MOVING AVERAGE CONVERGENCE DIVERGENCE (MACD)

The moving average convergence divergence (MACD) is a trend following momentum indicator and it is a lagging indicator that can show you when trading momentum changes from being bullish to bearish and from being bearish to bullish. The MACD also tells when traders are becoming overextended, which usually results in a trend reversal.

Moving Average Convergence Divergence (MACD) is the difference between a fast and a slow exponential moving average. Typically, 12 and 26 days EMAs are used. MACD is the difference between the values of these two EMAs. A signal line is formed by calculating the EMA (typically 9day) of the MACD. The difference between MACD and the signal line is calculated and plotted as a histogram.

Calculations:

MACD is calculated as -

$$MACD = EMA(12) - EMA(26)$$

The Signal line is plotted as -

$$Signal\ line = EMA(MACD, 9)$$

And the histogram is plotted as -

$$Histogram = MACD - Signal\ Line$$

When to use…

The most common signal is MACD crossing over the signal line. A buy signal is generated when MACD crosses above the signal line, whereas a sell signal is generated when it crosses down through the signal line. Since the histogram is the difference between the MACD and the signal line, it helps you identifying this crossover. Buy/Sell signals are also generated by divergences (A divergence is said to exist if the price and the indicator moves in opposite direction). A positive divergence arises when the price makes a low or moves sideways, but the MACD move in upward direction. You can change the settings of MACD as per the set of moving average combination that you want to use.