

A. Description of on-chain metrics

On-chain Metric Name	Description
bitcoin-number-of-transfers-between-exchanges-from-all-exchanges-to-all-exchanges	Represents the total number of individual transfers of Bitcoin that have taken place between different cryptocurrency exchanges
bitcoin-total-transfer-volume-within-exchanges-btc-all-exchanges	Represents the total volume of Bitcoin that has been transferred within all exchanges. Includes transfers between wallets controlled by the same exchange
bitcoin-mean-transfer-volume-from-exchanges-btc-all-exchanges	Represents the average volume of Bitcoin transferred out of all exchanges in each individual transaction
bitcoin-mean-transfer-volume-to-exchanges-btc-all-exchanges	Represents the average volume of Bitcoin transferred into all exchanges in each transaction
bitcoin-number-of-transfers-from-exchanges-all-exchanges	Shows the total number of individual Bitcoin transfers that have left all exchanges
bitcoin-number-of-transfers-to-exchanges-all-exchanges	Indicates the total number of individual Bitcoin transfers that have been sent to all exchanges
bitcoin-net-transfer-volume-from-to-exchanges-btc-all-exchanges	Shows the net volume of Bitcoin transferred to and from all exchanges. Calculated by subtracting the volume of Bitcoin sent out of exchanges from the volume of Bitcoin received by exchanges
bitcoin-total-transfer-volume-from-exchanges-btc-all-exchanges	Represents the total volume of Bitcoin that has been transferred out of all exchanges
bitcoin-total-transfer-volume-to-exchanges-btc-all-exchanges	Indicates the total volume of Bitcoin that has been transferred to all exchanges
bitcoin-exchange-net-position-change-btc-all-exchanges	Shows the net position change for all Bitcoin exchanges. Calculated by subtracting the amount of Bitcoin sent out from the amount received by all exchanges

On-chain Metric Name	Description
balance-bitfinex, balance-bitmex, balance-bitstamp, balance-bittrex, balance-coinbase, balance-coincheck, balance-kraken, balance-luno, balance-poloniex	Represent the total Bitcoin balance held by each respective exchange
bitcoin-number-of-addresses-with-a-non-zero-balance	Shows the total number of Bitcoin addresses that currently hold more than zero Bitcoin
bitcoin-number-of-addresses-with-balance-1	Represents the total number of Bitcoin addresses that currently hold exactly one Bitcoin
bitcoin-number-of-utxos-in-loss	Represents the total number of unspent transaction outputs (UTXOs) that are currently in a state of loss, meaning the current price of Bitcoin is lower than the price at the time those UTXOs were created
bitcoin-number-of-utxos-in-profit	Shows the total number of UTXOs that are in a state of profit, meaning the current price of Bitcoin is higher than the price at the time those UTXOs were created
bitcoin-percent-of-utxos-in-profit	Represents the percentage of all existing UTXOs that are currently in a state of profit
1d_1w, 1h, 1h_24h, 1m_3m, 1w_1m, 1y_2y, 2y_3y, 3m_6m, 3y_5y, 5y_7y, 6m_12m, 7y_10y, more_10y	Bitcoin spent output age bands
bitcoin-median-spent-output-lifespan-msol	Median age (in days) of all spent transaction outputs, giving an idea of how long Bitcoin typically remains unspent before being included in a new transaction
bitcoin-average-spent-output-lifespan-asol	Average age of all spent transaction outputs
bitcoin-percent-supply-in-profit	Percentage of all mined Bitcoin that is currently valued at a price higher than when it was last moved or spent

On-chain Metric Name	Description
hodl1d_1w, hodl1m_3m, hodl1w_1m, hodl1y_2y, hodl24h, hodl2y_3y, hodl3m_6m, hodl3y_5y, hodl5y_7y, hodl6m_12m, hodl7y_10y, hodlmore_10y	Metrics related to the 'HODL' behavior, indicating the distribution of Bitcoin holding time periods. For example, hodl1y_2y gives the percentage of Bitcoin that has remained unspent for a duration of 1 to 2 years
bitcoin-inflation-rate	Rate at which the supply of Bitcoin is increasing due to the mining of new blocks
bitcoin-market-cap-to-thermocap-ratio	Ratio of Bitcoin's market capitalization to thermocap can provide insights into market cycles and whether the current price is sustainable
bitcoin-aggregate-security-spend-thermocap-usd	Refers to the total USD value of block rewards and transaction fees paid to miners, which are necessary for securing the Bitcoin network
bitcoin-total-miner-revenue-from-block-rewards-btc-all-miners	Total revenue that miners have earned from block rewards, given in Bitcoin.
bitcoin-percent-miner-revenue-from-fees	Percentage of miner revenue that comes from transaction fees as opposed to block rewards.
bitcoin-total-miner-revenue-btc-all-miners	Total revenue earned by all Bitcoin miners, including both block rewards and transaction fees.
bitcoin-total-numbers-of-utxos-in-the-network	Total number of unspent transaction outputs (UTXOs) that exist in the Bitcoin network.
bitcoin-median-transfer-volume-change-adjusted-btc, bitcoin-mean-transfer-volume-change-adjusted-btc, bitcoin-total-transfer-volume-change-adjusted-btc	Metrics track changes in the volume of Bitcoin transferred. Used to spot sudden shifts in market behaviour.
bitcoin-median-transfer-volume-btc, bitcoin-mean-transfer-volume-btc, bitcoin-total-transfer-volume-btc	Represent the median, mean, and total volume of Bitcoin transferred in transactions, respectively.
bitcoin-mean-size-of-transfers	Average size (in Bitcoin) of each transaction on the network.

