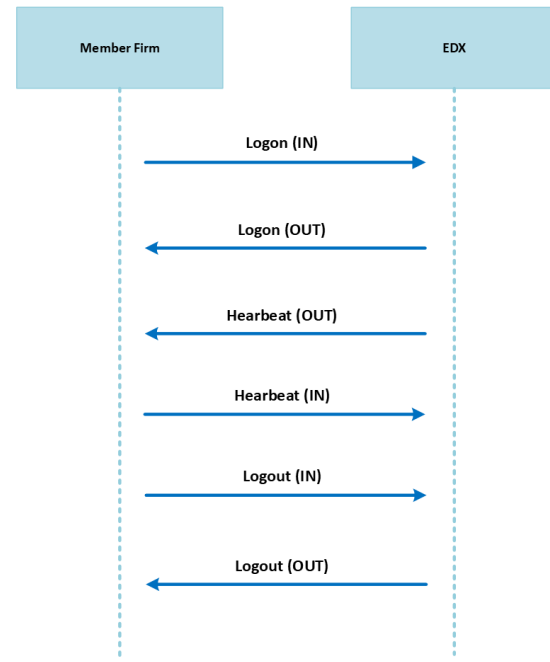
9	BodyLength	Y	Length of the FIX message. Must be the second field in the message.
35	MsgType	Y	Type of FIX message. Must be the third field in the message.
49	SenderCompID	Y	'EDXM'
56	TargetCompID	Y	Message sender's ID. Assigned at onboarding (same as Username).
34	MsgSeqNum	Y	Message sequence number.
52	SendingTime	Y	UTC timestamp. Time of message.
43	PossDupFlag	N	Required for retransmitted messages, whether prompted by the sending system or by a resend request.
97	PossResend	N	Required when message may be duplicate of another message sent under a different sequence number.
122	OrigSendingTime	N	Required for message resent because of a resend request. If data is unavailable, set to same value as SendingTime.

## Standard Footer

Tag	Field Name	Req'd	Values/Comments
10	Checksum	Y	A value calculated by the FIX engine from the message data and transferred with the data. If the data received does not match the CheckSum value, the data was corrupted in transit.

## Logon Interaction Model:

- Upon a Logon (IN) request, a Logon (OUT) request is sent, but no other application messages are sent without a corresponding request.



## Logon (IN)

Tag	Field Name	Req'd	Values/Comments
Standard Header		Y	MsgType 35=A
98	EncryptMethod	Y	Must be '0'
108	HeartBtInt	Y	Heartbeat interval, in seconds. An interval of 0 indicates there are no heartbeats. The maximum supported interval is 90 seconds.
141	ResetSeqNumFlag	N	YES_RESET_SEQUENCE_NUMBERS [Y] NO [N]
553	Username	Y	Username/user ID
554	Password	Y	Password/passphrase
1137	DefaultAppVerID	Y	Must be '9'
Standard Footer		Y	

## Logon (OUT)

Tag	Field Name	Req'd	Values/Comments
Standard Header		Y	MsgType 35=A
98	EncryptMethod	Y	Must be '0'
108	HeartBtInt	Y	Heartbeat interval, in seconds. An interval of 0 indicates there are no heartbeats. The maximum supported interval is 90 seconds.

141	MsgSeqNumFlag	Y	YES_RESET_SEQUENCE_NUMBERS [Y] NO [N]
1137	DefaultApplVerID	Y	Must be '9'
Standard Footer		Y	

## Sample Messages:

### Logon (IN)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	094
[MsgType]	35	=	A
[MsgSeqNum]	34	=	1
[SendingTime]	52	=	20240716-22:08:12.000
[SenderCompID]	49	=	USERNAME
[TargetCompID]	56	=	EDXM
[EncryptMethod]	98	=	0
[HeartBtInt]	108	=	20
[ResetSeqNumFlag]	141	=	Y
[Username]	553	=	USERNAME
[Password]	554	=	PASSWORD
[DefaultApplVerID]	1137	=	9
[Checksum]	10	=	074

### Logon (OUT)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	094
[MsgType]	35	=	A
[SenderCompID]	49	=	EDXM
[TargetCompID]	56	=	USERNAME
[MsgSeqNum]	34	=	2
[SendingTime]	52	=	20240716-22:08:08.655
[EncryptMethod]	98	=	0
[HeartBtInt]	108	=	20
[ResetSeqNumFlag]	141	=	Y
[DefaultApplVerID]	1137	=	9
[Checksum]	10	=	074

