FIX Rules of Engagement Market Data

Version 2.0

Version Control

Version	Date	Changes
1.1	📅 07 Apr 2022	Final release, added back UML diagrams and added back in MMLastBid/Ask
1.2	📅 07 Jul 2022	Repositioned the UnderlyingSymbol tag in the underlying repeating group. Add changes to support backward compatibility, including MDQuoteType (1070).
1.3	📅 22 Nov 2022	Re-versioned to align RoE and squashed version history. Removed unnecessary text from the Message Trailer section
1.4	📅 11 Jan 2023	Updated gateway capacity section to reflect RoE for Market data
2.0	📅 03 Nov 2023	Updated to support • Additional products

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Definitions

Document Phrasing	Meaning
"Exchange"	The Multilateral Trading Facility (MTF), legally named as Spectrum MTF Operator GmbH
"Member"	Trading Participant directly connected into the Exchange and submitting orders to trade in the case of a Broker or executable quotes when a Market Maker
"MM"	Market Maker
"Transactions"	Formed when a Broker Order matches and trades with either a MM quote or another Broker Order
"Issuer"	Listing entity of products traded on the Exchange

A - Introduction

Purpose

This document specifies the technical interaction between Spectrum MTF Operator GmbH (the "Exchange") and firms (the "Member") using Financial Information eXchange (FIX) protocol.

B - Connectivity

FIX Versions

The Exchange uses FIXT1.1 and FIX 5.0SP2 with extension packs. Custom tags will be used and specified. All tags denoted in the message table are included as required by FIXT1.1 and FIX 5.0SP2, and some optional tags may be marked as mandatory for proprietary uses.

FIX Connections

Members connect to the Exchange for the transmission of pre-trade, trade, and post-trade related data using the gateways provided by the Exchange (refer to Gateway Capabilities for supported messages).

Notations

- FIX message is denoted in Message (35=MsgType) format, e.g. Logon (35=A)
- FIX tag is denoted in TagName (TagNumber) format, e.g. SecurityTradingStatus (326)
- FIX value is denoted in Value = Description format, e.g. SubscriptionRequestType (263) has the value 1 = Snapshot and subscribe
- If a feature is tagged with PENDING, then the feature is not live yet
- If a feature is tagged with IN PROGRESS, then the feature is still being discussed and subject to change

C - Gateway Capabilities

Gateways	Members	Message types
Market data	Broker Liquidity Provider Market Maker Any interested Party	1. All transport-level message types (0, A, 5, 3, 2, 4, 1) 2. TradingSessionStatusRequest (35=g) 3. Security List Request (35=x) and Security List (35=y) 4. Security Status Request(35=e) and Security Status (35=f) 5. Market Data Request (35=V) 6. Market Data Request Reject (35=Y) 7. Market Data Snapshot(35=W) 8. Market Data Incremental (35=X)

Rejection Messages

Unexpected message types or missing mandatory fields etc. will be rejected with a Reject(35=3).

Complex validation rejects will be rejected via BusinessMessageReject(35=j) (e.g. invalid combination of OrdType and TimeInForce on a NewOrderSingle(35=D))

In all other scenarios, rejection response messages sent by the Exchange will be appropriate to the incoming message

D - FIX Sessions

FIX session protocol adheres to standard FIX eg. Logon, Logout, TestRequest, Heartbeat, ResendRequest, SequenceReset etc.

Trading Hours

The Exchange is open for connectivity from Sunday 22:30 CE(S)T to Friday 23:15 CE(S)T, with each 24-hour trading session being punctuated on the hour at 23:00 CE(S)T by a 2 minute closed period to allow for instrument maintenance. The trading hours are defined per product, each product trading schedules can found here. Order and quote updates and entries outside their trading hours will be rejected.
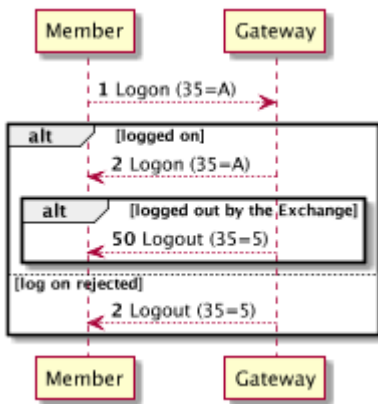
Sequence Numbers / Reset

On both Market Data and Order Entry gateways, the Exchange gateway will send ResetSeqNumFlag (141) =Y and sequence number 1 on every logon.

On the Order Entry session, reset also takes place during the weekend downtime. On Sunday night / Monday morning start up, the Exchange gateway will connect with sequence number 1 and expect to receive sequence number 1.

Log On

The Member must be authenticated via the gateway by issuing a Logon (35=A) message. The user should pass the following validation to log on:

- The user is recognised and enabled
- The user has the permission to log on as the Member.

Logon (35=A)

Tag	Name	Req'd	Notes
			<Standard Message Header>
98	EncryptMethod	Y	0 = No encryption at the moment
108	HeartBtInt	Y	This tag is the heartbeat interval in seconds. It is determined by the user at login time. The Member's heartbeat interval should be greater than 5 seconds. If the user fails to respond to 3 test requests following missed "heartbeats", the gateway will disconnect the session an log out the user. The number of retries can be modified on a per session basis.
141	ResetSeqNumFlag	N	
553	Username	C	Required when initiating connection to the Exchange. The Member username in clear text
554	Password	C	Required when initiating connection to the Exchange. Password in clear text
1137	DefaultApplVerID	Y	Always be 9 = FIX50SP2
			<Standard Message Trailer>

Log Out

A Logout (35=5) can be sent by the Member or the Exchange, as a notification initiated by either side. If it was sent by the Member, the Exchange will respond with a Logout (35=5) message.
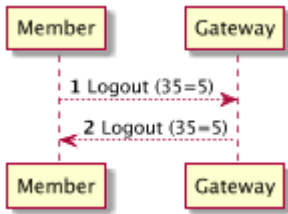
Logout (35=5)

Tag	Name	Req'd	Notes
			<Standard Message Header>
58	Text	N	Any reason given by the Exchange for rejected log on
			<Standard Message Trailer>

