



FIX 4.4 Specification V3.2 Market Data and Order Entry



Please contact ErisX sales representatives or help desk personnel for more information on this documentation.

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1 Change History

| Date | Message(s) or Section | Description |
|------------|-----------------------------------|---|
| 2019-09-10 | NEW T.M.E. FIX SPEC V2 | This updated spec is provided for members to migrate to the new ErisX match engine coming in Q4 2019. |
| | V2.1 | |
| 2019-09-20 | CancelReplace Overfill Protection | Overfill Protection is an optional attribute for order modification See |
| 2019-09-20 | Stop Order Time in force | TimeinForce FOK, IOC will be supported for stop limit orders. |
| 2019-09-30 | 4.1 Sequence Number management | Updated to include note around Sequence reset messages sent by client applications. |
| 2019-10-09 | Overfill Protection | Removed incorrect note. |
| | V2.2 | |
| 2019-10-14 | System Status and Security Status | Added detail around the system and security status messages for clients to understand the workflow when connecting and subscribing to data. |
| 2019-10-21 | V3.0 | Includes Futures tags and messages. |
| | 7.1 Order Input and Execution | Table updated. |
| | 9.2.1.0 MarketDataIncremental | Tag 60 moved out of the MDIncGrp repeating group. tag 278 MDEntryID is not sent for statistics messages Duplicate tag 15 removed |
| | 8.10 Mass Order Status Request | Updated with description of tag 912=Y |
| | V3.1 | |
| 2019-12-05 | 9.2.4 Security List Message | Added <EvtGrp> and associated tags for Futures. Added Tag 207 SecurityExchange |
| | 9.2.5 Security Status Message | Added Tag 207 SecurityExchange |
| | 9.2.7 Security Definition Message | Added Tag 207 SecurityExchange |
| | 8.5 On Behalf of Routing | Updated description for on behalf of routing to refer to account and not user |
| 2019-12-18 | 9.2.14 OrderReplace | Added Tag 59 = Time In Force |
| | V3.2 | |
| 2020-02-03 | 7.4 Top Of Book - Removed | Removed supported for Top Of Book market Data. Users should refer to WebSocket API for use of TopOfBook data. |
| | | |



2 Introduction

2.1 Purpose

The purpose of this document is to present in detail the Financial Information Exchange (FIX) 4.4 protocol subset available to users of ErisX exchange systems.

3 Product Offering

3.1 Supported Order Types

ErisX supports the following order types:

- **Limit** - An order to buy or sell at a specific price or better.
- **Stop-Limit** - An order that combines the features of a stop order and a limit order. The stop price acts as a trigger to enter a limit order into the market.

3.2 Supported Time in Force

The supported time in force values is described in the following table:

| Expiry Condition | Description |
|----------------------------------|--|
| Day | Orders submitted with this expiry condition that have not been executed will be expired by the system at the end of the ErisX trading day in which they were entered. |
| Good Till Cancel (GTC) | Orders with this expiry condition remain open and active until either executed or explicitly canceled by the client. |
| Good Till Date (GTD) | With this time in force, the submitting client specifies the date at which an order is to be expired if not already executed. |
| Fill or Kill (FOK) | Unless the full quantity of the order can be executed immediately at the specified price or better, an order with this expiry condition will be canceled. |
| Immediate or Cancel (IOC) | Orders with the expiry condition will be canceled unless a specified minimum quantity can be executed immediately at the specified price or better. Any remaining unfilled quantity is canceled. |

3.3 Order Modification

Order parameters such as quantity and expiry condition can be amended on an outstanding order without having to cancel and resubmit the order.

By default, orders that have been partially filled cannot be modified unless the user makes use of the overfill protection logic. See section [Overfill protection \(New\)](#). A reject message will be received if attempting to modify a partially filled order without the use of overfill protection.



3.4 Minimum Permitted Order Entry Size

There is a minimum permitted order entry size maintained on the ErisX platform. Orders sent for amounts less than the permitted minimum order entry size will be rejected.

3.5 Price Banding

Additional market protection ensures that orders received by the exchange do not surpass a defined threshold and protect members from unexpected fills. Orders outside of the price band will be rejected to prevent an unwanted price movement due to a "fat fingering" of a price. Price bands are set at the Instrument level.

- Order checks are directional; buy orders above the band or sell orders below the band will be rejected.
- Price bands will be configured a number of ticks from a Reference Price.
- Reference Prices follows the following hierarchy:
 - Mid-Price
 - Last Traded Price
 - Best Bid or Best Offer
 - If no trade/bid/offer then Settlement Price
 - If no Settlement Price then Initial Price

3.6 Self Match Prevention

Our Self Match Prevention logic prevents market participants from matching orders within an account, group of accounts with common ownership or FIX Session.

- S.M.P. is enabled by default when an Account is created.
- S.M.P. can be configured on/off by the ErisX Market Operations team.
- S.M.P. can be enabled for an individual account, sub-account or group of FIX credentials under an account.
- If S.M.P is triggered, the resting order will be canceled if S.M.P. is enabled for that account.

4 Futures Specific Functionality

4.1 Regulatory Tags

ErisX requires members to populate some specific FIX tags when sending futures orders to the exchange. Please review the [message detail](#) section for the expected values.

The following tags should be sent in the Header of each message:

| Tag | Field Name | New Spec |
|-----|------------------|--|
| 50 | SenderSubID | Value used to identify the user that entered the order |
| 142 | SenderLocationID | Used to identify the geographical location of the user that entered the order: [Country],[State if in US] eg; US, IL or UK |



The following tags **MUST** be included when [entering](#) or [modifying](#) an order:

| Tag | Field Name | New Spec |
|-----|-------------------|--|
| 581 | AccountType | Used to indicate whether an order is for a Customer(1) or House(2) account. |
| 582 | CustOrderCapacity | Used to indicate whether the user entering the order is placing it for themselves or for another member. 1 = Member Trading for own account 2 = Clearing firm trading for its Prop Account 3 = Member trading for another member 4 = All other |

4.2 Trades which are cleared through a Futures Commission Merchant (FCM)

For users whose trades are cleared through an FCM, an identifier is required to be sent so that those trades are correctly processed by the FCM back office.

| Tag | Field Name | New Spec |
|---------------------------|------------|---|
| Component block <Parties> | | |
| 448 | PartyID | This must contain the FCM Back office account number for the customer of the order. |
| 452 | PartyRole | Must contain 24 to indicate that the value in 448 is a Customer Account Reference. |

4.3 Instrument details

The <Instrument> component of the SecurityList, SecurityStatus and SecurityDefinition messages include attributes specific to futures contracts:

| Tag | Field Name | New Spec |
|---------------------|--------------------|---|
| 461 | CFICode | FCXXSX for futures |
| 167 | SecurityType | FUT = Future, SPOT = Spot |
| 200 | MaturityMonthYear | Specifies the month and year of maturity (expiry) for a given contract YYYYMM |
| 541 | MaturityDate | Specifies the date of maturity (a full date) YYYYMMDD |
| 231 | ContractMultiplier | Specifies the ratio of underlying units per future |
| 207 | SecurityExchange | Market used to help identify a security = ERSX |
| Component <EvntGrp> | | |
| 864 | EvntGrp | The EvntGrp will contain values to indicate the 1st trade date and the last eligible trade data of a contract |
| 865 | EventType | 5 = Activation (First Trade Date) 7 = Last Eligible Trade Date |
| 866 | EventDate | The Date corresponding to the EventType (865) YYYYMMDD |



5 Supported Messages

The ErisX FIX specification supports FIX version 4.4 only.

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

- In: a message type received by ErisX.
- Out: a message type originating from ErisX.
- In/Out: a message type that can be sent to or from ErisX.

Available fields, requirements, values, and their associated meanings are documented in the Message Details section.

Clients are advised to ensure their FIX engine observes the standard FIX 4.4 protocol in which only the order of the first three (3) fields of the header needs to be guaranteed.

5.1 FIX Session Sequence Number Management

FIX Sessions can be maintained across sequential network connections. After an initial session is created, new sessions can continue from the end of the last session by using the last outbound sequence number. On reconnect, clients can use the logon confirmation message sequence number to detect a gap since the last received message. If the client detects a gap, the client application can request all missed messages using a ResendRequest.

All available requested messages will be resent with updated SendingTime(52), OrigSendTime(122), PossDupFlag(43) field set to 'Y' and recalculated CheckSum value.

A gapFill message will be sent in lieu of the administrative messages or when messages are no longer available. Clients should avoid submitting subsequent ResendRequest messages. This will simply replace the prior ResendRequest resulting in a delay of normal processing.

Note: If a client application receives a resend request FROM ErisX Match Engine, the client application should respond with a SequenceRest(35=4) message and include GapFillFlag (123=Y). Client applications should never resend any business messages that have been previously sent.

5.2 Session Messages

Session messages establish, maintain and terminate an ErisX connection.

- Logon – (In/Out) message sent to initiate a FIX session to ErisX. The Logon message establishes the communication session, authenticates the connecting client, and initializes the message sequence number.
- Heartbeat – (In/Out) message sent by ErisX during periods of application inactivity to ensure connection validity. The receiving party should always respond with a heartbeat message.



