



Market Information System
FLEX Connection Specifications
ToSTNeT

Ver.DS.17.3

Applicable from April 1, 2021.

Tokyo Stock Exchange

[Terms and Conditions of Use]

Before using this document, users are required to read and agree to the terms and conditions below.

1. All rights, including those to intellectual property concerning these connection specifications, belong to Tokyo Stock Exchange (hereinafter referred to as "TSE").
2. These connection specifications shall not be duplicated, modified or provided to a third party, in whole or part, without prior written consent from TSE.
3. These connection specifications shall be used only for the purpose of system development necessary to obtain distributed information.
4. TSE reserves the right to change the descriptions in these connection specifications due to system modifications. Costs related to such changes incurred by the user shall be borne by the user.
5. TSE shall not be liable for any losses or damages incurred directly or indirectly to the User arising from the use of these connection specifications or misunderstanding with regard to this translation.
6. User that connects to the market information system and uses FLEX service ("FLEX User") shall follow the specifications described in these connection specifications.
7. FLEX User shall not take any action that adversely affects the stable operation of the market information system, violates or is likely to violate the laws and regulations, or inconvenience or cause damage to other users. In such cases, TSE shall deem such actions attributable to the FLEX User, and shall reserve the right to restrict or suspend the connection between the FLEX User's system and the market information system. In such cases, TSE shall not be liable for any damages or losses caused by the restriction or suspension.
8. FLEX User, if applicable, shall enter into the necessary agreements with each exchange for receiving information from the exchange.
9. TSE shall reserve the right to provide the exchange(s) with each FLEX User's join status for multicast groups that contain information from the exchange(s).

Inquiries on these connection specifications: Tokyo Stock Exchange (Service Desk)

TEL : +81-50-3822-8882 MAIL : arrowhead@jpx.co.jp

FLEX Connection Specifications (ToSTNeT)		Revision History	
No.	Release date	Revision No.	Remarks
1	2019.11.05	Ver.DS.17.0	Newly created. There is no change from Ver.TS.16.3.
2	2020.02.28	Ver.DS.17.1	Revised to respond to Flexible Settlement in the ToSTNeT market.
3	2021.02.01	Ver.DS.17.2	Minor changes
4	2021.04.01	Ver.DS.17.3	No change
			Sheet No.
			1/1
		IT development, Tokyo Stock Exchange	

FLEX Connection Specifications (ToSTNeT)				
Modification		Ver.DS.17.0	Document History	
No.	Subject	Description	Page	Type
1	Newly Created			
			Sheet No.	1/1
	IT Development, Tokyo Stock Exchange			

FLEX Connection Specifications (ToSTNeT)				
Modification		Ver.DS.17.1	Document History	
No.	Subject	Description	Page	Type
1	Flexible settlement	Added values of 'Transaction Identification Flag' corresponding to Flexible Settlement	2-7	MODIFY
			Sheet No.	1/1
	IT Development, Tokyo Stock Exchange			

FLEX Connection Specifications (ToSTNeT)				
Modification		Ver.DS.17.2	Document History	
No.	Subject	Description	Page	Type
1	Issue Realtime Message	Modified the description in Medium Classification of Stock-related to refer to “Common Items”.	2-3	MODIFY
			Sheet No.	1/1
	IT Development, Tokyo Stock Exchange			

FLEX Connection Specifications (ToSTNeT)				
Modification		Ver.DS.17.3	Document History	
No.	Subject	Description	Page	Type
1	No change			
			Sheet No.	1/1
	IT Development, Tokyo Stock Exchange			

～ Table of contents ～

1. OUTLINE	1-1
1.1. Purpose	1-1
2. USER DATA SECTION	2-1
2.1. Definition of Tags	2-1
2.1.1. Basic Tag Format	2-1
2.1.2. Output Conditions for Tags	2-1
2.2. List of Tags Used for Different Message Types	2-2
2.2.1. Issue realtime message	2-2
2.2.2. Control message	2-2
2.3. List of Issue Classification Codes/Applicable Tags	2-3
2.3.1. Issue realtime message	2-3
2.3.2. Control message	2-4
2.4. Information Concerning Individual Tags	2-5
TI: ToSTNeT by-issue information	2-6
TM: ToSTNeT market information	2-10
LC: Control	2-12

1. OUTLINE

1.1. Purpose

This document contains information on the variety and format of messages (User tag) concerning ToSTNeT for TSE market information system.