## Logout (IN)

Tag	Field Name	Req'd	Values/Comments
Standard Header		Y	MsgType 35=5
58	Text	N	Client provided text. Unused.
Standard Footer		Y	

## Logout (OUT)

Tag	Field Name	Req'd	Values/Comments
Standard Header		Y	MsgType 35=5
58	Text	N	Describes the reason for logout.
Standard Footer		Y	

## Sample Messages:

### Logout (IN)

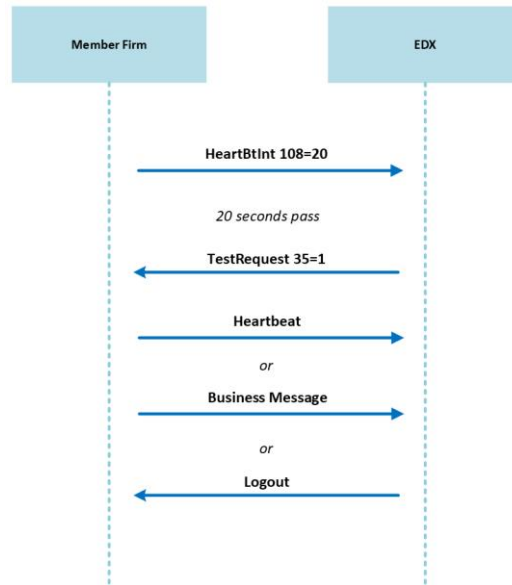
[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	55
[MsgType]	35	=	5
[MsgSeqNum]	34	=	3
[SendingTime]	52	=	20240716-22:27:28.000
[SenderCompID]	49	=	USERNAME
[TargetCompID]	56	=	EDXM
[Checksum]	10	=	149

### Logout (OUT)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	55
[MsgType]	35	=	4
[MsgSeqNum]	34	=	4
[SenderCompID]	49	=	EDXM
[TargetCompID]	56	=	USERNAME
[SendingTime]	52	=	20240716-22:27:23.907
[Checksum]	10	=	160

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## TestRequest Interaction Model:



## TestRequest (OUT)

Tag	Field Name	Req'd	Values/Comments
	Standard Header	Y	MsgType 35=1
112	TestReqID	Y	Identifier included in Test Request message to be returned in resulting Heartbeat.
	Standard Footer	Y	

## Sample Messages:

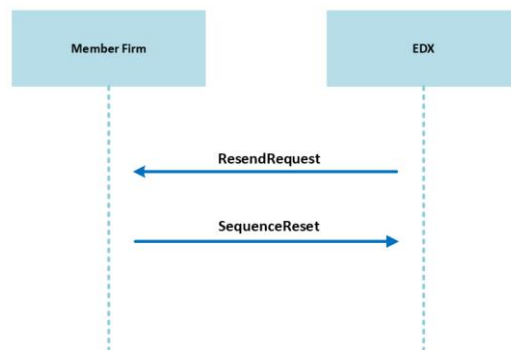
### TestRequest (OUT)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	63
[MsgType]	35	=	1
[MsgseqNum]	34	=	500
[SenderCompID]	49	=	EDXM
[TargetCompID]	56	=	USERNAME
[SendingTime]	52	=	20240727-01:15:22.000
[TestReqID]	112	=	23412
[Checksum]	10	=	243

## Heartbeat (IN)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	63
[MsgType]	35	=	1
[MsgseqNum]	34	=	501
[SendingTime]	52	=	20240727-01:15.22.000
[SenderCompID]	49	=	USERNAME
[TargetCompID]	56	=	EDXM
[TestReqID]	112	=	23412
[Checksum]	10	=	251

## ResendRequest Interaction Model:



## ResendRequest (OUT)

Tag	Field Name	Req'd	Values/Comments
	Standard Header	Y	MsgType 35=2
7	BeginSeqNo	Y	First message sequence number in range to be resent.
16	EndSeqNo	Y	Last message sequence number in range to be resent. '0' represents infinity.
	Standard Footer	Y	

## SequenceReset (IN)

Tag	Field Name	Req'd	Values/Comments
	Standard Header	Y	MsgType 35=4
123	GapFillFlag	Y	Indicates that the Sequence Reset message is replacing the missing messages, which will not be resent. GAP_FILL_MESSAGE_MSG_SEQ_NUM_FIELD_VALID [Y]

