

Crystal EMA Cross

A Pro Tool for Smart Trades

A gift from Crystal AI Systems to every trader

The complete manual for the Crystal EMA Cross Expert Advisor. Every setting explained, every dashboard value decoded, every filter illustrated - plus ready presets, trading playbooks, a Strategy Tester workflow and answers to the questions traders actually ask.



Product Crystal EMA Cross for MetaTrader 5 · **Price** Free

Publisher Crystal AI Systems

Covers Signals · Filters · Trade Management · Risk · Dashboard · Presets

MQL5 mql5.com/en/users/jawadtrader22/seller

Contents

01	Welcome	What the EA does, what it is not, who it is for
02	What is New in Version 3.00	Everything added since version 2.10
03	Installation and First Run	Install, permissions, five-minute setup, first look
04	How the Engine Works	Bar-close signals, flip exit, the entry gate, skipped signals
05	Strategy and MA Settings	Mode, entry timeframe, direction, periods and MA types
06	Lot and Risk Settings	Fixed lot, risk %, SL/TP, pips, spread, slippage, magic
07	Breakeven and Trailing Stop	ATR mode vs fixed pips, every multiplier explained
08	Time Filter	Two sessions in broker server time, overnight windows
09	Trading Days and HTF Trend Filter	Weekday switches, higher-timeframe confirmation
10	Daily Limits	Daily loss lock and profit target in % of balance
11	Alerts	Popup, push and email - setup, messages, timing
12	The Dashboard	Every value decoded, status states, show / hide
13	Chart Arrows and Theme	Entry and skipped arrows, Crystal chart theme
14	Trading Playbooks	Four complete ways to run the EA
15	Recommended Presets	Starting settings per trading style and market
16	Strategy Tester and Optimisation	Backtest correctly, optimise without curve fitting
17	Technical Notes	Performance, account types, multiple instances
18	Troubleshooting	Symptom, cause, fix
19	Frequently Asked Questions	The questions traders actually ask
20	Glossary	Every term used in this guide
21	Version History, Support and Disclaimer	Changelog and how to get help

IF YOU ONLY HAVE TEN MINUTES

- **Chapter 3** - install the EA and run the five-minute setup.
- **Chapter 8** - set Session 1 to the hours you really want to trade (broker server time).
- **Chapter 12** - learn to read the dashboard, especially the status pill and the Skip line.
- **Chapter 15** - pick a preset that matches your style and test it on a demo account.

Welcome

Crystal EMA Cross is a fully automated Expert Advisor for MetaTrader 5 that trades the moving-average crossover - one of the most widely used trend-following methods - with the discipline of a professional trading desk. It is offered **free of charge** by Crystal AI Systems as a gift to the trading community: a complete, well-engineered tool you can learn from, test and run.

The EA waits for a cross on a **closed bar**, closes any opposite trade, checks your trading hours, trading days, higher-timeframe trend, daily limits and spread, and only then opens a new trade. Once a trade is open it is managed on every tick with ATR-based Breakeven and Trailing Stop.

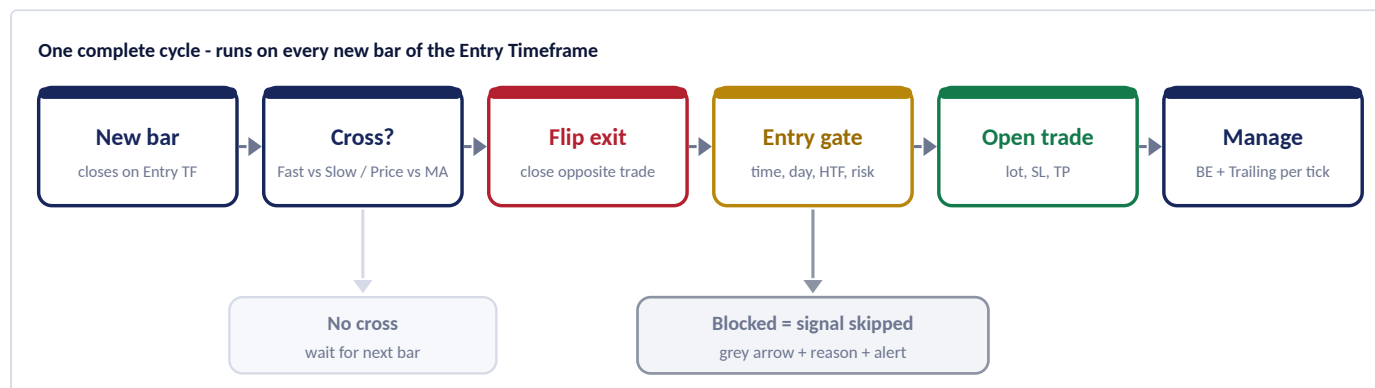


Figure 1.1 - The complete signal-to-management cycle. Every block is configurable.

What it is - and what it is not

Crystal EMA Cross IS	Crystal EMA Cross is NOT
A rule-based trend-following EA built on MA crossovers	A grid, martingale or averaging system
One position per direction, with optional SL / TP	A tool that adds to losing trades
Fully transparent: every entry and skip is shown on chart	A black box that hides why it traded
Configurable to your session, risk and timeframe	A promise of profit - no EA can make one

Who it is for

Trend traders

Catch the move after the crossover and let the trailing stop ride it.

Session traders

Trade only London, only New York or any custom window.

Busy traders

Hand the screen time to the EA - signals, exits and stops run by themselves.

Learners and testers

A clean, filtered strategy to study in the Strategy Tester.

What is New in Version 3.00

Version 3.00 is a complete rebuild of the trade engine and the visual layer. The core crossover logic is unchanged, so results you know from version 2.10 remain comparable - everything around it is new.

Area	Version 2.10	Version 3.00
Dashboard	Simple text labels	Glowing 3D canvas dashboard, click header to show / hide
Time control	None	Two trading sessions in broker server time, overnight supported
Trading days	None	Monday to Sunday switches
Trend confirmation	None	HTF filter: Single EMA or EMA Cross on a higher timeframe
Trade management	Trailing in pips only	ATR or pips: Breakeven + Lock and Trailing Stop
Position sizing	Fixed lot	Fixed lot or Risk % of balance
Risk control	Spread filter	Daily max loss %, daily profit target %, spread, margin check
Cross MA type	EMA only	SMA, EMA, SMMA or LWMA for both modes
Transparency	Last signal only	Skipped-signal reason, grey arrows, alerts for skips
Alerts	None	Popup, push notification and email
Exit safety	Single close attempt	Failed closes are retried, no entry until the exit is done
Chart theme	Changed permanently	Optional, kept across timeframe changes, restored on removal
Broker safety	Basic	Session-aware market check, stop and freeze level guards

KEY POINT

Your old v2.10 settings map directly: Strategy Mode, Entry Timeframe, Trade Direction, periods, lot, SL, TP, magic number and spread are unchanged. To reproduce v2.10 exactly, set Enable Time Filter = false, Enable HTF Filter = false and BE / Trailing Distance Mode = Fixed Pips.

Defaults at a glance

Group	Default behaviour
Strategy	EMA Cross 21 / 50 on M5, both directions
Lot and Risk	Fixed 0.10 lot, no SL, no TP, no spread limit
Breakeven / Trailing	ATR(14) mode - Breakeven OFF, Trailing ON (start 1.5 ATR, distance 1.0 ATR)
Time Filter	ON - Session 1 14:15 to 21:50 server time, Session 2 OFF
HTF Filter	ON - H1, price vs EMA 50
Daily Limits / Day Filter	OFF
Visual	Dashboard, arrows and Crystal theme ON, popup alerts ON

Installation and First Run

Installing from the MQL5 Market

- 1 Open MetaTrader 5 and log in to your MQL5 account (Tools > Options > Community).
- 2 Open the **Market** tab in the Toolbox, search for **Crystal EMA Cross** and click **Download** (free).
- 3 The EA appears in the Navigator under **Expert Advisors > Market**.
- 4 Enable **Algo Trading** on the main toolbar (the button must be green).
- 5 Drag the EA onto a chart of the symbol you want to trade, open the **Common** tab and tick **Allow Algo Trading**, review the **Inputs** tab, then press OK.

NOTE

The chart timeframe does not need to match the Entry Timeframe. The EA reads the Entry Timeframe internally, so you can watch an M1 chart while it trades M5 signals.

Five-minute setup

Step	Setting	What to do
1	Entry Timeframe	Choose the timeframe your signals come from (M5 by default)
2	Session 1 Start / End	Enter your trading hours in broker server time (see chapter 8)
3	HTF Timeframe	Keep H1 for M5 / M15 entries, use H4 for H1 entries
4	Lot Mode	Keep Fixed Lot to start; switch to Risk % once you set a Stop Loss
5	Magic Number	Use a different number for every chart running this EA

What you see after attaching

Element	Where	Purpose
Dashboard	Top-left corner	Status, trend, P/L, position, filters, stats and signals
EA name and icon	Top-right corner	MT5 shows the EA is attached; a blue icon means algo trading is allowed
Crystal theme	Whole chart	Dark navy background, blue / grey candles, soft bid line
Signal arrows	On candles	Green / red for entries, grey for skipped signals

WARNING

If the corner icon shows a red sign or the EA does not trade at all, Algo Trading is disabled - either the toolbar button is off or the Allow Algo Trading box in the EA properties is not ticked.