2. USER DATA SECTION

The user data section will be edited by combining different tags.

2.1. Definition of Tags

Tags will be used as a means of outputting information. Different tags will be used for different information classifications and one tag is edited for one message; the same tag will never be used in different messages.

When information to be newly output occurs, a tag may be newly set for such information. Therefore, each client system must be in such specification that allows the operator to determine specific tags to be used and to receive and dispose of such tags if the operator considers it appropriate.

2.1.1. Basic Tag Format

Each tag has its own format. For the formats of different tags, refer to “2.4 Information Concerning Individual Tags”. The following figure shows the basic format of tags.

Tag ID	Reserved	Data of information (The format varies among different tag IDs)
--------	----------	---

- * Tag ID will be numbered using 1 to 9 and A to Z.
- * The Flag(Reserved) is Space(2bytes).

2.1.2. Output Conditions for Tags

For the output conditions for different tags, refer to “2.4 Information Concerning Individual Tags”.

2.2. List of Tags Used for Different Message Types

2.2.1. Issue realtime message

Item No.	Tag ID	Name	Description	Remarks
1	TI	ToSTNeT by-issue information	Tag for contract information concerning transactions on ToSTNeT.	
2	TM	ToSTNeT market information	Tag for market information concerning transactions on ToSTNeT.	

2.2.2. Control message

Item No.	Tag ID	Name	Description	Remarks
3	LC	Control	Tag for various types of control information.	

2.3. List of Issue Classification Codes/Applicable Tags

2.3.1. Issue realtime message

Message type	Issue Classification Code / Market Identification Flag			Tag ID Tag name	TI	TM
				Exchange code	ToSTNeT By-issue information	ToSTNeT market information
Issue realtime message New (100)	Issue Classification Code	Large Classification	Medium Classification			
		Stock-related (01)	Refer to (6) Issue Classification Code of '5.3.3. Service Header' in Common Items.	1 (TSE)	*	-
		CB-related (02)	CB (11)	1 (TSE)	*	-
	Market Identification Flag	Single-issue transaction(1), Basket transaction(2), Closing price transaction(3)			1 (TSE)	*

2.3.2. Control message

Message type	Issue Classification Code	Tag ID Tag Name	LC
		Exchange Code	Control
Control Message (900, 905)	-	-	*

2.4. Information Concerning Individual Tags

The following pages describe the output conditions and the formats of individual tags.

The table below shows the main references for output condition or format, etc.

Item No.	Name	Reference document	Reference item
1	Price	Common Items 5.3.5. General Rules for Data Sets	(1) Price, Parity, VWAP, Index
2	Trading Volume, Turnover		(2) Trading Volume, Turnover
3	Time		(5) Time
4	Applicable issue	ToSTNeT 2.3 List of Issue Classification Codes/Applicable Tags	same as on the left

TI: ToSTNeT by-issue information

1. Format (68 bytes)

Tag ID	Reserved	Market Identification Flag	Trading Halt (8)		Transaction Identification Flag	Price (24)					Trading Volume (15)		Turnover (15)	
			State Flag	Time		Price Code	Lot Size Unit Flag	Price	Sign	Time	Trading Volume/ Turnover Unit Flag	Trading Volume	Trading Volume/ Turnover Unit Flag	Turnover
(2)	(2)	(1)	(2)	(6)	(1)	(2)	(1)	(14)	(1)	(6)	(1)	(14)	(1)	(14)