36	NewSeqNo	Y	New sequence number.
	Standard Footer	Y	

## Reject (OUT)

Tag	Field Name	Req'd	Values/Comments
	Standard Header	Y	MsgType 35=3
45	RefSeqNum	Y	Reference message sequence number.
371	RefTagID	Y	The tag number of the field being referenced in the reject.
372	RegMsgType	Y	The Message Type of the FIX message being referenced.
373	SessionRejectReason	Y	Describes the reason for rejection. VALUE_IS_INCORRECT [5]
58	Text	Y	Describes the rejection reason.
	Standard Footer	Y	

## Sample Messages:

### ResendRequest (OUT)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	64
[MsgType]	35	=	2
[SenderCompID]	49	=	EDXM
[TargetCompID]	56	=	USERNAME
[MsgseqNum]	34	=	20
[SendingTime]	52	=	20240727-00:06:06.000
[BeginSeqNo]	7	=	234
[EndSeqNo]	16	=	239
[Checksum]	10	=	014

### SequenceReset (IN)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	71
[MsgType]	35	=	4
[MsgseqNum]	34	=	21
[SendingTime]	52	=	20240727-00:05:38.802
[SenderCompID]	49	=	USERNAME
[TargetCompID]	56	=	EDXM

[GapFillFlag]	123	=	Y
[NewSeqNo]	36	=	239
[Checksum]	10	=	149

## Reject (OUT)

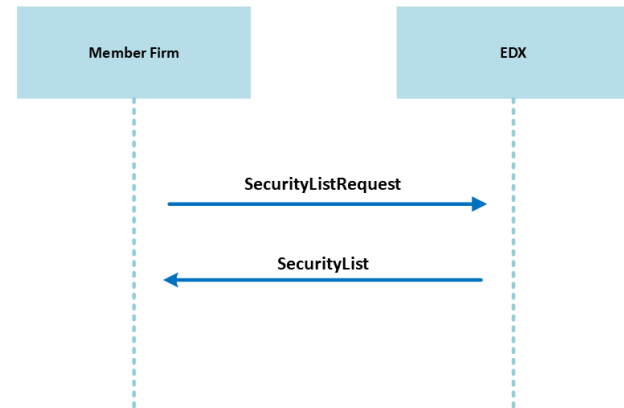
[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	129
[MsgType]	35	=	3
[SenderCompID]	49	=	EDXM
[TargetCompID]	56	=	USERNAME
[MsgseqNum]	34	=	20
[SendingTime]	52	=	20240727-00:06:06.917
[RefSeqNum]	45	=	143
[RefTagID]	371	=	16
[RefMsgType]	372	=	2
[SessionRejectReason]	373	=	5
[Text]	58	=	Incorrect value (out of range)
[Checksum]	10	=	019

## Application Messages

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## SecurityListRequest Interaction Model:



### SecurityListRequest (IN)

Tag	Field Name	Req'd	Values/Comments
Standard Header		Y	MsgType 35=x
320	SecurityReqID	Y	The ID of the Security List Request.
559	SecurityListRequestType	Y	The type of Security List Request being made. ALL_SECURITIES [4]
Standard Footer		Y	

### SecurityList (OUT)

Tag	Field Name	Req'd	Values/Comments
Standard Header		Y	MsgType 35=y
320	SecurityReqID	Y	The ID of the Security List Requested.
322	SecurityResponseID	Y	A unique ID for the response.
560	SecurityRequestResult	Y	The result of the request. 0 [VALID_REQUEST]
893	LastFragment	Y	N – There are more Security List messages to come. Y – This is the last Security List message for this Security List Request.
146	NoRelatedSym	Y	Number of instrument definitions in the repeating group to follow.
55	Symbol	Y	The symbol of the instrument.
969	MinPriceIncrement	Y	The smallest increment in which the instrument's price can be increased/decreased.

996	UnitOfMeasure	Y	The unit of measure of the underlying asset upon which the instrument is based.
1716	UnitofMeasureCurrency	Y	Indicates the currency of the unit of measure.
562	MinTradeVol	Y	The smallest tradeable quantity for the instrument.
561	RoundLot	Y	The trading lot size of an instrument.
15	Currency	Y	The quote currency of the instrument.
167	SecurityType	Y	SPOT PERP <sup>†</sup>
Standard Footer		Y	