- Resend Request – (In/Out) request that certain messages be resent. Often used when gaps are detected in the sequence numbering, when a message is lost, or during the initialization process.
- Test Request – (In/Out) used to verify session connectivity and to synchronize sequence numbers. The receiving party should always respond with a heartbeat message.
- Logout – (In) signals the normal termination of the trading session. A session terminated without a Logout message will be considered an abnormal condition. The ErisX FIX gateway treats a session as logged out whenever the communication session is dropped.

5.3 Timestamping / TransactTime (tag 60)

Messages sent by client applications will need to include TransactTime (60). The system will validate the value sent down to one second precision and accuracy.

Responses from the match engine will include TransactTime (60) and will be sent with nanosecond precision. YYYYMMDD-HH:MM:ss.SSSSSSSS.

The timestamp on outgoing messages will represent the time the corresponding message was received by the FIX gateway that resulted in the update.

5.4 Application Messages

Once a proper session is established, application messages are used to receive market data, to submit orders, and to receive executions reports.

Messages:

- **Trading Session Status** – (Out) application message sent from ErisX indicating the trading session is fully initialized. New application messages should not be sent until receipt of this message with a TradSesStatus of System Ready. A Business Message Reject will be received for any application messages sent prior to receiving this message.
- **Business Message Reject** – (Out) application message sent in response to any application-level message that cannot be replied to with a normal matching response message. For example, ErisX sends it when an application-level message is received prior to a Trading Session Status message having been sent. Also sent when a request message is received during non-ErisX trading hours. For a schedule of non-trading hours, please contact your ErisX member service representative.
- **Market Data Request** – (In) message is used to subscribe/unsubscribe to market data. Each request message must contain one requested instrument type. Repeating instrument requests are not supported at this time.



- **Market Data Request Reject** – (Out) message is sent to indicate a Market Data Request message cannot be processed; e.g., due to the system being down, no permission, or system off-hours.
- **Market Data (Incremental Refresh)** – (Out) message sent in response to a Market Data Request message. This message contains entries for one pair only. It can contain both bid and offer updates or show an aggregated content of the book where the total number of orders is shown.
- **Security List Request** – (In) message sent to request Instrument Info for all Instruments configured.
- **Security List** – (Out) message sent in response to a Security List Request message. It contains Instrument information for all configured Instruments.
- **New Order (Single)** – (In) message sent to input an order into the ErisX trading system.
- **Execution Report** – (Out) message returned in response to a New Order, the completion of an order, the partial fill of an order, an order cancel request, an order replace request or an order status request. In each case, the Execution Report will show the current state of the order in question.
- **Order Cancel/Replace Request** – (In) message sent to amend an outstanding order. An Order Cancel Reject message will be sent if the requested order cannot be replaced. An Execution Report with the appropriate execution type will be immediately sent for all other conditions.
- **Order Cancel Request** – (In) message sent to cancel a particular order. If an order has been partially filled, only the outstanding amount can be cancelled. Also used to cancel all outstanding orders.
- **Order Cancel Reject** – (Out) message sent when the request to cancel or cancel/replace an order cannot be processed.
- **Order Mass Order Status Request** - (In) message used to request a current list of the working orders.



6 Message Workflow

6.1 General Workflow

A successful logon is required before further messages are sent and the session must receive Trading Session Status messages with TradSesStatus (340) = 101, System Ready. The Trading Session Status message will normally be received immediately after logon, if the previous session terminated abnormally, a few seconds delay can be encountered while cleanup operations are performed.

ErisX will respond to any application-level messages received prior to it having sent a Trading Session Status message with a Business Message Reject.

6.2 System Status and Security Status

We have refactored the behavior of TradingSessionStatus and added a new message called SecurityStatus.

TradingSessionStatus refers to technical system availability. The only supported values are:

- 101 - System Ready, which indicates that the system is available for technical use, but not necessarily reflects if a market is tradable or not.
- 105 - System Disconnect, which indicates that the system will go down for maintenance.

All other values have been deprecated in favor of the Security Status message described below.

The new message, SecurityStatus is a business level message which indicates the tradable state of an instrument. This is the message your systems should look at in order to determine if orders could be placed into the market and matched.

The new security status values are:

- Open: This indicates that continuous trading is available
 - All order management messages are allowed (New, Cancel, Modify)
- Closed: This indicates that the order book is not available for trading. No order management is available. All New, Cancel and Modify will be rejected
- Pre-Open (When Futures Launch): This indicates that orders can be placed, but no matching will occur due to the instrument being in an auction state. This security state is to allow for price discovery and orderly re-opening of markets.

Security status messages are sent in real-time as instruments transition between security status states. This message is also sent upon subscribing to an instruments market data.

6.3 Passwords for Logon Messages

The ErisX FIX service requires users connecting via the FIX protocol to present a password as part of the Logon (35=A) message. To successfully connect, a user needs to set the password field, tag 554, a ErisX customized tag, to the valid password associated with the id specified in tag 49.



A Logon message containing an invalid password will be rejected. The ErisX response to a valid Logon message will not contain tag 554.

It is recommended that users change their session passwords after receiving them from the ErisX Client Services team.

An expired password must be reset before any application messages, e.g., market data requests, new orders entry, etc. will be processed. Upon successful Logon, if a password needs to be reset, a TradingSessionStatus (35=h) message will be returned with tag 340=1 and tag 58 set to 'Password reset is required.' Until the password is reset, all further application messages will be rejected by the ErisX FIX gateway.

An account is locked after five (5) invalid password logon attempts. A locked account must be unlocked by the ErisX support desk before a user can logon successfully again.

As long as the account is not locked, its password can be reset by the user at any time by sending the appropriate UserRequest (35=BE) message.



7 Market Data Messages

Market data messages are published in three functional groups:

1. Trades

- Trade information is batched into one message grouped by price for a given aggressor if possible.
- Trades for the same match event may be split across multiple incremental updates due to message size limits.
- The final message for the match event will contain Custom tag EventIndicator (6001=1) representing the end of trades.

2. Statistics

- Statistical information will be published for an instrument to inform users of such changes to things like Session High, Session Low, and Total Volume.

3. Book Updates

- Book update information will be batched into one message for a given aggressor if possible.
- Updates for the same match event may need to be split across multiple incremental messages .
- Custom tag EventIndicator (6001=2) will be sent on the final message of a sequence to indicate that all prior messages were part of an atomic matching event. The value of 2 is referred to as EndOfEvent.

Example:

If we consider the following orderbook (broken down to individual orders to show granularity).

| BID Q | BID | ASK | ASK Q |
|-------|------|------|-------|
| 10 | 9002 | 9010 | 50 |
| 10 | 9002 | | |
| 5 | 9002 | | |
| 5 | 9001 | | |
| 5 | 9001 | | |
| 15 | 9000 | | |

When: An order is placed to sell 50 BTC/USD @ 9000

The market data messages would be as follows:

Trades Incremental (35=X)

```
268=3 (NoMDEntries=3)
  269=2 (Trade) |55=BTC/USD|270=9002|271=25|346=3 (NumberOfOrders=3)
  269=2 (Trade) |55=BTC/USD|270=9001|271=10|346=2 (NumberOfOrders=2)
  269=2 (Trade) |55=BTC/USD|270=9000|271=15|346=1 (NumberOfOrders=1)
6001=1 (EventIndicator=EndOfTrade)
```

Statistics Incremental (35=X)

```
269=8 (SessionLow) |55=BTC/USD|270=9000
```



Statistics Incremental (35=X)

```
269=B (TotalVolume) | 55=BTC/USD|271=50
```

BookUpdates Incremental (35=X)

```
268=6 (NoMDEntries=6)
  269=0 (Bid) 279=2 (Delete) | 55=BTC/USD|270=9002|271=10
  269=0 (Bid) 279=2 (Delete) | 55=BTC/USD|270=9002|271=10
  269=0 (Bid) 279=2 (Delete) | 55=BTC/USD|270=9002|271=5
  269=0 (Bid) 279=2 (Delete) | 55=BTC/USD|270=9001|271=5
  269=0 (Bid) 279=2 (Delete) | 55=BTC/USD|270=9001|271=5
  269=0 (Bid) 279=2 (Delete) | 55=BTC/USD|270=9000|271=15
6001=2 (EventIndicator=EndOfEvent)
```

7.1 Market Data Subscriptions

If the SubscriptionRequestType equals 1, snapshot plus updates, ErisX continuously sends new updates to the client and reports when a price is no longer available. Three fields affect the subsequent price updates:

- MarketDepth
- MDUpdateType
- AggregatedBook

For MDUpdateType, ErisX supports the following incremental update request types:

- FullBook – aggregate incremental
- FullBook – non-aggregate incremental

The workflow for each possible request type is described in the following sections.

A Market Data Request message can be rejected. See [MarketDataRequestReject](#) message for possible values.

7.2 FullBook Aggregated Incremental

- A complete aggregated book is sent to the client. If more than one order exists at the same price in the same instrument, only one price will be displayed with the quantity amounts aggregated into one.
- An update from the server either cancels an outstanding price with the same MDEntryID (278) or effectively cancels and replaces it with a new price.

7.3 FullBook Non-aggregated Incremental

- A complete non-aggregated book is sent to the client.
- An update from the server either cancels an outstanding price with the same MDEntryID (278) or effectively cancels and replaces it with a new price.



