



Xena Exchange

Xena Exchange Rules of Spot Trading

Effective since **26 June**

This document, together with the Terms of Use, Privacy Policy and Rules of Operations, comprises the Xena Exchange Client Agreement. All Clients who open a spot account on Xena Exchange must agree to this document. The full list of the documents related to different products offered by Xena Exchange is located at <https://xena.exchange/platform-specification/documents>.

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1. Definitions

- 1.1. **Allowance** — the estimated payment (in the Quote Currency) to be settled when an Order is filled. Refer to the Appendix for the exact formulae.
- 1.2. **Spot trading** — the process of exchanging different Cryptocurrencies between Clients of Xena Exchange, with immediate settlement.
- 1.3. **Symbol, Instrument, Trading Pair** — a predefined pair of two Cryptocurrencies (Base Currency and Quote Currency). A Trade is receiving the Base Currency and paying the Quote Currency away (buy) or paying the Base Currency away in exchange for the Quote Currency (sell). A symbol is characterized by its name (ticker), base and quote currencies, **Price Step**, **Minimum Order Quantity** and **Quantity Step** (both measured in units of base currency), and **Limit Order Maximum Distance** (measured in percent of the Mid-price).
- 1.4. Other terms and definitions used in the Rules of Spot Trading have meanings and are subject to interpretation in accordance with:
 - 1.4.1. the provisions of the Client Agreement;
 - 1.4.2. the meaning of the term as defined on the Xena Exchange Website;
 - 1.4.3. the applicable law; and
 - 1.4.4. the current business practices of using these terms, definitions, and phrases on the Internet.

2. General statements

- 2.1. Xena Exchange Spot facilitates the exchange of Cryptocurrencies by matching Client Orders of opposite directions and providing the necessary infrastructure (order book, market data, trade booking, settlement, account-keeping, risk management, and so on) to Clients.
- 2.2. Xena Exchange Spot does not allow short sell trades. For a Client to sell a certain amount of some Cryptocurrency, he or she must first deposit this amount of Cryptocurrency to his or her Xena Exchange Account.
- 2.3. For exchange operations between Clients to be possible, Xena Exchange stores Cryptocurrencies belonging to Clients in its own wallets on behalf of the Clients.
- 2.4. All trades executed on Xena Exchange Spot are DvP (Delivery versus Payment). Settlement occurs immediately after the booking of a Trade.

3. Spot accounts

- 3.1. To exchange Cryptocurrencies, a Client must open a Spot Account on Xena Exchange and make a deposit to it with any Cryptocurrencies supported by Xena Exchange.

- 3.1.1. The list of supported Cryptocurrencies is published on Xena's website and may change periodically in accordance with the Client Agreement.
- 3.1.2. One Spot Account is used to track balances of all supported Cryptocurrencies.
- 3.2. The Settled Balance of a Spot Account may change only as result of:
 - 3.2.1. booking a Trade;
 - 3.2.2. depositing Cryptocurrency to the Account, withdrawing Cryptocurrency from the Account to an External Wallet, or internally transferring Cryptocurrency to or from another Account; or
 - 3.2.3. settling a compensatory deposit or withdrawal following the resolution of a dispute.
- 3.3. The Available Balance of a Spot Account in a certain Cryptocurrency is the difference between the Settled Balance in that Cryptocurrency and the sum of the Allowance of the following active Orders:
 - 3.3.1. Buy Orders for Instruments that have the Cryptocurrency as their Quote Currency; and
 - 3.3.2. Sell Orders for Instruments that have the Cryptocurrency as their Base Currency.

