

Gold Arbitrage EA

User Manual

Spot / Futures gold hedge Expert Advisor for MetaTrader 5

Version 1.02

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Please note: This manual explains how to install, license and run the EA. It does not give trading or investment advice. Please read the risk warning in section 10 before trading with real money.

1. What the EA does

Gold Arbitrage EA trades **Gold Spot** (for example XAUUSD) and **Gold Futures** (for example XAUUSD-F) together. The two prices normally move very close to each other. The EA watches the price difference between them - called the **gap** or **spread** in this manual.

- When the gap becomes large enough, the EA opens **two trades at once**, one on Spot and one on Futures, in **opposite directions**. This is called a **hedge pair**.
- It buys the cheaper side and sells the more expensive side, expecting the gap to close again.
- When the combined profit of the pair reaches your target, both trades are closed together.
- If the gap keeps moving against the pair, the EA can add more pairs (a **grid**) to average the position, up to limits that you set.

Important: Attach the EA to the **Spot chart only** (for example XAUUSD). It reads and trades the Futures symbol in the background - you do not need to open a chart for it.

Features at a glance

Area	Features
Entry	Hedge pair on Spot and Futures at the same lot size; Average trigger (rolling average plus buffer, filled instantly from M1 history) or Fixed trigger; spike filter (the gap must hold for a set number of seconds); optional reverse direction ; slippage limit; pause after a failed attempt.
Protection of open trades	Combined take profit for the pair/grid; optional hard stop-loss per cycle; automatic retry of only the missing Futures leg if the broker rejects it (shown as UNHEDGED); state recovery after a restart or setting change.
Grid add-on	Extra pairs when in loss, triggered by \$ loss or by the gap widening in pips ; lot size Fixed, Addition or Doubling ; maximum grid steps; stop after repeated failures.
Time and market filters	Both markets must be open; cool-off between cycles; Friday-afternoon restriction with your own hour; Futures contract start/expiry buffer in days, with contract dates read automatically from the symbol.
Daily limits	Daily profit limit, daily loss limit, and a maximum number of new cycles per day.
Interface	Live on-chart dashboard ; License panel that can shrink to a small colour-coded square.
Licensing	Sign-in with your portal account; new-computer approval; two-step code support; session limit handling; one sign-in shared by all charts of a terminal; offline grace period; automatic pause on expiry while still managing open trades; update-required check; no license needed in the Strategy Tester.
Production build	No debug output or log messages are written; the Experts tab stays quiet.

2. What you need before you start

Requirement	Details
MetaTrader 5	The 64-bit desktop terminal on Windows. The 32-bit version is not supported.
Broker account	An account on which both the Spot and the Futures gold symbols can be traded. A hedging account type is recommended, because the EA holds opposite positions and may add several positions in the same direction.

Requirement	Details
Symbols	The exact Futures symbol name as your broker lists it (default XAUUSD-F). If your broker uses another name, enter it in the settings (see section 7).
License account	A customer account at license.trendsoftwares.com with an active subscription to Gold Arbitrage EA .
Internet	A stable connection. The EA checks its license about once a minute.
VPS (recommended)	For continuous operation, run the terminal on a VPS that stays on 24 hours.

3. Installing and attaching the EA

Installing

- 1 In MetaTrader 5 choose **File > Open Data Folder**.
- 2 Open the folder **MQL5 > Experts**.
- 3 Copy the EA file **GoldArbitrageEA.ex5** into it (or into a sub-folder you create there).
- 4 Go back to MetaTrader 5, right-click **Expert Advisors** in the Navigator window and choose **Refresh**. The EA now appears in the list.

Attaching to a chart

- 1 Open a chart of the **Spot gold symbol** (for example XAUUSD). The EA builds its average from the chart's 1-minute history, so make sure that history is available (scroll the chart back or let the terminal download it).
- 2 Make sure the **Algo Trading** button in the top toolbar is switched on (green).
- 3 Drag **GoldArbitrageEA** from the Navigator onto the chart.
- 4 In the window that opens, go to the **Common** tab and tick **Allow Algo Trading** and **Allow DLL imports**.
- 5 Open the **Inputs** tab to review the settings (section 7), then press **OK**.