7.4 Handling MDEntryID

All market data messages are associated with an MDEntryID (278) tag that identifies the price to remove or replace in a full book scenario.

The MDEntryID (278) is unique per instrument within a single session represented as a hexadecimal encoding of a long data type as a string.

Within the same symbol, only one (1) price can be outstanding for any MDEntryID (278), and subsequent updates having the same MDEntryID (278) as an outstanding price replace it or delete it from the book. The action is specified in MDUpdateAction (279): 0 = new and 2 = delete.

The client session is responsible for monitoring the MDEntryID (278) tag to keep track of these updates.

7.5 Re-subscriptions

Market data subscriptions are session-based and are not permanent. A session must re-subscribe to the instruments it is interested in receiving on each new connection.

7.6 Trade Ticker

The ErisX FIX market data service supports a trade ticker which reports executed trade updates, a.k.a. a ticker containing the instrument, executed price, quantity, and the ticker type Aggressive or Passive.

Paid or given is determined from the perspective of the aggressed order. An order that aggresses or 'hits' a bid price will appear in the ticker feed as given. An order that aggresses or 'lifts' the offer price will appear in the ticker feed as paid.



8 Order Processing Messages

Refer to the Message Details section for a complete listing of message types and associated tags.

8.1 Order Input and Execution

A New Order Single message is used to place orders into the ErisX system. ErisX will reply with an Execution Report message, which indicates whether or not the order has been accepted. Execution reports are also sent when there is a change in an order's status, e.g., when an order filled, modified or canceled.

| Message | From | To | Message Detail |
|----------------------------------|--------|--------|--|
| New Order | Client | ERSX | 35=D |
| Execution Rpt (Ack) | ERSX | Client | 35=8 with 150=0 and 39=0 |
| | | | |
| Order Cancel Request | Client | ERSX | 35=F |
| | ERSX | Client | 35=8 with 150=4 and 39=4 if successful 35=9 with 39=8 if rejected |
| | | | |
| Order Replace (Modify) | Client | ERSX | 35=G |
| | ERSX | Client | 35=8 with 150=5 and 39=5 if successful 35=9 with 150=8 and 39=8 if rejected |
| | | | |
| Order Fill | | | <i>Unsolicited</i> |
| Execution Rpt (Fill) | ERSX | Client | 35=8 with 150=F and 39=1 (Partial fill) or 39=2 (Filled) |
| | | | |
| Order Mass Status Request | Client | ERSX | 35=AF |
| Execution Rpt | ERSX | Client | 35=8 will be sent for all currently working orders |



8.2 Order Expiry Types (Time in Force)

By default all orders are “Day” orders, meaning if they have not already been expired or canceled, they will automatically expire at the end of the ErisX trading day. Clients can set different expiry conditions through the TimeInForce (59) field.

Note: Previous version of the match engine responded to new orders with TimeInForce = 0 (day order) with a TimeInForce = 6 (Good till date). This will no longer be the case and day orders will be responded to with TimeInForce = 0 (Day order)

- The ErisX trading day ends at 16:00:00 (CST/CDT).
- Any day order received at 16:00:00 (CST/CDT) will be in effect until 16:00:00 the next business day.

A TimeInForce = 6 must also have the ExpireDate (432)

8.3 Execution Reports

ErisX sends Execution Report messages to:

- Confirm the receipt of an order
- Confirm changes to an existing order
- Reply to order status messages
- Relay order fill information on active orders
- Relay order status change information
- Reject an order

In a normal workflow, after sending an Execution Report message to indicate the receipt of the order, ErisX may continue to send one or more Execution Report messages to relay order fill information if applicable. If the order is filled in full, it will be indicated in the Execution Report. In cases of partial fills, ErisX will send Execution Report messages indicating partial fills until the order is completely filled, the client actively cancels the remaining portion of the order, or the remaining portion expires.

Two fields in the Execution Report message warrant explanations, the ExecType (150) and the OrdStatus (39). For a multiple filled order, the ExecType (150) field reports information on the individual fill and the OrdStatus (39) field reports information on the overall order status.

An Order Replace Request message is used to update an active order. An Order Cancel Request message is used to cancel an order or any remaining portion of an order. ErisX immediately responds to both with an Execution Report confirming or rejecting the request.



8.4 Handling Fill Type Execution Reports

Both the ExecType (150) and OrdStatus (39) fields need to be examined to properly process an Execution Report.

The ExecType (150) indicates the status of the current action on an order.

The OrdStatus (39) indicates the overall status of the order.

ExecType (150) = F, and OrderStatus (39) = 1 indicates a partial fill.

When ExecType (150) = F and OrderStatus (39) = 2, the order has been completely filled.

8.5 On Behalf of Routing

Trades done on ErisX are booked under the account that entered the trade and the ErisX legal entity under which the account exists.

A client with multiple trading accounts can be configured to trade on behalf of each account via a single FIX connection. The appropriate account is indicated on the NewOrderSingle message by setting PartyID (448) to a FIX reference that is tied to the target account and setting PartyRole (452) to '3'. The trade, if done, will then be booked under the corresponding account.

The Account field on cancel, replace, and order status request messages must match those used in the original NewOrder message, if any.

On behalf of mappings must be defined on ErisX prior to use via ErisX client services.

8.6 Order Update and Replace

It is possible to update or replace an outstanding order without first having to cancel it.

The following NewOrder message fields can be updated:

- OrderQty (38) – Specified amount
- MinQty (110) – Cannot be greater than the value of OrderQty (38)
- Price (44) – Limit price
- StopPX (99) – can be modified for OrdType (40) = 3.
- TimeInForce (59) – Expiration type: if tag 59= 6, then conditionally required field ExpireDate (432) can be changed. The tag 59 value itself cannot be changed.

Note: Order replace requests on filled or partially filled orders will be rejected unless the overfill protection functionality tag 5000 is used.

8.7 Overfill protection (New)

If an order has been partially filled, then our custom tag OverfillProtection (5000=Y or N) must be included on the 35=G Order Replace message.



- With Overfill Protection = Y, the original quantity is modified which will update the remaining quantity (LeavesQty) to the new requested qty minus the already filled cumulative quantity.
- Whereas with Overfill Protection = N, the remaining quantity (LeavesQty) is set to the new quantity as specified in the modified message.
- If the Overfill Protection tag 5000 is not set and the order which is requesting modification has been partially filled, then the request will be rejected.

Example:

Given: An original order to buy 5 lots which has been partially filled.

```
Order Quantity = 5, Filled = 3, LeavesQty = 2, Cancelled = 0
```

When: A modify request is received containing an OrderQty of 4 with Overfill Protection = Y

Then: The order quantity is set to 4, which reduces the remaining quantity (LeavesQty) quantity down to 1.

```
Order Quantity = 4, Filled = 3, LeavesQty = 1, Cancelled = 0
```

Or:

When: A modify request is received containing an OrderQty of 4 with Overfill Protection = N

Then: The remaining quantity (LeavesQty) is set to 4

```
Order Quantity = 7, Filled = 3, LeavesQty = 4, Cancelled = 0
```

8.8 Order Cancel or Replace Using the Client Assigned Order ID

By default, to cancel an outstanding order, regardless of type, a client must specify three (3) tags:

- OrderID (37) – ErisX assigned order id
- OrigClOrdID (41) - Client assigned order id
- ClOrdID (11) – Client assigned id for the replacement order or the cancel request

8.9 Cancel of Complex Orders

The OrdType (40) tag must be explicitly specified in any complex order cancel request, where complex orders are defined as:

- 4 - Stop-Limit order

If OrderType (40) is not specified, an execution report will be returned containing tag "58=UNKNOWN ORDER - [order id]"

8.10 Mass Order Status Request

The mass order status request should be used to obtain a set of working orders for a given session. Tag 912=Y will indicate when the last message in the response has been received.



Members who are disconnected should use the resend request message logic to receive any missed messages.

If no working orders are found, 911 = 0 and an empty Execution Report will be sent with order-related fields being 0 or "NA".

Note: Previous versions of this request were responded to with a full set of order history. This has been removed in our new match engine.

8.11 ErisX Session Logouts and Disconnects

FIX trade ids are configured so that an id's outstanding orders will be canceled upon a logout or an unplanned session termination. This feature can be turned off upon request so that outstanding orders will not cancel when a session ends.

8.12 Message Limits

The purpose of messaging throttle limits is to prevent excessive messaging on the exchange that could have negative effects on all users.

- Each FIX ID will have two independent message throttle limits and a configurable time interval:
 - Max messages per X seconds
 - Max orders of operations per X seconds
 - Order Operations include New Orders, Order Mass Status Request, and Modify
- A FIX ID will be disconnected when it breaks a throttle limit.
- The interval time starts when the first message is received.
- At the end of the configurable time interval, the message counter is reset.
 - This is not a rolling interval

If a session breaches limits, ErisX will send a TradingSessionStatus message with TradSesStatus (340) = 105, indicating the session will be closed. Orders in process will be permitted to complete, no new order or order cancel replace messages will be accepted. Once all order processing is completed, ErisX may log the session out with tag 58="message limit exceeded".