2. Content and output condition

Content and output condition	Remarks
<p>1. Content</p> <p>In this tag, information concerning trade and trading halt for an issue (single-issue transaction, basket transaction, or closing price transaction) on the ToSTNeT is set.</p> <p>This data appears as part of realtime data.</p> <p>2. Output condition</p> <p>(1) Upon new occurrence of execution price or trading halt on ToSTNeT.</p> <p>Turnover of single-issue transaction for domestic stock (or foreign stock) is not output if it is equals to or exceeds 5 billion yen (except transactions executed by agency orders for both sell and buy)</p> <p>Trade information of basket transaction on the day is transmitted in the order of trade time and in ascending order of Issue Code in a single batch(not each transaction).</p> <p>The session distinction in the service header will be set to 00: Off-hour trading.</p>	<p>Detail about sending time, refer to Table 2.1-1 Output Time (Issue Realtime Message / Issue Basic Information/ToSTNeT) on “System Operation” specifications.</p>

3. Detailed format

Item No.	Name	Location	Byte count	Format	Description	Setting condition
1	Tag ID	0	2	C	Indicates that this is the ToSTNeT by-issue information tag.	"TI" is set.
2	Reserved	2	2	C	This item is reserved.	
3	Market Identification Flag	4	1	C	Indicates the flag for identifying ToSTNeT market.	1: Single-issue transaction 2: Basket transaction 3: Closing price transaction
4	Trading Halt	5	8			
	State Flag	(5)	(2)	C	Indicates the state of trading halt for the issue on the ToSTNeT.	A0: Trading halt A1: Release from trading halt Space: Other than the above.
	Time	(7)	(6)	C	Indicates the time of trading halt and release from trading halt.	When a space is set in the state flag, a space is set. The time of trading halt is set when the state flag is set to A0 The time of release from trading halt is set when the state flag is set to A1. (6 bytes) : HH (24-hour notation) MM△△(*) * △ represents space
5	Transaction Identification Flag	13	1	C	Indicates the identification of the transaction.	1: Day transaction 2: Ordinary transaction(T+2)(VWAP transaction) 3: Day transaction(VWAP transaction) Space: Ordinary transaction(T+2) C: Ordinary transaction(T+3) D: Ordinary transaction(T+3) (VWAP transaction) E: Ordinary transaction(T+4) F: Ordinary transaction(T+4) (VWAP transaction) G: Ordinary transaction(T+5) H: Ordinary transaction(T+5) (VWAP transaction) For closing price transactions, a space will be used. For trading halt and release from trading halt, a space is set.

6	Price		14	24		Indicates contract information on the ToSTNeT.	
		Price Code	(14)	(2)	C	Indicates the price code for the transaction. 01: Previous-day closing price 05: Previous-day VWAP 11: Morning-session closing price 15: Morning-session VWAP 31: Today's closing price 25: Afternoon-session VWAP 35: All-day VWAP For transactions other than closing price transactions, spaces will be set. For trading halt and release from trading halt, a space is set.	

(Continued)

Item No.	Name		Location	Byte count	Format	Description	Setting condition
6		Lot Size Unit Flag	(16)	(1)		Indicates that this is the lot size unit flag.	For trading halt and release from trading halt, a space is set.
		Price	(17)	(14)	C	Indicates that this is the trade price.	In the case of closing price transactions, the price shown in price code is set. For trading halt and release from trading halt, a space is set.
		Sign	(31)	(1)	C	Indicates Sign of Price	+ will be set. For trading halt and release from trading halt, a space is set.
		Time	(32)	(6)	C	Indicates the time at which the trade was established.	For trading halt and release from trading halt, a space is set. (6 bytes) : HH (24-hour notation) MM△△(*) * △ represents space
7	Trading Volume		38	15			
		Trading Volume/ Turnover Unit Flag	(38)	(1)	C	Indicates the trading volume/turnover unit flag.	For trading halt and release from trading halt, a space is set.
		Trading Volume	(39)	(14)	C	Indicates the trading volume.	In the case of single-issue transactions or basket transactions, this item shows the trading volume for this transaction. In the case of closing price transactions, this item shows the cumulative trading volume for this price code. For trading halt and release from trading halt, a space is set.

