

## Contents

Session Identification .....	2
Security Identification.....	2
Client Identification .....	2
Fix Specification .....	2
Version .....	2
Changes to the official FIX specification .....	2
High Frequency .....	2
Standard Message Header .....	3
Standard Message Trailer.....	3
Session Level Messages .....	4
Heartbeat (35=0).....	4
TestRequest (35=1) .....	4
ResendRequest (35=2) .....	4
Reject (35=3) .....	4
SequenceReset (35=4) .....	5
Logout (35=5).....	6
Logon (35=A) .....	6
Application Level Messages.....	6
BusinessMessageReject (35=j) .....	6
NewOrderSingle (35=D) .....	7
ExecutionReport (35=8) .....	8
OrderCancelReplaceRequest (35=G) .....	10
OrderCancelRequest (35=F) .....	11
OrderCancelReject (35=9).....	11

## Session Identification

FIX connections are established based on SenderCompID and TargetCompID only.

	SenderCompID	TargetCompID
A sends directly to B	A	B
B sends directly to A	B	A

## Security Identification

In the order entry messages, the only required field to uniquely identify a security is Symbol (55). Which the readable form of MarketData Instrument Definition feed SecurityID

## Client Identification

Client Identification should be sent in the Account (1) field.

## Fix Specification

### Version

This spec is based on the 4.4 version of the Financial Information eXchange ("FIX") Protocol.

### Changes to the official FIX specification

Despite of the effort to make it adherent to the FIX.4.4 specification as possible, in some scenarios it is necessary to extend and slightly alter the standard specification. The changes are specified on the message and fields descriptions.

We don't validate the presence (or the absence) of the fields not listed in this document. Also, we won't echo fields sent by the client.

## High Frequency

The Clear OMS has limit of sent order per sec. It's configurable per account and defined by the trading desk.

## Standard Message Header

Tag	Tag name	Req'd	Data Type	Comment
8	BeginString	Y	String (7)	"FIX.4.4".
9	BodyLength	Y	Length (6)	(Always unencrypted, must be second field in message)
35	MsgType	Y	String (4)	(Always unencrypted, must be third field in message) Valid values: 0 - Heartbeat 1 - Test Request 2 - Resend Request 3 - Reject 4 - Sequence Reset 5 - Logout 8 - Execution Report 9 - Order Cancel Reject A - Logon D - New Order Single F - Order Cancel Request G - Order Cancel Replace Request
49	SenderCompID	Y	String (50)	Please contact BM&FBOVESPA for appropriate CompID assignment (see section 3.2).
56	TargetCompID	Y	String (50)	Please contact BM&FBOVESPA for appropriate CompID assignment (see section 3.2).
34	MsgSeqNum	Y	Seqnum (9)	Integer message sequence number.
43	PossDupFlag	N	Boolean (1)	Indicates possible retransmission of message with this sequence number.
97	PossResend	N	Boolean (1)	Indicates that message may contain information that has been sent under another sequence number.
52	SendingTime	Y	UTCTimestamp (21)	Expressed in UTC (Universal Time Coordinated)

## Standard Message Trailer

Tag	Tag name	Req'd	Data Type	Comment
10	Checksum	Y	String (3)	Always unencrypted, always last field in message

## Session Level Messages

### Heartbeat (35=0)

Tag	Tag name	Req'd	Data Type	Comment
[Standard Message Header]				
112	TestReqID	N	String	Required when the heartbeat is the result of a Test Request message.
[Standard Message Trailer]				

### TestRequest (35=1)

Tag	Tag name	Req'd	Data Type	Comment
[Standard Message Header]				
112	TestReqID	Y	String	Identifier included in Test Request message to be returned in resulting Heartbeat
[Standard Message Trailer]				

### ResendRequest (35=2)

Tag	Tag name	Req'd	Data Type	Comment
[Standard Message Header]				
7	BeginSeqNo	Y	Seqnum (9)	Message sequence number of first message in range to be resent
16	EndSeqNo	Y	Seqnum (9)	Message sequence number of last message in range to be resent. If request is for a single message BeginSeqNo = EndSeqNo. If request is for all messages subsequent to a particular message, EndSeqNo = 0 (representing=infinity).
[Standard Message Trailer]				

### Reject (35=3)

Tag	Tag name	Req'd	Data Type	Comment
[Standard Message Header]				
45	RefSeqNum	Y	Seqnum (9)	MsgSeqNum of rejected message.
371	RefTagID	N	Int	The tag number of the FIX field being referenced.
372	RefMsgType	N	String (2)	The MsgType of the FIX message being referenced.