To avoid unexpected fills, upon receipt of a Trading Session Status message with tag 340=105, ErisX advises users to immediately cancel all outstanding orders and then to log off as no new order or cancel replace operations will be permitted.

If the user id is enabled for "Cancel Orders on Disconnect," their orders will be canceled by ErisX at the time of the Logout. However, during the logout process orders can be matched and filled.

9 Message Details

The fields that make up each message are described in this section.



In the tables below, specific messages are presented in columns: “Tag”, “Field Name,” “Required”, “New Spec” and “What’s Changed?”.

As we update our FIX specification the “New Spec” field will contain the updated information relevant to the change. Users should review the “What’s Changed” column to quickly review changes between versions and be proactive in testing changes to make sure they do not affect operations.

Order related message follow the same table format as used except that the “Required” column values are relative to the value specified in OrdType (40) field.

Note the following conventions:

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’ – Non-required field that should be omitted unless directed otherwise by ErisX.
- ‘NA’ – field is not used at all in the context for the message.

9.1 Session Messages

9.1.1

9.1.2 Standard Header

| Tag | Field Name | Rqd | New Spec | Updated? |
|-----|------------------|-----|--|----------|
| 8 | BeginString | Y | Message start. Handled by FIX engine. | |
| 9 | BodyLength | Y | Message length. Handled by FIX engine. | |
| 35 | MsgType | Y | The message type. Refer to individual messages for valid values. | |
| 49 | SenderCompID | Y | Provided by ErisX - the user’s trading account id. | |
| 56 | TargetCompID | Y | Default setting is “ERISX” | |
| 34 | MsgSeqNum | Y | Message sequence number. Handled by FIX engine. | |
| 122 | OrigSendingTime | N | Original time of message transmission (always expressed in UTC (Universal Time Coordinated) when transmitting orders as the result of a resend request. | |
| 50 | SenderSubID | F | Value used to identify the user that entered the order | Added |
| 142 | SenderLocationID | F | Used to identify the geographical location of the user that entered the order [Country],[[State if in US] eg; US,IL or UK | Added |
| 43 | PossDupFlag | N | Indicates possible retransmission of message with this sequence number: Y = Possible duplicate N = Original transmission Used on SequenceResets and ResendRequests. | |



| | | | | |
|----|-------------|---|-----------------------------------|--|
| 52 | SendingTime | Y | The GMT timestamp on the message. | |
|----|-------------|---|-----------------------------------|--|

9.1.3 Standard Trailer

| Tag | Field Name | Rqd | New Spec | Updated? |
|-----|------------|-----|--|----------|
| 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. | |

9.1.4 Logon

| Tag | Field Name | Rqd | Comments | Updated? |
|------------------|-----------------|-----|--|----------|
| Standard Header | | Y | MsgType tag 35=A | |
| 98 | EncryptMethod | Y | 0 – not encrypted is the only accepted value. | |
| 108 | HeartBtInt | Y | Heartbeat interval in seconds. | |
| 141 | ResetSeqNumFlag | N | Y – Resets both incoming and outgoing sequence numbers to 1. | |
| 554 | Password | Y | Password for the given FIX ID | |
| Standard Trailer | | Y | | |

9.1.5 Logout

| Tag | Field Name | Rqd | Comments | Updated? |
|------------------|------------|-----|---|----------|
| Standard Header | | Y | MsgType tag 35=5 | |
| 58 | Text | Y | Possible values for initial logon failure include: Configuration Error, System Failure, Authentication Error | |
| Standard Trailer | | Y | | |

9.1.6 Resend Request

| Tag | Field Name | Rqd | New Spec | Updated? |
|------------------|------------|-----|---|----------|
| Standard Header | | Y | MsgType tag 35=2 | |
| 7 | BeginSeqNo | Y | First sequence number in the range to be resent. | |
| 16 | EndSeqNo | Y | Last sequence number in the range to be resent. For single message resend requests, set BeginSeqNo = EndSeqNo. If request is for all messages subsequent to a particular message, EndSeqNo = 0. | |
| Standard Trailer | | Y | | |

9.1.7 Test Request

| Tag | Field Name | Rqd | New Spec | Updated? |
|-----------------|------------|-----|----------------------------|----------|
| Standard Header | | Y | MsgType tag 35=1 | |
| 112 | TestReqID | Y | Unique ID of test request. | |



| | | | |
|------------------|---|--|--|
| Standard Trailer | Y | | |
|------------------|---|--|--|

9.1.8 Heartbeat

| Tag | Field Name | Rqd | New Spec | Updated? |
|-----|------------------|-----|---|----------|
| | Standard Header | Y | MsgType tag 35=0 | |
| 112 | TestReqID | N | Required if a heartbeat is due to a Test Request message. | |
| | Standard Trailer | Y | | |

9.1.9 User Request (Change Password)

| Tag | Field Name | Rqd | New Spec | Updated? |
|-----|------------------|-----|---|----------|
| | Standard Header | Y | MsgType 35=BE | |
| 923 | UserRequestID | Y | Unique identifier for User request | |
| 924 | UserRequestType | Y | 3 = ChangePasswordForUser, only valid value | |
| 553 | Username | Y | The SenderComp ID of the password to be changed | |
| 554 | Password | Y | Current Password or passphrase | |
| 925 | NewPassword | Y | New Password or passphrase | |
| | Standard Trailer | Y | | |

9.1.10 User Response

| Tag | Field Name | Rqd | New Spec | Updated? |
|-----|------------------|-----|---|----------|
| | Standard Header | Y | MsgType 35=BF | |
| 923 | UserRequestID | Y | Unique identifier for User request | |
| 553 | Username | Y | The SenderComp ID of the password to be changed | |
| 926 | UserStatus | Y | Indicates the status of the user. Valid values are 3 = User not recognized 5 = UserPasswordChanged 6 = Other | |
| 927 | UserStatusText | N | A text description associated with a user status | |
| | Standard Trailer | Y | | |



9.2 Application Messages

9.2.1 TradingSessionStatus

| Tag | Field Name | Rqd | New Spec | Updated? |
|------------------|------------------|-----|--|---|
| Standard Header | | Y | MsgType tag 35=h | |
| 336 | TradingSessionID | Y | Identifier for this trading session. | |
| 340 | TradSesStatus | Y | Only valid values: 101=System Ready 105=System Disconnect | Other trading sessions statuses moved to 35=f Security Status message |
| 342 | TradSesOpenTime | N | Time when the trading will be enabled; present when 340 = 104 | Removed |
| 344 | TradSesCloseTime | N | Time when the trading will be disabled; present when 340 = 105 | Removed |
| 58 | Text | N | Descriptive text message. | |
| Standard Trailer | | Y | | |

9.2.2 BusinessMessageReject

| Tag | Field Name | Rqd | New Spec | Updated? |
|------------------|----------------------|-----|---|----------|
| Standard Header | | Y | MsgType tag 35=j | |
| 45 | RefSeqNum | N | MsgSeqNum of rejected message. | |
| 372 | RefMsgType | Y | The MsgType of the FIX message being rejected. | |
| 371 | RefTagID | Y | The tag number of the FIX field being referenced. Only sent when 'Business Message Reject' message is generated by the FIX engine. | |
| 373 | SessionRejectReason | Y | Code to identify reason for a session-level reject message. Only sent when 'Business Message Reject' message is generated by the FIX engine. | |
| 380 | BusinessRejectReason | Y | Code to identify reason for this reject message. 0 = Other 1 = Unknown ID 2 = Unknown Security 3 = Unsupported Message Type 4 = Application not available 5 = Conditional Required Field Missing 6 = Invalid Logon | |
| Standard Trailer | | Y | | |



9.2.3 SecurityListRequest

| Tag | Field Name | Rqd | New Spec | Updated? |
|----------------------------|-------------------------|-----|-------------------------------------|----------|
| Standard Header | | Y | MsgType tag 35=x (lowercase) | |
| 320 | SecurityReqID | Y | Unique security request ID. | |
| 559 | SecurityListRequestType | Y | 0 = Symbol | |
| Component <Instrument> | | Y | | |
| 55 | Symbol | Y | Set to NA | |
| 460 | Product | Y | 2 = Commodity | |
| End Component <Instrument> | | Y | | |
| Standard Trailer | | Y | | |