Why DLL imports? The license check uses Windows' own internet library, which is why **Allow DLL imports** must be ticked. Nothing needs to be added to the terminal's list of allowed web addresses. If DLL imports are off, the License panel shows a message telling you what to change.

A smiley face in the top-right corner of the chart means the EA is running. A sad face or a cross means Algo Trading is off - check the toolbar button and the Common tab.

4. Signing in (licensing)

When the EA starts, a **License** panel appears on the chart. The EA **does not open any new trades until you have signed in** with a valid subscription, and the trading dashboard is shown only after a successful sign-in.

First sign-in

- 1 In the License panel type the **email** and **password** of your account at license.trendsoftwares.com.
- 2 Press **Sign in**.
- 3 The panel changes to **LICENSED** and shows your name, plan and expiry date.

New computer approval

The first time you use a new computer (or a new MetaTrader 5 installation), the license server emails you a link to approve it. Open the email, approve the computer, then press **Sign in** again. Please do not press the button repeatedly - one email is sent per attempt window.

Two-step verification

If your account uses an authenticator app, a **2-step code** box appears after you press Sign in. Enter the 6-digit code and press Sign in again.

Session limit

Each plan allows a number of systems to run at the same time. If the limit is reached, the panel lists the running systems. Press the button of the one you want to end, and the EA signs in here instead.

What the colours mean

Press the - button on the panel to shrink it to a small square. Hover over the square to see the status, and click it to open the panel again.



Green - signed in and licensed. The EA can open new trades.



Amber - checking the license, or running on the offline grace period (see below).



Red - signed out, subscription expired, session ended, or an update is required. No new trades are opened. Click the square to see why.

Using several charts

You can run the EA on more than one chart in the same MetaTrader 5 (for example on different symbols or timeframes). All charts share one sign-in: sign in once and the other charts pick it up within a couple of seconds. A chart you attach later signs in on its own. Pressing **Sign out** on one chart signs out all charts of that terminal. Removing the EA from one chart does not affect the others; the session is only closed when the last chart is removed. A second, separate MetaTrader 5 installation counts as another system in your plan.

If the internet connection drops

The EA keeps working for the **offline period** of your plan (shown as *LICENSED (OFFLINE GRACE)* with an amber square) and keeps trying to reconnect every 15 seconds. If the connection is not back by the end of that period, new trades are paused until it returns.

When the license ends

If your subscription expires, is suspended, or the session is ended by an administrator, the panel turns red and shows the reason. The EA **stops opening new trades**, but **still manages and closes positions that are already open** (take profit and stop-loss keep working). Renew in the portal and press Sign in again.

When a newer version is required

If the publisher sets a minimum version and your copy is older, the panel shows **UPDATE REQUIRED - TRADING PAUSED** with the download link. New trades stay paused until you install the newer file and re-attach the EA; open positions are still managed.

Your password and saved session

Your password is never saved. After a terminal restart or a timeframe change the EA resumes the saved session automatically; if the terminal was switched off for more than a day, simply sign in again. Back-tests in the Strategy Tester do not need a license.

5. The on-chart dashboard

After sign-in a dashboard appears on the left of the chart and updates live. It disappears when the license is not valid. The rows are:

