MIAX Futures Onyx

Futures Order Management Using FIX Protocol

FIX Interface Specification

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1 Overview

MIAX Futures Onyx FIX Orders Interface (**FOI**) is a messaging interface that allows MIAX Futures Exchange members and sponsored firms to send and manage their Futures orders. FOI also facilitates real-time electronic communication of transaction information corresponding to such Futures orders.

FOI is a flexible interface that uses FIX protocol version 4.2 with minor customization of certain tags. FOI uses FIX protocol for both application messages and session level messages. This document describes the messages that will be supported by FOI. For detailed information regarding FIX protocol and session protocol, please refer to the FIX documentation provided by FIX Protocol Limited (FPL) on their website, http://www.fixtradingcommunity.org/.

FOI Features:

FOI has been designed for flexibility, reliability, low latency and high throughput messaging. Some of the key features of the interface are:

- Use of FIX protocol that has been adopted by many participants in the Futures industry. FIX tag/value messaging is a **flexible** messaging protocol that eliminates platform dependencies and allows to largely decouple exchange and Firm deployments.
- FIX session layer is implemented over TCP/IP and facilitates sequenced transmission and recovery of messages across TCP/IP sessions thereby achieving **reliable** communication.
- FOI allows multiple connections per firm but limited to one per FOI instance. On each FOI connection, Firms can send orders for any Futures Instrument and any of their MPIDs or their clients MPIDs that are entitled for the session. These features enable firms to achieve **load balancing** and **higher resiliency**.
- The FOI design, coupled with the Exchange architecture, facilitates **low latency** and **high throughput** messaging.
- FOI allows Auto Cancel on Disconnect on each session thereby allowing firms to reduce their risk in case of system problems at their end.
- FOI also allows Auto Cancel on System/Matching Engine Failure on each session allowing firms to reduce their risk in case of MIAX Futures Onyx system failures that prevent Firm's interaction with existing orders.

Orders entered via FOI are provided the following risk protection mechanisms:

- Per Order Risk Metrics
  - Maximum Order Size Protection
  - Minimum and Maximum Order Price Protection
  - Price Tick Size Check
  - Market Order Reject/Stop Market Order Reject
  - Extended 1 Trading Session Restriction
  - Extended 2 Trading Session Restriction
  - Accepted Futures Product List

- Cumulative Risk Metrics
  - Credit Risk Metrics
    - Maximum Gross Trade and Open Credit Exposure
    - Maximum Buy Side Trade and Open Credit Exposure
    - Maximum Sell Side Trade and Open Credit Exposure
  - Order Rate and Duplicate Order Checks
    - Duplicate Order Check
    - Order Rate Protection

- Trade Risk Metrics
  - Trading Collar
  - Self-Trade Protection
  - Daily Trading Limit

Above protections are available to all Trading Participants that use the FOI interface.

This specification is intended to be used only by MIAX Futures Exchange member firms and the firms that are sponsored for MIAX Futures Exchange access by MIAX Futures Exchange member firms. Members are encouraged to refer to the MIAX Futures Onyx User's Manual for additional details on functionalities supported by the exchange.

1.1 Exchange related information

Please visit the MIAX Website for details about times for each of these periods.

Note: Times specified in the website are in United States Eastern Time zone.

5:40 pm ET	**End of Recycle Window** Firms are allowed to connect to FOI. Firms are able to download Instrument Definitions via Market Data Feeds.
5:45 pm ET	**Live Order Window (LOW)** Start of acceptance of messages (including orders). Orders received at or after this time can be accepted by MIAX Futures Onyx.
5:05 pm ET	**Beginning of Recycle Window** (ends at 2:05 pm ET on early closing days) FOI has completed sending all messages and Firms will be disconnected

Please refer to the MIAX website for details about times for each of these events/periods as well as Product specific trading schedules.

1.1.1 Obtaining more information

Information such as (but not limited to) membership, rules, fees and support can be obtained by sending an email to Trading Operations at MIAXFuturesTradingOperations@MIAXGlobal.com or by visiting the MIAX website.

1.2 Certification for trading via FOI

MIAX Futures Onyx will provide a test bed for a member firm's testing and certification needs. Please contact MIAX Trading Operations to obtain more information about this environment.

In order to connect to MIAX Futures Onyx production, member firms must certify their application with the MIAX Futures Exchange. This certification testing is a manual process. In order to schedule a certification test, please email MIAX Trading Operations.

1.3 FAQs

Membership: Contact member services for details about membership. As a part of the on-boarding process, each Trading Participant will be provided MPIDs that will be used for order entry on each FOI session. These MPIDs will have to be sent in every message as required by the message format.

Auto Cancel on Disconnect (ACOD): In the event a Trading Participant's session with the exchange is disconnected, orders submitted via that session that are open on the Order Book can be canceled automatically upon disconnect.

Trading Participants must select one of the following actions on a session by session basis which will be enforced when the protection is triggered:

- Cancel All Non GTC/GTD Open Orders: All Non GTC/GTD Open orders that were sent through this session and are open will be canceled upon session disconnect.
  Do Not Cancel All Non GTC/GTD Open Orders: This will disable Auto Cancel on Disconnect and MIAX Futures Onyx will not cancel any Non GTC/GTD open orders upon that session's disconnect. This is the default behavior for the session if the Trading Participant does not opt in for ACOD.

When FOI detects a disconnect for any reason (whether due to graceful logout, a connection loss or loss of heartbeats), it will trigger the auto cancel on disconnect process, whereby FOI will try to cancel all eligible orders (eligibility defined above).

The ACOD feature is provided on a best effort basis. Executions can occur while FOI is processing the ACOD event. As the technical circumstances initiating a disconnect may vary, Firms may contact Trading Operations to confirm the status of ACOD eligible open orders remaining at MIAX Futures Onyx that were sent via the session(s) that disconnected. The execution reports resulting from cancels or trades during the disconnect can also be received upon a subsequent reconnect by the Firm on the same day.

Auto Cancel on System/Matching Engine Failure (ACOSF): In the event of a Matching Engine or FOI failure that prevents a firm's interaction with existing orders, Trading Participants may request that their open orders are canceled automatically for a given session. Orders submitted via any of the Trading Participant's other sessions will not be affected. Additionally, orders submitted to any Matching Engines that are not impacted will not be affected.

Trading Participants must select one of the following actions on a session-by-session basis which will be enforced when the protection is triggered:

- Cancel All Non-GTC/GTD Open Orders: Upon system failure, the system will attempt to cancel all open Non-GTC/GTD orders that were sent through this session in the impacted Matching Engine(s).
- Do Not Cancel All Non-GTC/GTD Open Orders: This will disable Auto Cancel on System Failure and MIAX Futures Onyx will not cancel any Non-GTC/GTD open orders from that session upon system failure. This is the default behavior for the session if the Trading Participant does not opt in for ACOSF.

The ACOSF feature is provided on a best effort basis. Executions can occur while the ACOSF event is being processed. As the technical circumstances initiating an ACOSF may vary, Firms are advised to contact Trading Operations to confirm the status of ACOSF eligible open orders remaining at MIAX Futures Onyx. The execution reports resulting from cancels or trades during the failure can also be received upon a subsequent reconnect by the Firm on the same day.

Executions/Busts/Adjustments: All executions, including trade busts (trade cancels) and adjustments (trade corrections) from current trading day are conveyed to firms via MIAX Futures Onyx FEI interface (for binary orders), FOI (for FIX orders), and MIAX Futures Onyx FIX Drop (both binary and FIX orders).

Flow control: FOI is a synchronous messaging interface that supports a "N"-in-flight paradigm to the Matching Engines. Upon receipt of "N" messages, FOI will not read the firm facing port until it sends out a response. Firms that do not strictly follow a "N"-in-flight paradigm are advised to limit the number of in-flight FIX messages to less than 20 for optimal TCP protocol performance; i.e. under certain limited circumstances, exceeding this limit could result in shrinking window size and/or dropped packets. For more information regarding the in-flight settings, please reach out to MIAX Trading Operations.

Failure/Recovery: In the event of a catastrophic hardware problem servicing FOI, MIAX Futures Onyx will activate backup FOI services on alternative hardware with different IP addresses. Other than a change in IP address, the FIX session can be reestablished just as after a normal disconnect and resynchronized per normal FIX protocol. Note that selected outbound messages from MIAX Futures Onyx to the Firm, in transition during the failure, may be sent **or resent** with PossResend=Y. Firms may have already seen some of these messages before, with lower sequence numbers, and should handle the possible duplicate communications.

Note that the backup FOIs are not available for connectivity testing during the trading day.

Firms are encouraged to conduct failover testing to ensure seamless interaction during such events. To schedule such testing with the exchange, please contact Trading Operations.

Business Trade Date: Business Trade Date refers to the calendar date on which a Trading Day ends, and is typically the calendar date after it begins. For example: A Business Trade Date of Monday 10/28/2024 begins on Sunday 10/27/2024 and ends on Monday 10/28/2024.

1.4 Configuration

Firms can configure their session(s) with the below properties.

Comp ID: All messages sent in either direction must contain SenderCompID and TargetCompID. Firms and MIAX Futures Exchange will agree upon the values, to be used for these fields, at the time of initial setup. Firms are allowed to use a single *Comp ID* for each connection. MIAX Futures Onyx will allow connections from a preconfigured computer (CompID).

Firm to MIAX Futures Onyx

SenderCompID	TargetCompID
Firm Comp ID	MIAX Futures Onyx

MIAX Futures Onyx to Firm

SenderCompID	TargetCompID
MIAX Futures Onyx	Firm Comp ID

OnBehalfOfCompID: All application messages sent from the Firms to MIAX Futures Onyx must contain OnBehalfOfCompID. This is not required in administrative messages, and will be ignored if sent. The OnBehalfOfCompID sent in an application message should be an MPID. At the time of initial setup, Firms and MIAX Futures Exchange will agree upon a list of MPIDs that can be sent on a FOI session. Firms are allowed to use any of these MPIDs in their order messages sent via the session after the permission is setup.

IP Address: At the time of setup, the MIAX Futures Exchange will require Firms source IPs and will allocate one or more MIAX Futures Onyx FIX server IPs to your firm as agreed upon by the Firm and MIAX Futures Exchange membership.

Port: At the time of setup, MIAX Futures Exchange will allocate one or more MIAX Futures Onyx FIX server ports as agreed upon by the Firm and MIAX Futures Exchange membership.