Terminal permissions

Option (Tools > Options > Expert Advisors)	Needed?	Why
Allow algorithmic trading	Yes	Without it no orders can be sent
Allow DLL imports	No	The EA uses no DLLs
Allow WebRequest for listed URL	No	The EA makes no web requests
Disable algo trading when the account changes	Your choice	Safety feature of MT5

Changing timeframe or symbol

Switching the chart timeframe keeps the dashboard and the chart theme in place - there is no flicker and no reset. The EA re-reads its inputs and continues. Open positions are not touched. Switching the **symbol** of the chart makes the EA trade the new symbol, so only do that intentionally.

Changing inputs while a trade is open

Press F7 on the chart, change the inputs and press OK. Open trades keep running and are managed with the new Breakeven / Trailing values from the next tick. Trades are identified by **Magic Number** and symbol: if you change the magic number, the EA no longer recognises trades opened with the old number.

WARNING

Never change the Magic Number while the EA has an open trade. The old trade would be left unmanaged - no trailing, no flip exit.

Removing the EA

- Right-click the chart > Expert List > Remove, or drag another EA onto the chart.
- The dashboard and all signal arrows are deleted automatically.
- Your original chart colours (background, candles, grid, bid / ask lines) are **restored exactly**.
- Open positions are **not** closed - manage them manually or re-attach the EA with the same magic number.

Recommended first session

- 1 Run the EA on a **demo account** with default settings for at least one full week.
- 2 Watch the status pill: it should read WAITING outside your session and SCANNING inside it.
- 3 Check every grey arrow - the tooltip explains why that signal was skipped.
- 4 Run the same period in the Strategy Tester (chapter 16) and compare the behaviour.
- 5 Only then move to live trading with a small lot or 0.5 - 1% risk.

How the Engine Works

The EA follows one simple principle: **decide on closed bars, manage on every tick**. Signals are taken only when a bar of the Entry Timeframe has closed, so a signal can never appear and disappear (no repainting). Breakeven and trailing, on the other hand, react to every price change.



Figure 4.1 - Signal timing. The cross is confirmed when bar N closes; the EA acts on the first tick of bar N+1.

Mode 1 - MA Cross (Fast / Slow)

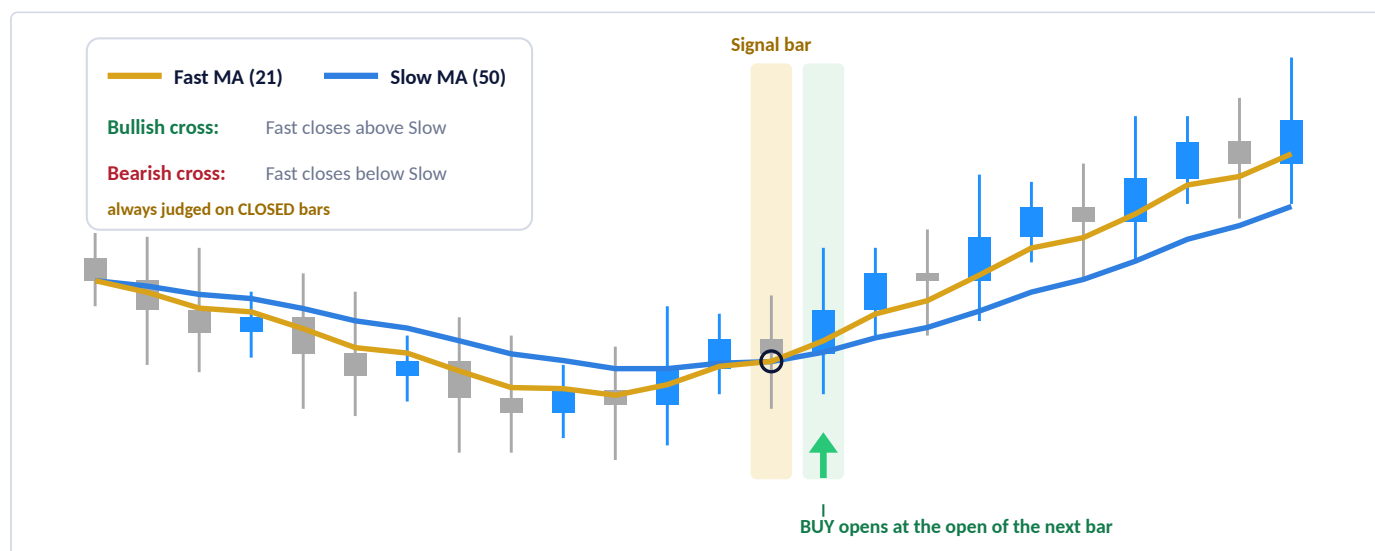


Figure 4.2 - Bullish crossover: the Fast MA closes above the Slow MA and the BUY opens on the next bar.

Signal	Condition on closed bars
BUY	Previous bar: Fast <= Slow, and last closed bar: Fast > Slow
SELL	Previous bar: Fast >= Slow, and last closed bar: Fast < Slow

Mode 2 - Single MA (Price vs MA)

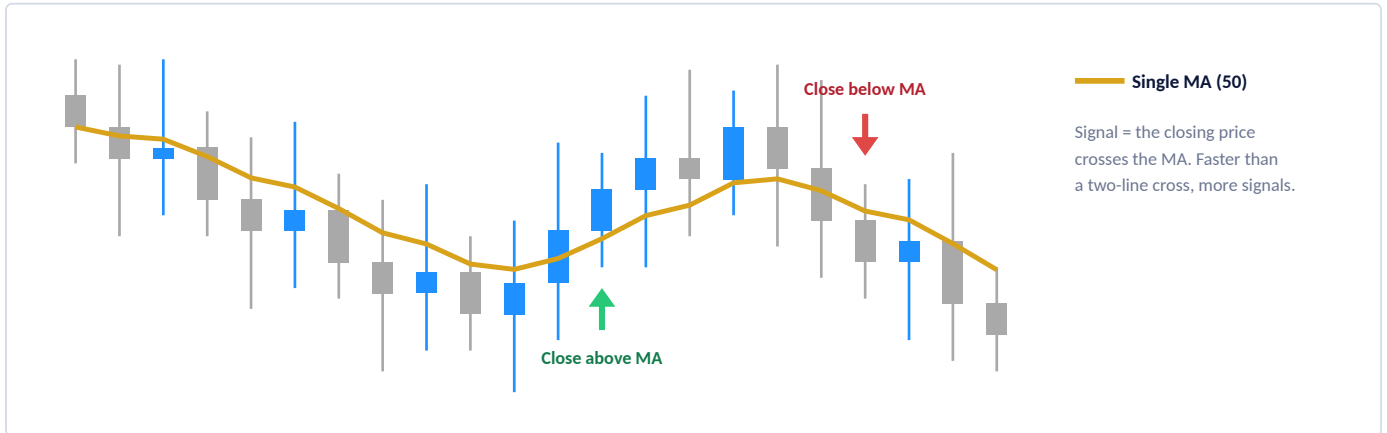


Figure 4.3 - Single MA mode: a signal fires when the closing price crosses the moving average.

Single MA mode reacts faster than a two-line cross because price moves before any average does. It produces more signals - more opportunities and more false starts - so it pairs well with the HTF filter and a session.

The flip exit

Every new signal first **closes the opposite trade**. A bullish cross closes running SELL positions, a bearish cross closes running BUY positions. This happens before any filter is checked, because filters exist to protect new entries - never to trap you inside a trade that the strategy has already exited.

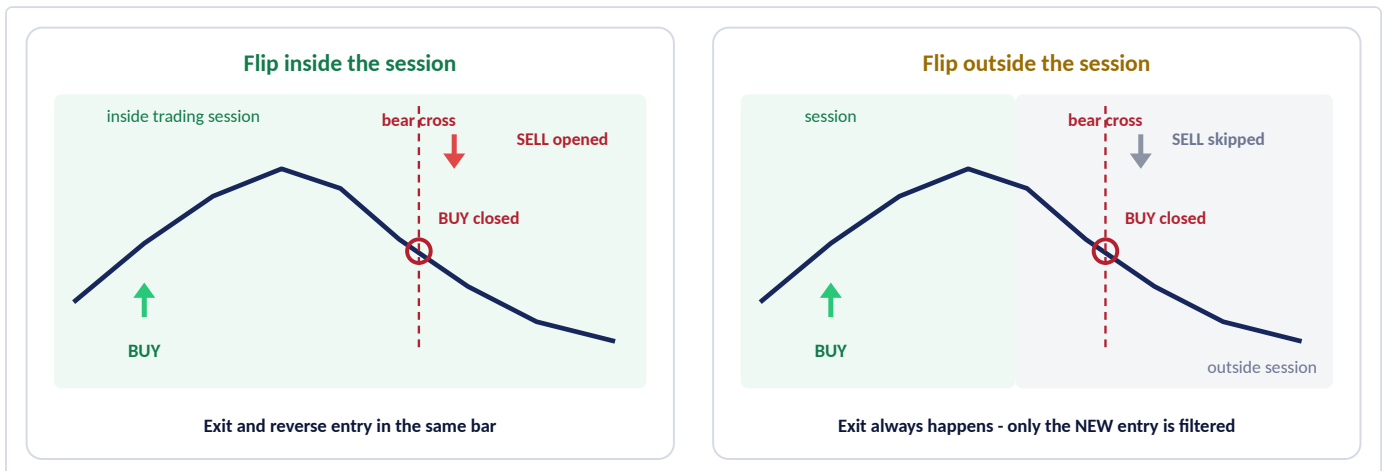


Figure 4.4 - The flip exit always runs. Outside the session the opposite trade is still closed, but no new trade opens.