† = EDXM enum value, not standard to FIX 5.0 SP2

## Sample Messages

### SecurityListRequest (IN)

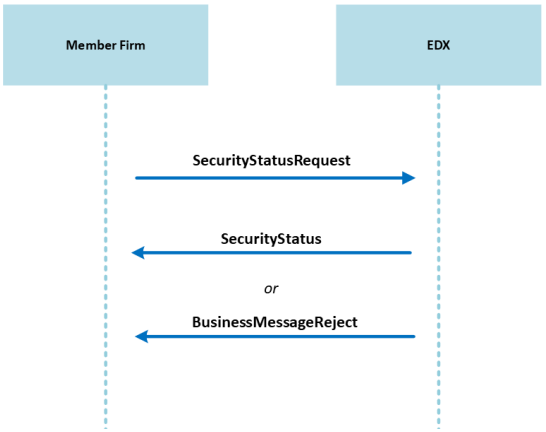
[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	55
[MsgType]	35	=	x
[MsgSeqNum]	34	=	5
[SendingTime]	52	=	20240716-22:27:23.907
[SenderCompID]	49	=	USERNAME
[TargetCompID]	56	=	EDXM
[SecurityReqID]	320	=	1
[SecurityListRequestType]	559	=	4
[Checksum]	10	=	160

### SecurityList (OUT)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	1955
[MsgType]	35	=	y
[SenderCompID]	49	=	EDXM
[TargetCompID]	56	=	USERNAME
[MsgSeqNum]	34	=	6
[SendingTime]	52	=	20240723-18:46:02.414
[SecurityReqID]	320	=	325235
[SecurityResponseID]	322	=	0
[SecurityRequestResult]	560	=	0
[LastFragment]	893	=	Y

[NoRelatedSym]	146	=	3
[Symbol]	55	=	BTC/USD
[MinPriceIncrement]	969	=	0.01
[UnitOfMeasure]	996	=	Ccy
[UnitOfMeasureCurrency]	1716	=	BTC
[MinTradeVol]	562	=	0.00000001
[RoundLot]	561	=	0.00000001
[Currency]	15	=	USD
[Symbol]	55	=	ETH/USD
[MinPriceIncrement]	969	=	0.01
[UnitOfMeasure]	996	=	Ccy
[UnitOfMeasureCurrency]	1716	=	ETH
[MinTradeVol]	562	=	0.000001
[RoundLot]	561	=	0.000001
[Currency]	15	=	USD
[Symbol]	55	=	LTC/USD
[MinPriceIncrement]	969	=	0.01
[UnitOfMeasure]	996	=	Ccy
[UnitOfMeasureCurrency]	1716	=	LTC
[MinTradeVol]	562	=	0.000001
[RoundLot]	561	=	0.000001
[Currency]	15	=	USD
[Checksum]	10	=	226

**SecurityStatusRequest Interaction Model:**



**SecurityStatusRequest (IN)**

Tag	Field Name	Req'd	Values/Comments
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Standard Header		Y	MsgType 35=e
324	SecurityStatusReqID	Y	The ID of the Security Status Request; must be unique or an exact match of a previous ID if disabling an update request. May utilize any format.
55	Symbol	Y	The Symbol of the Instrument whose Order Book Status is requested. Only one instrument is supported for the Security Status Request.
263	SubscriptionRequestType <sup>†</sup>	Y	The type of Market Data Subscription Request for this Security Status Request. SNAPSHOT [0] – Will only provide Snapshot messages at set intervals. SNAPSHOT_PLUS_UPDATES [1] – Will provide Snapshot and Incremental update messages for any activity on the Order Book. DIASBLE_PREVIOUS_SNAPSHOT_PLUS_UPDATE_REQUEST [2] – Allows the client to stop their existing Market Data Subscription messages. Must reference a previously used SecurityStatusReqID.
Standard Footer		Y	

<sup>†</sup> = If the user sends SubscriptionRequestType(263) = DISABLE\_PREVIOUS\_SNAPSHOT\_PLUS\_UPDATES (2), but no request has been made with the requestID they send in, the user will get a reject will reason 'DUPLICATE\_ID'.

## SecurityStatus (OUT)

Tag	Field Name	Req'd	Values/Comments
Standard Header		Y	MsgType 35=f
324	SecurityStatusReqID	Y	The ID of the Security Status Request; must be unique, any format.
55	Symbol	Y	The Symbol of the Instrument whose Order Book Status is provided.
969	MinPriceIncrement	N	The smallest increment in which the Instrument's price can be increased/decreased.
326	SecurityTradingStatus	Y	The status of the order book for the specified Instrument. TRADING_HALT [2] RESUME [3] READY_TO_TRADE_START_OF_SESSION [17] ITS_PRE_OPENING [14]

327	HaltReason	N	If trading on the Order Book has been halted, this field provides additional information. ORDER_BOOK_IN_SUSPENDED_STATE [S] ORDER_BOOK_IN_HALT_STATE [N]
Standard Footer		Y	