Cancel on Disconnect

On gateway setup the Member can specify whether or not orders and/or quotes should be cancelled on session disconnect. In case of a session loss or a session logout and the gateway is configured to cancel orders/quotes on disconnect, all quotes and/or orders submitted through that disconnected FIX session will be cancelled.
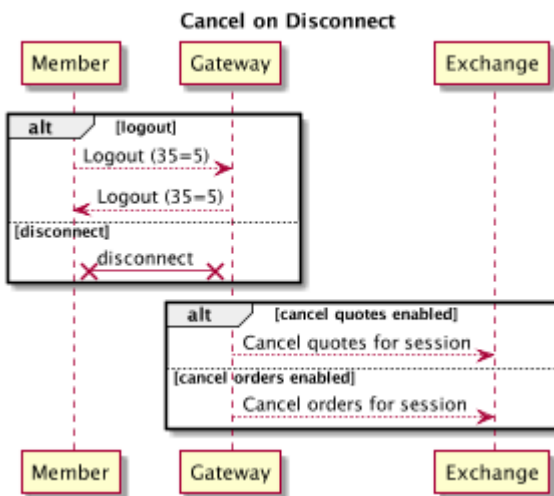
E - Market Data

Trading Session Status

Trading Session Status is the trading status of the Exchange. The Member could send a Trading Session Status Request (35=g) message to check if the Exchange is open for trading or closed.

The gateway will acknowledge this message by sending a Trading Session Status (35=h) message to the Member.

TradingSessionStatusRequest (35=g)

Tag	Name	Req'd	Notes	
			<Standard Message Header>	
335	TradSesReqID	Y	The unique identifier of this request	
1301	MarketID	Y	The Market Identifier Code (MIC) of the Exchange	
263	SubscriptionRequestType	Y	• 0 = Snapshot • 1 = Snapshot and Subscribe	• 2 = Unsubscribe
			<Standard Message Trailer>	

TradingSessionStatus (35=h)

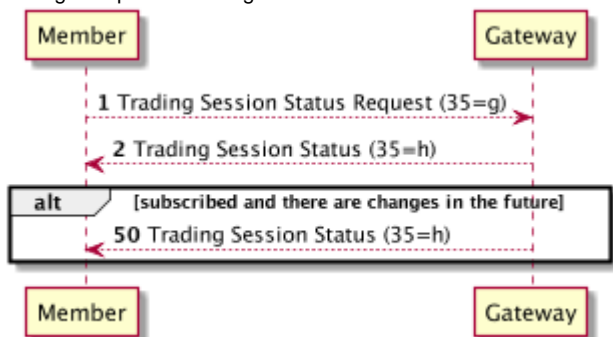| Tag	Name	Req'd	Notes	
			<Standard Message Header>	
335	TradSesReqID	C	Required if it is a response to a previous TradingSessionStatusRequest (35=g) The unique identifier of a previous Trading Session Status Request (35=g) message	
1301	MarketID	Y	The Market Identifier Code (MIC) of the Exchange	
336	TradingSessionID	N	• 1 = Day • 2 = HalfDay • 3 = Morning • 4 = Afternoon	• 5 = Evening • 6 = After-hours • 7 = Holiday
325	UnsolicitedIndicator	Y	Indicates if the message is sent as a result of a request. • Y = Unsolicited (non-request) • N = solicited (request)	
340	TradSessStatus	Y	• 0 = Unknown • 1 = Halted • 2 = Open for trading	• 3 = Closed • 6 = Request Rejected
567	TradSesStatusRejReason	C	Required if TradSessStatus (340) is 6 = Request Rejected • 1 = Unknown or invalid TradingSessionID • 99 = Other	
58	Text	N	Any message from the Exchange	
			<Standard Message Trailer>	

Instrument Lifecycle

Instrument status is determined via a combination of the SecurityStatus (tag 965) on the SecurityList (35=y) and SecurityTradingStatus (tag 326) on the SecurityStatusMessage (35=f).

The below diagram shows SecurityStatus(965) in yellow and SecurityTradingStatus(326) in blue.
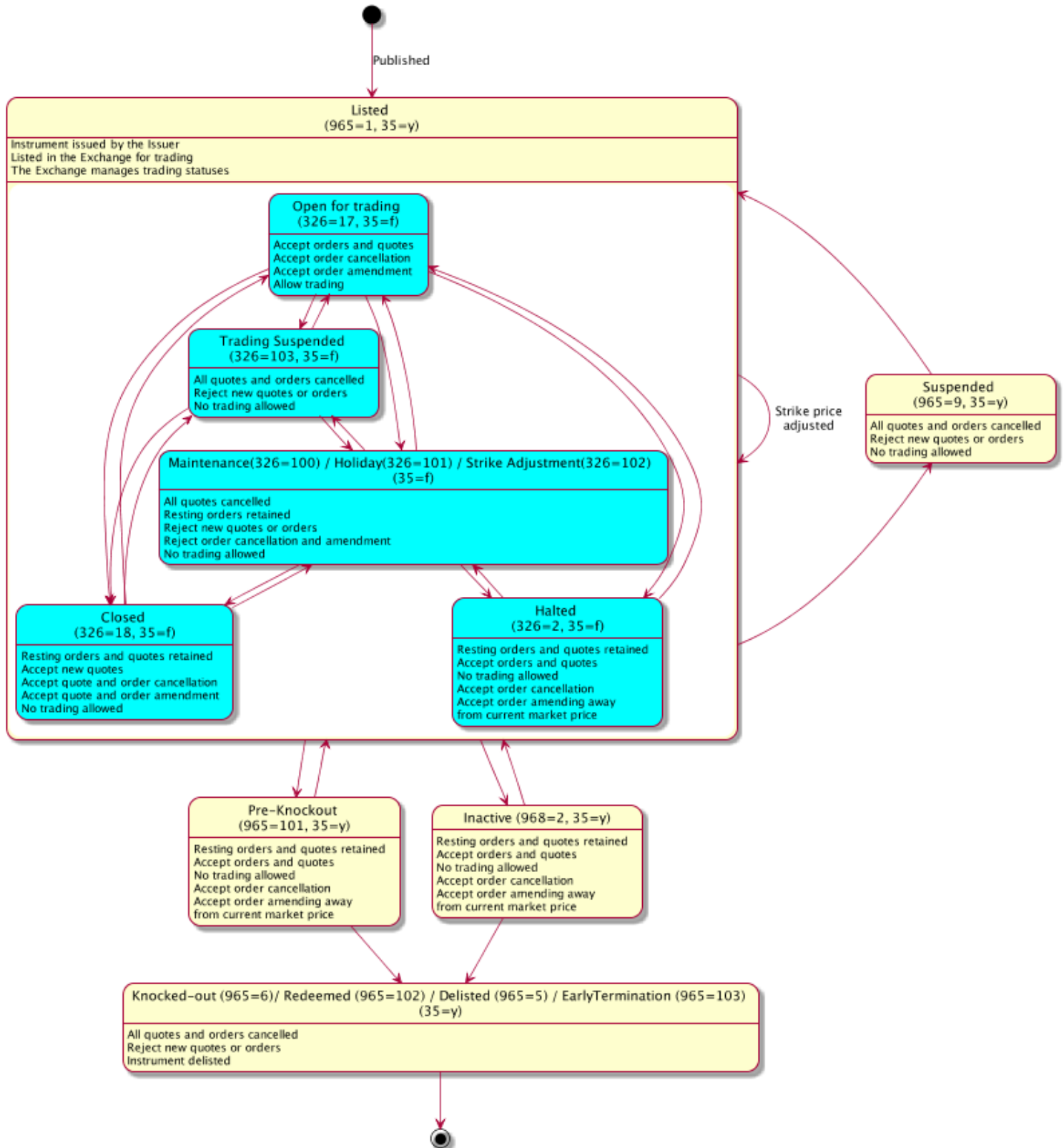
Security List