Situation	What the EA does
Bear cross, BUY open, inside session, all filters OK	Closes the BUY and opens a SELL
Bear cross, BUY open, outside session	Closes the BUY - the SELL is skipped (grey arrow)
Bear cross, Trade Direction = Buy only	Closes the BUY - no SELL, because sells are disabled
Bull cross, a BUY is already open	Nothing - one position per direction
Close order rejected by the broker	Retries every 5 seconds; new entry skipped as "Close failed"

The entry gate

After the exit, a new trade must pass seven checks, in this order. The first failing check becomes the **skip reason** shown on the dashboard, in the arrow tooltip and in the alert.

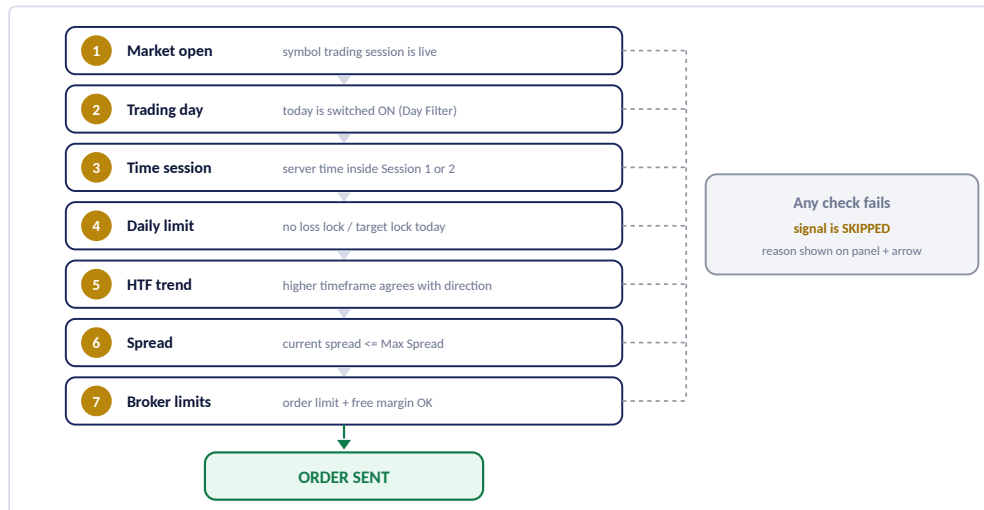


Figure 4.5 - The entry gate. A signal has to pass every check; the first failure is reported as the reason.

Skip reasons

Reason shown	Meaning	What to check
Market closed	The symbol's trading session is closed	Rollover, weekend, holiday
Day off	Today is switched off in the Day Filter	Trading Days group
Outside session	Server time is outside Session 1 and 2	Time Filter group, broker clock
Daily loss hit / Daily target hit	A daily limit locked new entries today	Daily Limits group
HTF against	The higher timeframe points the other way (or is flat)	HTF Trend Filter group
Spread high	Spread is above Max Spread	Max Spread pips, news times
Max orders	Broker limit on number of orders reached	Other EAs / pending orders
No margin	Free margin too small for the lot	Lot size, leverage, open trades
Close failed / Order failed	Broker rejected the request	Experts tab for the retcode

KEY POINT

Trade Direction is a setting, not a filter. A SELL signal on a Buy-only EA is simply ignored - it is not reported as skipped and gets no grey arrow.

Strategy and MA Settings

Strategy group

Setting	Default	What it does
Strategy Mode	EMA Cross (Fast / Slow)	Two-line crossover or Single MA (price vs MA)
Entry Timeframe	M5	The timeframe whose closed bars produce the signals
Trade Direction	Both Ways	Both, Only Buy or Only Sell

Strategy Mode

Value	Effect	When to use it
EMA Cross (Fast / Slow)	Signal when Fast MA crosses Slow MA	Default. Cleaner trends, fewer whipsaws
Single MA - Price vs MA	Signal when price closes across one MA	Faster entries, momentum and breakout traders

Entry Timeframe

Value	Character	Typical holding time
M1 - M5	Many signals, more noise, spread matters	Minutes to a few hours
M15 - M30	Balanced, good with sessions	Hours
H1 - H4	Fewer, stronger signals	Hours to days
D1	Very few signals, long trends	Days to weeks

NOTE

PERIOD_CURRENT (current) is allowed and means 'the chart timeframe'. If you use it, changing the chart timeframe changes the strategy - choose a fixed timeframe to avoid surprises.

Trade Direction

Value	Effect	When to use it
Both Ways	Buys and sells	Default, neutral markets
Only Buy	Sells never open; bear crosses still close buys	Strong uptrends, Gold or index bias, stocks
Only Sell	Buys never open; bull crosses still close sells	Strong downtrends

EMA Cross settings (Mode 1)

Setting	Default	What it does
Fast MA Period	21	Period of the fast line - must be lower than Slow
Slow MA Period	50	Period of the slow line
Cross MA Type	EMA	Averaging method used for both lines

These inputs are used only when Strategy Mode = EMA Cross. In Single MA mode they are ignored.

Popular period pairs

Fast / Slow	Character	Good for
9 / 21	Very responsive, many signals	M1 - M5 scalping with a strong session filter
12 / 26	Responsive, classic MACD lengths	M5 - M15 intraday
21 / 50	Balanced (default)	M5 - H1, all-round trend following
50 / 100	Slow, filters noise	H1 - H4 swing trading
50 / 200	The classic golden / death cross	H4 - D1 position trading

Single MA settings (Mode 2)

Setting	Default	What it does
MA Period	50	Period of the single moving average
MA Type	EMA	Averaging method of the single MA

Used only when Strategy Mode = Single MA. A shorter period gives more signals; 20 - 50 is the common range.

Choosing the MA type

Type	How it weights prices	Behaviour
SMA - Simple	All bars equal	Smooth, slowest, fewest crosses
EMA - Exponential	Recent bars weighted more	Fast and smooth - the standard choice
SMMA - Smoothed	Very long memory	Slowest of all, very few signals
LWMA - Linear Weighted	Linear weight to recent bars	Fastest reaction, most signals

KEY POINT

Change one thing at a time. If you move from EMA to LWMA, keep the periods the same and compare in the tester; changing type and periods together makes it impossible to know which change helped.

Lot and Risk Settings

Setting	Default	What it does
Lot Mode	Fixed Lot	Fixed Lot or Risk % of Balance
Fixed Lot Size	0.10	Lot used in Fixed mode - and as fallback in Risk mode when SL = 0
Risk % of Balance (needs SL)	1.0	Percent of balance risked per trade in Risk mode
Stop Loss pips (0 = disabled)	0	Initial stop loss distance
Take Profit pips (0 = disabled)	0	Initial take profit distance
Magic Number	212050	Identifies this EA's trades
Max Spread pips (0 = no filter)	0	Blocks new entries when the spread is wider
Max Slippage (points)	10	Maximum allowed price deviation when an order is filled

Risk % lot sizing

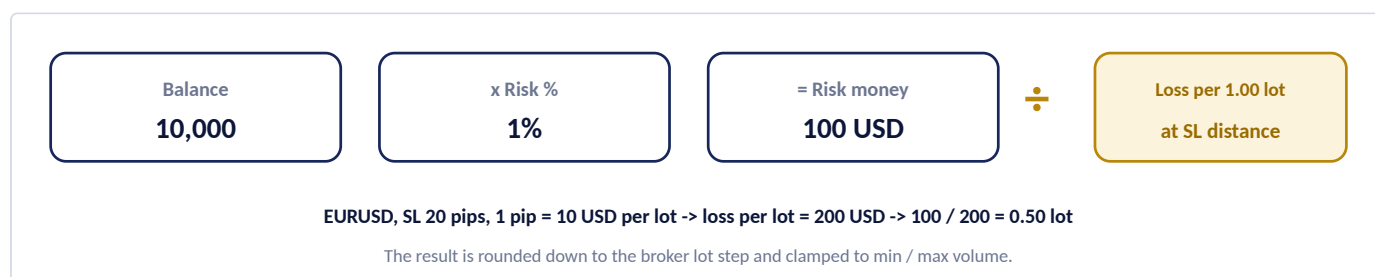


Figure 6.1 - How the Risk % lot is calculated.

The calculation uses the broker's own tick value, so it is correct for Forex, metals, indices and crypto without any manual adjustment. The lot is rounded down to the broker's lot step and clamped to the minimum and maximum volume. Before every order the EA also checks free margin.

WARNING

Risk % needs a Stop Loss. With Stop Loss pips = 0 the EA cannot know how much a trade risks, so it falls back to Fixed Lot Size and the dashboard shows the lot in amber with 'SL=0'.

Value of Risk %	Effect	When to use it
0.25 - 0.5	Very conservative	New strategies, live testing, prop-firm challenges
1.0	Common professional standard	Default for most accounts
2.0+	Aggressive - drawdowns grow fast	Only with a long, tested track record

What is a "pip" in this EA?

All pip inputs (Stop Loss, Take Profit, Max Spread, Breakeven and Trailing in pips mode) use the EA's own pip definition, based on the number of digits the symbol is quoted with:

Digits	Example	1 pip =	Note
5 or 3	EURUSD 1.08452 / USDJPY 151.234	10 points (0.0001 / 0.01)	Standard Forex
4 (price under 200)	EURUSD 1.0845	10 points	Old 4-digit quotes
4 (price 200 - 5000)	Some indices	0.1	Index CFDs
4 (price over 5000)	Some indices	1.0	Large index CFDs
2	XAUUSD 2345.67 / ETHUSD 2675.70	0.01 (1 point)	Gold, crypto, many CFDs
1 / 0	Indices like 18250.5 / 39000	0.1 / 1.0	Index CFDs

NOTE

This is why the dashboard can show a spread of '250' on crypto or '25' on Gold: on a 2-digit symbol one pip is one point (0.01). It is the same spread your broker shows in points. In ATR mode you never have to think about this - see chapter 7.