### BusinessMessageReject (OUT)

Tag	Field Name	Req'd	Values/Comments
Standard Header		Y	MsgType 35=j
372	RefMsgType	Y	The Message Type (35) of the Fix message that is being referenced. 35=e [SecurityStatusRequest]
380	BusinessRejectReason	Y	Identifies reason for a Business Message Reject message. OTHER [0] UNKNOWN_SECURITY [2]
58	Text	N	Freeform text describing the reason for rejection. DUPLICATE_ID INVALID_SYMBOL
Standard Footer		Y	

### Sample Messages

#### SecurityStatusRequest SNAPSHOT (IN)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	100
[MsgType]	35	=	E
[MsgSeqNum]	34	=	7
[SendingTime]	52	=	20240723-05:32:21.000
[SenderCompID]	49	=	USERNAME
[TargetCompID]	56	=	EDXM
[SecurityStatusReqID]	324	=	1
[SubscriptionRequestType]	263	=	0
[Symbol]	55	=	BTC/USD
[Checksum]	10	=	046

### SecurityStatusRequest SNAPSHOT PLUS UPDATES (IN)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	180
[MsgType]	35	=	e
[MsgSeqNum]	34	=	8
[SendingTime]	52	=	20240724-00:12:30.000
[SenderCompID]	49	=	USERNAME
[TargetCompID]	56	=	EDXM
[SecurityStatusReqID]	324	=	32542542
[SubscriptionRequestType]	263	=	1
[Symbol]	55	=	BTC/USD
[Checksum]	10	=	196

### SecurityStatusRequest DISABLE PREVIOUS SNAPSHOT PLUS UPDATES (IN)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	180
[MsgType]	35	=	e
[MsgSeqNum]	34	=	9
[SendingTime]	52	=	20240724-00:14:35.000
[SenderCompID]	49	=	USERNAME
[TargetCompID]	56	=	EDXM
[SecurityStatusReqID]	324	=	32542542
[SubscriptionRequestType]	263	=	2
[Symbol]	55	=	BTC/USD
[Checksum]	10	=	196

### SecurityStatus READY TO TRADE (OUT)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	81
[MsgType]	35	=	f
[SenderCompID]	49	=	EDXM
[TargetCompID]	56	=	USERNAME
[MsgSeqNum]	34	=	10
[SendingTime]	52	=	20240723-05:32:21.591
[SecurityStatusReqID]	324	=	986768uvhv7
[Symbol]	55	=	BTC/USD
[SecurityTradingStatus]	326	=	17
[Checksum]	10	=	016

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### SecurityStatus HALT (OUT)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	77
[MsgType]	35	=	f
[SenderCompID]	49	=	EDXM
[TargetCompID]	56	=	USERNAME
[MsgSeqNum]	34	=	10
[SendingTime]	52	=	20240723-05:58:49.303
[SecurityStatusReqID]	324	=	235234
[Symbol]	55	=	BTC/USD
[SecurityTradingStatus]	326	=	2
[HaltReason]	327	=	N
[Checksum]	10	=	212

### SecurityStatus RESUME (OUT)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	91
[MsgType]	35	=	f
[SenderCompID]	49	=	EDXM
[TargetCompID]	56	=	USERNAME
[MsgSeqNum]	34	=	11
[SendingTime]	52	=	20240723-06:04:15.027
[SecurityStatusReqID]	324	=	34534523
[Symbol]	55	=	BTC/USD
[SecurityTradingStatus]	326	=	3
[Checksum]	10	=	167

### SecurityStatus SUSPENDED (OUT)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	87
[MsgType]	35	=	f
[SenderCompID]	49	=	EDXM
[TargetCompID]	56	=	USERNAME
[MsgSeqNum]	34	=	12
[SendingTime]	52	=	20240723-06:06:44.782
[SecurityStatusReqID]	324	=	235426523
[Symbol]	55	=	BTC/USD
[SecurityTradingStatus]	326	=	2

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[HaltReason]	327	=	S
[Checksum]	10	=	221

### SecurityStatus POST ONLY (OUT)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	81
[MsgType]	35	=	F
[SenderCompID]	49	=	EDXM
[TargetCompID]	56	=	USERNAME
[MsgSeqNum]	34	=	13
[SendingTime]	52	=	20240724-01:01:01.404
[SecurityStatusreqID]	324	=	235535
[Symbol]	55	=	BTC/USD
[SecurityTradingStatus]	326	=	14
[Checksum]	10	=	164