Session Based Configuration: Firms have the ability to configure their individual FIX sessions to receive various protections. The settings are only applied at the time of order entry or order modification. Please refer to the MIAX Futures Onyx Port Attributes document (available at the MIAX website) for details on the configurable attributes.

Order TIF Modification Behavior Config: Firms can request for their session to be configured to reject Time-In-Force (TIF) changes in Order modification (Order cancel/replace) requests, instead of the default system behavior to ignore TIFs sent in Order modification requests. Note that Stop orders that are sent with DAY/GTC/GTD TIF become IOC or DAY TIF (aka the “Effective TIF”) when they trigger. Firms who opt in for TIF modification rejections must evaluate various race conditions associated with sending TIF in Order modification messages for Stop orders.

2 FIX Message Format and Delivery

Please refer to **FIX v4.2 Protocol** document (https://www.fixtrading.org/standards/fix-4-2/) for details about **FIX message format and delivery**. That section offers insights into the general format of a FIX message being comprised of a *standard header* followed by the message body fields and terminated with a *standard trailer*. It further states that the non-printing, ASCII "SOH" (#001, hex: 0x01, referred to in this document as <SOH>) must be used as the field and message delimiter.

All tags must have a value specified. Optional fields without values should not be specified in the FIX message. An order that contains a missing required tag, or a tag with no associated value, will be rejected back to the user.

Note: Char String fields are case sensitive unless otherwise noted.

2.1 Standard Message Header

The Standard Header precedes each administrative or application message in the FIX protocol. The header identifies the message type, length, destination, sequence number, origination point, and time.

The following table contains the Standard Header tags processed by MIAX Futures Onyx. Any other header tag will be ignored.

Tag	FIX Name	Req'd	Details
8	BeginString	Yes	Always the first field in a FIX message. Valid value: FIX.4.2
9	BodyLength	Yes	Always the second field in a FIX message. Length of message expressed as the number of characters in the message following the BodyLength field up to, and including, the delimiter immediately preceding the CheckSum tag ("10=").

Tag	FIX Name	Req'd	Details
35	MsgType	Yes	Always the third field in a FIX message. Defines the message type. Valid values - Administrative messages: '0' = Heartbeat '1' = Test Request '2' = Resend Request '3' = Reject (Session level reject) '4' = Sequence Reset '5' = Logout 'A' = Logon Valid values – Application messages: '8' = Execution Report '9' = Order Cancel Reject 'D' = New Order Single 'F' = Order Cancel Request 'G' = Order Cancel/Replace 'q' = Order Mass Cancel Request 'r' = Order Mass Cancel Report 'c' = Security Definition Request 'd' = Security Definition 'j' = Reject (Business message reject) 'UCC' = Trade Cancel/Correct
34	MsgSeqNum	Yes	Message sequence number (numeric).
43	PossDupFlag	No	Indicates a message resent from the admin level (has a duplicate sequence number). Default is 'N'.
49	SenderCompID	Yes	Identifies the party sending the message. The sending Firm should use their Line Identifier as assigned by MIAX Futures Exchange. Same value is used for *TargetCompID* in messages from MIAX Futures Onyx to the Firm. See Configuration section (1.4) for more details.
50	SenderSubID	Cond.	Sub identifier of the party sending the message. Required for all application messages from Firm to MIAX Futures Onyx. When required, this must contain a 2 to 18 character Operator. Messages from MIAX Futures Onyx to Firm will be populated as follows: Valid values: "TEST" = MIAX Futures Onyx TEST Env. "PROD" = MIAX Futures Onyx PROD Env.

Tag	FIX Name	Req'd	Details
52	SendingTime	Yes	Time of message transmission expressed in UTC (Universal Time Coordinated), also known as GMT. In the message header from the Firm, this value must be within a configurable interval of the current time; else the order will be rejected. The configurable interval is defined in the Product Reference Guide. Format: YYYYMMDD–HH:MM:SS.mmm
56	TargetCompID	Yes	Identifies the party receiving the message. Firms should use the value as assigned by MIAX Futures Exchange. Same value is used for *SenderCompID* in messages from MIAX Futures Onyx to the Firm. See Configuration section (1.4) for more details.
57	TargetSubID	Cond.	Sub identifier of the party receiving the message. Required for all application messages from Firm to MIAX Futures Onyx. Valid values: "TEST" = MIAX Futures Onyx TEST Env. "PROD" = MIAX Futures Onyx PROD Env. Application messages from MIAX Futures Onyx to Firm will return the value received in tag 50/SenderSubID of the request.
97	PossResend	No	Applicable to application messages. From Firm to MIAX Futures Onyx: 'N' = Indicates a new message (Default) 'Y' = Indicates an application level resend and is not supported. The message will be logged, but effectively ignored. From MIAX Futures Onyx to Firm: Set to 'Y' during certain failure/recovery scenario.
115	OnBehalfOfCompID	Cond.	Required for all application messages from Firm to MIAX Futures Onyx. The MPID of the Firm who owns the order sent in the message.
122	OrigSendingTime	Cond.	Required for resent messages. If no data is available, this value is set to the SendingTime value. Format: YYYYMMDD–HH:MM:SS.mmm

Tag	FIX Name	Req'd	Details
128	DeliverToCompID	Cond.	From MIAX Futures Onyx to Firm: The MPID sent in OnBehalfOfCompID from the Firm is sent back.
142	SenderLocationID	Cond.	The location associated with tag 50/SenderSubID (see above). Required for all application messages from Firm to MIAX Futures Onyx. When required, this must contain a 2 to 6 character Operator Location. The first two bytes, per ISO 3166-1, identify the country (e.g., US = United States). The next four bytes indicate a comma-delimited state, province, or subdivision code, (e.g. "US,NJ"). If this field is longer than 6 characters the message will be rejected.
143	TargetLocationID	Cond.	Application messages from MIAX Futures Onyx to Firm will return the value received in tag 142/SenderLocationID of the request.

Points to note:

- In response to an Order Cancel Request, the TargetSubID (57) and TargetLocationID (143) in the Execution Report for the canceled order will be sourced from the New Order message or the last Cancel/Replace Order Request.

2.2 Standard Message Trailer

The Standard Trailer terminates each administrative or application message in the FIX protocol. The trailer is used to segregate messages and contains the three-digit character representation of the Check Sum value. Tag must be present.

The following table contains the Standard Trailer tags processed by MIAX Futures Onyx. Any other Trailer tag will be ignored.

Tag	FIX Name	Req'd	Details
10	CheckSum	Yes	Always the last field of a FIX message.

3 Session Protocol

Please refer to **FIX v4.2 Protocol** document (https://www.fixtrading.org/standards/fix-4-2) for details about **FIX session protocol**. This protocol layer offers session management capabilities such as establishing a FIX session, authentication, application/administrative messaging over TCP/IP, sequencing of messages, heartbeats, and gap fills.

Order sending firm will always be the *Initiator* of the FIX session and MIAX Futures Onyx is the *Acceptor*.

4 Administrative Messages

This section consists of administrative messages such as those that are used for session protocol.

4.1 Logon Request (MsgType = A)

Please refer to **FIX v4.2 Protocol** document for details about **FIX Logon Request**.

The logon message authenticates a user establishing a connection to a remote system. The logon message must be the first message sent by the Firm that needs to initiate a FIX session with FOI. Firms must wait for a Logon message as a response from FOI before sending other messages.

The message format is as follows:

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = A
98	EncryptMethod	Yes	(always unencrypted)
108	HeartBtInt	Yes	Value specified in seconds. Note: Must be > 0 and same value must be used by both sides.
141	ResetSeqNumFlag	No	Indicates both sides of a FIX session should reset sequence numbers
	Standard Trailer	Yes	

Points to note:

- Firms can specify a heartbeat interval that is greater than zero and FOI will use the same. Both sides must use that same interval to check if the other side is alive. A Heartbeat interval of 5 seconds is recommended. Upon missing of a single heartbeat, FOI will send a *Test Request*. Upon missing of 2 heartbeats, FOI will send a logout and terminate the connection. MIAX Futures Onyx recommends using as low of a value the reliability and latency of your telecommunications channel will allow.
- Encryption is not supported and hence the EncryptMethod field is ignored.

- When Firms reconnect due to a loss of connection, the login response from MIAX Futures Onyx may contain a sequence number greater than what the Firm expects. This will require the Firm to follow the FIX resend protocol to do a gap fill. MIAX Futures Onyx will initiate a similar gap fill process if MIAX Futures Onyx detects a gap. MIAX Futures Onyx will also reject orders with a SendingTime older than 60 seconds.

4.2 Heartbeat (MsgType = 0)

Please refer to **FIX v4.2 Protocol** document for details about **FIX Heartbeat**.

The heartbeat format is as follows:

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = 0
112	TestReqID	Cond	Required when the heartbeat is the result of a Test Request message.
	Standard Trailer	Yes	

Points to note:

- Check the Logon message for details about the heartbeat interval
- Each side must send a heartbeat only when the agreed upon interval has elapsed since the last message was sent.

4.3 Test Request (MsgType = 1)

Please refer to **FIX v4.2 Protocol** document for details about **FIX Test Request**.

The test request message forces a heartbeat from the opposing application. The test request message checks sequence numbers or verifies communication line status. The opposite application responds to the Test Request with a Heartbeat containing the TestReqID.

The heartbeat format is as follows:

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = 1
112	TestReqID	Yes	
	Standard Trailer	Yes	

Points to note:

- If heartbeat interval + 1 second has elapsed since the last message was received, a Test request can be issued. After two such iterations, the connection must be dropped. This ensures a proactive detection and cleanup of a broken TCP connection.

4.4 Resend Request (MsgType = 2)

Please refer to **FIX v4.2 Protocol** document for details about **FIX Resend Request**.

The message format is as follows:

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = 2
7	BeginSeqNo	Yes	
16	EndSeqNo	Yes	
	Standard Trailer	Yes	

4.5 Reject – Session Level (MsgType = 3)

Please refer to **FIX v4.2 Protocol** document for details about **FIX Reject (session level)**.

FOI will disregard any message that is garbled, cannot be parsed or fails a data integrity check. MIAX Futures Onyx will also terminate the connection.

