



## Trading Rule: Differential Moving Average Momentum

### 0.1 Rule Description

This trading rule takes the slope, or derivative or momentum of two different price moving averages and subtracts one slope from the other to determine position size. The parameters accepted are the momentum length, the lookback length of the short moving average and the lookback length of the long moving average.

This rule only uses the price series but can be expanded to include research.

### 0.2 Rule Parameters

Parameter Name	Default Value	Description	Symbol
Short price average length	20	Number of days in the short price average.	$L_1^p$
Long price average length	100	Number of additional days in the longer price average (added to the number in the short price average).	$L_2^p$
Moving average momentum length	5	Number of days in the moving average slope calculation.	$M^p$

### 0.3 Equation

$$\Lambda(L_1, p) = \frac{1}{L_1} \sum_{n=0}^{L_1} p_n \quad (1)$$

$$\Lambda(L_2, p) = \frac{1}{L_2} \sum_{n=0}^{L_2} p_n \quad (2)$$

$$\Lambda(\Lambda(L_1, p), M^p, t) = \frac{(\Lambda(L_1, p)(t) - \Lambda(L_1, p)(t - M^p))}{M^p} \quad (3)$$

$$\Lambda(\Lambda(L_2, p), M^p, t) = \frac{(\Lambda(L_2, p)(t) - \Lambda(L_2, p)(t - M^p))}{M^p} \quad (4)$$

$$z(t) = \Lambda(\Lambda(L_1, p), M^p, t) - \Lambda(\Lambda(L_2, p), M^p, t) \quad (5)$$

where  $z_t$  is the portfolio allocation at time  $t$  and  $p = p(t)$  is the value of the price series.

### 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>