### BusinessMessageReject INVALID SYMBOL (OUT)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	78
[MsgType]	35	=	j
[SenderCompID]	49	=	EDXM
[TargetCompID]	56	=	USERNAME
[MsgSeqNum]	34	=	14
[SendingTime]	52	=	20240724-00:46:02.408
[RefMsgType]	372	=	e
[BusinessRejectReason]	380	=	2
[Text]	58	=	INVALID_SYMBOL
[Checksum]	10	=	105

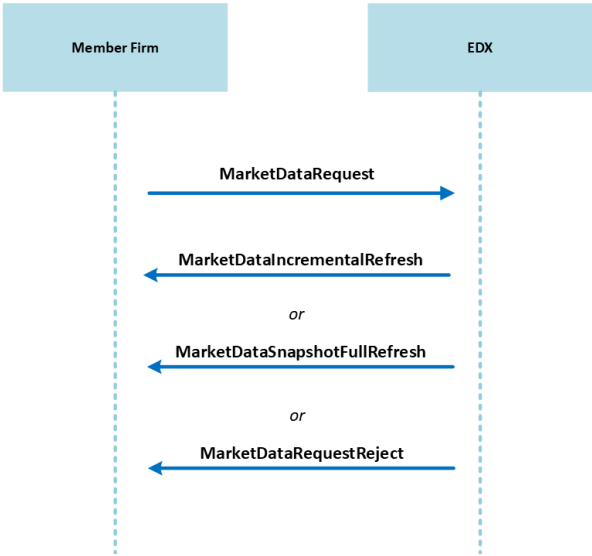
### BusinessMessageReject INCORRECT SECURITY STATUS REQUEST ID (OUT)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	85
[MsgType]	35	=	j
[SenderCompID]	49	=	EDXM
[TargetCompID]	56	=	USERNAME
[MsgseqNum]	34	=	15
[SendingTime]	52	=	20240724-01:08:07.205
[RefMsgType]	372	=	e



[BusinessRejectReason]	380	=	0
[Text]	58	=	DUPLICATE_ID
[CheckSum]	10	=	176

**MarketDataRequest Interaction Model:**



**MarketDataRequest (IN)**

Tag	Field Name	Req'd	Values/Comments
Standard Header			MsgType 35=V
262	MDReqID	Y	This is the ID for the MarketDataRequest. It must be unique or must be the ID of the previous request to stop the message stream.
263	SubscriptionRequestType	Y	The supported Subscription Request Types outlined earlier specify the type of response expected from the market data gateway. SNAPSHOT [0] – will only provide Snapshot messages at set intervals. SNAPSHOT_PLUS_UPDATES [1] – will provide Snapshot and Incremental update messages for any activity on the Order Book. DISABLE_PREVIOUS_SNAPSHOT_PLUS_UPDATE_REQUEST [2] – Allows the client to stop their existing Market Data Subscription messages.
264	MarketDepth	Y	This field indicates the depth of the order book snapshot requested.

			FULL_BOOK [0] - This indicates the most comprehensive request containing all price levels or all orders on the order book.
265	MUpdateType	Y	For Snapshot and Update subscriptions, this specifies the type of market data update requested. Only incremental updates are supported. INCREMENTAL_REFRESH [1]
> 267	NoMDEntryTypes	Y	The number of MDEntryType fields requested from the gateway.
> 269	MDEntryType	Y	Comprehensive list of the types of Market Data Entries requested whose number is specified in NoMDEntryTypes. GW supports Bid, Offer & Trade as values. BID [0] OFFER [1] TRADE [2]
> 146	NoRelatedSym	Y	The requested number of Symbols. One or more symbols can be requested; each must be specified in the Symbol field.
Standard Footer		Y	

† = EDXM enum value, not standard to FIX 5.0 SP2

## MarketDataIncrementalRefresh (OUT)

Tag	Field Name	Req'd	Values/Comments
Standard Header		Y	MsgType 35=X
262	MReqID	N	This is the ID for the Market Data Subscription stream. It must be unique, and it is echoed back from the Market Data Subscription Request message.
> 268	NoMDEntries	Y	The number of market data entry groups that clients should expect to receive in the snapshot message.
> 279	MUpdateAction	Y	This will be the first field in each market data entry group, and it indicates the type of update sent on this message as outlined below. NEW [0] - This indicates a new price level or new order has been added to the order book CHANGE [1] - This indicates an existing price level or order quantity on the order book has been updated DELETE [2] - This indicates that a price level or order has been removed from the order book
> 269	MDEntryType	† Y	The type of market data entry, mirroring the specification of the subscription request.