Stop Loss and Take Profit

Both are optional. If a value is smaller than the broker's minimum stop distance, the EA automatically widens it to the minimum allowed, so the order is never rejected for "invalid stops". With SL = 0 and TP = 0 the trade is closed by the opposite crossover (flip exit) or by Breakeven / Trailing.

Magic Number

Each trade carries the magic number. The EA manages, counts and closes **only** trades that match both its magic number and the chart symbol. Running the EA on EURUSD and GBPUSD with the same magic is fine (different symbols). Running two copies on the **same symbol** requires two different magic numbers.

Max Spread and Slippage

Setting	Typical values	Comment
Max Spread (EURUSD)	1.5 - 3 pips	Blocks entries during news and rollover
Max Spread (XAUUSD 2-digit)	35 - 60 pips	1 pip = 0.01 on most Gold symbols
Max Spread (crypto)	Check your broker	Spreads vary widely between brokers
Max Slippage	10 - 30 points	Raise it if you see requotes on fast markets

KEY POINT

Max Spread only blocks new entries. Exits, breakeven and trailing always run, whatever the spread is.

Breakeven and Trailing Stop

Trade management runs on every tick for every position of this EA. In one pass the EA calculates the best new stop from Breakeven and Trailing and sends a single modification, only if it improves the stop.

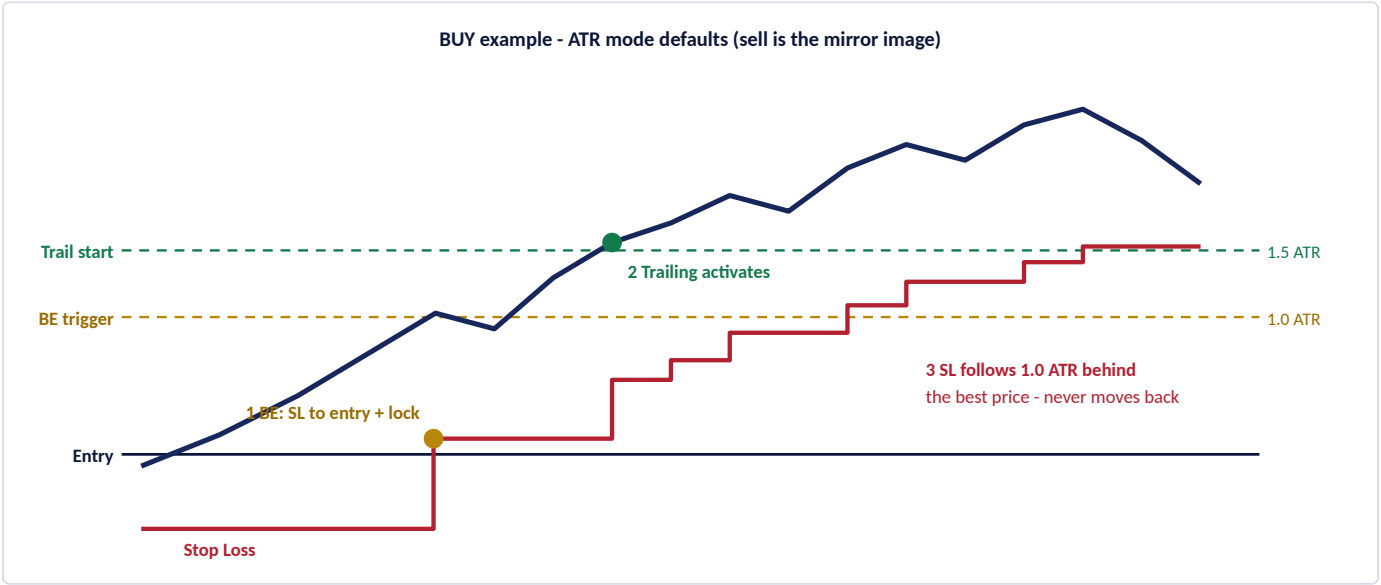


Figure 7.1 - Breakeven moves the stop to entry plus a lock; trailing then follows the best price.

Mode group

Setting	Default	What it does
BE / Trailing Distance Mode	ATR Based	ATR Based (universal) or Fixed Pips
ATR Period (Entry TF, closed bar)	14	ATR length, read from the last closed bar of the Entry Timeframe

Mode	Distances are measured in	Best for
ATR Based (default)	Multiples of the Average True Range	Any symbol - one setup fits Forex, Gold, indices, crypto
Fixed Pips	Pips (see chapter 6 for the pip definition)	Traders who want exact, fixed distances

Why ATR? ATR measures how far the market typically moves per bar. A trailing distance of 1.0 ATR is tight on a quiet day and automatically wider on a volatile day - and it is equally sensible on EURUSD, on Gold and on Bitcoin. A fixed 150-pip distance cannot do that.

Breakeven group

Setting	Default	Mode	What it does
Enable Breakeven	false	both	Turns breakeven on or off
BE Trigger (x ATR)	1.0	ATR	Profit needed before the stop moves
BE Lock (x ATR)	0.1	ATR	How far beyond entry the stop is placed
BE Trigger (pips)	100	Pips	Same as above, in pips
BE Lock (pips)	10	Pips	Same as above, in pips

Trailing Stop group

Setting	Default	Mode	What it does
Enable Trailing Stop	true	both	Turns trailing on or off
Trail Activate (x ATR)	1.5	ATR	Profit needed before trailing starts
Trail Distance (x ATR)	1.0	ATR	Distance kept between price and stop
Trail Activate (pips)	250	Pips	Same as above, in pips
Trail Distance (pips)	150	Pips	Same as above, in pips

WARNING

Only the inputs of the selected mode are used. If the mode is ATR Based, changing the pips values has no effect - and the other way round. This is the most common 'it does nothing' report.

Choosing the multipliers

Style	BE Trigger / Lock	Trail Activate / Distance	Effect
Tight	0.7 / 0.1	1.0 / 0.7	Protects quickly, exits early in pullbacks
Balanced (default)	1.0 / 0.1	1.5 / 1.0	Lets normal pullbacks breathe
Wide - trend riding	1.5 / 0.2	2.5 / 1.8	Stays in long trends, gives back more

Rules the EA follows

- The stop only ever moves **in your favour** - never back.
- Trailing moves the stop in steps of at least one pip, to avoid flooding the broker with tiny modifications.
- The new stop must respect the broker's minimum stop distance and freeze level; if it cannot, the EA waits.
- No modification is sent while the market is closed (rollover, weekend).
- In ATR mode nothing moves until the ATR value is available (normally on the first tick).
- Breakeven and trailing work with or without an initial Stop Loss.

KEY POINT

Breakeven is OFF by default. Turning it on with the balanced values (1.0 / 0.1) is a good first improvement for most traders: once a trade is 1 ATR in profit its stop sits beyond entry, so it can no longer turn into a loss - except through gaps, slippage, swap or commission.

Time Filter

The time filter decides **when new trades may open**. Exits, breakeven and trailing are never affected. All times are **broker server time** - the time shown in the Market Watch window and on the dashboard footer - not your local time.

Setting	Default	What it does
Enable Time Filter (new entries only)	true	Master switch for both sessions
Session 1 Enable	true	Use Session 1
Session 1 Start (HH:MM)	14:15	Start of Session 1 (server time)
Session 1 End (HH:MM)	21:50	End of Session 1 (server time)
Session 2 Enable	false	Use Session 2
Session 2 Start (HH:MM)	03:00	Start of Session 2 (server time)
Session 2 End (HH:MM)	06:00	End of Session 2 (server time)

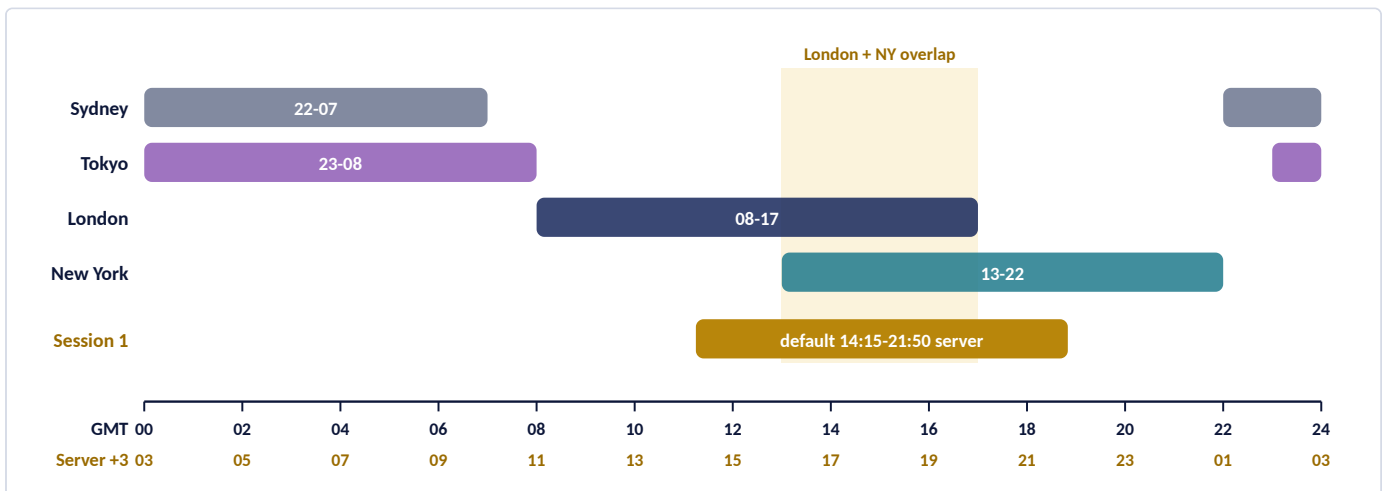


Figure 8.1 - The four global Forex sessions in GMT, and the same hours on a GMT+3 server. The default Session 1 covers the London afternoon and the London / New York overlap.