9.2.4 SecurityList

| Tag | Field Name | Rqd | New Spec | Updated? | |
|------------------------|-----------------------|--------------------|-------------------------------------|---|---------|
| Standard Header | | Y | MsgType tag 35=y (lowercase) | | |
| 320 | SecurityReqID | Y | Unique security request ID | | |
| 322 | SecurityResponseID | Y | | | |
| 560 | SecurityRequestResult | Y | 0 = ValidReq, 1 = InvalidReq | | |
| Component <SecListGrp> | | Y | | | |
| 146 | NoRelatedSym | Y | | | |
| Component <Instrument> | | | | | |
| → | 55 | Symbol | Y | Instrument (E.g. BTC/USD) | |
| → | 65 | SymbolSfx | Y | SP = spot (default if not specified) | Removed |
| → | 460 | Product | Y | 2 = Commodity | |
| → | 461 | CFICode | F | FCXXSX for futures | Added |
| → | 167 | SecurityType | F | SPOT = Spot, FUT = Futures | Added |
| → | 231 | ContractMultiplier | F | The quantity of underlying units per 1 futures contract | Added |
| → | 200 | MaturityMonthYear | F | Specifies the month and year of maturity (YYYYMM) | Added |
| → | 541 | MaturityDate | F | Specifies date of maturity (YYYYMMDD) | Added |
| → | 207 | SecurityExchange | F | Market used to help identify a security = ERSX | Added |
| Component <EvntGrp> | | | | | |
| → | 864 | NoEvents | F | Number of repeating EventType entries | Added |
| → | 865 | EventType | F | Code to represent the type of event | Added |
| → | 866 | EventDate | F | Date of event | Added |



| | | | | |
|----------------------------|------|-------------------|---|---|
| End Component <EvtGrp> | | | | |
| → | 969 | MinPriceIncrement | Y | Minimum price change for a given symbol |
| → | 107 | SecurityDesc | Y | |
| → | 562 | MinTradeVol | N | The minimum order quantity that can be submitted for an order |
| → | 1140 | MaxTradeVol | N | The maximum order quantity that can be submitted for an order |
| → | 561 | RoundLot | N | Trading lot size of security (minimum fill size) |
| → | 15 | Currency | Y | This will be the Base currency |
| End Component <Instrument> | | | | |
| End Component <SecListGrp> | | Y | | |
| Standard Trailer | | Y | | |

9.2.5 SecurityStatus

| Tag | Field Name | Rqd | New Spec | Updated? |
|------------------------|---------------------|-----|--|----------|
| Standard Header | | Y | MsgType tag 35=f (lowercase) | |
| 324 | SecurityStatusReqID | Y | Unique security request ID (value provided in tag 320). | |
| Component <Instrument> | | Y | | |
| 55 | Symbol | Y | Instrument (E.g. BTC/USD) | |
| 65 | SymbolSfx | Y | SP = spot (default if not specified) | Removed |
| 460 | Product | Y | 2 = Commodity | |
| 461 | CFICode | F | FCXXSX for futures | Added |
| 167 | SecurityType | Y | FUT = Future, SPOT = Spot | Added |
| 107 | SecurityDesc | Y | E.g. Bitcoin USD | |
| 200 | MaturityMonthYear | F | Specifies the month and year of maturity(YYYYMM) | Added |
| 207 | SecurityExchange | F | Market used to help identify a security = ERSX | Added |
| 541 | MaturityDate | F | Specifies date of maturity (YYYYMMDD) | Added |
| 969 | MinPriceIncrement | Y | Minimum price increase for a given Instrument | |
| 231 | ContractMultiplier | F | Specifies the ratio of underlying units per future | Added |
| 562 | MinTradeVol | N | The minimum order quantity that can be submitted for an order. | |
| 1140 | MaxTradeVol | N | The maximum order quantity that can be submitted for an order | |
| 561 | RoundLot | N | Trading lot size of security (minimum fill size). | |
| 15 | Currency | Y | This is the base Currency. | |



| | | | | |
|----------------------------|-----------------------|---|--|---------|
| End Component <Instrument> | | | | |
| 326 | SecurityTradingStatus | Y | 2=Trading Halt 15=New Price Indication(Opening) 17=Ready To Trade (Open) 18=Not available for Trading / End of Session (Close) 21=Pre Open 28=Pre Close | Updated |
| 1174 | SessionEnd | N | 4 = Change of Trading Session | |
| Standard Trailer | | Y | | |

9.2.6 SecurityDefinition

| Tag | Field Name | Rqd | New Spec | Updated? |
|------------------------|-------------------------|-----|--|-------------|
| Standard Header | | Y | MsgType tag 35=d (lowercase) | New Message |
| 320 | SecurityReqID | Y | Unique security request ID. | |
| 322 | SecurityResponseID | Y | | |
| 560 | SecurityRequestResult | Y | 0 = Valid Request 1 = InvalidReq | |
| Component <Instrument> | | Y | | |
| 980 | SecurityUpdateAction | Y | A = Add D = Delete M = Modify | |
| 1682 | MDSecurityTradingStatus | N | 2 = Trading Halt 15 = New Price Indication (Opening) 17 = Open 18 = Closed 21 = Pre Open 28 = Pre Close | |
| 55 | Symbol | Y | Instrument (E.g. BTC/USD) | |
| 460 | Product | Y | 2 = Commodity | |
| 461 | CFICode | Y | FCXXSX for futures | |
| 167 | SecurityType | Y | FUT = Future SPOT = Spot | |
| 107 | SecurityDesc | Y | E.g. Bitcoin USD, Litecoin USD, ... Litecoin BTC, Bitcoin Cash BTC... | |
| 200 | MaturityMonthYear | N | Specifies the month and year of maturity (expiry) for a given contract (YYYYMM) | |
| 207 | SecurityExchange | F | Market used to help identify a security = ERSX | Added |
| 541 | MaturityDate | N | Provides the full date of the maturity (expiry) for a given contract (YYYYMMDD) | |



| | | | | |
|----------------------------|--------------------|---|---|-------|
| 969 | MinPriceIncrement | N | Minimum price change for a given symbol | |
| 231 | ContractMultiplier | N | Indicates the quantity of underlying units per 1 futures contract | |
| 562 | MinTradeVol | N | The minimum order quantity that can be submitted for an order | |
| 1140 | MaxTradeVol | N | The maximum order quantity that can be submitted for an order | |
| 561 | RoundLot | N | Trading lot size of security (minimum fill size). | |
| Component <EvntGrp> | | | | |
| 864 | EvntGrp | F | Event Group used to describe futures trading cycle | Added |
| 865 | EventType | F | 5 = Activation (First Trade Date) 7 = Last Eligible Trade Date | Added |
| 866 | EventDate | F | The Date corresponding to the EventType (865) (YYYYMMDD) | Added |
| End Component <EvntGrp> | | | | |
| 15 | Currency | Y | This will be the Base currency | |
| End Component <Instrument> | | | | |

9.2.7 MarketDataRequest

| Tag | Field Name | Rqd | New Spec | Updated? |
|----------------------|-------------------------|-----|---|----------|
| Standard Header | | Y | MsgType tag 35=V | |
| 262 | MDReqID | Y | A unique ID assigned by the client to the Market Data Request. To unsubscribe from market data, the same ID must be sent with tag 263 = 2. | |
| 263 | SubscriptionRequestType | Y | Specifies the data request type. A Snapshot + Updates request is for the current state of the market and all subsequent updates. Valid values: 1 = Snapshot + Updates (Subscribe) 2 = Unsubscribe | |
| 264 | MarketDepth | Y | Depth of market for Book Snapshot. 0 = Full Book | |
| 265 | MDUpdateType | N | Required if SubscriptionRequestType = Snapshot + Updates (1): 1 = Incremental Refresh | |
| 266 | AggregatedBook | Y | N = Non-aggregate Y = Aggregate | |
| Component <MdReqGrp> | | Y | | |



| | | | | | |
|---------------------------------|----------------|-------------|---|---|---------|
| 267 | NoMDEntryTypes | | Y | Number of MDEntryType fields being requested. 2 = bid and offer | |
| → | 269 | MDEntryType | Y | Market Data entries types list: 0 = Bid 1 = Offer Repeated field: 269=0, 269=1 | |
| End Component <MdReqGrp> | | | Y | | |
| Component <InstrmtMDReqGrp> | | | Y | | |
| 146 | NoRelatedSym | | Y | Number of related symbols in the request. This value is always equal to '1' in current version. | |
| → | 55 | Symbol | Y | Instrument (E.g. BTC/USD) | |
| → | 65 | SymbolSfx | N | | Removed |
| End Component <InstrmtMDReqGrp> | | | Y | | |
| Standard Trailer | | | Y | | |

9.2.8 Ticker MarketDataRequest

| Tag | Field Name | Rqd | New Spec | Updated? | |
|-----------------------------|--------------------------|-------------|--|---|---------|
| Standard Header | | Y | MsgType tag 35=V | | |
| 262 | MDReqID | Y | A unique ID assigned by the client to the Market Data Request. To unsubscribe from market data, the same ID must be sent with tag 263 = 2. | | |
| 263 | SubscriptionRequest Type | Y | Data request type: T = Trade Ticker (Subscribe) 2 = Unsubscribe | | |
| 264 | MarketDepth | Y | 1 (Only Supported Value) | Updated | |
| 265 | MDUpdateType | Y | 1 = Incremental Refresh | | |
| Component <MdReqGrp> | | | | | |
| 267 | NoMDEntryTypes | Y | Number of MDEntryType fields being requested. 1 = Only value currently supported | | |
| → | 269 | MDEntryType | Y | Requested Market Data type: 2 = Trade. | |
| End Component <MdReqGrp> | | | | | |
| Component <InstrmtMDReqGrp> | | | | | |
| 146 | NoRelatedSym | Y | Number of related symbols in the request. This value is always equal to '1' in current version. | | |
| → | 55 | Symbol | Y | Instrument (E.g. BTC/USD) | |
| → | 65 | SymbolSfx | N | SP = spot (default if not specified) | Removed |



| | | | |
|---------------------------------|---|--|--|
| End Component <InstrmtMDReqGrp> | | | |
| Standard Trailer | Y | | |