4. Trading Operations and Orders

- 4.1. If a Client wishes to exchange a Cryptocurrency belonging to him or her to another Cryptocurrency, he or she must send an Order to Xena Exchange. Orders can be submitted via the user interface of the Platform or through the Xena Exchange API.
- 4.2. All Orders submitted by Clients must relate to one of the Instruments supported by Xena Exchange. The list of supported Instruments and their specifications is published on the Xena Exchange website.
- 4.3. When sending a new Order, a Client defines:
 - 4.3.1. the instrument;
 - 4.3.2. the direction (buy or sell);
 - 4.3.3. the quantity (measured in the base currency of the Instrument)
 - 4.3.4. the Order type
 - 4.3.5. for Limit Orders, the Order price;
 - 4.3.6. for Stop Orders and Market-if-Touched Orders, the Stop price;
 - 4.3.7. additional execution instructions, if any; and
 - 4.3.8. additional information that may be required when sending Orders through the API. The exact message formats are defined in the API documentation posted on the Xena Exchange website.
- 4.4. Xena Exchange Spot supports the following types of orders:
 - 4.4.1. Limit Order — an order to buy or sell a given Cryptocurrency at a certain or better price;
 - 4.4.2. Market Order — an order to buy or sell a given Cryptocurrency by the current price on the market;

- 4.4.3. Stop Order and Market-if-Touched Order — Orders that are triggered and converted to Market Orders once the Market Price reaches the stop price of the Order;
- 4.4.4. Stop Loss Order — a Stop Order that is sent along with another (main) Order and is designated to revert to the position opened by the main Order if the price goes in the direction unfavorable for the Client, has the opposite side, and aligns its quantity automatically to the quantity of the first fill of the main Order;
- 4.4.5. Take Profit Order — a Market-if-Touched Order that is sent along with another (main) Market Order and is designated to revert to the position opened by the main Order if the price goes in the direction favorable for the Client, has the opposite side, and aligns its quantity automatically to the quantity of the first fill of the main Order;
- 4.4.6. Trailing Stop Loss Order — a Stop Loss Order with a stop price that constantly changes automatically to maintain the same distance from the Market Price;
- 4.4.7. Attempt Zero Loss Order — a Trailing Stop Loss Order whose stop price moves only until it reaches the price of the first Fill of the associated main Order; and
- 4.4.8. Order Cancel Request — a request to cancel a previously sent Order.
- 4.5. All Orders sent by Clients are put into the Order queue. The queue works on a First In First Out basis (i.e., the Order placed in the queue first is processed [but not necessary filled] first).
- 4.6. A new Order may be rejected by Xena Exchange if:
 - 4.6.1. It is sent for an unknown (unsupported) Instrument;
 - 4.6.2. the price of a Limit Order or the stop price of a Stop or Market-if-Touched orders does not fit into the Price Step of the Instrument;
 - 4.6.3. the price of a Limit Order is farther from the Mid-price than allowed by the Limit Order Maximum Distance of the Instrument (see Appendix for the exact formula);
 - 4.6.4. the stop price of a Stop buy Order is lower than the Last Price, or the stop price of a Stop sell Order is higher than the Last Price;
 - 4.6.5. the stop price of a Market-if-Touched buy Order is higher than the Last Price, or the stop price of a Market-if-Touched sell Order is lower than the Last Price;
 - 4.6.6. the quantity of the Order is smaller than the minimum Order Size or does not conform to the Quantity Step of the Instrument;
 - 4.6.7. the calculated Allowance of the Order is bigger than the Available Balance on the Client's Account in the Allowance currency and the Ignore Notional Value Checks instruction is not set for the Order;
 - 4.6.8. at the moment of sending a new Trailing Stop Loss or Attempt Zero Loss Order, the number of active Trailing Stop and Attempt Zero Loss Orders for the same Instrument has reached the limit;
 - 4.6.9. the Order will lead to a Wash Trade:

- 4.6.9.1. the new Order is a Market Order when there are active Limit Orders for the same Instrument in the opposite direction sent by the same Client;
 - 4.6.9.2. the new Order is a Limit Order when there are active Limit Orders for the same Instrument in the opposite direction from the same Client, and the price of the new Order is better than the price of the Limit Orders in the Order Book (i.e., the price of the buy Orders of the Client will become greater than or equal to the price of the sell Orders of the same Client if the new Order is accepted).
 - 4.6.10. technical maintenance of the Platform is in process;
 - 4.6.11. trading restrictions are imposed on the Client;
 - 4.6.12. the Order is sent through the Xena Exchange API and the message does not conform to the API specifications; or
 - 4.6.13. any internal errors arise during the Order processing procedure by the Platform.
- 4.7. If an Order is accepted by Xena:
- 4.7.1. the Available Balance of the Client's Account in the base currency of the Instrument decreases by the quantity of the sell Limit or Market Order;
 - 4.7.2. the Available Balance of the Client's Account in the quote currency of the Instrument decreases by the Allowance of the buy Limit or Market Order;
 - 4.7.3. Stop and Market-if-Touched Orders do not affect the Available Balance;
 - 4.7.4. Limit and Market Orders are sent to the Order Book and attempt to match Orders resting in the Book; and
 - 4.7.5. the order status becomes "New," and its Leaves Quantity becomes equal to the Order Quantity.
- 4.8. All Limit Orders are GTC (Good Till Canceled) by default, which means they remain active until they are completely filled or canceled by the Client.
- 4.8.1. A Client may specify IOC (Immediate Or Cancel) and FOK (Fill Or Kill) instructions for his or her Orders:
 - 4.8.1.1. Immediate Or Cancel Orders are executed immediately, and the unfilled part of the Order is automatically canceled; and
 - 4.8.1.2. Fill Or Kill Orders are executed immediately and completely or not at all.
- 4.9. All Market Orders are IOC (Immediate or Cancel). Clients can specify FOK (Fill Or Kill) instructions for Market Orders (i.e., if there is not enough liquidity on the market to fill the whole Order, the whole Order is rejected).
- 4.10. Stop Orders and Market-if-Touched Orders are treated as GTC before they are triggered (i.e., they remain active until triggered or canceled by the Client). When triggered and converted to Market Orders, they are treated as IOC by default (i.e., the part of the order not filled immediately gets

canceled). Clients may specify that a Stop or a Market-if-Touched Order should behave as FOK after being triggered.

- 4.11. Stop Loss, including Trailing Stop Loss and Attempt Zero Loss Orders, and Take Profit Orders can be submitted only along with another (main) Order.
 - 4.11.1. Stop Loss and Take Profit Orders are in a suspended state when accepted and are not executed before the main Order.
 - 4.11.2. Main Order, Stop Loss, and Take Profit Orders are linked with the one-updates-the-other contingency model. When the main Order is partially filled, the Order Quantity of the two others is automatically reduced to the quantity of the fill. Note that this happens only once, and subsequent fills of the main Order do not affect the linked orders.
 - 4.11.3. Stop Loss and Take Profit orders related to a main Order are linked with the one-cancels-the-other contingency model. If one of them gets filled or partially filled, the second order is canceled by the Platform automatically.
 - 4.11.4. The one-updates-the-other and the one-cancels-the-other models ignore cancellations. If any of the linked Orders are rejected or canceled, the others are still processed as usual.
 - 4.11.5. Both the reduction of quantity and cancellation are done on a best-effort basis. If the modification or cancellation request is rejected, there are no further attempts to modify or cancel the remaining orders.
 - 4.11.6. Stop Loss and Take Profit Orders are not linked to existing positions in any way. If some position is closed, Stop Loss and Take Profit Orders are not canceled automatically.

Cancelation and Modification of Orders

- 4.12. An Order cancel request can be sent for any active (i.e., not yet completely filled, canceled, or rejected) Limit, Stop, or Market-if-Touched Order. The cancellation is done on a best-effort basis (i.e., if, at the moment the cancellation request processing begins, the Order to be canceled is no longer active, the cancellation request is rejected).
- 4.13. When an Order is canceled, the Available Balance of the Client's Account increases by the amount of the remaining Allowance of the Order.
- 4.14. Xena Exchange reserves the right to cancel active Orders of Clients before scheduled Platform maintenance windows. Such Orders will not be restored automatically after the maintenance.