Security List is an aggregation of instrument definitions within the Exchange.

By sending a Security List Request (35=x), this data can be provided as a single snapshot or streamed continuously as new instruments are added. To avoid excessively large messages, the response may be split into multiple SecurityList (35=y) messages.

A request containing SecurityListRequestType(559)=ALL(1), will return all currently active instruments plus all instruments that have gone end of life in the last 3 days (KNOCKED_OUT, REDEEMED, DELISTED, EARLY TERMINATION)

For subscription requests, any updates to existing instrument or creation of new instruments will be sent in a SecurityList (35=y) message as a list of one instrument.

Subscription Management

Only 1 active streaming subscription is permitted. Any further request attempts will be rejected.
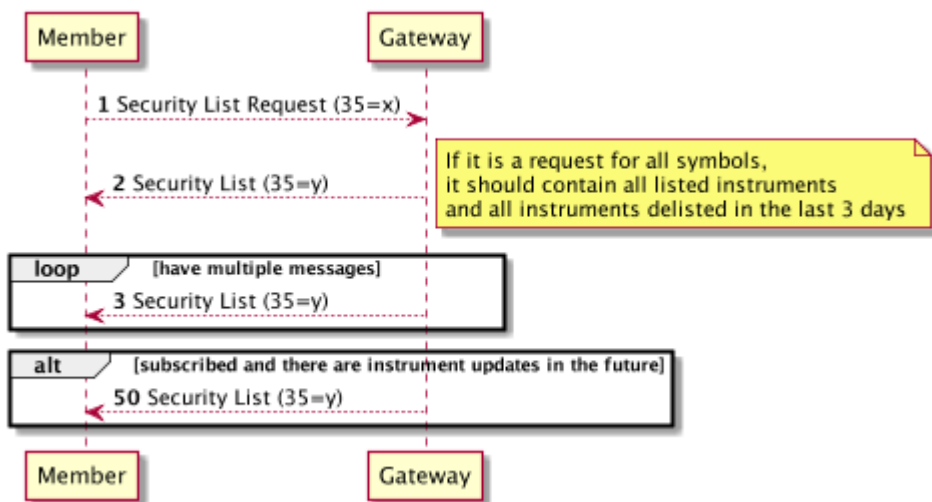
Security List Request (35=x)

Tag	Name	Req'd	Notes
		<Standard Message Header>	
320	SecurityReqID	Y	The unique identifier of this request
559	SecurityListRequestType	Y	• 4 = All
263	SubscriptionRequestType	Y	• 0 = Snapshot • 1 = Snapshot and subscribe • 2 = Unsubscribe
5000	IncludesDemoInstrument	N	Default to 0 • 0 = Include Live Instruments only • 1 = Include Demo Instruments • 2 = Include all Instruments
		<Standard Message Trailer>	

Security List (35=y)

	Tag	Name	Knock-out Warrants	Warrants	Constant Leverage Certificate	Exchange-Traded Fund	Req'd	Notes
						<Standard Message Header>			
	964	SecurityReportID	Y	Y	Y	Y	Y	The unique identifier of the Security report. In the case of a fragmented report in multiple Security List (35=y), the SecurityReportID (964) of each fragment would be the same.
	1465	SecurityListID	Y	Y	Y	Y	Y	The unique identifier of this Security List (35=y) message
	320	SecurityReqID	C	C	C	C	C	Required if this is a response to a previous Security List Request (35=x). The unique identifier of a previous Security List Request (35=x) message
	560	SecurityRequestResult	C	C	C	C	C	Required if this is a response to a previous Security List Request (35=x). • 0 = Valid • 1 = Invalid or unsupported request • 2 = Not found • 3 = Not authorised • 4 = Unavailable
	1301	MarketID	Y	Y	Y	Y	Y	The Market Identifier Code (MIC) of the Exchange
	393	TotNoRelatedSym	Y	Y	Y	Y	Y	The total number of instrument included in the specified SecurityReportID (964)
	893	LastFragment	Y	Y	Y	Y	Y	• N = Not last fragment • Y = Last fragment or not fragmented
	146	NoRelatedSym	Y	Y	Y	Y	Y	The number of instruments included in this message
>	55	Symbol	Y	Y	Y	Y	Y	Exchange-assigned human-readable symbol of the instrument.
>	48	SecurityID	Y	Y	Y	Y	Y	Exchange-assigned unique identifier of the instrument.
>	22	SecurityIDSource	Y	Y	Y	Y	Y	• 8 = Exchange Symbol
>	454	NoSecurityAltID	N	N	N	N	N	The number of repeatable SecurityAltID (455)
> >	455	SecurityAltID	Y	Y	Y	Y	Y	The Alternate ID of the Security
> >	456	SecurityAltIDSource	Y	Y	Y	Y	Y	• 1 = CUSIP • 4 = ISIN number • B=WKN
>	461	CFICode	Y	Y	Y	Y	Y	Taxonomy used to classify the financial instrument. FIX usage are identified in "Appendix 6-D CFICode Usage - ISO 0962 Classification of Financial Instruments (CFI code)" from www.fixtrading.org
>	20100	EUSIPACode	Y	Y	Y	N	N	EUSIPA Code (4 digit numeric): an instruments derivative category according to the EUSIPA Derivative Map
>	541	MaturityDate	N	N	N	N	N	Date of maturity for the instrument
>	965	SecurityStatus	Y	Y	Y	Y	Y	• 2 = INACTIVE – This state is equivalent to Halted state • 5 = DELISTED • 6 = KNOCKED_OUT • 9 = SUSPENDED • 100 = LISTED • 101 = PRE_KNOCKOUT • 102 = REDEEMED • 103 = EARLY TERMINATION
>	225	IssueDate	Y	Y	Y	Y	Y	Date instrument was issued.
>	228	Factor	Y	Y	Y	N	N	Amount by which price must be adjusted to achieve the underlying value
>	202	StrikePrice	Y	N	N	N	N	The strike price of the Turbo Warrant Note: Also see InstrAttribType(871=617)
>	20000	BarrierPrice	Y	N	N	N	N	The barrier is the level at which the strike is knocked out Note: Also see InstrAttribType(871=614)