			<p>BID [0]  OFFER [1]  TRADE [2]  INDEX_PRICE [3] - Latest spot index price, applicable to perpetual futures  OPEN_INTEREST [C] - Open interest contract units, applicable to perpetual futures  †PRELIMINARY_MARK_PRICE [m] - Latest Mark Price of the Instrument  †FINAL_MARK_PRICE [n] - Mark price of the instrument used for marking realized PnL  †PRELIMINARY_FUNDING_RATE [p] - Real time funding rate of the instrument, applicable to perpetual futures  †FINAL_FUNDING_RATE [f] - Funding rate of the instrument used for perpetuals funding payments</p> <p>Note, perpetuals specific MdEntryType values (3, C, m, n, f, p) will only be sent as incremental updates for market data subscriptions for FULL_BOOK data.</p> <p>For perpetuals contracts, index price, open interest, preliminary mark price, and preliminary funding rate will be published every 5 seconds. Final funding rate and final mark price will be published at an interval configured in the contract specification.</p>
> 278	MDEntryID	Y	A unique ID for the market data entry in the group. It should be referenced for a Delete or Change Action.
> 55	Symbol	Y	The Symbol of the Instrument and the ID of the Order Book whose Market Data is provided on this message. Only one Symbol per Message is supported.
> 969	MinPriceIncrement	N	The smallest increment in which the instrument's price can be increased/decreased.
> 270	MDEntryPx	Y	The price level of the market data entry.
> 271	MDEntrySize	N	The size of the market data entry at the specified price; delta size where MDUpdateAction is Change.
> 1003	TradeID	N	A unique ID for the trade, when reporting trades.
> 9416	ExtendedExecInst	N	Designates that an order is a Retail order or a Retail Liquidity Providing order. DESIGNATED_RETAIL [R] - Indicates that this is a Retail Taker order. RETAIL_LIQUIDITY_PROVIDER [T] - Indicates that this is a Retail Maker order.
60	TransactTime	N	Time of execution/order creation. UTC timestamp.

Standard Footer	Y	
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† = EDXM enum value, not standard to FIX 5.0 SP2

## MarketDataSnapshotFullRefresh (OUT)

Tag	Field Name	Req'd	Values/Comments
Standard Header		Y	MsgType 35=W
911	TotNumReports	Y	Total number of reports returned in response to a request.
262	MReqID	Y	This is the ID for the Market Data Subscription stream. It must be unique, and it is echoed back from the Market Data Subscription Request message.
55	Symbol	Y	The Symbol of the Instrument and the ID of the Order Book whose Market Data is provided on this message. Only one Symbol per Message is supported.
969	MinPriceIncrement	N	The smallest increment in which the instrument's price can be increased/decreased.
> 268	NoMDEntries	Y	The number of market data entry groups that clients should expect to receive in the snapshot message.
> 269	MDEntryType	Y	The type of market data entry, mirroring the specification of the subscription request.  BID [0] OFFER [1] TRADE [2]
> 278	MDEntryID	Y	A unique ID for the market data entry in the group.
> 270	MDEntryPx	Y	The price level of the market data entry; these are ranked from best to worst in a snapshot message.
> 271	MDEntrySize	N	The size available at the specified price level within the group.
> 9416	ExtendedExecInst	N	Indicates that an order is a Retail order or a Retail Liquidity Providing order. DESIGNATED_RETAIL [R] - Indicates that this is a Retail Taker order. RETAIL_LIQUIDITY_PROVIDER [T] - Indicates that this is a Retail Maker order.
60	TransactTime	N	Time of execution/order creation. UTC timestamp.
Standard Footer		Y	

† = EDXM enum value, not standard to FIX 5.0 SP2

## MarketDataRequestReject (OUT)

Tag	Field Name	Req'd	Values/Comments
	Standard Header	Y	MsgType 35=Y
262	MDReqID	Y	This is the ID for the Market Data Subscription stream. It must be unique, and it is echoed back from the Market Data Subscription Request message.
281	MDReqRejReason	Y	The rejection reason: UNKNOWN_SYMBOL [0] DUPLICATE_MDREQID [1] INSUFFICIENT_BANDWIDTH [2] INSUFFICIENT_PERMISSIONS [3] UNSUPPORTED_SUBSCRIPTIONREQUESTTYPE [4] UNSUPPORTED_MARKETDEPTH [5] UNSUPPORTED_MDUPDATETYPE [6] UNSUPPORTED_AGGREGATEDBOOK [7] UNSUPPORTED_MDENTRYTYPE [8] UNSUPPORTED_TRADINGSESSIONID [9] UNSUPPORTED_SCOPE [A] UNSUPPORTED_OPENCLOSESETTLEFLAG [B] UNSUPPORTED_MDIMPLICITDELETE [C]
58	Text	N	Describes reject reason.
	Standard Footer	Y	