5. Matching and Execution

Limit and Market Orders

- 5.1. When a new Limit or Market Order hits the Order Book, it is matched against Limit Orders in the opposite direction that are already resting in the book:
 - 5.1.1. First, resting orders are sorted by their price from best to worst (for an incoming buy Order, "better price" means a lower price, and for an incoming sell Order, it means a higher price).
 - 5.1.2. Orders with the same price are ordered by their arrival time.
 - 5.1.3. For an incoming Limit Order, only resting Orders with prices better than or equal to the incoming Order price are considered.
 - 5.1.4. Until the incoming order is filled completely, its Allowance runs out, or there are no more resting Orders in the Order Book, the incoming Order is matched with the next-best order from the Book (refer to the Appendix for exact formulae):
 - 5.1.4.1. for incoming Market and Limit Orders, the execution price equals the price of the Book Order;
 - 5.1.4.2. the execution quantity (Last Quantity) is selected as the minimum of the matched Orders' Leaves Quantity, and the Last Quantity is added to the Orders' Cumulative Quantity;
 - 5.1.4.3. the payment is calculated as the product of the Last Quantity and the chosen price;
 - 5.1.4.4. the payment is subtracted from the Orders' Allowance;
 - 5.1.4.5. if, as a result of a match, the Allowance of any Order is overspent, the Last Quantity is reduced in proportion for the Allowance to become zero, and the payment is updated accordingly; and
 - 5.1.4.6. if, as a result of a match, the Leaves Quantity of an Order becomes zero, the status of the Order becomes "Filled," and the Order is removed from the Order Book; if the Leaves Quantity remains greater than zero, the status of the Order becomes "Partially Filled," and the Order rests in the Order Book.
 - 5.1.5. When no Orders that can be matched against the incoming Order are left in the Order Book:
 - 5.1.5.1. for each of the matched Orders from the Order Book, a new Trade is booked to the Account to which the Order belongs, with the Trade price, quantity, and payment equal to the price, quantity, and payment of the match, and with the side of the Trade equal to the side of the Order;
 - 5.1.5.2. for the incoming Order, all Last Quantities and payments are summed up; the execution price (Last Price) becomes equal to the ratio between the sum of the payments and the sum of the

- quantities; a new Trade whose quantity, price, and payment as defined above is booked to the Account of the Order; the side of the Trade becomes equal to the side of the Order; the Last Price for the Instrument is set to the booked Trade price; and the Trade is reported as the Last Trade to the market;
- 5.1.5.3. if the incoming Order is a Market Order (including triggered Stop and Market-if-Touched Orders) or an IOC Limit Order and its Leaves Quantity remains greater than zero after matching with all Orders from the Book, its remnant is canceled; partially filled Limit Orders that are not IOC or FOK rest in the Order Book; and
 - 5.1.5.4. if the incoming Order was a FOK order, no Trades are booked, the Order is canceled as a whole, and the state of the Order Book remains unchanged.

Stop and Market-if-Touched Orders

- 5.2. Stop and Market-if-Touched Orders do not affect the Order Book. Xena Exchange checks the triggering conditions for these Orders upon the update of the Last Price. The Orders are triggered when:
 - 5.2.1. the Last Price becomes greater than or equal to the Stop Price of a buy Stop or sell Market-if-Touched Order; or
 - 5.2.2. the Last Price becomes lower than or equal to the Stop Price of a sell Stop or buy Market-if-Touched Order.
- 5.3. Upon being triggered, Stop and Market-if-Touched Orders are automatically converted to Market Orders and sent for execution through the Order queue, which means that other Orders received before the triggering are processed first.
 - 5.3.1. If there are several Stop or Market-if-Touched Orders with the same stop price triggered at the same time, they are placed in the Order queue in the order of receipt by Xena Exchange (Orders received first are sent for execution first).

Wash Trades

- 5.4. Wash trades are prohibited on Xena Exchange. If, during the matching process, an incoming Order is matched against a Book Order that relates to the same Account or to different Accounts of the same Client, the match will not occur, and the remaining part of the incoming Order will be canceled.