>	1479		StrikePriceBoundaryMethod	Y	N	N	N	N	• 1 = Less than underlying price is in-the-money (ITM) • 3 = Equal to the underlying price is in-the-money (ITM) • 5 = Greater than underlying is in-the-money (ITM) Note: Also see InstrAttribType(871=618)

	Tag	Sub	Field	C1	C2	C3	C4	C5	Description
>	1479		StrikePriceBoundaryMethod	Y	N	N	N	N	• 1 = Less than underlying price is in-the-money (ITM) • 3 = Equal to the underlying price is in-the-money (ITM) • 5 = Greater than underlying is in-the-money (ITM) Note: Also see InstrAttribType(871=618)
>	231		ContractMultiplier	Y	Y	Y	Y	Y	The lot size of the instrument. Always be 1.
>	~~969~~		~~MinPriceIncrement~~	~~Y~~	~~Y~~	~~Y~~	~~N~~	~~YN~~	~~Tick size. The minimum increment of the market price~~
>	~~1146~~		~~MinPriceIncrementAmount~~	~~Y~~	~~Y~~	~~Y~~	~~N~~	~~YN~~	~~Tick value. The cash value of a tick.~~ ~~MinPriceIncrementAmount (1146) = MinPriceIncrement (969) × ContractMultiplier (231)~~
>	1787		RefTickTableID	Y	Y	Y	Y	Y	See Liquidity Bands
>	1193		SettlMethod	Y	Y	Y	Y	Y	Always be C = Cash Settlement
>	1194		ExerciseStyle	Y	Y	Y	N	N	• 0 = European • 1 = American • 2 = Bermuda • 99 = Other
>	201		PutOrCall	Y	Y	Y	N	N	• 0 = Put (Short Turbo Warrant) • 1 = Call (Long Turbo Warrant)
>	106		Issuer	N	N	N	N	N	The name of the Instrument Issuer (LEI) - This will be deprecated Note: See InstrumentParties (1018)
>	1018		NoInstrumentParties	N	N	N	N	N	Identifies the number of parties related to a specific instrument Required, NoInstrumentParities>1
> >	1019		InstrumentPartyID	Y	Y	Y	Y	Y	Required if NoInstrumentPaties(1018) > 0 Identification of the party
> >	1050		InstrumentPartyIDSource	Y	Y	Y	Y	Y	Required if NoInstrumentPaties(1018) > 0 Supported values are • N = Legal Entity Identifier (ISO 17442) LEI
> >	1051		InstrumentPartyRole	Y	Y	Y	Y	Y	Required if NoInstrumentPaties(1018) > 0 Identifies the type of InstrumentPartyID(1019), support values are • 125 = Issuer • 35 = Liquidity Provider • 66 = Market Maker
> >	2378		InstrumentPartyRoleQualifier	N	N	N	N	N	Identifies the type of InstrumentPartyRole(1051)
>	2737		FinancialInstrumentShortName	Y	Y	Y	Y	Y	The short name of the security, as in abbreviated name. Nothing to do with the direction of the Turbo
>	2714		FinancialInstrumentFullName	Y	Y	Y	Y	Y	The long name of the security.
>	107		SecurityDesc	Y	Y	Y	Y	Y	The display full name of the instrument
>	873		DatedDate	Y	Y	Y	Y	Y	Date of Instruments eligible for listing
>	2578		OrigStrikePrice	C	C	C	N	N	Required if StrikePrice (202) was updated by the Issuer
>	30000		RedemptionSettlDate	C	C	C	N	N	Redemption settlement date / REPAYMENT_DATE
>	30001		RedemptionSettlPrice	C	C	C	N	N	Settlement price for redeemed or knocked out instrument.
>	5002		IsTestInstrumentIndicator	N	N	N	N	N	Default to N • Y = This is a Test Instrument for system testing • N = This is a customer-facing Instrument
>	5003		IsDemoInstrumentIndicator	Y	Y	Y	Y	Y	• Y = This is a Demo Instrument for trading simulation • N = This is a Live Instrument
>	870		NoInstrAttrib	N	N	N	N	N	Number of repeating InstrAttribType (871) entries.
> >	871		InstrAttribType	Y	Y	Y	Y	Y	Please refer to <Instrument Attribute Types> for all possible types
> >	872		InstrAttribValue	Y	Y	Y	Y	Y	The attribute value
>	711		NoUnderlyings	N	N	N	N	N	The number of underlyings. Will always be given on derivatives (which is currently all Products on the Exchange)
> >	311		UnderlyingSymbol	Y	Y	Y	N	Y	The Exchanged assigned symbol for the Underlying.