Market hours in the figure follow the commonly used Forex session map (Sydney 22-07, Tokyo 23-08, London 08-17, New York 13-22 GMT). Exact hours move by one hour when daylight saving time changes.

Finding your broker's server time

- 1 Look at the time in the **Market Watch** header or at the **Server** clock on the dashboard footer.
- 2 Compare it with GMT (or your local time) right now. The difference is your broker's offset.
- 3 Many brokers use **GMT+2 in winter and GMT+3 in summer**, so that the daily candle closes at 17:00 New York time.
- 4 Convert the session you want into server time and enter it.

You want to trade	GMT	Server GMT+2	Server GMT+3
London open to close	08:00 - 17:00	10:00 - 19:00	11:00 - 20:00
New York session	13:00 - 22:00	15:00 - 00:00	16:00 - 01:00
London / New York overlap	13:00 - 17:00	15:00 - 19:00	16:00 - 20:00
Tokyo session	23:00 - 08:00	01:00 - 10:00	02:00 - 11:00

NOTE

Your broker switches its offset when daylight saving time changes. Check your session times twice a year (March and October / November).

Overnight sessions



Figure 8.2 - When Start is later than End, the window wraps past midnight.

Rules and examples

Start / End	Meaning
14:15 / 21:50	Normal window: from 14:15 up to 21:49
22:00 / 03:00	Overnight window: 22:00 to 02:59
00:00 / 00:00	Start equal to End = the whole day
9:30 / 17:5	Single digits are accepted: 09:30 to 17:05
25:00 or 14.30	Invalid - the EA refuses to start and says so in the Experts tab

Behaviour	Detail
Both sessions ON	A trade may open if the time is inside Session 1 OR Session 2
Signal outside the window	Skipped (not delayed): grey arrow and reason 'Outside session'
Dashboard	Shows INSIDE with 'ends in', or OUTSIDE with 'opens in'
Master switch ON, both sessions OFF	Not allowed - the EA asks you to enable a session

Trading Days and HTF Trend Filter

Trading Days

Setting	Default	What it does
Enable Day Filter	false	Master switch for the weekday switches
Monday ... Sunday	true	false = no new trades on that weekday (server time)

Typical use	Switch off	Why
Avoid the weekly open	Monday	Gaps and thin liquidity after the weekend
Avoid weekend risk	Friday	Trades opened late Friday are exposed to Monday gaps
Crypto, weekdays only	Saturday, Sunday	Lower liquidity, wider spreads at the weekend
Crypto, 7 days	nothing	Crypto CFDs often trade every day

NOTE

Weekdays follow server time. On a GMT+2 / GMT+3 broker the Forex week opens on Monday 00:00 server time, so the Sunday switch normally matters only for symbols that trade at the weekend, such as crypto.

HTF Trend Filter

Setting	Default	What it does
Enable HTF Filter	true	Only trade in the direction of the higher timeframe
HTF Timeframe (must be > Entry TF)	H1	The confirming timeframe
HTF Method	Single EMA (Price vs EMA)	Single EMA or EMA Cross
Single EMA Period	50	Used by Single EMA method
EMA Cross Fast Period	21	Used by EMA Cross method
EMA Cross Slow Period	50	Used by EMA Cross method



Figure 9.1 - With a bullish H1 bias only BUY signals are taken; with a bearish bias only SELL signals.

HTF methods compared

Method	BULL when	BEAR when	Best for
Single EMA (default)	HTF close above the EMA	HTF close below the EMA	Clear, simple trend bias
EMA Cross	HTF Fast EMA above Slow EMA	HTF Fast EMA below Slow EMA	Stronger, slower confirmation

The bias is read from the **last closed HTF bar**, so it cannot repaint and it changes at most once per HTF bar. If the close sits exactly on the EMA, or the two EMAs are equal, the bias is **WAIT** and new entries in both directions are skipped with the reason "HTF against".

Pairing the timeframes

Entry Timeframe	Recommended HTF	Ratio
M1	M15 or M30	15 - 30x
M5 (default)	H1 (default)	12x
M15	H1 or H4	4 - 16x
M30	H4	8x
H1	H4 or D1	4 - 24x
H4	D1 or W1	6 - 42x

KEY POINT

A ratio between 4x and 16x works best. Too close (M5 with M15) and the HTF repeats the entry signal; too far (M5 with D1) and the HTF bias almost never changes.

Automatic switch-off

If the HTF Timeframe is **equal to or lower than** the Entry Timeframe, the filter cannot add information. The EA then switches the HTF filter off automatically, prints a message in the **Experts** tab and shows **AUTO-OFF** on the dashboard. Everything else keeps working.

Dashboard shows	Meaning
OFF	Enable HTF Filter = false
AUTO-OFF	HTF timeframe is not higher than the Entry Timeframe
H1 ▲ BULL	Only BUY entries allowed
H1 ▼ BEAR	Only SELL entries allowed
H1 WAIT	No bias (equal values or HTF history still loading) - no entries

NOTE

Exits are never filtered by the HTF. If the HTF turns bearish while you hold a BUY, the BUY stays open until the entry timeframe produces a bearish cross, or the stop / trailing closes it.

Daily Limits

Setting	Default	What it does
Enable Daily Limits	false	Master switch
Daily Max Loss % (0 = off)	3.0	Stop new entries when the day's P/L reaches minus this %
Daily Profit Target % (0 = off)	5.0	Stop new entries when the day's P/L reaches plus this %

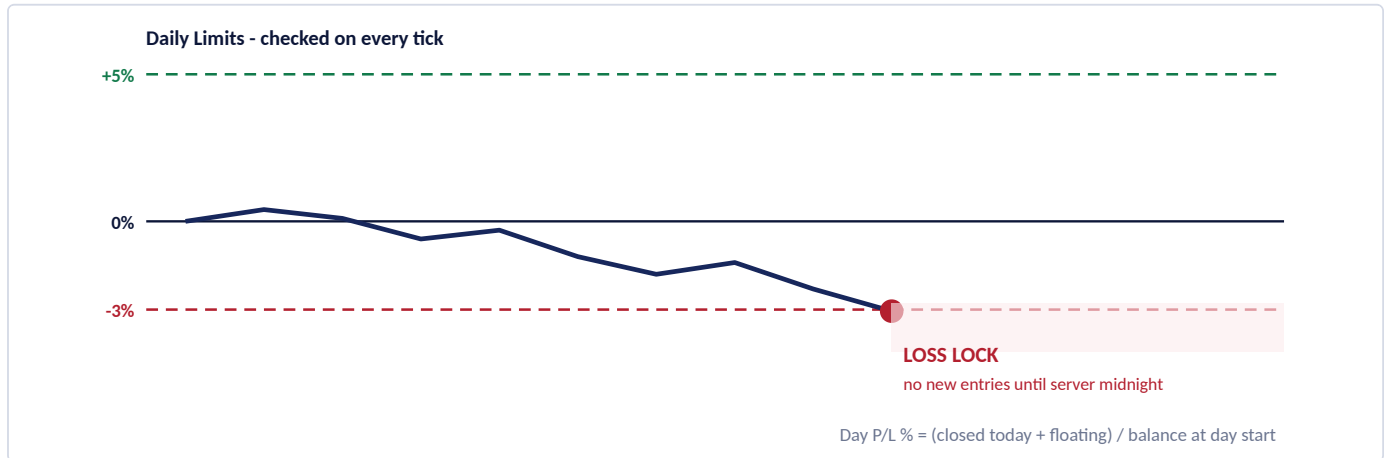


Figure 10.1 - When the day's P/L touches the loss limit, new entries are locked until the next server day.

Question	Answer
What is counted?	Closed P/L of this EA today (profit + swap + commission) plus the floating P/L of its open trades
% of what?	Of the balance at the start of the day (current balance minus today's closed P/L of this EA)
Which trades?	Only this EA's magic number on this symbol - other EAs and manual trades are not counted
What happens at the limit?	New entries are locked for the rest of the day; the dashboard shows LOSS LOCK or TARGET HIT
Are open trades closed?	No. They continue with flip exit, breakeven and trailing
When does it reset?	At 00:00 broker server time
After a restart?	The lock is re-applied as soon as the day's P/L is still beyond the limit

WARNING

Daily Limits stop new trades - they are not an equity stop-out. A trade that is already open can still lose more. For prop-firm challenges always use a Stop Loss and set the EA's limit clearly below the firm's own daily loss limit.

Alerts

Setting	Default	What it does
Popup Alert	true	MetaTrader alert window with sound
Push Notification	false	Message to the MetaTrader app on your phone
Email	false	Email through the terminal's mail settings
Also Alert on Skipped Signals	true	Alert when a signal is skipped by a filter

What triggers an alert

Event	Example message
Trade opened	Crystal EMA Cross EURUSD M5 BUY opened @ 1.08452
Signal skipped	Crystal EMA Cross EURUSD M5 SELL signal skipped - Outside session
Daily loss lock	... Daily loss limit hit (-3.02%). New entries stopped for today.
Daily target lock	... Daily profit target hit (+5.10%). New entries stopped for today.