Trade Booking

- 5.5. When a new Trade is booked to an Account:
 - 5.5.1. if the Trade side is buy:

- 5.5.1.1. the Settled Balance of the Client's Account in the Base Currency of the Trade's Instrument increases by the quantity of the Trade; and
- 5.5.1.2. the Settled Balance of the Client's Account in the Quote Currency decreases by the payment of the Trade;
- 5.5.2. if the Trade side is sell:
 - 5.5.2.1. the Settled Balance of the Client's Account in the Base Currency decreases by the quantity of the trade; and
 - 5.5.2.2. the Settled Balance of the Client's Account in the Quote Currency increases by the payment of the Trade.

History

- 5.6. Xena Exchange keeps records of Order Chains (incoming Orders, cancellation requests, Order status changes) for at least seven (7) days following the receipt of the Order that began the Chain.
- 5.7. Xena Exchange keeps Trade records for at least three (3) years following the moment of the Trade booking.

6. Risk management

- 6.1. All Trades on Xena Exchange Spot are DvP (Delivery versus Payment).
- 6.2. All transactions on Xena Exchange Spot require full collateral for execution. To place an Order to give away a certain amount of some Cryptocurrency (sell a base currency or buy a currency using the quote currency of a trading pair), a Client must have this amount deposited in his or her Account. After the Order is placed, this amount is locked and cannot be withdrawn or used in other Orders. During the matching process, the Account Balance is constantly checked to ensure that the locked amount is not overspent; if, due to any reason, it is overspent, the matching process is terminated, and the remaining part of the Order is canceled.

Appendix

The formulae in this section use the following definitions:

- RoundUp is a function that rounds its first argument to the precision defined by its second argument. The rounding always happens to the next biggest value (e.g., $RoundUp(0.1, 0)$ equals 1).
- Round is a function that rounds its first argument to the precision defined by its second argument. The rounding happens by the "half up" rule (e.g., $Round(0.4, 0)$ equals 0, $Round(0.5, 0)$ equals 1).

Allowance

Order type	Side	Allowance Currency	Allowance
Market	Buy	Quote Currency	$RoundUp(\sum_{\text{until Order Quantity less than } \sum_{j < i} Volume_j} Level Price_i * Volume_i, Quote Currency Precision)$ here: <ul style="list-style-type: none"> - levels are current Asks aggregated by their Price (Level Price), sorted by ascending Level Price - volume is the sum of the Leaves Quantity of Orders grouped into a certain level
	Sell	Base Currency	Order Quantity
Limit	Buy	Quote Currency	RoundUp(Order Quantity * Order Price, Quote Currency Precision)
	Sell	Base Currency	Order Quantity
Stop	Buy	Quote Currency	0
	Sell	Base Currency	0
Market-if-Touched	Buy	Quote Currency	0
	Sell	Base Currency	0

The calculation of execution prices and payment

When an incoming Order traverses through the Order Book and is matched with Limit Orders resting in the Order Book:

1. The match price and payment is calculated for each matched order

MatchQuantity

= *RoundDown(Resting Limit Order Leaves Quantity, Incoming Order Leaves Quantity)*

If *MatchQuantity* is less than the Volume Step of the Instrument, it is reduced to zero, and the matching process ends.

$$MatchPrice_i = Resting\ Limit\ Order\ Price$$

$$NetPayment_i = RoundUp(MatchPrice_i * MatchQuantity_i, Quote\ Currency\ Precision)$$

These match prices and payments are used to book Trades on the Accounts of the resting Orders.

2. When the matching process is finished and the order is completely filled or there is no more liquidity, the total payment for the match is calculated:

$$NetPayment = \sum NetPayment_i$$

$$LastPrice = Round\left(\frac{NetPayment}{\sum MatchQuantity_i}, Quote\ Currency\ Precision\right)$$

These payments and prices are used to book the Trade for the incoming Order.