				Field						Description
>	>		309	UnderlyingSecurityID	Y	Y	Y	N	Y	The Issuer-assigned symbol for the Underlying. This can be used to uniquely identify the Underlying.
										If an ISIN is available then this will always be given. For non-exchange traded or Index then RIC or BBG code may be given
>	>		305	UnderlyingSecurityIDSource	Y	Y	Y	N	Y	This is the primary underlying. If an ISIN is available then this will always be given. For non-exchange traded or Index then RIC or BBG code may be given • 4 = ISIN • 5 = RIC • A = Bloomberg Symbol
>	>		2720	UnderlyingFinancialInstrumentFullName	Y	Y	Y	N	N	Name of the underlying financial instrument
>	>		2013	UnderlyingAssetClass	Y	Y	Y	N	N	The broad asset category for assessing risk exposure • 1 = Interest Rate • 2 = Currency • 4 = Equity • 5 = Commodity • 6 = Other
>	>		2015	UnderlyingAssetType	N	Y	Y	N	N	Type of Underlying • 1 = Basket • 2 = Index • 3 = Bonds • 4 = Future • 5 = Simple • 6 = Combination
>	>		318	UnderlyingCurrency	N	Y	Y	N	N	Currency of the underlying. Given when not FX
>	>		457	NoUnderlyingSecurityAltID	N	N	N	N	N	The number of Underlying Security Alternate IDs
>	>	>	458	UnderlyingSecurityAltID	Y	N	N	N	Y	The Alternate ID of the Underlying Security
>	>	>	459	UnderlyingSecurityAltIDSource	Y	N	N	N	Y	• 1 = CUSIP • 4 = ISIN • 5 = RIC • A = Bloomberg Symbol
>	>		2045	NoUnderlyingComplexEvents	N	N	N	N	N	Number of repeating UnderlyingComplexEventType (2045) entries.
>	>	>	2046	UnderlyingComplexEventType	Y	Y	Y	N	Y	Please refer to UnderlyingComplexEvents for all possible types
>	>	>	2048	UnderlyingComplexEventPrice	Y	Y	Y	N	Y	Specifies the price at which the complex event takes effect. Impact of the event price is determined by the UnderlyingComplexEventType
>	15			Currency	Y	Y	Y	Y	Y	Currency in which the notional is denominated
				<Standard Message Trailer>						

Instrument Attribute Types (Field 871)

| Type	Name	Turbo	Warrants	Factor Certificate	ETF	Req'd	Format / Type	Notes
619	Fund Currency	N	N	N	Y	N	String	Fund currency of the instrument
607	Value Date	N	Y	Y	N	N	Date	Date on which the Financial Instrument, that was bought or sold, must be delivered. Indicates the begin of the interest calculation period for a bond. Date on which the first possible settlement occurs
608	Payment Date	N	Y	Y	N	N	Date	Payment date after or at maturity
609	Final Valuation Date	N	Y	Y	N	N	Date	Date on which the underlying is evaluated to calculate the redemption value and as such maturity of the instrument, generally 1 business day after Last Trading Date.
610	Last Trading Date	N	Y	Y	N	N	Date	Last trading day of the Financial Instrument on the Exchange
611	Delisting Date	N	Y	Y	N	N	UTCTimestamp	Date on which the instrument is delisted from the Exchange
612	Barrier Start Date	N	Y	Y	N	N	UTCTimestamp	Begin of the barrier observation period
613	Barrier Breach Date Time	N	Y	Y	N	N	UTCTimestamp	
614	Barrier Price	Y	N	N	N	N	Price	The barrier is the level at which the strike is knocked out
615	Participation Factor	N	Y	Y	N	N	Integer	Leverage Factor - must be present for Factor Certificate
616	Quanto	N	Y	Y	N	N	String	A special form of currency hedging where a (foreign) currency is converted into the issue currency of the Financial Instrument at a predetermined rate (usually at a 1:1 ratio).
617	Strike Price	Y	N	N	N	N	Price	The strike price of the Turbo Warrant
618	StrikePriceBoundaryMethod	Y	N	N	N	N	String	• 1 = Less than underlying price is in-the-money (ITM) • 3 = Equal to the underlying price is in-the-money (ITM) • 5 = Greater than underlying is in-the-money (ITM)
600	Commodities or emission allowance derivative indicator	Y				N	• Y = yes • N = no	Indication as to whether the financial instrument falls within the definition of commodities derivative under Article 2(1)(30) of Regulation (EU) No 600/2014 or is a derivative relating to emission allowances referred to in Section C(4) of Annex I to Directive 2014/65/EU. Flag is "true" for commodity turbo warrants, otherwise always 'false'. Turbo warrants with commodity underlying are part of the instruments listed in MiFIR Art 2 (1) (30) i.e Commodity derivatives definition.
601	Request for admission to trading by issuer	Y				N	• Y = yes • N = no	Whether the issuer of the financial instrument has requested or approved the trading or admission to trading of its financial instrument on a trading venue. Should be populated with 'true' in the current set up for authorisation for trading. IG issuer has to sent a request for authorisation for trading to the Exchange.
602	Date of admission to trading or date of first trade	N				N	UTCTimestamp	Date and time of the admission to trading on the trading venue or the date and time when the instrument was first traded or an order or quote was first received by the trading venue From DXXL Listing Section - First Trading Date
603	Termination date					N	UTCTimestamp	Date and time when the financial instrument ceases to be traded or to be admitted to trading on the trading venue. Where this date and time is unavailable, the field shall not be populated. Where this date and time is not yet known, the field shall not be populated. To be populated as the case may be, even if optional.
604	Base Product	N				C	String	Required only for commodity warrant. Base product for the underlying asset class as specified in the classification of commodities derivatives table. Only values in the 'Base product' column of the classification of commodities derivatives table are allowed. See table 2 of RTS 3 , only for Commodities derivatives , should contain one of the following: INSTRUMENT: Spot gold / Base product: "METL" INSTRUMENT:Spot silver / Base product:"METL" INSTRUMENT:OIL (Nymex) / Base product:"NRGY" INSTRUMENT:OIL (Brent) / Base product: "NRGY" INSTRUMENT:Natural Gas / Base product: "NRGY"

