

National Stock Exchange of India Limited

Circular

Department: Investigation	
Download Ref No: NSE/INVG/67858	Date: May 05, 2025
Circular Ref. No: 471/2025	

All Market Participants,

Sub: Safer participation of retail investors in Algorithmic trading

This is with reference to SEBI Circular Ref. no. SEBI/HO/MIRSD/MIRSD-PoD/P/2025/0000013 dated February 04, 2025 and NSE circular Ref. no. NSE/INVG/66524 dated February 05, 2025 regarding 'Safer participation of retail investors in Algorithmic trading'.

The implementation standards on safer participation of retail investors in Algorithmic trading have been formulated in accordance with para 7 (a) of the aforementioned SEBI Circular and are enclosed as Annexure.

Market Participants are requested to take note of the above and comply.

For and on behalf of
National Stock Exchange of India Limited

Manish Deo
Associate Vice President

National Stock Exchange of India Limited

Annexure

Implementation Standards for safer participation of retail investors in Algorithmic trading (Under Clause 7 of the SEBI circular ref. SEBI/HO/MIRSD/MIRSD-PoD/P/CIR/2025/0000013 dated 4-Feb-2025)

A. API Access Standards for Clients in Trading

1. Stockbrokers may provide their clients with API access to their trading systems. To gain access, clients must mandatorily provide the stockbroker with a static IP address(es) which will be mapped to the API Keys from which they will connect to the broker's trading platform via API.
2. The client may give only one static IP address (primary), or provide additional Static IP address (secondary) for the purpose of connectivity redundancy
3. Multiple API keys can be given to the same client (for connecting to different segments, running different algos, etc.). When the client takes the facility of Multiple API keys, then each such API key may be mapped to the same primary/ secondary static IPs of that client only or may have separate the primary/ secondary static IPs for each of the multiple API Keys.
4. When the clients have taken multiple API keys, the broker will ensure that non-registered algos are run only through one of the predefined API keys. Other API keys can be used only for registered algos.
5. The need for static IP is mandatory for API access for client generated algos and for algos generated via empanelled algo provider(s) using Vendor API Key or by the broker. In case of client generated algos, the static IP shall be that of the client whereas, in case of algos generated via empanelled algo provider(s), the static IP shall be that of the vendor or the client. For the broker-generated algos, the static IP shall be that of the broker or the client.
6. Clients will have the ability to update their mapped static IP addresses as needed, but not more than once a calendar week. Clients may reach out to the broker in extraordinary cases where they have already updated the static IP once a week but need to make changes due to extenuating circumstances.
7. A static IP can only be mapped to one client at a time. However, static IPs can be shared between clients provided such clients belong to one family as defined in SEBI circular SEBI/HO/MIRSD/MIRSD-PoD1/P/CIR/2024/169 dated 3 December 2024. The client shall provide a written request / email from registered email / request using 2FA validation to the broker for sharing the static IP to such family.
8. All API sessions shall be compulsorily logged out every day before the start of the next trading day.

National Stock Exchange of India Limited

9. A Member Client API Enablement Annexure may be specified by the Exchanges from time to time.

B. Standards around APIs without registering algo

1. Clients can use API connectivity only for implementing automated trading systems, computer algorithms, or other software-based trading solutions to automate the buying and selling of securities/ contracts on the secondary markets. Such API connectivity should be equipped with the necessary RMS checks by the brokers.
2. The Threshold Order Per Second (TOPS) is initially set at not exceeding 10 orders per second and may be adjusted by the stock exchanges as needed after due notice to the market. If the flow of algo orders from the client to the broker via API is below the defined Threshold Order Per Second (TOPS) i.e. 10 OPS per exchange, the client will not be required to register for algorithmic trading from the broker's system. The threshold will be applied basis the calendar clock second of the broker server.
3. All such algo orders via API which are below the defined Threshold Order Per Second (TOPS), shall also be tagged as 'Algo'. However, such orders tagged as algos by the client wouldn't require registration with the Exchange and a generic algo ID shall be provided by the Exchange for such Algos. Such algos shall satisfy necessary conditions related to Risk Management (Refer Section 'H' for details).
4. The Stock Exchanges may, from time to time, specify restricted order types and/or contracts/securities for client algos. The brokers will ensure that their APIs do not permit such restricted orders/contracts/securities.
5. If the broker receives orders that exceed the Threshold OPS limit, the broker shall reject/ not accept/not process any orders exceeding the OPS limit, in accordance with their policy.
6. Every broker providing API connectivity to clients for trading should have the capability to effectively monitor or control the Threshold OPS limits for algos not requiring registration.

C. Standards for clients generated registered algos

1. If a client wishes to place orders at a speed exceeding the Threshold Order Per Second (OPS) i.e. 10 OPS, they must register their algorithm with each Exchange where the algorithm is intended to be used. The Exchanges will formulate a simplified registration and compliance framework for orders up to a certain threshold.