Signals are evaluated on the first tick of a new bar, so alerts arrive a moment after the bar closes - never in the middle of a bar.

Setting up push notifications

- 1 Install the MetaTrader 5 app on your phone and open **Settings > Messages** (or Chat and messages) to find your **MetaQuotes ID**.
- 2 On the desktop terminal open **Tools > Options > Notifications**.
- 3 Tick **Enable push notifications** and enter the MetaQuotes ID (up to four IDs, separated by commas).
- 4 Press **Test** - a test message should arrive on the phone - then OK.
- 5 Set **Push Notification = true** in the EA inputs.

Setting up email

- 1 Open **Tools > Options > Email** and tick **Enable**.
- 2 Fill in **SMTP server** (for example smtp.yourprovider.com:465), **SMTP login**, **SMTP password**, **From** and **To**.
- 3 Press **Test**. Many providers need an app-specific password instead of your normal password.
- 4 Set **Email = true** in the EA inputs.

Where alerts work

Environment	Popup	Push	Email
Live / demo chart on your PC	Yes	Yes (if set up)	Yes (if set up)
MetaQuotes VPS / any VPS	Not visible	Yes	Yes
Strategy Tester (visual or not)	No	No	No

NOTE

The Strategy Tester never sends alerts - this is a MetaTrader rule, not a fault of the EA. Use the arrows and the dashboard's Signals section to see what would have been alerted.

How many alerts to expect

One alert per trade and, with skipped alerts on, one per skipped signal. On M5 with a session filter that is usually a handful per day. If you find skipped alerts noisy - for example on M1 - set **Also Alert on Skipped Signals = false** and keep only entry alerts.

KEY POINT

A useful combination: Popup off, Push on, Skipped alerts off. Your phone tells you about every real trade and nothing else.

Anatomy of an alert

Part	Example	Meaning
Product	Crystal EMA Cross	Which EA sent it - useful when you run several EAs
Symbol and timeframe	EURUSD M5	Chart symbol and Entry Timeframe
Event	BUY opened @ 1.08452	What happened, with the fill price
Reason (skips only)	SELL signal skipped - HTF against	Which filter blocked the entry

Suggested alert setups

Situation	Popup	Push	Email	Skipped
Learning the EA on a demo	on	off	off	on
Running on your own PC	on	on	off	off
Running on a VPS	off	on	optional	off
Keeping a written log	off	off	on	on
Fast timeframes (M1 / M5)	off	on	off	off

Email alerts are a simple trade journal: every entry and every skip arrives with its time and reason, which makes weekly reviews quick.

The Dashboard

The dashboard is a single glowing 3D panel in the top-left corner. It is drawn on one bitmap, refreshed at most four times per second and only when a displayed value really changes, so it costs almost no CPU.



Figure 12.1 - The expanded dashboard (callouts 1 - 10).

#	Area	What it shows
1	Logo and title	Product name, symbol, Entry Timeframe and MA setup (for example 21/50 EMA)
2	Show / hide button	Click anywhere on the header to collapse or expand the dashboard
3	Status pill and trend	What the EA is doing now and the live direction of the MAs
4	Key value	FLOAT P/L while a trade is open, otherwise TODAY's closed P/L
5	Position	Side and lots, P/L, entry, pips, SL, TP and the trailing progress bar
6	Market	Live MA values, spread and ATR (both in pips)
7	Filters	Time window status, HTF bias and daily P/L %
8	Stats	Today's result and trades, win %, total result, balance and equity
9	Signals	Time of the last entry and the last skipped signal with its reason
10	Footer	Broker server clock, countdown to the next Entry Timeframe bar, version

READ IT IN FIVE SECONDS

1. Pill colour: green = all clear, blue = in a trade, amber = waiting or blocked, red = locked.
2. Trend arrow next to it: where the MAs point right now.
3. Big number on the right: what you are making or losing.
4. Skip line at the bottom: why the last signal was not traded.

COLOURS

Green = profit or allowed, red = loss or blocked, amber = waiting or in progress, blue / gold = information. Every number is rounded so it can be read at a glance.

Show and hide



Figure 12.2 - Collapsed: only the header stays on the chart.

Click the header (title, chevron or the live strip) to collapse the dashboard to this compact bar, and click it again to expand it. The chosen state is remembered for that chart, even after a timeframe change or a terminal restart. When collapsed, the panel redraws only when the status, the trend or the key value changes.

Status pill

Status	Meaning	Priority
MKT CLOSED	Symbol trading session closed (rollover, weekend, holiday)	1 (highest)
LOSS LOCK	Daily loss limit reached - no new entries today	2
TARGET HIT	Daily profit target reached - no new entries today	2
IN TRADE	A position of this EA is open	3
DAY OFF	Today is switched off in the Day Filter	4
WAITING	Outside the trading session(s)	5
SPREAD HIGH	Spread above Max Spread	6
SCANNING	All clear - waiting for the next crossover	7

When several states apply at once, the one with the highest priority is shown. For example, a trade that is open outside the session shows IN TRADE, not WAITING.

Visual settings

Setting	Default	What it does
Show Dashboard	true	Show or hide the dashboard completely
Dashboard X / Y	14 / 24	Position from the top-left corner, in pixels
Show Entry / Skipped Arrows	true	Draw signal arrows on the chart (chapter 13)
Apply Crystal Chart Theme	true	Dark Crystal colours for the chart (chapter 13)

Every value decoded

Line	Possible values	Meaning
Trend (header)	▲ BULL / ▼ BEAR	Live position of Fast vs Slow (or price vs MA) on the forming bar
Side	Flat, BUY 0.10, SELL 0.10, MIXED	MIXED only appears if trades in both directions exist (hedging)
P/L / Pips	+12.40 / +14.2	Floating profit with swap, and pips from the average entry
Trail	ATR / Pips	No trade open - shows the active distance mode
Trail	62/95p + amber bar	Current profit in pips / pips needed to activate trailing
Trail	ACTIVE	Trailing is running
Trail	BE+62/95p, BE+ACTIVE	Breakeven already done, trailing waiting or running
Trail	BE SET	Trailing off, breakeven done
Time	OFF (24h)	Time and day filters both off
Time	INSIDE ends 3h 35m	Inside a session, time left
Time	OUTSIDE opens 1h 10m	Outside, time until the next session starts
Time	DAY OFF / Day ON 24h	Day filter result when the time filter is off
HTF	OFF, AUTO-OFF, H1 ▲ BULL, H1 ▼ BEAR, H1 WAIT	See chapter 9
Daily	OFF, +0.42%, LOCKED	Day P/L % of this EA, or the lock
Win	67%	Share of closed trades with a net profit (all history of this EA on this symbol)
Today / Total	+25.10 / +140.20	Closed P/L today / all time, this EA and symbol only
Bal / Eq	account values	Whole account, green when equity is above balance
Skip	SELL - HTF against 11:05	Last skipped signal, reason and time

NOTE

The header trend reads the bar that is still forming, so it can flip back and forth during a bar. Trades are only taken on closed bars - a BULL trend on the header is not a signal by itself.

KEY POINT

The Skip line is the fastest way to answer 'why did it not trade?'. If it shows nothing, there was no crossover; if it shows a reason, that filter blocked the entry.

Chart Arrows and Theme



Figure 13.1 - Entry arrows and a skipped-signal arrow with its tooltip.

Arrow	Meaning	Placed at
Green up arrow	BUY opened	Below the signal bar
Red down arrow	SELL opened	Above the signal bar
Grey arrow	Signal skipped by a filter	Same position as an entry would have

Hover over an arrow to see its tooltip: the entry price, or the exact skip reason. Arrows are placed on the signal bar of the Entry Timeframe, are kept when you change timeframe, and are deleted when the EA is removed.

Crystal chart theme

Element	Crystal value
Background	Dark navy
Bull / bear candles	Dodger blue / dark grey
Grid, volumes, OHLC line, period separators, ask line	Hidden
Bid line	Visible, soft blue
Price scale text	Silver

- The theme is applied once. Only properties that differ are changed, so there is no flicker.
- Your original colours are stored safely and **restored exactly** when the EA is removed or a template is loaded.
- Changing timeframe, inputs or recompiling keeps the theme - it is not removed and re-applied.
- Set **Apply Crystal Chart Theme = false** to keep your own colours; any earlier Crystal theme is reverted.
- In the visual Strategy Tester the theme is always applied for a clean view.

NOTE

The EA uses its moving averages internally and does not draw them on a live chart. To see them, add the standard Moving Average indicator with the same period, method and timeframe. In the Strategy Tester the EA's averages are shown automatically.

Trading Playbooks

Four complete ways to run the EA. Each is a starting point - test it on your symbol and broker before trading live.

Playbook A - London / New York Trend Rider

Catch intraday trends during the most liquid hours of the day, confirmed by the hourly trend.

Setting	Value
Entry TF / MAs	M5, EMA 21 / 50
HTF	H1, Single EMA 50
Session 1	London / New York overlap in server time (for example 16:00 - 20:00 on GMT+3)
Management	ATR: BE 1.0 / 0.1, Trail 1.5 / 1.0
Risk	Risk 1%, SL about 2x the ATR shown on the dashboard

Stage	What the EA does	What you do
Before the session	Status WAITING, signals skipped	Nothing - check the HTF bias
Inside the session	Takes crosses that agree with H1	Watch the first trade's behaviour
In profit	Breakeven, then trailing	Let it run - do not close manually
Session ends	No new trades; open trade still managed	Review the Skip line and arrows

Playbook B - H1 Swing Cross

Fewer, larger moves held for hours or days. No session filter, because swings span sessions.