605	Sub product	N				C	String	Required only for commodity warrant.
								The Sub Product for the underlying asset class as specified in the classification of commodities derivatives table. Field requires a Base product.
								Only values in the 'Sub product' column of the classification of commodities derivatives table are allowed.
								See table 2 of RTS 3 , only for Commodities derivatives, should contain one of the following: INSTRUMENT: Spot gold / Sub product: "PRME" INSTRUMENT:Spot silver / Sub product: "PRME" INSTRUMENT:OIL (Nymex) / Sub product: "OILP" INSTRUMENT:OIL (Brent) / Sub product: "OILP" INSTRUMENT:Natural Gas /Sub product: "NGAS"
606	Further sub product	N				C	String	Required only for commodity warrant.
								The Further sub product for the underlying asset class as specified in the classification of commodities derivatives table. Field requires a Sub product.
								Only values in the 'Further sub product' of the classification of commodities derivatives table are allowed.
								See table 2 of RTS 3 , only for Commodities derivatives , should contain one of the following: INSTRUMENT: Spot gold / Further Sub product: "GOLD" INSTRUMENT:Spot silver / Further Sub product: "SLVR" INSTRUMENT:OIL (Nymex) / Further Sub product: - INSTRUMENT:OIL (Brent) / Further Sub product: "BRNT" / "BRNX" INSTRUMENT:Natural Gas / Further Sub product: "GASP": Gaspool / "LNGG": LNG/ "NBPG": NBP /"NCGG": NCG /"TTFG": TTF

Underlying Complex Events Types (Field 2046)

Type	Name	Notes
201	BO	Bonus (barrier type)
202	GA	Guarantee (barrier type)
203	PA	Participation (barrier type)
204	CA	Capped (barrier type)
205	LI	Lock-in (barrier type)
206	KO	Knocked-Out (barrier type)
207	BT	Bottom (barrier type)
208	TP	Top (barrier type)
209	SP	Strike Price (barrier type)
210	SE	Safety Level (barrier type)
211	SL	Start Level (barrier type)
212	TL	Redemption Level (barrier type)
213	RL	Reverse Level (barrier type)
214	Reference Price at Issue	The price of the Underlying on one or more Valuation Dates which is used to calculate the Cash Amount
1	Capped	
2	Trigger	
3	Knock-in up	
4	Knock-in down	
5	Knock-out up	
6	Knock-out down	

Security Status

The Member could request and subscribe for the status of a tradable instrument by sending a Security Status Request (35=e) message to the gateway. The SecurityID (48) is used as a unique identifier of the instrument.
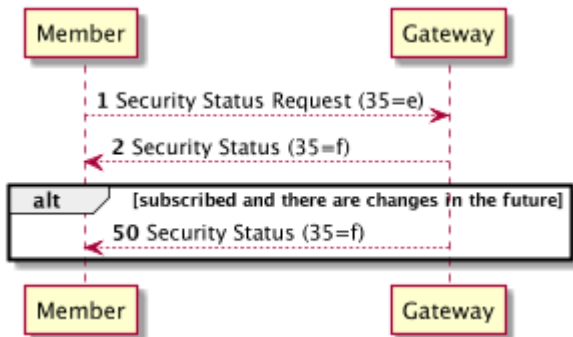
The gateway will acknowledge this message by sending a Security Status (35=f) message to the Member. The subscribed Member will be sent Security Status (35=f) message when the status has changed. Security Status subscription is managed per instrument.

Security Status Request (35=e)

Tag	Name	Req'd	Notes
		<Standard Message Header>	
324	SecurityStatusReqID	Y	The unique identifier of this request
48	SecurityID	Y	Exchange-assigned identifier of the instrument.
22	SecurityIDSource	Y	• 8 = Exchange Symbol
263	SubscriptionRequestType	Y	• 0 = Snapshot • 1 = Snapshot and subscribe • 2 = Unsubscribe
		<Standard Message Trailer>	

Security Status (35=f)

Tag	Name	Req'd	Notes
		<Standard Message Header>	
324	SecurityStatusReqID	N	Required if this is a response to a previous Security Status. The unique identifier of a previous Security Status Request (35=e) message
48	SecurityID	Y	Exchange-assigned identifier of the instrument.
22	SecurityIDSource	Y	• 8 = Exchange Symbol
75	TradeDate	C	Business Date of the Exchange. Required if SecurityTradingStatus (326) != 20 (Unknown or invalid symbol)
325	UnsolicitedIndicator	Y	Indicates if the message is sent as a result of a subscription request or snapshot request • Y = Unsolicited (subscription) • N = solicited (snapshot)

326	SecurityTradingStatus	Y	2 = Halted 17 = Open for trading 18 = Closed 20 = Unknown or invalid symbol 100 = Under maintenance 101 = On holiday 102 = Strike under adjustment 103 = Suspended
60	TransactTime	Y	Time this request was processed or when the status changed
58	Text	N	Detailed message from the Exchange when SecurityTradingStatus(326) = 20 (unknown or invalid symbol)
			<Standard Message Trailer>

L1 / L2 Data

Market Data could be a two-sided book of orders or a list of trades, or both. The Member could request a snapshot of the market data, and optionally subscribe to receive future updates, by sending a Market Data Request (35=V) message to the gateway.

There are several request options that affect the market data the Member will receive:

Market Depth (264)

0 = Full Book : shows all orders

Order Book (Full Book)

Buy	Sell
15@10.0	20@15.0
10:00:01am	10:00:01am
10@9.0	15@18.0
09:59:35am	09:59:12am

1 = Top Book : L1 prices only

Order Book (Top Book)

Buy	Sell	Last Trade	Opening	Closing	High	Low	VWAP	Trade Volume	MM Last Bid	MM Last Ask
15@10.0	20@15.0	25@12.0	13.0		16.0	10.0	12.5	100	12. 5	13
10:00:01am	10:00:01am	09:58:52am	09:00:12am		09:35:47am	10:00:01am	09:58:52am	09:58:52am		

Apart from the above, the Member can specify the instrument required using the repeatable group of Symbol (35) tags. The request should allow the following rules:

1. Only one symbol per request is allowed. Requests contain multiple symbols will be rejected.
2. A separate request is required if the Member intend to receive different depths of the same entry types
3. Only one request per depth per symbol is allowed. Duplicate requests will be rejected.

