



# Predictive Relationship: Exponential Moving Average Trading Rule

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# 1 Trading Strategy Description

Gives a buy signal when the asset price closed above the  $EMA(L)$  and gives a sell signal when the asset price closed below or lower than  $EMA(L)$ . The lookback length,  $L$ , determines how far back the rule looks.

## 2 Equation

$$EMA_t = \left( V_t * \left( \frac{S}{1+L} \right) \right) + EMA_{t-1} * \left( 1 - \frac{S}{1+L} \right) \quad (1)$$

where:

$EMA$  is exponentially weighted moving average.

$V_t$  is current stock value.

$L$  is look back length.

$S$  is the smoothing factor.

## 3 Rule Parameters

Below is a table summarizing the parameters specific to this trading rule.

Parameter Name	Default Value	Description	Symbol
Window size	50	This is the number of time steps over which exponential contributions are sourced.	$L$
Smoothing Factor	2	Smoothing factor represents the weighting applied to the most recent period's value.	$S$

## 4 Glossary

- **Bullish:** Positive outlook on the market. Expectation of positive returns.
- **Bearish:** Negative outlook on the market. Expectation of negative returns.
- **Allocation:** The allocation is the fractional amount of the portfolios value used to determine the size of the trading position.
- **Parameter:** Value used by the trading rule in the calculation for trading position
- **Trading Rule:** Strategy to determine when to buy, hold or sell a position.

## Further Links

1. InferTrade: <https://www.infertrade.com>
2. Privacy Policy/Legal notice: <https://www.infertrade.com/privacy-policy>
3. InferStat Ltd: <https://www.inferstat.com>