Setting	Value
Entry TF / MAs	H1, EMA 50 / 100
HTF	H4 (or D1), Single EMA 50
Time Filter / Days	OFF / Friday off
Management	ATR: BE 1.5 / 0.2, Trail 2.5 / 1.8

Stage	What the EA does	What you do
Signal	Enters on the H1 close	Check the trade once or twice a day
Trend continues	Wide ATR trail rides the move	Nothing
Trend reverses	Bearish cross closes the BUY	Review the result weekly

Playbook C - Single MA Momentum

Faster entries for momentum traders: price crossing one MA, filtered by a stronger EMA-cross bias on the HTF.

Setting	Value
Mode / MA	Single MA, EMA 20, Entry M15
HTF	H1, EMA Cross 21 / 50
Sessions	Session 1 = London open, Session 2 = New York open
Management	ATR: Trail 1.2 / 0.8

Stage	What the EA does	What you do
Price closes over the MA	Opens in the HTF direction	-
Price falls back	Flip exit closes quickly	Accept small losses - they are the cost of momentum
Strong move	Tight trail locks it	-

Playbook D - Directional Bias (for example Gold buy-only)

When you have a strong long-term view, trade only that side and let crossovers time the entries.

Setting	Value
Symbol / TF	XAUUSD M15, EMA 21 / 50
Trade Direction	Only Buy
HTF	H4, Single EMA 50
Max Spread	50 pips (0.50 on a 2-digit Gold symbol)
Management	ATR: BE 1.0 / 0.1, Trail 1.5 / 1.2

Stage	What the EA does	What you do
Bull cross with H4 bullish	Opens a BUY	-
Bear cross	Closes the BUY, no SELL	-
H4 turns bearish	Buys are skipped (HTF against)	Reconsider the bias

PROP-FIRM TIP

Prop-firm accounts: add Daily Limits (loss 2%, target as the rules allow), Risk 0.5% with a Stop Loss, and Friday off. The daily limit stops new trades only - the Stop Loss protects the open trade.

Recommended Presets

Change only the inputs listed; everything else stays at the default. These are starting points for testing, not guarantees of any result.

Preset 1 - Default Balanced (M5)

Setting	Value	Reason
Strategy / MAs	EMA Cross 21 / 50, M5	All-round default
HTF	H1, Single EMA 50	12x ratio, clear bias
Session 1	Your main session, 6 - 8 hours	Avoids thin hours
Breakeven	true, 1.0 / 0.1 ATR	Protects winners early
Trailing	true, 1.5 / 1.0 ATR	Default

Preset 2 - Scalper (M1 / M5, majors only)

Setting	Value	Reason
MAs	EMA 9 / 21	Responsive
HTF	M15 (for M1) or H1 (for M5), EMA Cross 21 / 50	Strong filter for noisy timeframes
Session 1	London / New York overlap only	Best liquidity, tight spreads
Max Spread	1.5 pips	Spread is a big cost on small targets
Management	BE 0.7 / 0.1, Trail 1.0 / 0.7 ATR	Quick protection
Alerts	Skipped alerts false	Avoids noise

Preset 3 - Swing (H1)

Setting	Value	Reason
MAs	EMA 50 / 100, H1	Fewer, stronger signals
HTF	H4 or D1, Single EMA 50	Long-term bias
Time Filter	false	Swings cross sessions
Management	BE 1.5 / 0.2, Trail 2.5 / 1.8 ATR	Room to breathe
Day Filter	true, Friday off	Avoids weekend gaps on new trades

Preset 4 - Gold (XAUUSD M15)

Setting	Value	Reason
MA	EMA 21 / 50, M15	Gold trends well intraday
HTF	H1 or H4, Single EMA 50	Filters the frequent counter-moves
Sessions	London and New York (two sessions)	Gold's most active hours
Max Spread	40 - 60 pips (0.40 - 0.60)	1 pip = 0.01 on 2-digit Gold
Management	BE 1.0 / 0.1, Trail 1.5 / 1.2 ATR	Gold pulls back sharply
Risk	Risk 0.5 - 1% with SL	Gold is volatile

Preset 5 - Crypto (BTC / ETH M15)

Setting	Value	Reason
MA	EMA 21 / 50, M15	-
HTF	H4, Single EMA 50	Crypto noise needs a slow filter
Time Filter	false	Crypto trades around the clock
Day Filter	false (or weekend off)	Your choice - weekend spreads are wider
Management	Trail 2.0 / 1.5 ATR	Large intrabar swings
Max Spread	Check typical spread first	Varies strongly by broker

Preset 6 - Classic v2.10 behaviour

Setting	Value	Reason
Time Filter / HTF Filter	false / false	Version 2.10 had neither
BE / Trailing Distance Mode	Fixed Pips	v2.10 used pips
Trail Activate / Distance	250 / 150 pips	v2.10 defaults
Breakeven / Daily Limits	false / false	Not available in v2.10

KEY POINT

Save every preset you like with the **Save** button on the Inputs tab (.set file). Load it again with **Load** on any chart or in the Strategy Tester.

Strategy Tester and Optimisation

Running a backtest

- 1 Open the Strategy Tester (**Ctrl+R** or View > Strategy Tester) and choose **Crystal EMA Cross**.
- 2 Select the symbol and a date range of at least 6 - 12 months.
- 3 Set the tester **Timeframe** equal to your Entry Timeframe for the clearest visual view.
- 4 Choose **Every tick based on real ticks** for the most realistic result, or **1 minute OHLC** for a fast first look.
- 5 Set deposit, currency and leverage like your real account, load your .set file on the Inputs tab and press **Start**.

In the tester	Behaviour
Alerts	Never sent (MetaTrader rule)
Dashboard, arrows, theme	Only in visual mode; non-visual runs skip all drawing for speed
Moving averages	Shown automatically in visual mode; ATR and HTF helpers are hidden
Time and day filters	Use the historical server time - the same rules as live
Daily limits	Work exactly as live, reset at each server midnight

NOTE

Session Start / End are text inputs, and MetaTrader cannot optimise text. To compare sessions, run separate tests with different times.

Choosing the modelling mode

Mode	Speed	Accuracy	Use it for
Every tick based on real ticks	Slow	Highest - real broker ticks and spreads	Final checks before going live
Every tick	Medium	Good - generated ticks	General testing
1 minute OHLC	Fast	Good for bar-close logic	Quick comparisons and optimisation
Open prices only	Fastest	Low for trailing - stops move only once per bar	Rough signal checks only

Visual mode tips

- Visual mode shows the dashboard, arrows and theme exactly as live - ideal to understand every skip.
- Slow the speed slider down around a signal to watch the flip exit and the entry gate at work.
- Hover over grey arrows in the visual chart to read the skip reasons.
- Run the same period once non-visual for the report - it is many times faster.

What to optimise

Input	Sensible range	Step
Fast MA Period	8 - 34	2 - 4
Slow MA Period	30 - 120	5 - 10
Trail Activate (x ATR)	1.0 - 3.0	0.25
Trail Distance (x ATR)	0.6 - 2.0	0.2
BE Trigger (x ATR)	0.6 - 2.0	0.2
HTF Single EMA Period	20 - 100	10

Avoiding curve fitting

- Optimise a few inputs at a time, with coarse steps. Thousands of combinations always produce a 'perfect' one.
- Use the tester's **Forward** option (for example 1/3): optimise on the first part, judge on the unseen part.
- Prefer settings whose neighbours also work. If 21 / 50 is good but 19 / 50 and 23 / 50 are poor, it is luck.
- Check the same settings on two or three related symbols.
- Judge by drawdown, number of trades and stability - not only by the final balance.

Reading the report

Report value	What to look for
Total trades	Enough trades (100+) for the result to mean something
Profit factor	Gross profit / gross loss - stability matters more than one high value
Maximal drawdown	The deepest fall - ask whether you could live with it
Consecutive losses	Plan your risk % so a long losing streak is survivable
Balance curve	A steady line beats a curve made by one lucky trade

WARNING

Past performance, including Strategy Tester results, is not indicative of future results. Always forward-test on a demo account before trading live.

Technical Notes

What runs and when

When	Work done
Every tick	Day change check, market-open check (cached per second), exit retries, breakeven / trailing, position state, daily limit
New bar of the Entry TF	ATR update, signal check, flip exit, entry gate, order
Trade event (deal added)	History statistics refreshed once - not on every tick
Live timer (250 ms)	Dashboard clock and countdowns; redraw only if a value changed
Strategy Tester (non-visual)	No dashboard, no arrows, no timer - maximum speed

Account types and multiple charts

Situation	Behaviour
Hedging account	Opposite trade is closed, then the new trade opens - one position per direction
Netting account	Works the same; the opposite position is closed before the new one opens
Several symbols	One chart per symbol; the same magic number is fine
Two copies on one symbol	Give each a different magic number
Manual trades on the same symbol	Ignored (magic 0) - never closed or trailed by the EA
Symbol suffixes (EURUSD.m, XAUUSD#)	Fully supported - the EA uses the chart symbol

Restarts and persistence

Item	After restart / recompile
Open trades	Recognised by magic number and managed again immediately
Last Entry on dashboard	Restored from the open position
Show / hide state	Remembered per chart
Your original chart colours	Kept safely until the EA is removed
Daily lock	Re-applied while the day's P/L is still beyond the limit

NOTE

The EA stores a few terminal global variables (F3 window) named CEMA3_Min_... and CEMA3_TH_... for the show / hide state and your original chart colours. The colour entries are deleted when the EA is removed; the tiny show / hide entry stays so your preference is remembered next time.