373	SessionRejectReason	N	Int (6)	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 6 - Incorrect Data Format For Value 9 - Compid Problem 10 - Sendingtime Accuracy Problem 11 - Invalid Msgtype 13 - Tag Appears More Than Once 14 - Tag Specified Out Of Required Order 15 - Repeating Group Fields Out Of Order 16 - Incorrect Numingroup Count For Repeating Group 17 - Non Data Value Includes Field Delimiter 99 - Other
58	Text	N	String (250)	Where possible, message to explain reason for rejection.
<b>[Standard Message Trailer]</b>				

#### SequenceReset (35=4)

Tag	Tag name	Req'd	Data Type	Comment
<b>[Standard Message Header]</b>				
123	GapFillFlag	N	Boolean (1)	Indicates that the Sequence Reset message is replacing administrative or application messages which will not be resent.
36	NewSeqNo	Y	Seqnum (9)	New sequence number.
35033	PossMissingApplMsg	N	Boolean (1)	Indicates that the range of messages retransmitted after a Resend Request may not include all the application messages contained in the original range requested.
<b>[Standard Message Trailer]</b>				

### Logout (35=5)

Tag	Tag name	Req'd	Data Type	Comment
[Standard Message Header]				
58	Text	N	String (250)	Explanation for Logout reason (if any).
[Standard Message Trailer]				

### Logon (35=A)

Tag name	Req'd	Data Type	Comment
[Standard Message Header]			
EncryptMethod	Y	Int (1)	Must be "0"
HeartBtInt	Y	Int	Recommended: "30"
ResetSeqNumFlag	N	Boolean (1)	Indicates that the both sides of the FIX session should reset sequence numbers.
TestMessageIndicator	N	Boolean (1)	Sent only by BM&FBOVESPA
[Standard Message Trailer]			

## Application Level Messages

### BusinessMessageReject (35=j)

Tag	Tag name	Req'd	Data Type	Comment
[Standard Message Header]				
45	RefSeqNum	N	Seqnum (9)	MsgSeqNum of rejected message.
372	RefMsgType	Y	String (2)	The MsgType of the FIX message being referenced.
380	BusinessRejectReason	Y	Int (6)	Code to identify the reason of the rejection. Please refer to the error codes document for domain information.
58	Text	N	String (250)	Message to explain reason for rejection, if available.
[Standard Message Trailer]				

# NewOrderSingle (35=D)

Tag	Tag name	Req'd	Data Type	Comment
<b>[Standard Message Header]</b>				
11	ClOrdID	Y	String (38)	Unique identifier of the order as assigned by the market participant.
1	Account	N	Int (10)	Account mnemonic.
55	Symbol	Y	String (20)	BM&FBOVESPA human readable form of the SecurityID tag. Ex: PETR4
54	Side	Y	Char (1)	Side of order. Valid values: 1 - Buy 2 - Sell
60	TransactTime	Y	UTCTimestamp (21)	Time of execution/order creation; expressed in UTC.
38	OrderQty	Y	Qty (15)	Quantity ordered.
40	OrdType	Y	Char (1)	Order type. Valid values: 1 - Market 2 - Limit 3 - Stop
44	Price	N	Price (20)	Price per share or contract. Conditionally required if the order type requires a price (not market orders).
99	StopPx	N	Price (20)	The stop price of a stop limit order (Conditionally required if OrdType = 3).
847	TargetStrategy	Y	Int(4)	Specifies the module which the order should be inserted: 1001 – SwingTrade 1002 – DayTrade
59	TimeInForce	N	Char (1)	Specifies how long the order remains in effect. Absence of this field is interpreted as DAY. Valid values: 0 - Day 6 - Good Till Date (Only for Bovespa Instruments when 847 = 1001) 7 - At The Close
432	ExpireDate	N	LocalMktDate (8)	Required only if TimeInForce (Tag 59) = Good Till Date (GTD). Only expiration date can be set. Orders expire at the end of the trading session.
<b>[Standard Message Trailer]</b>				