The message format is as follows:

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = 3
45	RefSeqNum	Yes	MsgSeqNum of rejected message
371	RefTagID	Cond	Required if reject reason refers to a specific tag
372	RefMsgType	Yes	The MsgType of the FIX message being referenced
373	SessionRejectReason	Yes	Code to identify reason for a session-level Reject message Valid Values: "0" = Invalid tag number "1" = Required tag missing "2" = Tag not defined for this message type "3" = Undefined tag "4" = Tag specified without a value "5" = Value is incorrect (out of range) for this tag "6" = Incorrect data format for value "9" = Comp ID problem "10" = SendingTime accuracy problem "11" = Invalid MsgType "99" = Other
58	Text	No	Will be supplied if there is a need to supply more information regarding the reject
	Standard Trailer	Yes	

4.6 Sequence Reset (MsgType = 4)

Please refer to **FIX v4.2 Protocol** document for details about **FIX Sequence Reset (Gap Fill)**.

The message format is as follows:

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = 4
123	GapFillFlag	No	
36	NewSeqNo	Yes	
	Standard Trailer	Yes	

4.7 Logout Request (MsgType = 5)

Please refer to **FIX v4.2 Protocol** document for details about **FIX Logout Request**.

The logout message initiates or confirms the termination of a FIX session. Disconnection without the exchange of logout messages will be interpreted as an abnormal condition.

Before actually closing the session, the logout initiator must wait for the opposite side to respond with a confirming logout message. This gives the remote end a chance to perform any Gap Fill operations that may be necessary. The session may be terminated if the remote side does not respond in 10 seconds.

After sending the Logout message, the logout initiator should not send any messages unless requested to do so by the logout acceptor via a ResendRequest.

The message format is as follows:

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = 5
58	Text	N	Can be used to send readable information to the recipient. FOI will just log this and no alerts will be generated on any human readable display devices.
	Standard Trailer	Yes	

5 Application Messages

This section consists of application messages such as Order Request, Cancel Request, Cancel/Replace Request and Execution Report.

5.1 New Order - Single (MsgType = D)

Firms can send new orders to MIAX Futures Onyx with the New Order Single message. The following table contains the fields MIAX Futures Onyx supports for the New Order Single message.

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = D
1	Account	Yes	Customer ID defined by the firms. Maximum length is 16 characters. Note: For XMGE products, account up to 16 characters will be passed through for clearing. For XMFE products, account up to 10 characters will be passed through for clearing.
11	ClOrdID	Yes	Day unique identifier of the order as assigned by the Firm. 20 characters or less. Characters in ASCII range 33-126 are allowed, except for pipe. MIAX Futures Onyx will validate that *ClOrdID* is unique across all open orders for the Session within a Matching Engine. However, firms are responsible to ensure this uniqueness across all orders sent during the trading day.
38	OrderQty	Yes	Number of contracts specified on the order. Has to be a whole number equal to or greater than 1. Maximum Size: Defined in Product Reference Guide and/or configured per session.
40	OrdType	Yes	Valid values: 1 = Market Order 2 = Limit Order 3 = Stop-Market Order 4 = Stop-Limit Order K = Market-Limit Order k = Market Order with Protection s = Stop-Market Order with Protection

FIX Tag	FIX Name	Req'd	Details
44	Price	Cond	Limit Price for Limit and Stop-Limit orders. Required for Limit and Stop-Limit orders. This field is ignored for order types 1 (Market Order), 3 (Stop Market Order), K (Market-Limit Order), k (Market Order with Protection), and s (Stop-Market Order with Protection). Trailing zeros to the right of the decimal point are allowed up to nine digits, if more than nine digits the order will be rejected. Zero price is supported. Negative price is supported. Price precision is 7.9 Minimum and Maximum Price: Defined by Product Reference Guide.
54	Side	Yes	Side of order. Valid values: 1 = Buy 2 = Sell
55	Symbol	Yes	Onyx Instrument ID
58	Text	No	Firms may use this field to transmit instructions for clearing. The first 20 characters will be passed to clearing systems unchanged. The contents, limited to the first 20 characters, will be echoed back in the Execution Report – New message. Characters in ASCII range 33-126 are allowed, except for pipe.
59	TimeInForce	Yes	Specifies how long the order remains in effect. Valid values: 0 = Day 1 = GTC (Good 'til Cancel) 3 = IOC (Immediate or Cancel) 4 = FOK (Fill or Kill) 6 = GTD (Good 'til Date) - requires 432/ExpireDate
60	TransactTime	Yes	Time request was initiated/released expressed in UTC (Universal Time Coordinated), also known as GMT. Format: YYYYMMDD–HH:MM:SS.mmm

FIX Tag	FIX Name	Req'd	Details
77	OpenClose	No	Valid Values: O=Open (default) C=Close
99	StopPx	Cond	Trigger Price. Required for OrdType = 3, 4, or s, ignored otherwise.
110	MinQty	No	Minimum fill quantity. Must be > 1 to be a MinQty order.
111	MaxFloor	No	Number of contracts of the order to display. The balance is reserve. Must be > 0 to be a Reserve Order. 0 displays entire quantity (Default). Tag 8020 DisplayRange may be used to specify a range for random replenishment of the Reserve Order The following order types cannot be reserve orders: • '1' – Market Order • '3' – Stop Market Order • '4' – Stop Limit Order • 's' – Stop-Market Order with Protection
204	CustomerOrFirm	Yes	Valid values: 0 = Customer 1 = Firm
432	ExpireDate	Cond	Required if 59=6 (GTD) Date of order expiration (last day the order can trade), always expressed in terms of the Business Trade Date. The time at which the order expires is determined by the local market's business practices Format: YYYYMMDD
1028	ManualOrderIndicator	Yes	Valid values: Y = Manual N = Automated

FIX Tag	FIX Name	Req'd	Details
1031	CustOrderHandlingInst	Yes	Valid values: W = Desk Y = Electronic C = Vendor-provided Platform billed by Executing Broker G = Sponsored Access via Exchange API or FIX provided by Executing Broker H = Premium Algorithmic Trading Provider billed by Executing Broker D = Other, including Other-provided Screen
1598	SideClearingTradePriceType	No	0 – Trade Clears at Execution Price (default) 1 – Trade Clears at Alternate Price
7699	PurgeGroup	No	Optional Trading Participant specified alphanumeric value 0-9, A-Z, or a-z.
7928	SelfTradeProtection	No	2, 3 or 4 characters (not space separated) **1st character – Self Trade Protection Level** F = Firm M = MPID P = Parent Group **2nd character – Self Trade Protection Instruction** N = Cancel Newest O = Cancel Oldest B = Cancel Both D = Decrement and Cancel **3rd and 4th characters – Customer specified protection group (optional)** Trading Participant specified alphanumeric value consisting of 0-9, A-Z, or a-z. Note that space is not supported and will be rejected if present in the 3rd or 4th position.
8020	DisplayRange	No	Used for random replenishment of a Reserve Order. Must be less than MaxFloor. Order will be rejected if this tag is specified without a MaxFloor > 0.

FIX Tag	FIX Name	Req'd	Details
8021	ReplenishInst	No	Reserve Order Replenishment Timing Instruction. 0 = Replenish after DisplayQty is exhausted (default when MaxFloor is provided) 1 = Replenish immediately, even after partial fill Must be less than MaxFloor. Order will be rejected if this tag is specified without a MaxFloor > 0.
9478	TradingCollarDollarValue	No	Custom Dollar Value for Trading Collar Protection. When tag is not present or has a zero or negative value, exchange default will be used.
9702	CtiCode	Yes	For electronic trading CTI codes are defined as: 1 = CTI 1: Transactions initiated and executed by an individual Market Participant for his/her own account, for an account he/she controls, or for an account in which he/she has ownership or financial interest. 2 = CTI 2: Transactions executed for the proprietary account of a Clearing Member. 3 = CTI 3: Transactions where a Market Participant executes for the personal account of another Market Participant, for an account the other Market Participant controls or for an account in which the other Market Participant has ownership or financial interest. 4 = CTI 4: Any transaction not meeting the definition of CTI 1, 2 or 3.
	Standard Trailer	Yes	

Points to note:

- *Order Validation*: MIAX Futures Onyx will validate each order it receives by checking that the user sent all the required FIX fields for the order. FIX field level validation failure will result in a session reject. Business rule validation failures will result in rejection in the form of an Execution Report (MsgType = 8) with an Execution Type of Rejected (ExecType = 8). When the Firm message passes FIX field level validations and Business rule level validation and still has to be rejected, MIAX Futures Onyx will send a Business reject message for them. Once the Order is accepted and Acked, any further Business rule validations that fail will result in an unsolicited cancel.

- *Order Acknowledgement*: Upon receipt of an order, MIAX Futures Onyx validates the order and then sends an acknowledgement back to the client. This acknowledgement tells the user that a MIAX Futures Onyx Matching Engine has received the order and has started to process it. This acknowledgement is in the form of an Execution Report (MsgType = 8) with an Execution Type of New (ExecType =0) and an Order Status of New (OrdStatus = 0). See the section “Execution Report (MsgType = 8)” for more information about the individual Execution Report fields.
- *Minimum and Maximum Price and Size*: Please refer to the Product Reference Guide for the minimum and maximum price and size accepted by the system. Additionally, Firms may provide a configuration of maximum order size applicable to their orders, otherwise, the exchange default maximum order size check will be used.
- *Side Clearing Trade Price Type:* Election of '1 - Trade Clears at Alternate Price' for the 'Side Clearing Trade Price Type' will be processed by the Clearing House on a trade-by-trade basis. Some products are not eligible to be priced at an Alternate Price. Please contact the MIAX Futures Onyx Clearing House for additional details.

5.2 Order Cancel Request (MsgType = F)

Firms can send an Order Cancel Request message to MIAX Futures Onyx to cancel the remaining quantity of an existing order. The following table summarizes the format for the Order Cancel Request message.