Supported combinations of Market Depth and MD Entry Types

	0 = Full Book	1 = Top of Book
0 = Bid	✔	✔
1 = Offer	✔	✔
2 = Last Trade	✘	✔
4 = Opening Price	✘	✔
5 = Closing Price	✘	✔
7 = Trading Session High Price	✘	✔
8 = Trading Session Low Price	✘	✔
9 = Volume Weight Average Price	✘	✔
B = Trade Volume	✘	✔
b = MM Last Bid	✘	✔
c = MM Last Ask	✘	✔

The gateway will acknowledge this message by sending a Market Data – Snapshot (35=W) message for each instrument to the Member. Please note that the entries in the message is not ordered.

If it was a subscription request, the Member will be sent either a Market Data – Incremental (35=X) for an instrument whose subscribed market data have changed. Market Data – Incremental (35=X) message contains only the changes in the order book and Market Data – Snapshot (35=W) message always contain the full snapshot of the latest order book.

Subscription Management

Market Data subscription is managed per instrument with only one symbol per request supported.
Duplicate subscriptions will be rejected, a duplicate is defined as

1. Using a MDReqId which is already in use for an active subscription
2. Multiple subscriptions to the same instrument of the same Depth. Depth being defined via MarketDepth (264).

Unsubscribing is achieved using the MDReqID supplied during subscription, this will unsubscribe to ALL options in the original request. Partial unsubscribe or subscription amendment is not supported.

E.g. If your original subscription is for TEST_SYMBOL, FULL_BOOK, BID, OFFER. Then it is not allowed to only unsubscribe from BID updates. If the Member intends to change the way of subscription, e.g. Market Depth (264) or MDUpdateType (265), it is required to unsubscribe the instrument entirely by supplying the MDReqId.

Market Data Request (35=V)

Tag		Name	Req	Notes
				<Standard Message Header>
262		MDReqID	Y	The unique identifier of this request
263		SubscriptionRequestType	Y	• 0 = Snapshot • 1 = Snapshot and subscribe • 2 = Unsubscribe
264		MarketDepth	Y	• 0=Fullbook • 1=Topbook
265		MDUpdateType	N	Applicable only if SubscriptionRequestType (263) is 1 = Snapshot + Updates • 1 = Incremental refresh
266		AggregatedBook	N	• N = book entries should not be aggregated
267		NoMDEntryTypes	Y	Number of MDEntryTypes tags required
>	269	MDEntryType	Y	• 0 = Bid • 1 = Offer • 2 = Last Trade • 4 = Opening Price • 5 = Closing Price • 7 = Trading Session High Price • 8 = Trading Session Low Price • 9 = Volume Weight Average Price • B = Trade Volume • b = MM Last Bid • c = MM Last Ask
146		NoRelatedSym	Y	Number of symbols (instruments) required
>	55	Symbol	Y	Exchange-assigned human-readable symbol of the instrument
>	48	SecurityID	Y	Exchange-assigned identifier of the instrument
>	22	SecurityIDSource	Y	• 8 = Exchange Symbol
				<Standard Message Trailer>

Market Data Snapshot (35=W)

Tag		Name	Req	Notes
				<Standard Message Header>
264		MarketDepth	Y	0=Fullbook 1=Topbook
262		MDReqID	Y	The unique identifier of a previous Market Data Request (35=V) message
55		Symbol	Y	Exchange-assigned human-readable symbol of the instrument
48		SecurityID	Y	Exchange-assigned identifier of the instrument
22		SecurityIDSource	Y	8 = Exchange Symbol
268		NoMDEntries	Y	The number of repeatable market data entries
	MDFullGrp			
>	269	MDEntryType	Y	0 = Bid 1 = Offer 2 = Last Trade 4 = Opening Price 5 = Closing Price 7 = Trading Session High Price 8 = Trading Session Low Price 9 = Volume Weight Average Price - B = Trade Volume - b = MM Last Bid - c = MM Last Ask
>	278	MDEntryID	Y	The unique identifier of the entry within the message
>	270	MDEntryPx	C	The price of this entry. Required only if the value exists 0 = Bid 1 = Offer 2 = Last Trade 4 = Opening Price 5 = Closing Price 7 = Trading Session High Price 8 = Trading Session Low Price 9 = Volume Weight Average Price - b = MM Last Bid - c = MM Last Ask
>	271	MDEntrySize	C	The quantity of this entry. Required only if the value exists. 0 = Bid 1 = Offer 2 = Trade - B = Trade Volume
>	272	MDEntryDate	C	Date the entry was last updated or added. Required only if either MDEntryPx (270) or MDEntrySize (271) exists.
>	273	MDEntryTime	C	Time the entry was last updated or added. Required only if either MDEntryPx (270) or MDEntrySize (271) exists.
>	299	QuoteEntryID	C	Required only if - This is an entry originated from a previous Mass Quote (35=i) message of the same Member; AND - The consumer of this message is the originator of this entry. The unique identifier of the quote entry. Any subsequent execution will use this identifier as Client Order ID (11) in the Execution Report (35=8).
>	1070	MDQuoteType	C	The MDQuoteType is required for indicative quotes only where the MDEntryPx(270) is either 0 (Bid) or 1 (Offer), MDQuoteTypeCodeSet 0 = Indicative
				<Standard Message Trailer>

Market Data Incremental (35=X)

Tag		Name	Req	Notes
				<Standard Message Header>
262		MDReqID	Y	The unique identifier of a previous Market Data Request (35=V) message
268		NoMDEntries	Y	The number of repeatable market data entries
		MDIncGrp		
>	279	MDUpdateAction	Y	• 0=New • 1 = Chang • 2 = Delete
>	269	MDEntryType	Y	• 0 = Bid • 1 = Offer • 2 = Last Trade • 4 = Opening Price • 5 = Closing Price • 7 = Trading Session High Price • 8 = Trading Session Low Price • 9 = Volume Weight Average Price • B = Trade Volume • b = MM Last Bid • c = MM Last Ask
>	278	MDEntryID	Y	The unique identifier of the entry within the message
>	270	MDEntryPx	C	The price of this entry. Required if MDUpdateAction (279) is 0 = New
>	271	MDEntrySize	C	The quantity of this entry. Required if MDUpdateAction is 0 = New
>	272	MDEntryDate	C	Date the entry was last updated or added. Required only if the MDUpdateAction is 0 = New or 1 = Change.
>	273	MDEntryTime	C	Date the entry was last updated or added. Required only if the MDUpdateAction is 0 = New or 1 = Change.
>	299	QuoteEntryID	C	Required only if 1. This is an entry originated from a previous Mass Quote (35=i) message of the same Member 2. The consumer of this message is the originator of this entry 3. MDUpdateAction (279) is 0 = New or 1 = Change The unique identifier of the quote entry. Any subsequent execution will use this identifier as Client Order ID (11) in the Execution Report (35=8)