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bitcoin-total-size-of-transactions	Total size of all transactions made on the Bitcoin network over a specific period.
bitcoin-number-of-transactions-per-second	Number of transactions being processed on the Bitcoin network every second.
bitcoin-number-of-transactions	Total number of transactions confirmed on the Bitcoin network.
bitcoin-mean-hash-rate	Average computational power used by miners on the Bitcoin network, typically measured in hashes per second.
bitcoin-mining-difficulty	Indicates how difficult it is to solve the mathematical problem required to add a new block to the blockchain.
bitcoin-median-transaction-fees-btc, bitcoin-mean-transaction-fees-btc, bitcoin-total-transaction-fees-btc	Show the median, mean, and total transaction fees (in Bitcoin), respectively, paid by users to have their transactions processed.
bitcoin-adjusted-circulating-supply-btc, bitcoin-circulating-supply-btc	The first metric is the circulating supply of Bitcoin, adjusted for lost coins, while the second is the total number of Bitcoins in circulation, not adjusted for lost coins.
bitcoin-number-of-addresses	Total number of addresses ever used on the Bitcoin network.
bitcoin-number-of-new-addresses	Number of new Bitcoin addresses that were created.
bitcoin-number-of-receiving-addresses, bitcoin-number-of-sending-addresses, bitcoin-number-of-active-addresses	Total number of addresses receiving Bitcoin, sending Bitcoin, and active in the network (either receiving or sending), respectively.
bitcoin-reserve-risk	Metric used to assess the confidence of long-term Bitcoin holders relative to the price. It's calculated as the price divided by the HODL Bank.
bitcoin-cumulative-value-days-destroyed-cvdd	Measure of the economic activity on the Bitcoin network that also takes into account the age of coins moved.
bitcoin-balanced-price-usd	Theoretical price level based on various on-chain metrics. Aims to provide a more balanced and holistic view of the Bitcoin price, removing short term price fluctuations and speculative noise.

On-chain Metric Name	Description
bitcoin-puell-multiple	Ratio of the daily issuance value of bitcoins to the 365-day moving average of daily issuance values. Used to identify if the coin is overbought or oversold.
bitcoin-realized-hodl-ratio	Ratio between the Realised Cap HODL Waves for 1 week and 1-2 years. Can be used to examine the market cycles from a holder's perspective.
bitcoin-investor-capitalization	Variant of market cap. Values each UTXO by the price when it was last moved rather than the current market price.
bitcoin-mvrv-z-score, bitcoin-market-value-to-realized-value-ratio-mvrv	Help to identify market tops and bottoms by examining the ratio of market value to realised value (MVRV).
bitcoin-velocity	Measures how fast units of a cryptocurrency are being traded. Calculated as the ratio of the on-chain transaction volume to the network value.
bitcoin-network-value-to-transactions-signal, bitcoin-network-value-to-transactions-ratio-nvt	Assess Bitcoin's valuation relative to the transaction volume on its network.
ma111, ma350x2	Pi cycle top.
ma128, ma14, ma200, ma25, ma40, ma60, ma9, ma90	Different moving averages for Bitcoin. A moving average smooths out price data to identify trends over specific periods. The numbers represent the periods used for the averages.
bitcoin-realized-profits-to-value-rpv-ratio, bitcoin-realized-profit-loss-ratio, bitcoin-net-realized-profit-loss-usd, bitcoin-realized-loss-usd, bitcoin-realized-profit-usd	Track the profits and losses realised by Bitcoin holders, providing insight into trader behaviour and market sentiment.
hash-ribbon-buy, hash-ribbon-capitulation, hash-ribbon-crossed, hash-ma30, hash-ma60	Different indicators related to Bitcoin's hash rate and mining difficulty. They can signal miner capitulation or buying opportunities.
bitcoin-difficulty-ribbon-compression	Metric used to assess the impact of Bitcoin mining difficulty adjustments on the market.
bitcoin-seller-exhaustion-constant	Metric that assesses the level of selling activity in the Bitcoin market. High values may suggest an oversold condition, which could indicate a price reversal.

On-chain Metric Name	Description
bitcoin-relative-unrealized-loss, bitcoin-relative-unrealized-profit, bitcoin-net-unrealized-profit-loss-nupl	Provide insight into the level of profit or loss held by Bitcoin investors that has yet to be realised. The NUPL in particular is the net between unrealized profits and losses.
bitcoin-accumulation-trend-score-score	Metric can provide a measure of the accumulation (buying and holding) behaviour in the Bitcoin market. Often used to identify market cycles and periods of strong accumulation.
bitcoin-stock-to-flow-deflection, daysTillHalving, bitcoin-stock-to-flow-ratio-usd	Metrics related to the Bitcoin halving events and the stock-to-flow model. The stock-to-flow model relates Bitcoin's value to its scarcity, defined as the ratio of the total stock of Bitcoin to the flow of new production (new bitcoins entering circulation).
bitcoin-adjusted-sopr-a-sopr, bitcoin-spent-output-profit-ratio-sopr	Profitability ratios calculated by dividing the price sold by the price paid. SOPR is reset-adjusted, meaning that all outputs that are at a loss (price sold < price paid) are set to 1, which can be beneficial during bull markets.