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = F
11	ClOrdID	Yes	Day unique identifier of the order as assigned by the firm. 20 characters or less. Characters in ASCII range 33-126 are allowed, except for pipe. MIAX Futures Onyx will validate that *ClOrdID* is unique across all open orders for the Session within a Matching Engine. However, firms are responsible to ensure this uniqueness across all order requests sent during the trading day.
37	OrderID	No	MIAX Futures Onyx assigned Order ID of the order targeted by the cancel request. OrigClOrdID must be set if OrderID is not. If both OrderID and OrigClOrdID are present the request will be rejected.
38	OrderQty	No	**Ignored.**
41	OrigClOrdID	Cond	*ClOrdID* of the targeted order to cancel. OrderID must be set if OrigClOrdID is not. When OrderID is supplied, this tag must not be sent. If both OrderID and OrigClOrdID are present the request will be rejected.
54	Side	No	**Ignored.**
55	Symbol	Yes	As specified in the New Order request.
60	TransactTime	Yes	Time request was initiated/released expressed in UTC (Universal Time Coordinated), also known as GMT. Format: YYYYMMDD–HH:MM:SS.mmm
	Standard Trailer	Yes	

Points to note:

- Upon receipt of a cancel request, the order will be fully canceled. MIAX Futures Onyx responds with an Execution Report that has *ClOrdID* set to the *ClOrdID* of the cancel, *OrigClOrdID* set to the *ClOrdID* of the target order. If the order is fully canceled, OrdStatus and ExecType are both set to Canceled Order Cancel Request using the OrderID can be used to cancel an order entered through the same or a different FOI session.
    - Session needs to be entitled to send the order cancel request with OrderID.
- Cancelling an order entered through an FEI session is not allowed.

5.3 Order Cancel/Replace Request (MsgType = G)

The MIAX Futures Onyx FIX Engine allows customers to replace orders with the Order Cancel/Replace Request message. Only these fields may be changed:

- Price
- OrderQty
- Self-Trade Protection Group
- Purge Group
- Stop Price
- Manual Order Indicator
- Customer or Firm
- Customer Order Handling Instruction
- Open Close
- Expire Date
- Operator ID (in Standard Header, tag 50/SenderSubId)
- Operator Location (in Standard Header, tag 142/SenderLocationId)

Fields not listed in the table will be ignored.

FIX Tag	FIX Name	Req'd	Can Repl	Details
	Standard Header	Yes		MsgType = G
11	ClOrdID	Yes	Must	Day unique identifier of the order as assigned by the Firm. 20 characters or less. Characters in ASCII range 33-126 are allowed, except for pipe. MIAX Futures Onyx will validate that *ClOrdID* is unique across all open orders for the Session within a Matching Engine. However, firms are responsible to ensure this uniqueness across all order requests sent during the trading day.
38	OrderQty	Yes	Yes	The intended order quantity. This will modify the OrderQty of the current order; it does not directly set the remaining quantity. Has to be a whole number equal to or greater than 1. Maximum Size: Defined in Product Reference Guide and/or configured per session.
40	OrdType	No	No	**Ignored** – value preserved from original order.
41	OrigClOrdID	Yes	N/A	*ClOrdID* of the targeted order to replace. In the case of multiple changes to a single order, this will be the *ClOrdID* of the **most recent** accepted change.

FIX Tag	FIX Name	Req'd	Can Repl	Details
44	Price	Cond	Yes	Price for Stop Limit / Limit Orders. Price should not be specified for Market or Stop Market Orders and will be ignored. Minimum and Maximum Price: Defined by Product Reference Guide.
55	Symbol	Yes	No	As specified in the New Order request.
59	TimeInForce	No	No	**Ignored** – value preserved from original order The default behavior is to ignore this field, preserve the current or Effective TIF, and process the replaceable fields in the message. However, this behavior can be overridden on a per-session configuration basis to reject if the specified TIF is different than the Effective TIF. Please see the Configuration section (1.4) for more details.
60	TransactTime	Yes	N/A	Time request was initiated/released expressed in UTC (Universal Time Coordinated), also known as GMT. Format: YYYYMMDD-HH:MM:SS.uuu
77	OpenClose	No	Yes	Valid Values: O=Open C=Close
99	StopPx	No	Yes	Trigger Price. Ignored for Market and Limit orders. Can be modified for Stop Market and Stop Limit orders that have not yet triggered. Ignored if sent for Stop Market and Stop Limit orders that have already triggered.
111	MaxFloor	No	Yes	New MaxFloor for the Reserve Order. A Reserve Order cannot be modified to be a non-Reserve Order and vice versa. Tag 8020/DisplayRange and tag 8021/ReplenishInst are not amendable and the Replace Request will be rejected if either of these two tags are in the request.
204	CustomerOrFirm	No	Yes	Valid values: 0 = Customer 1 = Firm
432	ExpireDate	No	Yes	Date of order expiration (last day the order can trade), always expressed in terms of the Business Trade Date. The time at which the order expires is determined by the local market's business practices Format: YYYYMMDD
1028	ManualOrderIndicator	No	Yes	Valid values: Y = Manual N = Automated

FIX Tag	FIX Name	Req'd	Can Repl	Details
1031	CustOrderHandlingInst	No	Yes	Valid values: W = Desk Y = Electronic C = Vendor-provided Platform billed by Executing Broker G = Sponsored Access via Exchange API or FIX provided by Executing Broker H = Premium Algorithmic Trading Provider billed by Executing Broker D = Other, including Other-provided Screen
1598	SideClearingTradePriceType	No	Yes	0 – Trade Clears at Execution Price (default) 1 – Trade Clears at Alternate Price
7699	PurgeGroup	No	Yes	Optional Trading Participant specified alphanumeric value 0-9, A-Z, or a-z. Specify " " (one space) in order to remove the purge group from an order.
9928	SelfTradeProtectionGroup	No	Yes	This field represents the customer specified protection group, i.e. the 3rd and 4th characters as provided in tag 7928 in the New Order – Single message. This is the only STP attribute that can be modified in a Cancel/Replace request. Specify " " (one space) in order to remove the Self Trade Protection Group from an order.
	Standard Trailer	Yes		

Points to note:

- Tags not listed in the above Cancel/replace message will be ignored.
- Standard Header tags 50/SenderSudID and 142/SenderLocationID can be modified by sending a new Operator ID and/or Operator Location in the header of the Cancel/Replace message.
- Changing Price or Stop Price, or increasing the OrderQty of the original order will result in the order losing its current time priority in the book.
- OrderQty may not be the actual open quantity of the new order. MIAX Futures Onyx will subtract executed volume of the original (target) order from the OrderQty in the replace request and leave open any remaining quantity in the new order.

5.4 Order Cancel Reject (MsgType = 9)

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = 9
11	ClOrdID	Yes	Unique order ID assigned by the Firm to the cancel request or to the cancel/replace request.
37	OrderID	Yes	MIAX Futures Onyx assigned OrderID of the order targeted by the cancel request. 'Unknown' if the order targeted by the cancel request is unknown to MIAX Futures Onyx.
39	OrdStatus	Yes	Current status of the order after the Cancel Reject.
41	OrigClOrdID	No	As specified in the Order Cancel Request.
58	Text	Yes	Text describing error specified in Appendix ~~Appendix~~ Format: 'Error Code': 'Description' E.g. 5: Invalid OrigClOrdID
102	CxlRejReason	Yes	Code to identify reason for cancel rejection. Valid values: 0 = Too late to cancel 1 = Unknown order 2 = Broker Option (Details provided in Text tag, See Appendix B) 3 = Previous cancel or cancel/replace request is still pending
434	CxlRejResponseTo	Yes	Identifies the type of request in which Cancel Reject is the response. Valid values: 1 = Order Cancel Request 2 = Order Cancel/Replace Request
9687	OrigSession	Cond	Identifies the type of session on which the order was received. Order's FirmCode will be appended after a "-". Format: "SessionType-FirmCode" (FOI) or "SessionType-CloudID-FirmCode" (FEI) Valid values for SessionType: "FOI" = Order received on FOI session "FEI" = Order received on FEI session (applicable for FIX Drop only) E.g. FOI-FRM1, FEI-01-FRM2.

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FIX Tag	FIX Name	Req'd	Details
			If entitled, present along with *OrigCompID* on the drop copy only.
9688	OrigCompID	Cond	*SenderCompID* value from the NewOrderSingle message received on the FOI session or *Computer ID* value from the Login Request message received on the FEI session. If entitled, present along with *OrigSession* on the drop copy only.
	Standard Trailer	Yes	

Points to note:

- Note that when a cancel or cancel/replace request is rejected, the target order is still alive, except in certain scenarios. Please refer to the MIAX Futures Onyx User's Manual for additional details.

5.5 Execution Report (MsgType = 8)

The MIAX Futures Onyx FIX engine transmits Execution Report messages back to the Firm that sent the order. The Execution Report message is used to:

- Confirm the receipt of an order
- Confirm changes requested for an existing order (i.e. acceptance of cancel or cancel/replace requests)
- Relay fill information on working orders
- Send size decrement or cancellation due to Self-Trade Protection
- Reject orders
- Notification that a stop order has been triggered

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = 8
1	Account	No	Copied from order if specified.
11	ClOrdID	Yes	*As applicable:* *(1) ClOrdID* of the order being accepted, executed or rejected or of the cancel/replace request. *(2) ClOrdID* of the cancel request when done on the order entry session. (3) *ClOrdID* of the target order when cancel is done over a session different than the order entry session. (4) *ClOrdID* of the target order subject to unsolicited cancel in case of ACOD or other system cancel.
14	CumQty	No	Cumulative quantity of contracts executed for this order, Field not present on Trade Restatement (ExecRestatementReason=R).
17	ExecID	Yes	Unique identifier for each Execution Report message other than Trade Restatement. Uniqueness is guaranteed within a single trading day. Trade Restatement carries the same ExecID of the Original Transaction.
20	ExecTransType	Yes	Identifies the trade type. Valid values: 0 = New
31	LastPx	No	Price traded on this fill (zero for non-fills). For ExecRestatementReason = 5: Match price if the order had not been prevented from execution by Self Trade Protection For ExecRestatementReason = R, contains the final price of the TAS or BTIC trade
32	LastShares	No	Quantity of contracts traded or restated on this fill (zero for non-fills).