>	1070	MDQuoteType	C	The MDQuoteType is required for indicative quotes only where,
				
				    a. The MDEntryPx(270) is either 0 (Bid) or 1 (Offer), and
				    b. The MDUpdateAction(279) is either 0 (New) or 1 (Change)
				
				MDQuoteTypeCodeSet
				
				• 0 = Indicative

				<Standard Message Trailer>

Market Data Request Reject (35=Y)

Tag	Name	Req	Notes
			<Standard Message Header>
262	MDReqID	Y	The unique identifier of a previous Market Data Request (35=V) message
281	MDReqRejReason	Y	• 0 = Unknown symbol • 1 = Duplicate MD Request ID • 3 = Insufficient permissions • 4 = Unsupported subscription type • 5 = Unsupported market depth • 7 = Unsupported aggregated book • 8 = Unsupported MD Entry Type
58	Text	N	Detailed description for the rejection
			<Standard Message Trailer>

Rate Limit

For Exchange protection, the Member message sending rates will be limited on a per gateway basis.
For full details of this please see the Exchange Trading Manual.
Any message exceeding the preconfigured rate limit will be rejected with BusinessMessageReject (35=j).

Business message Reject (35=J)

Tag	Name	Req	Notes
			<Standard Message Header>
	RefSeqNum	Y	The sequence number of the message being rejected
58	Text	Y	Text message detailing reason for rejection e.g. "Message rate exceeded"
372	RefMsgType	Y	The message type of the message being rejected
380	BusinessRejectReason	Y	Accepted value: • 4 = Application not available
			<Standard Message Trailer>

Appendix

Common Message Blocks

Standard Message Header

The message header identifies the source and destination to route the message and replies. Additionally, it specifies the message type and provides integrity checks. To properly support timestamp validations, all parties must synchronise system clocks to standard references.

Tag	Name	Req'd	Notes
8	BeginString	Y	Must be FIXT.1.1
9	BodyLength	Y	Must be second tag in message
35	MsgType	Y	Must be third tag in message
1128	ApplVerID	N	Must be 9 = FIX50SP2
1129	CstmApplVerID	N	Not used
49	SenderCompID	Y	Assigned value used to identify sender of message
56	TargetCompID	Y	Assigned value used to identify receiver of message
115	OnbehalfOfCompID	N	Trading partner company ID used when sending messages via a third party
128	DeliverToCompID	N	Trading partner company ID used when sending messages via a third party
90	SecureDataLen	N	Not supported
91	SecureData	N	Not supported
34	MsgSeqNum	Y	Message sequence number
50	SenderSubID	N	Not used
142	SenderLocationID	N	Sender's LocationID (i.e. geographic location and/or desk)
57	TargetSubID	N	Not used
143	TargetLocationID	N	Trading partner's geographic location and/or desk
116	OnBehalfOfSubID	N	Trading partner SubID used when delivering messages via a third party.
144	OnBehalfOfLocationID	N	Trading partner LocationID (i.e. geographic location and/or desk) used when delivering messages via a third party.
129	DeliverToSubID	N	Trading partner SubID used when delivering messages via a third party.
145	DeliverToLocationID	N	Trading partner's geographic location and/or desk. Used when delivering messages via a third party.
43	PossDupFlag	N	Always 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.
52	SendingTime	Y	Expressed in GMT
122	OrigSendingTime	N	Required for message resent as a result of a Resend Request (2) message. If data is not available set to same value as SendingTime (52)
347	MessageEncoding	N	Not supported
369	LastMsgSeqNumProcessed	N	The last MsgSeqNum (34) value received and processed. Can be specified on every message sent. Useful for detecting a backlog with counterparty.

Standard Message Trailer

Tag	Name	Req'd	Notes
93	SignatureLength	N	Not supported
89	Signature	N	Not supported
10	Checksum	Y	Three byte, simple checksum

Liquidity Bands

Price_Bands_____	LQB=0	LQB=1	LQB=2	LQB=3	LQB=4	LQB=5	LQB=6	LQB=7	LQB=8	LQB=9	LQB=10
0<= Price <0.1	0.001	0.0005	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.1<= Price <0.2		0.001	0.0005	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.2<= Price <0.5		0.002	0.001	0.0005	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.5<= Price <1		0.005	0.002	0.001	0.0005	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001
1<= Price <2		0.01	0.005	0.002	0.001	0.0005	0.0002	0.0001	0.0001	0.0001	0.0001
2<= Price <5		0.02	0.01	0.005	0.002	0.001	0.0005	0.0002	0.0001	0.0001	0.0001
5<= Price <10		0.05	0.02	0.01	0.005	0.002	0.001	0.0005	0.0002	0.0001	0.0001
10<= Price <20		0.1	0.05	0.02	0.01	0.005	0.002	0.001	0.0005	0.0002	0.0001
20<= Price <50		0.2	0.1	0.05	0.02	0.01	0.005	0.002	0.001	0.0005	0.0002
50<= Price <100		0.5	0.2	0.1	0.05	0.02	0.01	0.005	0.002	0.001	0.0005
100<= Price <200		1	0.5	0.2	0.1	0.05	0.02	0.01	0.005	0.002	0.001
200<= Price <500		2	1	0.5	0.2	0.1	0.05	0.02	0.01	0.005	0.002
500<= Price <1,000		5	2	1	0.5	0.2	0.1	0.05	0.02	0.01	0.005
1,000<= Price <2,000		10	5	2	1	0.5	0.2	0.1	0.05	0.02	0.01
2,000<= Price <5,000		20	10	5	2	1	0.5	0.2	0.1	0.05	0.02
5,000<= Price <10,000		50	20	10	5	2	1	0.5	0.2	0.1	0.05
10,000<= Price <20,000		100	50	20	10	5	2	1	0.5	0.2	0.1
20,000<= Price <50,000		200	100	50	20	10	5	2	1	0.5	0.2
50,000<= Price		500	200	100	50	20	10	5	2	1	0.5