Market validation safety

The EA checks free margin before each order, normalises every lot to the broker's step, respects stop and freeze levels, does not modify orders while the market is closed, and keeps its log quiet - only real broker errors are printed.

Troubleshooting

The EA does not trade

Symptom	Cause	Fix
No trades at all, red icon in the corner	Algo Trading disabled	Enable the toolbar button and 'Allow Algo Trading' in the EA properties
Status WAITING all day	Session times do not match the broker clock	Compare the dashboard Server clock with your times (chapter 8)
Skip shows 'HTF against' often	Higher timeframe disagrees	Normal behaviour; use a closer HTF or turn the filter off to compare
Skip shows 'Spread high'	Max Spread too low for this symbol	Check the spread on the dashboard and raise Max Spread
Skip shows 'No margin'	Lot too large for free margin	Lower the lot or the risk %
Signals only in one direction	Trade Direction is Only Buy / Only Sell	Set Both Ways
No signal for a long time	No crossover on the Entry TF	Normal on higher timeframes; check the Market MA values
Status LOSS LOCK / TARGET HIT	Daily limit reached	Waits until server midnight
EA removed with 'parameters incorrect'	Invalid input	See the Experts tab - for example Fast >= Slow, wrong HH:MM, BE lock >= trigger

Trade management

Symptom	Cause	Fix
Trailing never starts	Activation not reached, or wrong mode inputs edited	Check the Trail bar; edit the inputs of the active mode
Pips inputs have no effect	Mode is ATR Based	Switch to Fixed Pips, or edit the ATR inputs
Stop does not move during rollover	Market closed	By design; it moves on the next open tick
Opposite trade not closed	Broker rejected the close	The EA retries every 5 s; check the Experts tab for the retcode
Old trade not managed	Magic number changed	Restore the old magic number

Dashboard and chart

Symptom	Cause	Fix
No dashboard	Show Dashboard = false, or a non-visual tester run	Set it to true; use visual mode in the tester
Only the header is visible	Dashboard is collapsed	Click the header
Dashboard off-screen or covering prices	Panel position	Change Dashboard X / Y
Chart colours changed	Crystal theme is on	Set Apply Crystal Chart Theme = false or remove the EA
Spread shows 250 on crypto	2-digit symbol: 1 pip = 1 point	Correct - see the pip table in chapter 6
HTF shows AUTO-OFF	HTF not higher than Entry TF	Choose a higher HTF timeframe
HTF shows WAIT for a long time	HTF history still loading	Open an HTF chart once so MT5 downloads the history
MA lines not on the chart	The EA does not draw MAs live	Add the Moving Average indicator manually

Alerts

Symptom	Cause	Fix
No alerts in the tester	MetaTrader never sends alerts in the tester	Expected - check arrows and the Skip line
No push messages	MetaQuotes ID missing or notifications disabled	Tools > Options > Notifications, press Test
No emails	SMTP settings wrong	Tools > Options > Email, press Test; use an app password
Too many alerts	Skipped-signal alerts on a fast timeframe	Set Also Alert on Skipped Signals = false

Reading the Experts tab

The EA prints only setup problems and real broker errors. Typical lines:

Line	Meaning
Fast MA period must be lower than Slow MA period.	Fix the periods
Session 1 time must be HH:MM (example 14:15).	Fix the time format
HTF Filter auto-disabled - HTF (M5) must be higher than Entry TF (M5).	Choose a higher HTF
CEMA: Order FAIL 10019 No money	Broker rejected the order - number = trade server return code
Not enough money: need=... free=...	Margin check stopped the order

Frequently Asked Questions

Is Crystal EMA Cross really free?

Yes. It is a gift from Crystal AI Systems, with the full feature set and free updates.

Does it repaint?

No. Signals use closed bars only, and the HTF filter reads a closed HTF bar.

Why did it enter one bar after the cross?

The cross is final only when the bar closes. The EA acts on the first tick of the next bar.

Can I trade several symbols?

Yes - attach it to one chart per symbol. The same magic number is fine on different symbols.

Can I run two settings on the same symbol?

Yes, with different magic numbers on two charts.

Does it use martingale, grid or averaging?

No. One position per direction, fixed or risk-based lot.

Does it work on Gold, indices and crypto?

Yes. ATR mode makes breakeven and trailing fit any symbol. Check the pip table for spread and SL values.

Which timeframe is best?

There is no single best. M5 - M15 with a session suits intraday traders, H1 - H4 suits swing traders. Test yours.

Is the time filter in my local time?

No - broker server time, shown on the dashboard footer.

A cross happened outside my session. Will it trade when the session opens?

No. Signals outside the session are skipped, not delayed. The next cross inside the session is traded.

Will the time filter close my trade at the end of the session?

No. Filters only block new entries. Exits follow the strategy.

Why did it close my BUY without opening a SELL?

A bearish cross closes buys; the SELL was blocked by a filter or by Trade Direction. Look at the Skip line.

Why is the HTF filter AUTO-OFF?

Your HTF timeframe is not higher than the Entry Timeframe.

Should I use Risk % or a fixed lot?

Risk % with a Stop Loss keeps the risk per trade constant as your balance changes. Fixed lot is simpler to start.

I set Risk % but the lot never changes.

Stop Loss pips is 0, so the EA falls back to the fixed lot (shown in amber).

What is the difference between ATR and Pips mode?

ATR adapts to volatility and works on any symbol; pips are fixed distances.

Does the daily loss limit close my trades?

No. It stops new trades for the day. Use a Stop Loss to limit open-trade risk.

When do daily limits reset?

At 00:00 broker server time.

Why no alerts in the Strategy Tester?

MetaTrader does not deliver alerts in the tester.

Can I hide the dashboard?

Click its header to collapse it, or set Show Dashboard = false.

Will the EA change my chart colours?

Only with Apply Crystal Chart Theme = true. Your colours are restored when the EA is removed.

Why are the MA lines not on my live chart?

The EA calculates them internally. Add the standard Moving Average indicator if you want to see them.

Does changing the chart timeframe affect the strategy?

No, unless Entry Timeframe is set to 'current'. The dashboard and theme stay in place.

Does it work on a VPS?

Yes. Push and email alerts work; popup alerts are not visible on a VPS.

Can I use it for a prop-firm challenge?

It has the tools: risk %, daily limits, day filter. Set limits below the firm's rules and always use a Stop Loss.

What happens if my internet drops?

Open trades keep their SL / TP on the broker's server. Trailing and flip exits resume when the terminal reconnects.

Does it trade news?

There is no news filter. Use Max Spread and sessions to avoid the worst moments, or switch AutoTrading off around major news.

Where do I get help?

Use the product comments or MQL5 private messages to Crystal AI Systems.

Glossary

Term	Meaning
ATR	Average True Range - the average size of a bar's range, a measure of volatility
Bar close	The moment a candle is finished; signals are judged only at this point
Breakeven (BE)	Moving the stop to the entry price (plus a lock) once the trade is in profit
Broker server time	The clock of your broker's server, used by all time filters
Crossover	The moment one line moves from below another to above it, or the reverse
EMA	Exponential Moving Average - weights recent prices more
Entry gate	The seven checks every new trade must pass
Entry Timeframe	The timeframe whose closed bars produce signals
Flip exit	Closing the opposite trade when a new signal appears
Freeze level	Distance from price inside which the broker does not allow changes to a position
HTF	Higher Time Frame - used to confirm the trend direction
LWMA / SMA / SMMA	Linear-weighted, simple and smoothed moving averages
Magic Number	Identifier that marks the EA's own trades
Netting / Hedging	Account types: one net position per symbol, or several positions
Pip	The price unit used by the pips inputs - see the table in chapter 6
Repainting	A signal that changes after it appeared; impossible here because closed bars are used
Risk %	Percent of balance lost if the Stop Loss is hit
Session	A time window in which new trades may open
Skipped signal	A valid crossover that a filter blocked; shown with a grey arrow and a reason
Slippage	Difference between requested and filled price
Spread	Difference between ask and bid price
Stop level	Minimum distance between price and a stop that the broker accepts
Trailing stop	A stop that follows price at a set distance once activated

Version History, Support and Disclaimer

Version history

Version	Changes
3.00	Glowing 3D dashboard with click-to-hide header; two time sessions; trading-day filter; HTF trend filter (Single EMA / EMA Cross, auto-off); ATR or pips breakeven and trailing; risk % lot sizing; daily loss and profit lock; spread, margin and broker-level guards; popup, push and email alerts; entry and skipped arrows; MA type for cross mode; failed-close retry; flicker-free chart theme with exact restore; lightweight cached rendering
2.10	EMA Cross and Single MA modes, flip logic, trade direction, pips trailing stop, basic dashboard

Support

- Post questions, ideas and feedback in the **product comments** on the MQL5 Market page.
- Or send a **private message** to Crystal AI Systems on MQL5.
- When reporting a problem, include: symbol, timeframe, your .set file, a screenshot of the dashboard and the lines from the Experts tab.
- More tools by Crystal AI Systems: mql5.com/en/users/jawadtrader22/seller

THANK YOU

Crystal EMA Cross is free. If it helps your trading, a review on the Market page is the best way to say thank you - it supports further free updates.

Risk disclaimer

RISK WARNING

Trading Forex, CFDs, metals, indices and cryptocurrencies on margin carries a high level of risk and may not be suitable for all investors. You can lose some or all of your deposit. Past performance, including Strategy Tester results, is not indicative of future results. Crystal EMA Cross is a tool that automates a trading method; it does not guarantee profits and is not financial advice. Test on a demo account first, never risk money you cannot afford to lose, and always use proper risk management. Read the MQL5 risk warning at mql5.com/en/about/risk.