FIX Tag	FIX Name	Req'd	Details
			For ExecRestatementReason = 5: Number of contracts that would have matched if the order had not been prevented from execution by Self Trade Protection
37	OrderID	Yes	Unique OrderID, as assigned by MIAX Futures Onyx when order is accepted. Order ID is unique across the exchange across trading days. Set to zero if the order is rejected.
38	OrderQty	No	Copied from order. On restatements (150=D) the OrderQty may be updated due to Self-Trade Protection Decrement Field not present on Trade Restatement (ExecRestatementReason=R).
39	OrdStatus	Yes	Identifies the current status of an order. Valid values: 0 = New 1 = Partially Filled 2 = Filled 4 = Canceled 5 = Replaced 8 = Rejected B = Calculated (Trade Restatement for TAS/BTIC)
40	OrdType	No	Copied from order. Upon acceptance, a Stop-Market Order with Protection becomes a Stop-Limit order with the exchange assigned limit price. When a Stop order is triggered, an ExecutionReport with 150/ExecType = D/Restated will be sent, and the OrdType will indicate whether it is now a Market or Limit order. All subsequent Execution Reports will also use this new OrdType.
41	OrigClOrdID	No	*ClOrdID* of the canceled or replaced order (for a System Cancel, ACOD, solicited Cancel (Cancel request is not using Exchange OrderID or Cancel request is using Exchange OrderID and is on the same session as the order entry session), or a Cancel/Replace, otherwise not present). This is the target order of the previous request and **not** the initial order of the day.
44	Price	Cond	Exchange assigned limit price for Market Order with Protection, Market-Limit Order, and Stop-Market Order with Protection. For all other order types, the field is set to the same value as specified in the New Order Request

FIX Tag	FIX Name	Req'd	Details
54	Side	Yes	Copied from order.
55	Symbol	Yes	Copied from order.
58	Text	Cond	Reject Reports (ExecType = 8) contain text describing error specified in Appendix ~~Appendix~~ B Format: 'Error Code':' Description' E.g. 1: Unknown Symbol Unsolicited Canceled (ExecType = 4) will contain a free form human readable reason for the cancel. (See Error Code 0 in Appendix B) Fill or partial fill reports (ExecType=1 or 2) contain text as specified in the New Order Request
59	TimeInForce	No	Copied from order. When a Stop order is triggered, an ExecutionReport with 150/ExecType = D/Restated will be sent, and the TimeInForce will indicate whether it is now an IOC Market or Day Limit order. All subsequent Execution Reports will also use the updated TIF, also known as the Effective TIF.
60	TransactTime	Yes	Time of execution/order creation in the Matching Engine expressed in UTC (Universal Time Coordinated), also known as GMT. Format: YYYYMMDD–HH:MM:SS.mmm
75	TradeDate	Cond.	Format: YYYYMMDD
77	OpenClose	Cond.	Valid Values: O=Open C=Close
99	StopPx	Cond	Trigger Price.
103	OrdRejReason	No	The reason the order was rejected. Valid values: 0 = Broker Option (Details listed in tag 58 Text Field; See Appendix B) 1 = Unknown Symbol 2 = Exchange Closed 6 = Duplicate Order (duplicate ClOrdID)
110	MinQty	No	Minimum Fill Quantity. Copied from Order if provided.
111	MaxFloor	No	Copied from Order if provided. Populated on FOI or Order Drop Session only.
150	ExecType	Yes	Identifies the type of execution report. Valid values: 0 = New

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FIX Tag	FIX Name	Req'd	Details
			1 = Partially filled 2 = Filled 4 = Canceled 5 = Replaced 8 = Rejected D = Restated – see also 378/ ExecRestatementReason
151	LeavesQty	Yes	Number of open contracts remaining for further execution. If the OrdStatus is Canceled or Rejected (no longer active) then LeavesQty = 0, otherwise LeavesQty = OrderQty - CumQty. Field not present on Trade Restatement (ExecRestatementReason=R).
198	SecondaryOrderID	No	Secondary Order ID for the display portion of a Reserve Order.
204	CustomerOrFirm	Yes	Copied from order.
378	ExecRestatementReason	Cond.	Valid values: 5 = Reduction of OrderQty due to Self Trade Protection 6 = Reserve Order Replenishment (if subscribed) 7 = Stop Order triggered R = LastPx adjusted based on Settlement Price (if subscribed)
393	TotalNumSecurities	Cond	Total number of legs when tag 442=3.
432	ExpireDate	Cond	Copied from order
442	MultiLegReportingType	Cond	Indicates what an Execution Report represents. 1 = Outright (Default) 2 = Individual Leg of a spread 3 = Spread
1003	TradeID	Cond	The daily unique ID that identifies the Simple trade at MIAX Futures Onyx. Only available on Fill (ExecType 1 or 2) messages.
1004	ComplexTradeID	Cond	Only available on Fill (ExecType 1, 2 or Trade Restatement) messages. Present when: * a Complex Order trades with another Complex Order * a Complex Order trades with Simple Orders The daily unique ID that identifies the Complex trade at MIAX Futures Onyx. See notes below for details.
1028	ManualOrderIndicator	Cond	Copied from order. Field not present on Trade Restatement (ExecRestatementReason=R).
1031	CustOrderHandlingInst	Yes	Copied from order.
1138	DisplayQty	No	Display size of the Reserve Order after replenishment.

FIX Tag	FIX Name	Req'd	Details
1598	SideClearingTradePriceType	No	Copied from order.
7699	PurgeGroup	No	Copied from order.
7928	SelfTradeProtection	No	Copied from order.
8020	DisplayRange	No	Copied from order. Populated on FOI or Order Drop Session only.
8021	ReplenishInst	No	Copied from order, or default for Reserve Order. Populated on FOI or Order Drop Session only.
9021	CorrectionNum	No	Will be provided in Trade Restatement if a trade has been corrected before the restatement.
9478	TradingCollarDollarValue	No	Custom Dollar Value for Trading Collar Protection. Copied from order if provided.
9687	OrigSession	Cond	Identifies the type of session on which the order was received. Order's FirmCode will be appended after a "-". Format: "SessionType-FirmCode" (FOI) or "SessionType-CloudID-FirmCode" (FEI) Valid values for SessionType: "FOI" = Order received on FOI session "FEI" = Order received on FEI session (applicable for FIX Drop only) E.g. FOI-FRM1, FEI-01-FRM2. If entitled, present along with *OrigCompID* on the drop copy only.
9688	OrigCompID	Cond	*SenderCompID* value from the NewOrderSingle message received on the FOI session or *Computer ID* value from the Login Request message received on the FEI session. If entitled, present along with *OrigSession* on the drop copy only.
9702	CtiCode	Cond.	Copied from order.

9730	TradeLiquidityIndicator	Cond	Please refer to MIAX Futures Onyx Liquidity Indicator Codes document (available on the MIAX website) for the list of codes. Tag will be sent when ExecType = 1/Partially Filled or 2/Filled, or ExecType = D/Restated and ExecRestatementReason = R/LastPx adjusted based on Settlement Price (if subscribed). Tag will not be sent when MultiLegReportingType = 3/Spread.
	Standard Trailer	Yes	

Points to note:

- Order Rejects: If session level validations fails, FOI will send a session reject. Cancel and cancel/replace rejections are sent in the form of cancel reject message. Most other validation failures will result in reject via an Execution report message. If a validation failure does not fit into any of the above mentioned categories, MIAX Futures Onyx sends a Business reject message. When rejecting an order the FIX engine will send back an Execution Report (MsgType = 8) with execution type set to 'Rejected' (ExecType = 8).
- Complex Order Execution Reports: For Complex Orders, fills and partial fills are reported for the spread first, then per leg. When a report is for a leg, the instrument identification and details are promoted to the leg level. Symbol, OrderQty, LastPx, LastShares, LeavesQty and CumQty are in the context of the individual leg. When a report is for a spread, Symbol, OrderQty, LastPx, LastShares, LeavesQty and CumQty are in the context of the spread.
- Cancel/Replace Responses: The MIAX Futures Onyx FIX Engine sends acknowledgements of cancels and cancel/replaces using Execution Report (MsgType='8') message.
- Unsolicited Cancel Reports: MIAX Futures Onyx can send unsolicited cancel reports under circumstances listed in MIAX Futures Exchange rule book. To do this MIAX Futures Onyx would send an Execution Report (MsgType='8') with ExecType='4' (Canceled).
- Order cancellation and Size Reduction due to Self-Trade Protection: MIAX Futures Onyx will send an Execution Report (MsgType='8') with ExecType='D' (Restated) for order cancellation or size reduction due to Self-Trade Protection. In the event of size reduction due to self-trade protection, the OrderQty will be updated to OrderQty = previous OrderQty – reduced qty, and the total reduced qty will be reported in tag 58 Text field in the form of 'ReducedQty: N'. The reduced qty will be carried over in the event of a subsequent cancel/replace and the text field will be reported too.
- TradeID and ComplexTradeID: Simple Trade IDs and Complex Trade IDs are unique across Simple and Complex executions.
    - An Execution Report for a trade of only Simple orders (no Complex order involved in the trade) will only include SimpleTradeID (1003).
    - An Execution Report for the components (per leg) of the Complex Instrument or an Execution Report of a Simple order that trades with Complex order (legging) will include both the Simple TradeID (1003) and the ComplexTradeID (1004).
    - An Execution Report (spread level) for the Complex Instrument will only include the ComplexTradeID (1004).

5.6 Security Definition Request (MsgType = c)

The Security Definition Request message is used to request the creation of a Complex Strategy. If successful, the Security Definition response (see section 5.8) will include the InstrumentId which can then be used in a New Order – Single message.

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = c
320	SecurityReqID	Yes	Unique ID assigned by sender. Firm should ensure uniqueness across all Security Definition Requests during the trading day. 20 characters or less. Characters in ASCII range 33-126 are allowed, except for pipe.
321	SecurityRequestType	Yes	Valid values: 0 = Request Security identity and specifications
555	NoLegs	Yes	Number of legs. The fields below (marked with →) are repeated for each specified leg
→ 602	LegSecurityID	Yes	The MIAX Futures Onyx assigned InstrumentId
→ 623	LegRatioQty	Yes	Leg Ratio for the specified InstrumentId
→ 624	LegSide	Yes	Valid values: 1 = Buy 2 = Sell
	Standard Trailer	Yes	

5.7 Security Definition (MsgType = d)

The Security Definition message is used to respond to the request for the creation of a Complex Strategy. If successful, the InstrumentId is provided which can then be used in a New Order – Single message. If rejected, the reason for rejection will be provided.

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = d
320	SecurityReqID	Yes	Unique ID assigned by sender
322	SecurityResponseID	Yes	Unique ID assigned by MIAX Futures Onyx (to be provided on Tag 55 for inbound New Order Message) On reject (323=5), this field will be 0.