# ExecutionReport (35=8)

Tag		Tag name	Req'd	Data Type	Comment
[Standard Message Header]					
37		OrderID	Y	String (36)	Unique identifier for Order as assigned by the exchange. Uniqueness is guaranteed within a single trading day/instrument.
11		ClOrdID	N	String (38)	Unique identifier of the order as assigned by the market participant.
41		OrigClOrdID	N	String (38)	Contains the ClOrdID of the replacement order. Conditionally required when ExecType = 5 (Replace).
382		NoContraBrokers	N	NumInGroup (1)	Number of contra brokers in an execution. Currently, this field will be always set to 1. Conditionally required when reporting trades.
➔	375	ContraBroker	N	String (50)	Identifies contra broker.
17		ExecID	Y	String (36)	Unique identifier of execution message as assigned by the exchange – unique per instrument.
19		ExecRefID	N	String (36)	Optionally sent when reporting a trade bust. Contains the identifier of the busted trade.
150		ExecType	Y	Char (1)	Describes the action that triggered this specific Execution Report - see the OrdStatus (39) tag for the current order status (e.g, Partially Filled). Valid values: A - Pending New 0 - New 4 - Canceled 5 - Replace 8 - Rejected 9 - Suspended C - Expired D - Restated F - Trade H - Trade Cancel I - Order Status
39		OrdStatus	Y	Char (1)	Order status. Valid values: A - Pending New 0 - New 1 - Partially Filled 2 - Filled 4 - Canceled 5 - Replaced 8 - Rejected 9 - Suspended C - Expired



				Z - Previous Final State
636	WorkingIndicator	N	Boolean (1)	Indicates if an order has been triggered and is available for trading. Used with Stop (Limit, with protection) orders and the At the Close validity.
103	OrdRejReason	N	Int (6)	Code to identify reason for order rejection. For optional use with ExecType = 8.
1	Account	Y	Int (10)	Account mnemonic.
55	Symbol	Y	String (20)	BM&FBOVESPA human readable form of the SecurityID tag. Ex: PETR4.
54	Side	Y	Char (1)	Side of order. Valid values: 1 - Buy 2 - Sell
38	OrderQty	Y	Qty (15)	Quantity ordered.
40	OrdType	N	Char (1)	Conditionally required when ExecType != 8 (Reject) or ExecType != H (Trade bust).  Valid values: 1 - Market 2 - Limit 3 - Stop Limit
44	Price	N	Price (20)	Price per share or contract. Required if specified on the order.
99	StopPx	N	Price (20)	The stop price of a stop limit order (Conditionally required if OrdType = 4).
59	TimeInForce	N	Char (1)	Specifies how long the order remains in effect. Absence of this field is interpreted as DAY. Valid values:  0 - Day 6 - Good Till Date 7 - At The Close
432	ExpireDate	N	LocalMktDate (8)	Required only if TimeInForce (Tag 59) = Good Till Date (GTD). Only expiration date can be set. Orders expire at the end of the trading session.
32	LastQty	N	Qty (9)	Quantity of shares bought/sold on this (last) fill. Conditionally required when ExecType = F (Trade).
31	LastPx	N	Price (20)	Price of this (last) fill.