9.2.9 MarketDataRequestReject

| Tag | Field Name | Rqd | New Spec | Updated? |
|------------------|----------------|-----|---|----------|
| Standard Header | | Y | MsgType tag 35=Y | |
| 262 | MDReqID | Y | A unique ID assigned by the client to the Market Data Request. To unsubscribe to market data, the same ID must be sent with tag 263 = 2. | |
| 281 | MDReqRejReason | N | Numerical reason for the rejection of the Market Data Request 1= DUPLICATE MDReqID | |
| 58 | Text | N | Free format text string describing the reason for rejection. | |
| Standard Trailer | | Y | | |

9.2.10 MarketDataIncremental

| Tag | Field Name | Rqd | New Spec | Updated? |
|----------------------|-------------|----------------|--|---------------------------|
| Standard Header | | Y | MsgType tag 35=X | |
| 262 | MDReqID | Y | A unique ID assigned by the client to the Market Data Request. | |
| Component <MDIncGrp> | | | | |
| 268 | NoMDEntries | Y | Number of entries following. | |
| → | 279 | MDUpdateAction | Y The Market Data update action type. 0 = New 2 = Delete | |
| → | 285 | DeleteReason | N If MDUpdateAction = Delete (2), this field can be used to specify a reason. | |
| → | 269 | MDEntryType | Y A list of all the Market Data entries types the requesting firm is interested in receiving. 0 = Bid 1 = Offer 4= Opening Price 5= Closing Price 6= Settlement 7= Session High Price 8 = Session Low Price B = Total Volume J= Empty Book | Added 4, 5, 6, 7, 8, B, J |



| | | | | | |
|--------------------------|------|--------------------|---|---|----------------------|
| → | 278 | MDEntryID | N | Will not be sent for statistics messages (where 269 = 4, 5, 6, 7, 8, B, J) Please refer to Handling MDEntryID in Market Data Messages Section. Changed to a hexadecimal encoding of a long data type as a string. | Updated |
| → | 55 | Symbol | N | Instrument (E.g. BTC/USD or BTCZ9) | Updated |
| → | 65 | SymbolSfx | N | SP = spot (default if not specified) | Removed |
| → | 270 | MDEntryPx | N | Price of the corresponding order update. | |
| → | 15 | Currency | N | The currency for the amount specified in the MDEntrySize (271) field. | |
| → | 271 | MDEntrySize | N | | |
| → | 110 | MinQty | N | The minimum fill size associated with the amount, MDEntrySize (271), and quote, MDEntryPx (270). The FIX id must be enabled and the market data request made as full book non-aggregated for this field to be populated. | |
| → | 346 | NumberOfOrders | N | Used in an Aggregated Book to show how many individual orders make up an MDEntry | |
| → | 58 | Text | N | Text field used to describe the Market Data Entry. | |
| -> | 286 | OpenCloseSettlFlag | N | 5 = Theoretical Price Value. Used to indicate that the price received during pre-open is an indicative price. | Added |
| End Component <MDIncGrp> | | | | | |
| → | 60 | TransactTime | Y | Time of execution in GMT; e.g. YYYYMMDD-HH:MM:SS.000000000 (nanosecond) | Nanosecond precision |
| → | 6001 | EventIndicator | N | 2 = EndofEvent. Will be sent at the end of a message sequence to indicate that all prior messages were part of an atomic matching event. | Added |
| Standard Trailer | | | Y | | |

9.2.11 Ticker MarketDataIncrementalRefresh

| Tag | Field Name | Rqd | New Spec | Updated? |
|-------------------------|------------|----------------|--|-------------------|
| Standard Header | | Y | | |
| 262 | MDReqID | Y | A unique ID assigned by the client to the Market Data Request. | |
| Component <NoMDEntries> | | | | |
| → | 268 | NoMDEntries | Y | Number of entries |
| → | 279 | MDUpdateAction | Y | 0 = New |



| | | | | | |
|-----------------------------|----------------|--------------|---|--|----------------------|
| → | 269 | MDEntryType | Y | 2 = Trade | |
| → | 55 | Symbol | Y | Instrument (E.g. BTC/USD) | |
| → | 65 | SymbolSfx | N | SP = spot (default if not specified) | Removed |
| → | 270 | MDEntryPx | Y | Price | |
| → | 15 | Currency | Y | The currency for the amount specified in the MDEntrySize (271) field. | |
| → | 271 | MDEntrySize | Y | Trade Quantity | |
| → | 7562 | TickerType | N | ErisX defined tag sent on executions after initial opening trades. G = Given (Aggressive) P = Paid (Passive) | |
| End Component <NoMDEntries> | | | | | |
| → | 60 | TransactTime | Y | Time of execution in GMT; e.g. YYYYMMDD-HH:MM:SS.000000000 (nanosecond) | Nanosecond precision |
| 6001 | EventIndicator | | Y | 1 = EndOfTrade. Indicates when no more trades for an event will be published. | Added |
| Standard Trailer | | | Y | | |

9.2.12 NewOrderSingle

| Tag | Field Name | Ord Type | | New Spec | Updated? |
|-------------------------------|-------------|----------|---|--|----------|
| | | 2 | 4 | | |
| Standard Header | | Y | Y | MsgType tag 35=D | |
| 11 | ClOrdID | Y | Y | Client assigned unique order identifier. Maximum ClOrdID length = 50 characters. | Updated |
| Component block <Parties> | | | | | |
| 453 | NoPartyIDs | N | N | Number of PartyIDs | |
| 448 | PartyID | N | N | Optional. When: 452=3, specify the FIX session on behalf of which the trade is for. 452=24, specify the FCM back office account number | Updated |
| 452 | PartyRole | N | N | 3 = 'On Behalf Off' Routing FIX ID 24 = Customer Account Reference (FCM Back office Account) | Updated |
| End Component block <Parties> | | | | | |
| 581 | AccountType | F | F | Required for Futures 1 = Customer 2 = House | Added |



| | | | | | |
|------------------|-------------------|---|---|---|----------------------|
| 582 | CustOrderCapacity | F | F | Required for Futures CTICode (customer type indicator) 1 = Member Trading for own account 2 = Clearing firm trading for its Prop Account 3 = Member trading for another member 4 = All other | Added |
| 21 | HandInst | Y | Y | 1 = Automated execution | |
| 15 | Currency | Y | Y | The currency of the OrderQty field | |
| 54 | Side | Y | Y | Order side: 1 = Buy, 2 = Sell | |
| 55 | Symbol | Y | Y | Instrument (E.g. BTC/USD or BTCZ9) | |
| 65 | SymbolSfx | N | N | SP = spot (default if not specified) | Removed |
| 460 | Product | Y | Y | 2 = Commodity | |
| 60 | TransactTime | Y | Y | Request Time: YYYYMMDD-HH:MM:SS.000000000 (nanosecond) Validated to one second precision | Nanosecond precision |
| 38 | OrderQty | Y | Y | Order quantity specified in the base Currency | |
| 40 | OrdType | Y | Y | Supported values are: 2 = Limit order 4 = Stop-Limit order | |
| 1 | Account | N | N | Exchange Account Id (Not Required) | Updated |
| 44 | Price | Y | Y | Limit or Stop-Limit Price | |
| 99 | StopPx | N | Y | The price at which the stop order becomes effective | |
| 432 | ExpireDate | N | N | Expiry date in YYYYMMDD format. Required when TimelnForce = GTD | |
| 59 | TimelnForce | N | N | Specifies how long an order remains in effect: 0 = Day 1 = Good Till Cancel 3 = Immediate or Cancel 4 = Fill or Kill 6 = Good Till Date (the ExpireDate (432)) | Updated |
| 110 | MinQty | N | N | The minimum quantity for which the order can be executed for TimelnForce (59) = Immediate or Cancel. | |
| 58 | Text | N | N | Text field | |
| Standard Trailer | | Y | Y | | |



9.2.13 ExecutionReport: Sent for Order Related Requests

| Tag | Field Name | Ord Type | | New Spec | Updated? |
|-------------------------------|--------------|----------|---|---|----------|
| | | 2 | 4 | | |
| Standard Header | | Y | Y | MsgType tag 35=8 | |
| 37 | OrderID | Y | Y | Unique order identifier assigned by ErisX.If 150 = 8 (Rejected), is set to "UNKNOWN." | |
| 11 | ClOrdID | Y | Y | Client assigned unique order identifier. Maximum ClOrdID length = 50 characters. | Updated |
| 41 | OrigClOrdID | N | N | Original client assigned order id submitted on the order. = 50 characters | Updated |
| Component block <Parties> | | | | | |
| 453 | NoPartyIDs | N | N | Number of PartyIDs | |
| 448 | PartyID | N | N | 452=24, specify the FCM back office account number | Added |
| 452 | PartyRole | N | N | 24 = Customer Account Reference (FCM Back office Account) | Added |
| End Component block <Parties> | | | | | |
| 17 | ExecID | Y | Y | Unique identifier for the execution message assigned by ErisX. Buy orders will begin with '1_' and Sell orders will begin with '2_' | |
| 150 | ExecType | Y | Y | The execution report's type. 0 = New 4 = Canceled 5 = Replace 8 = Rejected C = Expired F = Fill Status I = Order Status | |
| 39 | OrdStatus | Y | Y | The current state of chain of orders, e.g., when there are partial fills. Has the same scope as OrderQty, CumQty, LeavesQty, and AvgPx. 0 = New 1 = Partial filled 2 = Filled 4 = Canceled 5 = Replaced 8 = Rejected C = Expired | |
| 103 | OrdRejReason | N | N | Only present when ExecType = 8, Rejected. 1 = Unknown Symbol | Updated |