FIX Tag	FIX Name	Req'd	Details
323	SecurityResponseType	Yes	Valid values: 1 = Accept security proposal as is 2 = Accept security request but with changes to leg order 5 = Reject security proposal, invalid proposal 6 = Security already exists as requested, see 322/SecurityResponseID for assigned InstrumentID 7 = Security already exists, see 322/SecurityResponseID for assigned InstrumentID and repeating groups as leg order differs from request
9749	ProductGroupCode	Cond.	Product Group Code: e.g. MWE for Hard Red Spring Wheat Standard Deliverable (5000 Bushels) , or XXX-YYY for Cross Product Spread.
9751	SpreadType	Cond.	The MIAX Futures Onyx assigned Product Type for the new Complex Instrument, if successful Valid values: 'S' = Standard Calendar Spread 'E' = Equity Calendar Spread 'B' = Butterfly Spread 'C' = Cross Product Spread
58	Text	No	Optional supplementary information.
555	NoLegs	Yes	Number of legs. The fields below (marked with →) are repeated for each specified leg Note that the leg order may vary from what was requested, i.e. 323=2 or 7
→ 602	LegSecurityID	Yes	The MIAX Futures Onyx assigned InstrumentId
→ 623	LegRatioQty	Yes	Leg Ratio for the specified InstrumentId
→ 624	LegSide	Yes	Valid values: 1 = Buy 2 = Sell
	Standard Trailer	Yes	

5.8 Business Reject (MsgType = j)

The Business Message Reject message is used to reject an application-level message which fulfills session-level rules and cannot be rejected via any other means. For example, receipt of a valid unsupported business level message type will result in a Business Reject.

Note that if the message fails session level checks (e.g. incorrect body length, required tag missing, etc.), a Session Level reject will be issued.

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = j
45	RefSeqNum	Yes	MsgSeqNum of rejected message
372	RefMsgType	Yes	MsgType of the FIX message being rejected
379	BusinessRejectRefID	Yes	RefID of the message being rejected. This is the *ClOrdID* in case an order message is being rejected.
380	BusinessRejectReason	Yes	Code to identify reason for Business rejection. Valid values: 0 = Other 1 = Unknown ID 2 = Unknown Security 3 = Unsupported Message Type 4 = System not available 5 = Required or conditional tag missing
58	Text	Cond	Required if BusinessRejectReason = 0
	Standard Trailer	Yes	

5.9 Trade Cancel/Correct (MsgType=UCC)

Trade Cancel/Correct message is to transmit trade cancellations and corrections such as (but not limited to)

- A trade cancellation (bust)
- A price/size correction on a trade

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = UCC
1	Account	N	If changed in correction, the latest corrected value. Else, the value supplied in the order.
11	ClOrdID	Y	From original trade.
17	ExecID	Y	ExecID in the original trade, or a new ExecID for the new trade.

FIX Tag	FIX Name	Req'd	Details
20	ExecTransType	Y	1 = Trade Cancel 2 = Trade Correct 4 = Cancel Restated Trade 5 = Correct Restated Trade
31	LastPx	Y	For Price/Size correction, it is the latest price. Else, the value in the trade being corrected or canceled.
32	LastShares	Y	For Price/Size correction, it is the latest size. Else, the value in the trade being corrected or canceled.
37	OrderID	Y	From original trade.
42	OrigTime	Y	GMT date-time of the original trade.
54	Side	Y	From original trade.
55	Symbol	Y	From original trade.
58	Text	N	From original trade.
60	TransactTime	Y	GMT date-time of the trade cancel/correct. In case of As of Trade, *TransactTime* Date will be different from *OrigTime* Date. As of Trades will be sent on drop copy only.
75	TradeDate	Y	Format: YYYYMMDD
1003	TradeID	Y	Trade ID of the canceled or corrected trade. Note: When TradeID is used in conjunction with CorrectionNum, Side and ExecTransType, this is a unique identifier for each corrected trade.
9702	CtiCode	Y	For electronic trading CTI codes are defined as: 1 = CTI 1: Transactions initiated and executed by an individual Market Participant for his/her own account, for an account he/she controls, or for an account in which he/she has ownership or financial interest. 2 = CTI 2: Transactions executed for the proprietary account of a Clearing Member. 3 = CTI 3: Transactions where a Market Participant executes for the personal account of another Market Participant, for an account the other Market Participant controls or for an account in which the other Market Participant has ownership or financial interest. 4 = CTI 4: Any transaction not meeting the definition of CTI 1, 2 or 3.
9021	CorrectionNum	Y	Trade correction number. Used to identify version of the trade being corrected or canceled. Increments by 1 for each subsequent correction. New trades resulting from corrections may have a non-zero number.

FIX Tag	FIX Name	Req'd	Details
9730	TradeLiquidityIndicator	N	Latest changes to Trade Liquidity Indicator. Format is the same as tag 9730 reported in FOI/FXD execution report.
9687	OrigSession	Cond	Identifies the type of session on which the order was received. Order's FirmCode will be appended after a "-". Format: "SessionType-FirmCode" (FOI) or "SessionType-CloudID-FirmCode" (FEI) Valid values for SessionType: "FOI" = Order received on FOI session "FEI" = Order received on FEI session (applicable for FIX Drop only) E.g. FOI-FRM1, FEI-01-FRM2. If entitled, present along with *OrigCompID* on the drop copy only.
9688	OrigCompID	Cond	*SenderCompID* value from the NewOrderSingle message received on the FOI session or *Computer ID* value from the Login Request message received on the FEI session. If entitled, present along with *OrigSession* on the drop copy only.
	Standard Trailer	Yes	

Points to note:

- Trade corrections or busts do not change the state or open contracts of orders
- Only trade cancels and corrections of orders belonging to this session or entitled to the session are sent via this message
- Each correction will result in a Trade Cancel/Correct message (MsgType = UCC) to both sides, if eligible based on order entry session, MPID entitlement or session entitlement.
- Important: MIAX Futures Exchange may choose to retransmit Trade Cancel/Correct messages in response to an interruption of the FOI or FIX Drop service. MIAX Futures Exchange will coordinate with the firms before initiating these retransmissions. Firms can use a combination of TradeID, CorrectionNum, Side and ExecTransType as a unique key to know if a given message is a retransmitted message

5.10 Order Mass Cancel Request (MsgType=q)

- Firms can use this message format to request the cancellation of all orders based on the requested scope and the provided criteria:
- The following Scope combinations will be accepted:
    - Session

        - Session Scope will purge all orders for the current Session
        - When Session Scope is specified it will be required that the MPID field is provided with a valid and entitled MPID in order to be accepted
    - MPID
        - MPID Scope will purge all orders for the specified MPID
        - When MPID Scope is specified it will be required that the MPID field is provided with a valid MPID in order to be accepted
    - MPID+Product Group
        - MPID+Product Group Scope will purge all orders for the specified Product Group and MPID
        - When MPID+Product Group Scope is specified it will be required that the Product Group Code field is provided with a valid MPID in order to be accepted
    - MPID+Product Group+Product Type
        - MPID+Product Group+Product Type Scope will purge all orders for the specified Product Group, Product Type and MPID
        - When MPID+Product Group+Product Type Scope is specified it will be required that the Product Group Code and Product Type fields are provided with a valid MPID in order to be accepted
- The following additional attributes can be provided to further specify the Mass Cancel request beyond the scope:
    - Purge Group can be specified to cancel orders of a specific Purge Group within the defined Scope of the Mass Cancel request

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = q
11	ClOrdID	Yes	Day unique identifier of the request as assigned by the Firm. 20 characters or less. Characters in ASCII range 33-126 are allowed, except for pipe.
530	MassCancelRequestType	Yes	Valid values: 8 = User defined criteria
7699	Purge Group	Cond.	Customer specified purge group "A" to "Z", "a" to "z" or "0" to "9". If space (" "), group is not specified.
9500	Mass Cancel Scope	Yes	'M' – MPID 'S' – Session 'P' – MPID and ProductGroupCode 'T' – MPID and ProductGroupCode and ProductType
9501	Mass Cancel Action	Yes	'B' – Block only. The system will reject all new orders 'M' – Mass cancel only. The system will mass-cancel all open orders. New orders can be accepted 'X' – Block and mass-cancel 'R' – Remove blocking for the specified scope.

FIX Tag	FIX Name	Req'd	Details
9749	ProductGroupCode	Cond.	Product Group Code: e.g. MWE for Hard Red Spring Wheat Standard Deliverable (5000 Bushels), or XXX-YYY for Cross Product Spread. Required when MassCancelScope='P' or 'T' Ignored otherwise
9750	ProductType	Cond.	Required when MassCancelScope='T' Ignored otherwise Valid values: 'O' = Outright 'S' = Standard Calendar Spread 'E' = Equity Calendar Spread 'B' = Butterfly Spread 'C' = Cross-Product Spread. Can only be used when ProductGroupCode is for Cross Product Spread.
	Standard Trailer	Yes	

Points to note:

- A Mass Cancel Request is not atomic and is processed by system on best effort basis.
- A Mass Cancel Request with action 'B' (Block only) or 'X' (Block and mass-cancel) will require a reset before any new order or order modification messages are accepted from the blocked MPID. A reset is done with the same message type as the Mass Cancel, but action 'R' (Remove blocking). If a mass cancel with block only and a block and mass cancel are done consecutively, only a single reset is required.
- A Mass Cancel Request with action 'M' (Mass cancel only) will not require a reset.
- *Client Order ID* specified in the Mass Cancel Request is not validated for uniqueness and is only echoed back in the corresponding Mass Cancel Response. Firms are recommended to use unique *Client Order ID* for the trading day across all message types.
- Where applicable, the MPID is in tag 115/OnBehalfOfCompId in the Standard Header.
- Mass Cancel Request will not cancel orders for instruments that are in opening freeze.

5.11 Order Mass Cancel Report (MsgType=r)

Order Mass Cancel Report is used to respond to an Order Mass Cancel Request. The response will either be a single rejection of the request, or a series of responses, one for each matching engine, indicating the success or failure at each matching engine.
The response will contain the following fields:

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = r

FIX Tag	FIX Name	Req'd	Details
11	ClOrdID	Yes	ClOrdId provided on the Mass Order Cancel Request
58	Text	Cond.	Text describing the error if the request was rejected. Will not be provided if the Mass Cancel Request is accepted.
531	Mass Cancel Response	Yes	Valid values: 0 = Order Mass Cancel Request rejected 1 = Order Mass Cancel Request accepted
9821	Matching Engine ID	Yes	Valid values: 0 = Request is rejected entirely by FOI Otherwise, the corresponding Matching Engine ID (>= 1)
	Standard Trailer	Yes	

Points to note:

- Order Mass Cancel with Mass Cancel Response = 1 will be sent after completion of best-effort mass cancellation.
- For a system with multiple matching engines, when ProductGroupCode is not specified in the request, FOI will forward the request to all Matching Engines, and one report will be sent back from each Matching Engine.
- If the request is rejected entirely by FOI, only one report will be sent back, with tag 531 MassCancelResponse=Rejected and tag 9821 MatchingEngineID=0.