8	Turnover		53	15			
		Trading Volume/ Turnover Unit Flag	(53)	(1)	C	Indicates the trading volume/turnover unit flag.	For trading halt and release from trading halt, a space is set.
		Turnover	(54)	(14)	C	Indicates the turnover.	In the case of single-issue transactions or basket transactions, this item shows the turnover for this transaction. In the case of closing price transactions, this item shows the cumulative turnover for this price code. For trading halt and release from trading halt, a space is set.

TM: ToSTNeT market information

1. Format (13 bytes)

Tag ID	Reserved	Market Identification Flag	State (8)	
			State Flag	Time
(2)	(2)	(1)	(2)	(6)

2. Content and output condition

Content and output condition	Remarks
<p>1. Content</p> <p>In this tag, state information on the ToSTNeT will be set.</p> <p>This data appears as part of realtime data.</p> <p>2. Output condition</p> <p>(1) When the ToSTNeT market goes into or is released from a market suspension</p> <ul style="list-style-type: none"> □ If ToSTNeT by-issue information (tag ID = TI) is received without release information received in advance, it should be regarded that ToSTNeT has been released from a market suspension. □ The session distinction in the service header will be set to 00: Off-hour trading 	<p>A space will be set in the service header of the issue classification code and the issue code.</p>

3. Detailed format

Item No.	Name	Location	Byte count	Format	Description	Setting condition
1	Tag ID	0	2	C	Indicates that this is ToSTNeT market information tag.	"TM" is set.
2	Reserved	2	2	C	This item is reserved.	
3	Market Identification Flag	4	1	C	Indicates the flag for identifying the ToSTNeT market.	1: Single-issue transaction 2: Basket transaction 3: Closing price transaction
4	State	5	8			
	State Flag	(5)	(2)	C	Indicates the state of market on the ToSTNeT.	D0: Market suspension D1: Release from market suspension
	Time	(7)	(6)	C	Indicates the time of market suspension and release from market suspension.	D0: this item indicates the time of market suspension D1: this item indicates the time of release from market suspension (6 bytes) : HH (24-hour notation) MM△△(*) * △ represents space

LC: Control

1. Format (12 bytes)

Tag ID	Reserved	Test mode Flag	Start/end Flag	Time
(2)	(2)	(1)	(1)	(6)

2. Content and output condition

Content and output condition	Remarks
<p>1. Content</p> <p>In this tag, the test mode flag and the start/end flag that are used in a control message will be set.</p> <p>This tag will be edited into a control message (communication control and health check control) for output.</p> <p>2. Output condition</p> <p>(1) When this tag is edited into a control message</p> <p>a. In the case of start of communication, this tag as a rule will be sent at the certain time before the beginning of the morning session.</p> <p>b. In the case of end, this tag will be sent at the end of on-line operation.</p> <p>(2) When this tag is edited into a control message (health check control):</p> <p>During the period in which the above-described control message (communication control) is sent (from start to end of communication) (at 1-minute intervals)</p> <p>(This tag will be sent for ensuring client systems to know that no flow of information over the circuit is not due to a circuit failure.)</p>	

3. Detailed format

Item No.	Name	Location	Byte count	Format	Description	Setting condition
1	Tag ID	0	2	C	Indicates that this is a control tag.	“LC” is set.
2	Reserved	2	2	C	This item is reserved.	
3	Test Mode Flag	4	1	C	Indicates the flag for identifying the distinction between real and test operation. This flag will be set in every control message.	1: Real operation 2: Test operation
4	Start/End Flag	5	1	C	Indicates the flag for identifying the distinction between start and end.	(1) In the case of a control message (communication control): 1: Start 2: End (2) In the case of a control message (health check control): Space
5	Time	6	6	C	Indicates time.	(1) In the case of a control message (health check control): Time at which this message was sent (6 bytes) : HH (24-hour notation) MM△△(*) * △ represents space (2) Other than the above: Space