| | | | | | |
|-----|-------------------|----|---|--|---------|
| | | | | 2 = Exchange Closed 3 = Order exceeds limit 5 = Unknown Order 6 = Duplicate Order (e.g. dupe CLOdID) 11 = Unsupported order characteristic 13 = Incorrect Quantity 15 = Unknown Account 16 = Price exceeds current price band 18 = Invalid Price 19 = Invalid Order Qty 25 = Insufficient credit limit 27 = Exceed maximum notional order amount 101 = Instrument halted | |
| 1 | Account | N | N | Exchange Account Id (Not Required) | Updated |
| 581 | AccountType | F | F | Required for Futures 1 = Customer 2 = House | Added |
| 582 | CustOrderCapacity | F | F | Required for Futures CTICode (customer type indicator) 1 = Member Trading for own account 2 = Clearing firm trading for its Prop Account 3 = Member trading for another member 4 = All other | Added |
| 55 | Symbol | Y | Y | Instrument (E.g. BTC/USD) | |
| 65 | SymbolSfx | N | N | | Removed |
| 54 | Side | Y | Y | Order side:1 = Buy, 2 = Sell | |
| 38 | OrderQty | Y | Y | Order quantity specific in the base Currency (15). Not sent if ExecType = 4, Canceled, or 8, Rejected. | |
| 40 | OrdType | N | N | Supported values are: 2 = Limit order 4 = Stop-Limit order Required for most cases except ExecType = 8 | |
| 44 | Price | Y | Y | Required for Limit orders | |
| 99 | StopPx | NA | Y | Required for Stop orders, OrderType = 4. The price at which the stop order becomes effective. | |
| 15 | Currency | N | N | The currency for the amount specified in tag 38, OrderQty field. | |
| 59 | TimeInForce | Y | Y | Specifies how long an order remains in effect: 0 = Day 1 = Good Till Cancel 3 = Immediate or Cancel 4 = Fill or Kill | Updated |



| | | | | | |
|--------------------------------|-------------------|----|---|--|----------------------|
| | | | | 6 = Good Till Date (the ExpireDate (432)) | |
| 432 | ExpireDate | N | N | Expiry date in YYYYMMDD format. Required when TimeInForce = GTD | |
| 126 | ExpireTime | N | N | Time/Date of order expiration (always expressed in UTC) | |
| 32 | LastQty | N | N | Quantity bought/sold for this fill. Present when ExecType (150) = F. | |
| 31 | LastPx | N | N | Price at which the current or last fill was made. Not sent for status requests. | |
| 194 | LastSpotRate | N | N | Price for the last fill. Not sent for status requests | |
| 151 | LeavesQty | Y | Y | Amount of order open for further execution. If the OrdStatus 39 = 4, C, the order is no longer active and LeavesQty can = 0. Otherwise, LeavesQty = OrderQty - CumQty. | |
| 14 | CumQty | Y | Y | Total amount of an order currently executed in a chain of partial fills. | |
| 6 | AvgPx | N | N | The average price at which the order was filled or partially filled. | |
| 75 | TradeDate | N | N | Trade date. Trades completed after 4 pm CT show the next business day as the trade date. | |
| 60 | TransactTime | N | N | Time of execution in GMT; e.g. YYYYMMDD-HH:MM:SS.000000000 (nanosecond) | Nanosecond precision |
| 5001 | UnsolicitedCancel | N | N | Used to indicate the reason for an unsolicited cancel 1 = Self Match Prevention 2 = Message Limits Exceeded 3 = Cancelled due to disconnect 4 = End of Trading Session 5 = Exchange Cancelled | Added |
| Component <CommissionData> | | | | | |
| 12 | Commission | N | N | Actual Commission (Only for Fills and Partial Fills) | |
| 7012 | CommCalculated | Y | Y | Calculated Commission | |
| 13 | CommType | Y | Y | 3 = Absolute (Total monetary amount) | |
| 479 | CommCurrency | Y | Y | Currency Commission (USD, BTC) | |
| End Component <CommissionData> | | | | | |
| 110 | MinQty | N | N | The Minimum quantity for which the order can be executed for TimeInForce (59) = Immediate or Cancel | Added |
| 58 | Text | N | N | Descriptive text message. | |
| 7534 | StopSide | NA | N | | Removed |



| | | | | | |
|------------------|--------------|---|---|---|--|
| 7585 | MatchingType | N | N | Valid values: 1 = Order initiator is aggressor 2 = Order initiator is passive | |
| Standard Trailer | | Y | Y | | |

9.2.14 OrderReplace

| Tag | Field Name | Ord Type | | New Spec | Updated? |
|-----------------|-------------------|--------------|--------------|--|----------------------|
| | | 2 | 4 | | |
| Standard Header | | Y | Y | MsgType tag 35=G | |
| 37 | OrderID | Y | Y | The ErisX assigned ID of the order to be replaced. | |
| 41 | OrigClOrdID | Y | Y | The unique client ID assigned to the order to be replaced. | |
| 11 | ClOrdID | Y | Y | Unique client id for the replacement order. Note that this identifier will be used in ClOrdID field of the Cancel Reject message if the replacement request is rejected. Maximum ClOrdID length = 50 characters. | Updated |
| 1 | Account | N | N | Exchange Account Id (Not Required) | Updated |
| 581 | AccountType | F | F | Required for Futures 1 = Customer 2 = House | Added |
| 582 | CustOrderCapacity | F | F | Required for Futures CTICode (customer type indicator) 1 = Member Trading for own account 2 = Clearing firm trading for its Prop Account 3 = Member trading for another member 4 = All other | Added |
| 21 | HandlInst | Y | Y | Instructions for how order is to be handled by ErisX. | |
| 55 | Symbol | Y | Y | Instrument (E.g. BTC/USD) Must match original order. | |
| 65 | SymbolSfx | N | N | | Removed |
| 460 | Product | N | N | 2 = Commodity | |
| 54 | Side | Y | Y | Order side: 1 = Buy 2 = Sell Must match side specified in original order. | |
| 60 | TransactTime | Y | Y | Request Time: YYYYMMDD-HH:MM:SS.000000000 (nanosecond) Validated to one second precision | Nanosecond precision |
| 38 | OrderQty | N | N | Order quantity specific in the base Currency (15). | |
| 40 | OrdType | Y | Y | The following order types can be replaced: 2 = Limit Order 4 = Stop Limit Order | |
| 44 | Price | Y | Y | Limit or Stop-Limit Price. | |



| | | | | | |
|------|---------------------|----|---|--|---------|
| 99 | StopPx | NA | Y | The price at which the stop order becomes effective. | |
| 15 | Currency | N | N | The currency for the amount specified in the OrderQty (38) field. | |
| 432 | ExpireDate | N | N | Can be specified if order was submitted with TimeInForce (59) = GTD Date for GTD can only be set to 100 days in the future. | |
| 59 | TimeInForce | F | F | Specifies how long the order remains in effect. 0 = Day(session) 1= Good Till Cancel(GTC) 3 = Immediate Or Cancel(IOC) 4 = Fill Or Kill(FOK) 6 = Good Till Date(GTD) | Added |
| 110 | MinQty | N | N | The minimum quantity for which the order can be executed for TimeInForce (59) = Immediate or Cancel. | Added |
| 58 | Text | N | N | Descriptive text message. | |
| 5000 | Overfill Protection | N | N | Required when trying to modify a partially filled order to specifically request "Overfill Protection" otherwise the modification is rejected. Y = LeavesQty is set to requested quantity - CumQty N = LeavesQty is set to the quantity requested in the cancel replace message | Updated |

9.2.15 OrderCancelRequest

| Tag | Field Name | Ord Type | | New Spec | Updated? |
|-----------------|-------------|----------|---|--|----------|
| | | 2 | 4 | | |
| Standard Header | | Y | Y | MsgType tag 35=F | |
| 11 | ClOrdID | Y | Y | The client assigned unique ID for this cancel request. Set to "OPEN_ORDER" to cancel all open orders for this client. Maximum ClOrdID length = 50 characters. | Updated |
| 41 | OrigClOrdID | Y | Y | The client assigned ID of the order to be canceled. Set to "OPEN_ORDER" to cancel all open orders for this client. | |
| 37 | OrderID | Y | Y | The ErisX assigned ID of the order to be canceled. Set to "OPEN_ORDER" when 11 & 41 = "OPEN_ORDER" as its a mandatory field, so needs to be present but the cancel all operation does not look at the content. | |
| 1 | Account | N | N | Exchange Account Id (Not Required) | Updated |
| 55 | Symbol | Y | Y | Instrument (E.g. BTC/USD). Note for canceling all open orders: Set to 'NA' | |
| 65 | SymbolSfx | N | N | | Removed |
| 460 | Product | N | N | 2 = Commodity | |
| 54 | Side | Y | Y | Side of order. 1 = Buy, 2 = Sell | |



| | | | | | |
|------------------|--------------|----|---|--|----------------------|
| 60 | TransactTime | Y | Y | Request Time: YYYYMMDD-HH:MM:SS.000000000 (nanosecond) Validated to one second precision | Nanosecond precision |
| 58 | Text | N | N | Descriptive text message. | |
| 40 | OrdType | NA | Y | Order type. Must be present on cancel requests made for the following non primitive order types:4 = Stop-Limit order | |
| 7559 | OpenOrders | N | N | Y = Cancel all open orders. Required when tags 11 and 37 = "OPEN_ORDER." | |
| Standard Trailer | | Y | Y | | |