National Stock Exchange of India Limited

2. To register the algorithm, the client must provide the necessary details to the broker, who will forward this information to the relevant exchange(s). The exchange(s) will register the algorithm and issue a registration ID, which will be communicated by the broker to the client. The orders will be tagged with the exchange-provided algorithm ID(s).
3. If a client desires to make any changes to the algorithm it is the client's responsibility to inform the broker. The broker will then notify the exchange and seek appropriate registration updation.
4. Tech savvy retail investors' shall also include retail investors who get the Algos developed through third parties /others.

D. Broker generated algos

1. Brokers may also create and offer various algorithms to their clients. Each algorithm created by the broker will be registered with the exchange, and an exchange-specific algorithm ID will be obtained.
2. The broker can offer these algorithms to clients, providing the relevant details about the algorithm to those using it. All client orders executed through these algorithms must include the appropriate exchange algorithm ID.
3. If there are any changes to the logic of a broker-generated algorithm, these modifications will be reported to the exchange, and the necessary approvals will be updated accordingly.

E. Algos provided by algo provider

1. All algorithm (Algo) providers must be empanelled with exchanges in accordance with the guidelines set by each exchange. The algo provider(s) must be registered with each exchange where the algorithms are intended to trade.
2. The empanelled algo providers shall register all their algos with the exchange and the stock exchanges shall assign a unique algo ID to each such algo. Such unique algo IDs may be used across members once registered.
3. The broker may enter into a commercial arrangement with the algo provider, which may include sharing of fees. Additionally, the broker may establish a technical arrangement with the algo provider to integrate the broker's trading systems (via API or other means) with the algo provider's technology platform. Clients will have the option to access the broker's trading systems through the technology services provided by the algo provider.

National Stock Exchange of India Limited

4. Any broker who has a commercial, technical, or combined arrangement with an exchange-empanelled algo provider must inform all relevant exchanges where the broker is a member in a manner as specified by the Exchanges from time to time. The broker must also notify the exchanges if the arrangement is terminated or ended.
5. The broker should carry out adequate due diligence in relation to the algo provider and ensure that the algo provider is not involved in any misconduct or violation of securities laws. The broker must immediately report instances of such violations to the respective Exchange (s).

F. Threshold Orders Per Second (OPS)

The Threshold Order Per Second is initially set at not exceeding 10 orders per second per exchange /segment and may be adjusted by the stock exchanges as needed after due notice to the market. The broker may set its own threshold order per second limit at client level which may vary from client to client not exceeding the current prescribed Threshold Order Per Second.

G. Algo ID tagging

Exchanges shall issue appropriate tagging mechanisms for registered and registration free algo orders. All algo orders (Below and above the threshold) shall be tagged with a unique identifier provided by the Exchange in order to establish audit trail.

H. Risk Management

Brokers shall comply with the relevant requirements for Internet Based Trading (IBT), Securities trading using Wireless Technology (STWT), Risk Management and guidelines on Decision Support Tools / Algorithms trading

Reference – NSE consolidated circular NSE/MSD/67753 dated April 29, 2025.

I. Operational Specifications for providing algo through IBT / STWT / Client API and Vendor API

In addition to the guidelines mentioned in para 8.1 of NSE Circular dated April 29, 2025, the following shall be ensured -

- a. The broker should ensure sound audit trail for all IBT / STWT / Client API /Vendor API orders and trades and be able to provide identification of actual user and user-id for all such orders and trades. The audit trail data should be available for at least 5 years.

National Stock Exchange of India Limited

- b. The IBT / STWT / Client API / Vendor API system shall have sufficient security features as prescribed in the SEBI cyber security circular no SEBI/HO/ITD-1/ITD_CSC_EXT/P/CIR/2024/113 dated August 20, 2024, other SEBI / Exchanges directives from time to time.
- c. Brokers shall be required to have OAuth (Open Authentication) based authentication only or any authentication mechanism allowed / communicated by the Exchange / SEBI from time to time.
- d. The IBT / STWT / Client API / Vendor API system shall have sufficient security features including password protection for the user and user ID, automatic expiry of passwords at the end of a reasonable duration, and re-initialisation of access on entering fresh passwords. System shall authenticate client access to IBT / STWT / other API through two factor authentication
- e. Brokers shall be required to put in place system, processes and policies to ensure that open APIs are not permitted, and access is being provided only through a unique vendor client specific API key and static IP whitelisted by the broker for retail users and unique vendor API key and whitelisted IP for algo providers to ensure identification and traceability of algo provider and the end user i.e. investor.
- f. The brokers shall be fully responsible and liable for all orders emanating through their IBT / STWT / Client API / Vendor API systems. It shall be the responsibility of the broker to ensure that only clients who fulfil the eligibility criteria are permitted to use the IBT / STWT / Client API / Vendor API facility.
- g. Brokers may take such other measures and implement such other safeguards as they deem fit to ensure security and integrity of transactions.
- h. All Retail Algorithms, including those provided by empanelled Algo providers should be hosted on brokers' cloud servers.

J. Notes -

1. These standards do not apply to trading under Direct Market Access (DMA), which will remain governed by the relevant provisions.
2. The broker may charge the client fees/subscription charges for providing the API services which will be over and above the brokerage charged to the client including any charges levied by the stock exchanges for algorithm registration and recovered from the client.
3. The stock exchanges will have the authority to kill any rogue algo(s) in case it is impacting the market.