6 Drop Copy

The MIAX Futures Onyx FIX Drop (FXD) is a messaging interface that provides real-time order activities of firms' FEI as well as FOI orders. It offers two types of FIX Drop Ports: Standard FIX Drop and FIX Order by Order Drop. Neither port types accept orders.

FXD supports entitlement by:

- MPIDs
- FIX order entry ports/sessions
- Binary order entry ports/sessions

FXD entitlements can be set up as below by Firm types

- Clearing Firm: One or more MPIDs of Trading Participants that clear through the Clearing firm; one or more order entry sessions of Trading Participants that clear through the Clearing firm
- Member Firm: One or more MPIDs of the firm; one or more order entry sessions of the firm

Auto Cancel on Disconnect (ACOD): In the event that a Trading Participant's FXD session with the exchange is disconnected, orders submitted via the entitled order entry ports/sessions that are open on the Order Book can be canceled automatically upon disconnect. After the protection triggers, a reconnect by the Trading Participant with its FXD session resets this protection.

Trading Participants must select one of the following actions on a FXD session by session basis which will be enforced when the protection is triggered:

- Cancel All Non-GTC/GTD Open Orders: All non-GTC/GTD open orders that are open and were sent through order entry session(s) entitled on this FXD session will be canceled upon this FXD session's disconnect. Additionally, any new orders or order modification requests received via the entitled order entry session(s) will be rejected. Order cancellation requests will continue to be accepted.
- Do Not Cancel All Non GTC/GTD Open Orders: This will disable Auto Cancel on Disconnect and MIAX Futures Onyx will not cancel any Non GTC/GTD open orders that were sent through the entitled order entry session(s) upon the FXD session's disconnect. Any new orders and order modification requests received via the entitled order entry session(s) will continue to be accepted. This is the default behavior for the session if the Trading Participant does not opt in to ACOD.

When FXD detects a disconnect for any reason (whether due to graceful logout, a connection loss or loss of heartbeats), it will trigger the ACOD process (defined above).

The ACOD feature is provided on a best effort basis. Executions can occur while the ACOD event is being processed. As the technical circumstances initiating a disconnect may vary, Firms may contact Trading Operations to confirm the status of ACOD eligible open orders remaining at MIAX Futures Onyx that were sent via the order entry sessions entitled on the FXD session(s) that disconnected. The execution reports resulting from cancels or trades during the disconnect can also be received upon a subsequent reconnect by the Firm on the same day.

Firms can request to enable ACOD only on the FXD sessions that are entitled for their own order entry session(s).

Auto Cancel on System/Matching Engine Failure (ACOSF): In the event of a Matching Engine or FXD failure, Trading Participants may request that their open orders submitted via order entry ports/sessions entitled on the FXD are canceled automatically. Orders submitted via any of the Trading Participant's other sessions will not be affected. Additionally, orders submitted to any Matching Engines that are not impacted will not be affected.

Trading Participants must select one of the following actions on a FXD session by session basis which will be enforced when the protection is triggered:

- Cancel All Non GTC/GTD Open Orders: All Non-GTC/GTD open orders for the impacted Matching Engine(s) that were sent through order entry session(s) entitled on this FXD session will be canceled upon system failure. Additionally, any new orders or order modification requests received via the entitled order entry session(s) will be rejected. Order cancellation requests will continue to be accepted.

- Do Not Cancel All Non GTC/GTD Open Orders: This will disable Auto Cancel on System Failure and MIAX Futures Onyx will not cancel any Non GTC/GTD open orders that were sent through the order entry session(s) entitled on this FXD session upon system failure. Any new orders and order modification requests received via the entitled order entry session(s) will continue to be accepted. This is the default behavior for the session if the Trading Participant does not opt in to ACOSF.

The ACOSF feature is provided on a best effort basis. Executions can occur while the ACOSF event is being processed. As the technical circumstances initiating an ACOSF may vary, Firms may contact Trading Operations to confirm the status of ACOSF eligible open orders remaining at MIAX Futures Onyx. The execution reports resulting from cancels or trades during the failure can also be received upon a subsequent reconnect by the Firm on the same day.

Firms can request to enable ACOSF only on the FXD sessions that are entitled for their own order entry session(s).

6.1 Security Definition (MsgType = d) for FXD

Firms can receive notification of Simple and Complex Security Definitions via their FXD line. (The same notifications are available via the Market Data interfaces; please refer to the ToM and DoM specifications for more details.

FIX Tag	FIX Name	Req'd	Details
	Standard Header	Yes	MsgType = d
15	Currency	Yes	The currency in which all Futures Instruments of the Futures Product will trade Valid values: 'U' = USD
22	SecurityIDSource	Yes	Indicates whether the Instrument ID has been assigned by the exchange or from an external industry source 'E' = Exchange
55	Symbol	Yes	The numeric MIAX Futures Onyx assigned InstrumentId for the new Simple or Complex Instrument.
100	ExDestination	Yes	The Exchange where the instrument will be traded. Valid values: "XMGE" = MIAX Futures Exchange "XMFE" = MIAX Futures Exchange – Financials
120	SettleCurrency	Cond.	The Currency in which the Product settles Valid values: 'U' = USD Provided only for Simple Instruments.
167	SecurityType	Yes	Valid values: 'F' = Futures 'O' = Options on Futures 'T' = Trade at Settlement (TAS) 'B' = Basis Trade at Index Close (BTIC)
200	MaturityMonthYear	Cond.	Maturity Month-Year is the expiration date of a Simple Instrument – YYYYMM Provided only for Simple Instruments.
201	PutOrCall	Cond.	Used when SecurityType (167) = 'O' '0' = Put '1' = Call Present for Simple Instruments only
202	StrikePrice	Cond.	Used when SecurityType (167) = 'O' Present for Simple Instruments only

FIX Tag	FIX Name	Req'd	Details
205	MaturityDay	Cond.	Expiration day of month, used along with MaturityMonthYear (200) to fully specify the maturity date. Format: DD (single digit allowed) Present for Simple Instruments only
307	UnderlyingSecurityDesc	Yes	Underlying Asset Type of this instrument: 'E' = Equity Index 'A' = Commodity/Agriculture 'F' = Futures Contract 'N' = Not Applicable (for Cross Product Spread with different Underlying Asset Types)
311	UnderlyingSymbol	Cond.	Used when SecurityType (167) = 'O', 'T', or 'B' The Instrument ID, provided in Symbol (55), of the Parent Futures Instrument that is the Underlying Asset of the Security Present for Simple Instruments only
462	UnderlyingProduct	Yes	Underlying Asset Product Code. e.g. MW for Red Spring Wheat, or XX-YY for Cross Product Spread.
574	MatchType	Yes	The allocation model used by the MIAX Futures Onyx Trading Platform for the Product Valid values: 'P' = Price/Time
730	SettlPrice	Cond.	The previous day's Settlement Price
746	OpenInterest	Cond.	The amount of aggregate open contracts in a Simple Instrument Provided only for Simple Instruments.
947	StrikeCurrency	Cond.	Used when SecurityType (167) = 'O' 'U' – US Dollar Present for Simple Instruments only
9461	OptionExpirationType	Cond.	Used when SecurityType (167) = 'O' 'A' - American-Style Options 'E' - European-Style Options Present for Simple Instruments only
9550	MinimumSize	Yes	Minimum Order Size
9551	MaximumSize	Yes	Maximum Order Size
9552	Increment	Yes	Order Entry Price (Tick) of the Product

FIX Tag	FIX Name	Req'd	Details
9553	UnitOfMeasure	Cond.	Individual unit of the Deliverable of the Underlying Asset associated with the Futures Contract Valid values: 'BU' = Bushels 'USD' = USD 'FUT' = Futures Contract 'ST' = Short Tons 'LB' = Pounds Not provided for Cross Product Spread with different Unit of Measures
9554	UnitOfMeasureQuantity	Cond.	The quantity of the Underlying Asset that is required for the Deliverable associated with the Futures Contract Not provided for Cross Product Spread with different Unit of Measures
9556	SettlmentPriceTypeCalcMethod	Cond.	Actual or Theoretical Settlement Price Indicator Valid values: 'A' = Actual 'T' = Theoretical
9557	TotalVolume	Cond.	The aggregate amount of volume that has traded in a Simple Futures Instrument from the prior trading day
9558	HighLimitPrice	Cond.	The Upper Band of the Daily Trading Limit of a Futures Product Provided only for Simple Instruments.
9559	LowLimitPrice	Cond.	The Lower Band of the Daily Trading Limit of a Futures Product Provided only for Simple Instruments.
9560	TradingCollarVariationType	Cond.	Valid values: 'D' = Product Dollar Collar Value 'P' = Product Collar Percentage Value Not provided for TAS or BTIC Products
9561	TradingCollarVariation	Cond.	The Dollar Value or Percentage Value used in the calculation of the Trading Collar Not provided for TAS or BTIC Products
9562	InstrumentListingStatus	Cond.	Indicates whether the Instrument is Active or Inactive Valid values: 'A' = Active 'I' = Inactive