9.2.16 OrderCancelReject

| Tag | Field Name | Ord Type | | New Spec | Updated? |
|-----------------|------------------|----------|---|--|----------------------|
| | | 2 | 4 | | |
| Standard Header | | Y | Y | MsgType tag 35=9 | |
| 11 | ClOrdID | Y | Y | The client assigned unique ID for the cancel request being rejected. | Updated |
| 41 | OrigClOrdID | Y | Y | ClOrdID for the order that could not be canceled or replaced. | |
| 37 | OrderID | Y | Y | The ErisX ID for the order that could not be canceled or replaced. If the order id cannot be determined, i.e., CxlRejReason = "Unknown order" or if the order is not active, "NONE" will be specified. | |
| 39 | OrdStatus | Y | Y | 8 = Rejected Note: The treatment of this Tag is non-standard. The value is the status of the Order Cancel Request, not of any order and should not be processed. | |
| 1 | Account | N | N | Exchange Account Id (Not Required) | Updated |
| 60 | TransactTime | Y | Y | Time in GMT; e.g. YYYYMMDD-HH:MM:SS.000000000 (nanosecond) | Nanosecond Precision |
| 434 | CxlRejResponseTo | Y | Y | Specifies to what the reject is in response: 1 = Order Cancel Request 2 = Order Replace Request | |
| 102 | CxlRejReason | N | N | Reason the order cancellation request was rejected: 0 = Order has already been filled 1 = Order cannot be found 2 = Check tag 58 for details 3 = Status cannot be determined as order is currently in process. Execution Report returned, once processing completes will contain status. | |



| | | | | | |
|------------------|------|---|---|--|---------|
| 58 | Text | N | N | Descriptive text message: "Cancel Non Active" = Order is not active "clOrdId already exists" = Duplicate clOrderId has been received "Cancel Failed I O C" = Cannot cancel an IOC order | Updated |
| Standard Trailer | | Y | Y | | |

9.2.17 Order Mass Status Request

| Tag | Field Name | Rqd | | New Spec | Updated? |
|------------------|-------------------|-----|--|---|----------|
| Standard Header | | Y | | MsgType tag 35=AF | |
| 584 | MassStatusReqID | Y | | Mass status unique request ID | |
| 585 | MassStatusReqType | Y | | 8 = Status of all orders related to session party | |
| 60 | TransactTime | N | | Request Time: YYYYMMDD-HH:MM:SS.000000000 (nanosecond) Validated to one second precision No Longer Required | Updated |
| Standard Trailer | | Y | | | |

9.2.18 Execution Report (response sent to the OrderMassStatusRequest)

| Tag | Field Name | Ord Type | | New Spec | Updated? |
|---------------------|------------------|----------|---|---|----------|
| | | 2 | 4 | | |
| Standard Header | | | | MsgType tag 35=8 | |
| 37 | OrderID | Y | Y | Unique order identifier assigned by ErisX. If 911=0 This value will be either 0 or NA | Updated |
| 526 | SecondaryClOrdID | N | N | | Removed |
| 11 | ClOrdID | Y | Y | Client assigned order id to the current order action. If 911=0 This value will be either 0 or NA | |
| 41 | OrigClOrdID | Y | Y | Original client assigned order id submitted on the order. If 911=0 This value will be either 0 or NA | |
| 584 | MassStatusReqID | N | N | Mass status unique request ID | |
| 911 | TotNumReports | N | N | Total no of execution reports sent for that order. If no execution reports present this value will be 0 | |
| 912 | LastRptRequested | N | N | | |
| Component <Parties> | | | | | |
| 453 | NoPartyIDs | Y | Y | Number of parties. | |
| 448 | PartyID | Y | Y | The specified value based upon the PartyRole (452) | Updated |



| | | | | | |
|-------------------------|-------------------|---|---|---|---------|
| 452 | PartyRole | Y | Y | Supported Values: 1 = ExecutingFirm 3 = ClientID (Eris Digital account userID for who the order belongs to) 11= Order Origination Trader (associated with Order Origination Firm e.g. trader who initiates/submits the order) 24 = Customer Account Reference | Updated |
| End Component <Parties> | | | | | |
| 17 | ExecID | Y | Y | ExecID for responses to 35=AF (OrderMassStatusRequest) will be 0 | Updated |
| 150 | ExecType | Y | Y | The execution report's type. Contains one more value than tag 39, OrderStatus I = Order Status | |
| 39 | OrdStatus | Y | Y | The current state of chain of orders, e.g., when there are partial fills. Has the same scope as OrderQty, CumQty, LeavesQty, and AvgPx. 0 = New 1 = Partial | Updated |
| 1 | Account | N | N | Exchange Account Id (Not Required) | Updated |
| 581 | AccountType | F | F | Required for Futures 1 = Customer 2 = House | Added |
| 582 | CustOrderCapacity | F | F | Required for Futures CTICode (customer type indicator) 1 = Member Trading for own account 2 = Clearing firm trading for its Prop Account 3 = Member trading for another member 4 = All other | Added |
| 55 | Symbol | Y | Y | Instrument (E.g. BTC/USD) | |
| 54 | Side | Y | Y | 1 = Buy 2 = Sell | Updated |
| 38 | OrderQty | Y | Y | The order amount in the currency specified in tag 15 | |
| 40 | OrdType | N | N | 2 = Limit order 4 = Stop-Limit order | |
| 44 | Price | Y | Y | Required for Limit based orders. Price at which the limit order is to be executed. | |
| 99 | StopPx | N | Y | Required for Stop orders, OrderType = 4. The Price at which the stop order becomes effective. | |
| 15 | Currency | N | N | The dealt currency of the order. This is the currency for the amount specified in tag 38, OrderQty field. | |



| | | | | | |
|--------------------------------|----------------|---|---|--|----------------------|
| 32 | LastQty | N | N | Quantity bought/sold for a partially filled order. | |
| 31 | LastPx | N | N | Price at which the current or last fill was made | |
| 151 | LeavesQty | Y | Y | LeavesQty (151) = OrderQty (38) – CumQty (14). | Updated |
| 14 | CumQty | Y | Y | Total amount of an order currently executed in a chain of partial fills. | |
| 6 | AvgPx | N | N | The average price at which the order was filled or partially filled | |
| 75 | TradeDate | N | N | Response to Order Mass Status Request will just return working orders | Removed |
| 59 | TimeinForce | Y | Y | How long an order remains in effect: 0=Day 1=Good Till Cancel 3=Immediate of Cancel 4=Fill or Kill 6=Good Till Date (the Expiry Date (432)) | |
| 60 | TransactTime | N | N | Time this order request was initiated or released by the trader or trading system. Execution Reports will be sent with nanosecond precision - YYYYMMDD-HH:MM:SS.000000000 | Nanosecond Precision |
| Component <CommissionData> | | | | | |
| 12 | Commission | N | N | Actual Commission (For Partial Fills) | |
| 7012 | CommCalculated | Y | Y | Calculated Commission | |
| 13 | CommType | Y | Y | 3 = Absolute (Total monetary amount) | |
| 479 | CommCurrency | Y | Y | Currency Commission (USD, BTC) | |
| End Component <CommissionData> | | | | | |
| Standard Trailer | | | | | |



Appendices

A. Coordinated Universal Time (UTC) Format

All time and date formats must be in Coordinated Universal Time (UTC).

- Year: YYYY (2003)
- Year and month: YYYYMM (200307)
- Complete date: YYYYMMDD (20030716)
- Complete date plus hours and minutes: YYYYMMDD-hh:mm (20030716-19:20)
- Complete date plus hours, minutes and seconds: YYYYMMDD-hh:mm:ss (20030716-19:20:30)
- Complete date plus hours, minutes, seconds and milliseconds
YYYYMMDD-hh:mm:ss.mmm (20030716-19:20:30.183)
- Complete date plus hours, minutes, seconds: and microseconds
YYYYMMDD-HH:MM:ss.SSSSSS (20180716- 23:15:56.612339)
- Complete date plus hours, minutes, seconds, and nanoseconds:
YYYYMMDD-HH:MM:ss.SSSSSSSS (20180716- 23:15:56.612339123)

where:

| Format | Description |
|------------------|--|
| YYYY | four digit year |
| MM | two digit month (01=January, etc.) |
| DD | two digit day (01 through 31) |
| hh | two digit hour (00 through 23) (am/pm NOT allowed) |
| mm | two digit minute (00 through 59) |
| ss | two digit second (00 through 59) |
| mmm | three digit millisecond (000 – 999) |
| SSSSSS | six digit microsecond (000000 - 999999) |
| SSSSSSSSS | 9 digit nanoseconds (000000000 - 999999999) |