## Sample Messages:

### MarketDataRequest SNAPSHOT PLUS UPDATES (IN)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	114
[MsgType]	35	=	V
[MsgSeqNum]	34	=	234
[SendingTime]	52	=	20240727-21:35:13.000
[SenderCompID]	49	=	USERNAME
[TargetCompID]	56	=	EDXM
[MDReqID]	262	=	24525
[SubscriptionRequestType]	263	=	1
[MarketDepth]	264	=	0
[MDUpdateType]	265	=	1
[NoRelatedSym]	146	=	1
[Symbol]	55	=	BTC/USD
[NoMDEntryTypes]	267	=	1

[MDEntryType]	269	=	0
[Checksum]	10	=	002

MarketDataRequest DISABLE PREVIOUS SNAPSHOT PLUS UPDATE REQUEST (IN)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	114
[MsgType]	35	=	V
[MsgSeqNum]	34	=	2354
[SendingTime]	52	=	20240727-21:35:24.000
[SenderCompID]	49	=	USERNAME
[TargetCompID]	56	=	EDXM
[MDReqID]	262	=	256534
[SubscriptionRequestType]	263	=	2
[MarketDepth]	264	=	0
[MDUpdateType]	265	=	1
[NoRelatedSym]	146	=	1
[Symbol]	55	=	BTC/USD
[NoMDEntryTypes]	267	=	1
[MDEntryType]	269	=	0
[Checksum]	10	=	006

MarketDataSnapshotFullRefresh (OUT)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	914
[MsgType]	35	=	W
[SenderCompID]	49	=	EDXM
[TargetCompID]	56	=	USERNAME
[MsgSeqNum]	34	=	324
[SendingTime]	52	=	0240727-20:48:27.747
[TotNumReports]	911	=	1
[MDReqID]	262	=	0001
[Symbol]	55	=	BTC/USD
[NoMDEntries]	268	=	5
[MDEntryType]	269	=	0
[MDEntryID]	278	=	3252330397861675008
[MDEntryPx]	270	=	30000
[MDEntrySize]	271	=	1
[MDEntryType]	269	=	0
[MDEntryID]	278	=	3250870108007956480

[MDEntryPx]	270	=	30000
[MDEntrySize]	271	=	1
[MDEntryType]	269	=	0
[MDEntryID]	278	=	3250870108007956480
[MDEntryPx]	270	=	20000
[MDEntrySize]	271	=	271=0.0000001
[MDEntryType]	269	=	1
[MDEntryID]	278	=	3252382806600318978
[MDEntryPx]	270	=	67450.32
[MDEntrySize]	271	=	0.000557
[ExtendedExecInst]	9416	=	T
[MDEntryType]	269	=	1
[MDEntryID]	278	=	3252382743593484293
[MDEntryPx]	270	=	67457.05
[MDEntrySize]	271	=	0.005937
[ExtendedExecInst]	9416	=	T
[Checksum]	10	=	164

### MarketDataIncrementalRefresh (OUT)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	232
[MsgType]	35	=	X
[SenderCompID]	49	=	EDXM
[TargetCompID]	56	=	USERNAME
[MsgSeqNum]	34	=	44
[SendingTime]	52	=	20240727-19:53:22.477
[MDReqID]	262	=	2
[NoMDEntries]	268	=	2
[MDUpdateAction]	279	=	2
[MDEntryType]	269	=	1
[MDEntryID]	278	=	3252368965348989338
[Symbol]	55	=	BTC/USD
[MDEntryPx]	270	=	68022.72
[MDUpdateAction]	279	=	0
[MDEntryType]	269	=	1
[MDEntryID]	278	=	3272347897345987339
[Symbol]	55	=	BTC/USD
[MDEntryPx]	270	=	67968.02
[MDEntrySize]	271	=	0.7535934
[TransactTime]	60	=	20240727-19:53:22.434147871

[Checksum]	10	=	218
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MarketDataRequest REJECT (OUT)

[BeginString]	8	=	FIXT.1.1
[BodyLength]	9	=	68
[MsgType]	35	=	Y
[SenderCompID]	49	=	EDXM
[TargetCompID]	56	=	USERNAME
[MsgSeqNum]	34	=	43
[SendingTime]	52	=	20240727-19:52:01.157
[MDReqID]	262	=	1
[MDReqRejReason]	281	=	6
[Checksum]	10	=	021