FIX Tag	FIX Name	Req'd	Details
9749	ProductGroupCode	Yes	Product Group Code: e.g. MWE for Hard Red Spring Wheat Standard Deliverable (5000 Bushels), or XXX-YYY for Cross Product Spread.
9751	SpreadType	Cond.	The MIAX Futures Onyx assigned Product Type for the new Complex Instrument. Valid values: 'S' = Standard Calendar Spread 'E' = Equity Calendar Spread 'B' = Butterfly Spread 'C' = Cross Product Spread
9801	FirstTradeDate	Cond.	First Trade Date will be the Trading Date that the Instrument is initially made available for Trading on MIAX Futures Onyx Format: YYYYMMDD
9802	LastTradeDate	Cond.	Last Trade Date will be the Maturity Date of the Simple Instrument Format: YYYYMMDD
9803	FirstNoticeDate	Cond.	Last business date of the month preceding the month of the Maturity Date of the Simple Instrument Format: YYYYMMDD Applicable only to UnderlyingSecurityDesc UnderlyingSecurityDesc (307) = A; will be absent for all other Underlying Products
9804	LastNoticeDate	Cond.	Last Notice Date will be the business day preceding the Last Delivery Date of the Simple Instrument Format: YYYYMMDD Applicable only to UnderlyingSecurityDesc (307) = A; will be absent for all other Underlying Products
9805	FirstDeliveryDate	Cond.	First Delivery Date will be the first business day of the month of the Maturity Date of the Simple Instrument Format: YYYYMMDD Applicable only to UnderlyingSecurityDesc (307) = A; will be absent for all other Underlying Products

FIX Tag	FIX Name	Req'd	Details
9806	LastDeliveryDate	Cond.	Last Delivery Date will be the seventh business day following the Last Trading Date of the Simple Instrument Format: YYYYMMDD Applicable only to UnderlyingSecurityDesc (307) = A; will be absent for all other Underlying Products
9807	ValuationDate	Cond.	The date that the Final Settlement Price will be calculated for purposes of Simple Instrument expiration Format: YYYYMMDD
9808	ContractDate	Cond.	The Contract Date will be assigned to each Simple Instrument. Format: YYYYMM
555	NoLegs	Cond.	Number of legs. The fields below (marked with →) are repeated for each specified leg This field and the repeating group below is provided only for Complex Strategies. The group that follows will repeat for the number of legs provided in this field.
→ 602	LegSecurityID	Cond.	The MIAX Futures Onyx assigned InstrumentId
→ 623	LegRatioQty	Cond.	Leg Ratio for the specified InstrumentId
→ 624	LegSide	Cond.	Valid values: 1 = Buy 2 = Sell
→ 611	LegMaturityDate	Cond.	Format: YYYYMMDD

6.2 Standard FIX Drop

Standard FIX Drop ports only send trade information and include following messages only

- Execution Reports (MsgType = 8), where ExecType(150) is Partially Filled (1) or Filled(2)
- Trade Cancel/Correct (MsgType = UCC) messages.
- Security Definition notification (MsgType = d) if entitled

6.3 FIX Order by Order Drop

FIX Order by Order Drop ports send all order activities, including all Execution Reports (MsgType=8) and Trade Cancel/Correct (MsgType = UCC) messages and, if entitled, order rejects and security definition notifications

Appendix A: Order Types

Order Type	FIX Tags	Description
Market Order	OrdType (40) =1 (market). Time in Force (59) = 3, 4	An order to buy or sell that is to be executed at the best price obtainable.
Limit Order	OrdType (40) = 2 (limit). Price (44) must contain a price. Time in Force (59) = 0, 1, 3, 4, 6	An order to buy or sell at a specified price or better.
Stop Market	OrdType (40) = 3 (Stop Market) TimeInForce (59) = 0, 1, 6	An Order to buy or sell that is to be executed after being triggered by a trade in the market at or better than the provided Stop Price.
Stop Limit	OrdType (40) = 4 (Stop Limit) TimeInForce (59) = 0, 1, 6	An Order to buy or sell at a specified price or better after being triggered by a trade in the market at or better than the provided Stop Price.
Market Limit	OrdType (40) = K (Market Limit) Time in Force (59) = 0, 1, 3, 4, 6	Has behavior of a Market Order upon entry. Any balance will be posted to the book as a Limit Order with a Limit Price equal to the price of the exchange assigned limit price.
Market with Protection	OrdType (40) = k (Market with Protection) Time in Force (59) = 0, 1, 3, 4, 6	Has behavior of a Market Order upon entry. Any balance will be posted to the book as a Limit Order with a Limit Price equal to the exchange assigned limit price.
Market Stop with Protection	OrdType (40) = s (Market Stop with Protection) Time in Force (59) = 0, 1, 6	Submitted with a Stop Price. Upon ack, OrdType becomes Stop Limit with exchange assigned limit price.

Appendix B: Error Code Table

Order and cancel rejects will be identified with the below error code in the Text Tag in following format: 'Error Code': 'Description' e.g. 9: Invalid Price

FIX specification states the Text tag is a free format text string. MIAX Futures Exchange will provide as much information as possible but reserves the right to add new errors codes or change meaning as required.

Code	Description	Code	Description	Code	Description
0	Reserved for free form text	13	Invalid TimeInForce	26	Missing Symbol
1	Unknown Symbol	14	Reserved	27	Missing OrderQty
2	System Unavailable	15	Reserved	28	Missing Side
3	Invalid OnBehalfOfCompID	16	Reserved	29	Missing OrdType
4	Invalid ClOrdID	17	Reserved	30	Missing Price
5	Invalid OrigClOrdID	18	Invalid OnBehalfOfSubID	31	Missing TransactTime
6	Invalid Side	19	Reserved	32	Reserved
7	Invalid OrderQty	20	Reserved	33	Reserved
8	Invalid OrdType	21	Reserved	34	Reserved
9	Invalid Price	22	Invalid TradingCollarDollarValue	35	Reserved
10	Invalid TransactTime	23	Reserved	36	Reserved
11	Reserved	24	Missing ClOrdID	37	Missing TimeInForce
12	Reserved	25	Missing OrigClOrdID	38	Invalid Account

Appendix C: Contact List

Please visit the MIAX Website for obtaining the most up-to-date contact list and other such information.

Appendix D: Revision History

Revision Date	Version	Description
10/31/2024	1.0	Initial release.
1/10/2025	1.0a	Added tag 1004/ComplexTradeID to ExecutionReport and clarified how both it and tag 1003/TradeID are populated in certain cases. Updated exchange timings in section 1.1. Clarified notes in Standard Header section. Corrected error in the Details of section 5.7 Security Definition, replacing references to tag 55/Symbol with 322/SecurityResponseID. Clarified Standard Header contents for Cancel response (Points to Note) Clarified that Market orders sent with a Price will not be rejected. Clarified that a Cancel/Replace on a Market Order will ignore the Price field if provided. Corrected values for Unit of Measure. Added Product-scoping tags to Mass Cancel request. Clarified handling of Price and StopPx fields in New and Cancel/Replace.
3/26/2025	1.0b	Changed 58/Text in Trade Cancel/Correct message (section 5.9) from Required to Optional. Added note to Order Mass Cancel Request (section 5.10) to clarify treatment of orders in Opening Freeze.
5/7/2025	1.0c	Updated Details for tag 59/TimeInForce in the Execution Report. Updated Details for tag 9730/TradeLiquidityIndicator in the Execution Report.
8/19/2025	1.1	6.1/SecurityDefinition updated to support Options on Futures Trade IDs are now unique across both Simple and Complex trades 1598/SideClearingTradePriceType added to: * 5.1/New Order – Single * 5.3/Order Cancel/Replace Request
11/7/2025	1.2	5.1/New Order – Single updated: * New Order Types added: * Market-Limit Order * Market Order with Protection * Stop-Market Order with Protection * Updated Price field description * Updated StopPx field description to indicate it is required for new order type Stop-Market Order with Protection 5.5 / Execution Report * Updated OrdType field description * Updated Price field description

		Appendix A / Order Types * Added entries for the three new order types.
6/8/2026	1.3	Changes in this version highlighted 5.1 New Order – Single • Added tag 111 MaxFloor • Added tag 8020 DisplayRange • Added tag 8021 ReplenishInst 5.3 Order Cancel/Replace Request • Added tag 111 MaxFloor 5.5 Execution Report • Tag 39 OrdStatus ○ Added value 'B' - Calculated • Added tag 111 MaxFloor • Added tag 198 SecondaryOrderID • Tag 378 ExecRestatementReason ○ Added value '6' – Reserve Order Replenishment ○ Added value 'R' – LastPx adjusted • Added tag 1138 DisplayQty • Added tag 8020 DisplayRange • Added tag 8021 ReplenishInst • Added tag 9021 CorrectionNum • Updated details on Trade Restatement related fields ○ Tag 14 CumQty ○ Tag 17 ExecID ○ Tag 31 LastPx ○ Tag 32 LastShares ○ Tag 38 OrderQty ○ Tag 151 LeavesQty • Updated details ○ Tag 9687 OrigSession 5.7 Security Definition • Added new values to tag 9553 UnitOfMeasure ○ ST ○ LB • Added cross-product example to tag 9749 ProductGroupCode • Added value 'C' – Cross Product Spread to tag 9751 SpreadType 5.9 Trade Cancel/Correct • Tag 20 ExecTransType ○ Added value '4' – Cancel Restated Trade ○ Added value '5' – Correct Restated Trade 5.10 Order Mass Cancel Request • Added cross-product description to tag 9749 ProductGroupCode • Added value 'C' – Cross Product Spread to tag 9750 ProductType

		6.1 Security Definition • Tag 167 SecurityType: added value 'T' and 'B' • Tag 307 UnderlyingSecurityDesc: added value 'N' • Tag 311: updated comments • Tag 462 UnderlyingProduct: added an example for a Cross Product Spread • Tag 730: updated comments • Tag 9553 UnitOfMeasure: changed to 'Cond.'. Added values 'ST' and 'LB', and a description for Cross Product Spread • Tag 9554 UnitOfMeasureQuantity: changed to 'Cond.'. Added a description for Cross Product Spread • Tag 9556: updated comments • Tag 9560 TradingCollarVariationType: changed to 'Cond.'. Added a description for TAS and BTIC • Tag 9561 TradingCollarVariation: changed to 'Cond.'. Added a description for TAS and BTIC • Added new tag 9562 InstrumentListingStatus • Tag 9749 ProductGroupCode: added an example for a Cross Product Spread • Tag 9751 SpreadType: added value 'C' – Cross Product Spread • Tag 9801: updated comments • Tag 9803: updated comments • Tag 9804: updated comments • Tag 9805: updated comments • Tag 9806: updated comments • Tag 611: updated comments
7/31/2026	1.3a	Changes in this version highlighted 5.1 New Order • Updated Details of 111/MaxFloor to clarify which order types can be reserve orders 5.5 Execution Report • Changed tag 1028/ManualOrderIndicator to be Conditional and updated Description • Updated 9730/TradeLiquidityIndicator to elaborate on Conditionality 6.1 Security Definition • Fixed minor typo in description

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