151	LeavesQty	Y	Qty (9)	Amount of shares open for further execution, or unexecuted. LeavesQty = OrderQty - CumQty.
14	CumQty	Y	Qty (9)	Total number of shares or contracts filled.
6	AvgPx	Y	Price (1)	Order Average Price.
75	TradeDate	N	LocalMktDate (8)	Indicates date of trade referenced in this message in YYYYMMDD format (expressed in local time at place of trade). Absence of this field indicates current day (expressed in local time at place of trade).
60	TransactTime	N	UTCTimestamp (21)	Time of execution/order creation; expressed in UTC.
58	Text	N	String (250)	Free format text string.
378	ExecRestatementReason	N	Int(2)	Reason of restatement. Conditionally required when ExecType = D
<b>[Standard Message Trailer]</b>				

#### OrderCancelReplaceRequest (35=G)

Tag	Tag name	Req'd	Data Type	Comment
<b>[Standard Message Header]</b>				
41	OrigClOrdID	Y	String (38)	ClOrdID which should be replaced.
11	ClOrdID	Y	String (38)	Unique ID of cancel replace request as assigned by the institution.
1	Account	Y	Int (10)	Account mnemonic.
55	Symbol	Y	String (20)	BM&FBOVESPA human readable form of the SecurityID tag. Ex: PETR4.
54	Side	Y	Char (1)	Side of order. Valid values: 1 - Buy 2 - Sell
60	TransactTime	Y	UTCTimestamp (21)	Time of execution/order creation; expressed in UTC.
38	OrderQty	Y	Qty (15)	Quantity ordered.
40	OrdType	Y	Char (1)	Order type. Valid values: 1 - Market 2 - Limit 3 - Stop Limit
44	Price	N	Price (20)	Price per share or contract. Conditionally required if the order type requires a price (not market orders).
99	StopPx	N	Price (20)	The stop price of a stop limit order (Conditionally required if OrdType = 4).

59	TimeInForce	N	Char (1)	Specifies how long the order remains in effect. Absence of this field is interpreted as DAY. Valid values: 0 - Day 6 - Good Till Date
432	ExpireDate	N	LocalMktDate (8)	Required only if TimeInForce (Tag 59) = Good Till Date (GTD). Only expiration date can be set. Orders expire at the end of the trading session.
<b>[Standard Message Trailer]</b>				

#### OrderCancelRequest (35=F)

Tag	Tag name	Req'd	Data Type	Comment
<b>[Standard Message Header]</b>				
41	OrigClOrdID	Y	String (38)	ClOrdID of the order that the client is trying to cancel.
11	ClOrdID	Y	String (38)	Unique order id assigned by institution to the cancel request.
1	Account	Y	Int (10)	Account mnemonic.
55	Symbol	Y	String (20)	BM&FBOVESPA human readable form of the SecurityID tag. Ex: PETR4n Market Data feed.
54	Side	Y	Char (1)	Side of order. Valid values: 1 - Buy 2 - Sell
60	TransactTime	Y	UTCTimestamp (21)	Time of execution/order creation; expressed in UTC.
38	OrderQty	N	Qty (15)	Quantity ordered.
<b>[Standard Message Trailer]</b>				

#### OrderCancelReject (35=9)

Tag	Tag name	Req'd	Data Type	Comment
<b>[Standard Message Header]</b>				
37	OrderID	Y	String (26)	If CxlRejReason="Unknown order", value is: "NONE". Otherwise, unique identifier for Order. .
11	ClOrdID	Y	String (38)	Unique identifier of the order as assigned by the market participant.
41	OrigClOrdID	Y	String (38)	ClOrdID of the order that could not be canceled.

39	OrdStatus	Y	Char (1)	OrdStatus value after this cancel reject is applied. If CxlRejReason = "Unknown Order", this field's value is "Rejected". Valid values: 0 - New 1 - Partially Filled 2 - Filled 4 - Canceled 5 - Replaced 8 - Rejected 9 - Suspended C - Expired Z - Previous Final State
1	Account	N	Int (10)	Account mnemonic.
434	CxlRejResponseTo	Y	Char (1)	Identifies the type of request that this Cancel Reject is in response to. Valid values: 1 - Order Cancel Request 2 - Order Cancel Replace Request
102	CxlRejReason	N	Int (6)	Code to identify reason for cancel rejection. Please refer to the error codes document for domain information.
55	Symbol	Y	String (20)	BM&FBOVESPA human readable form of the SecurityID tag. Ex: PETR4Market Data feed.
54	Side	N	Char (1)	Side of order. Valid values: 1 - Buy 2 - Sell
58	Text	Y	String (250)	Free format text string. Contains a description of the error.
<b>[Standard Message Trailer]</b>				