Row	What it shows
Status	RUNNING while the EA is licensed and active.
Symbols	Spot symbol / Futures symbol being traded. Shown in red if the Futures symbol cannot be found.
Markets	Whether the Spot and Futures markets are currently OPEN or CLOSED for trading.
Futures Expiry	Expiry date of the Futures contract. NOT FOUND means the EA could not read it (see section 9).
Entry Gates	READY when the EA is free to open a new trade, or BLOCKED with the reason: new Futures contract, too close to expiry, Friday afternoon restriction, or the cool-off after the last trade.
Direction Mode	Normal, or Reversed if you turned on Reverse Entry Direction.
Spot Bid/Ask, Fut Bid/Ask	Live prices of both symbols.
Spread (Fut Exp) / (Fut Cheap)	The current gap in each direction: Futures more expensive than Spot, or Futures cheaper.
Entry Mode / Avg / Threshold	Fixed or Average trigger mode, the recent average gap, and the level the live gap must pass to trigger a trade (E = Futures expensive, C = Futures cheap).
Signal (Spot/Fut)	Which side the EA would buy or sell right now, for example SELL / BUY.
Position	FLAT when nothing is open, otherwise the open direction. Marked (UNHEDGED) if only one leg is open.
Grid / P&L	Current grid step against the maximum, and the combined profit or loss of the open cycle.
Next Grid Trigger	The loss amount or spread level at which the next grid pair will be added.
TP / SL	Your take-profit target and hard stop-loss for the cycle (OFF if disabled).
Day P/L / Trades	Today's profit or loss and the number of cycles started today.
Daily Limits	Whether the daily profit limit (P) and loss limit (L) are ON, OFF or reached.
Grid Add-on, Grid Step, Initial Lots, Magic	A reminder of the main settings in use.

6. How the EA trades

Understanding the sequence helps you choose settings that suit your account size and risk tolerance.

Stage	What happens
1. Watch the gap	The EA compares Spot and Futures prices continuously and works out which side is expensive and which is cheap.
2. Decide it is big enough	In Average mode (default) the live gap must go above its recent average (default last 60 minutes) plus a small buffer. In Fixed mode it must pass a fixed number you choose. The average is filled in at once from the chart's 1-minute history, so there is no warm-up.

Stage	What happens
3. Confirm	The gap must stay big for a short time (default 1 second) so that a single bad price tick is ignored.
4. Enter	One trade on Spot and one on Futures, same lot size, at market price. If the Spot side fails, nothing is opened and the EA retries later. If Spot opens but Futures is rejected, the EA keeps retrying only the missing Futures side at the same size. The dashboard marks this as UNHEDGED.
5. Take profit	The profit of both trades is added together. When it reaches your target (default \$5), both are closed.
6. Cool-off	After a pair closes, the EA waits (default 15 minutes) before starting the next one.
7. Grid add-on	If the pair is in loss, the EA can open another pair in the same direction - triggered by every extra \$ of loss (default) or by the gap widening a number of pips. Lot sizes can be Fixed, Addition (0.1, 0.2, 0.3...) or Doubling (0.1, 0.2, 0.4...). The number of steps is capped.
8. Safety limits	Optional hard stop-loss for the whole cycle, daily profit and loss limits, a maximum number of cycles per day, and a maximum number of grid steps.
9. Market checks	Before any trade the EA checks that both markets are open. If one is closed it waits.
10. Friday afternoon	From a chosen hour on Friday (server time) no new trades are opened until the new week. Open trades are still managed.
11. Futures contract dates	No new trades for a number of days after a new contract starts and the same number of days before it expires. Open trades are still managed.

Caution: A grid with Addition or Doubling lot sizes can grow a position quickly when the gap keeps moving against you. Make sure your account can carry the largest position the settings allow, and consider using the Loss per Cycle stop-loss.

7. Settings reference

Open the settings at any time by right-clicking the chart, choosing **Expert Advisors > Properties** and opening the **Inputs** tab. Changing a setting restarts the EA on that chart; open trades are kept and managed. \$ amounts are in your account currency.

Symbols

Setting	Default	What it does
Futures symbol name	XAUUSD-F	Exact name of the Futures symbol at your broker. The Spot symbol is the chart symbol.

Entry

Setting	Default	What it does
Entry spread threshold	10.0	Gap (in price units) needed to trade when Entry Trigger Mode is Fixed .
Spread must hold N seconds	1	Seconds the gap must stay above the trigger before entering (spike filter).
Reverse entry direction	OFF	Turn ON to flip every entry: buys become sells and the other way round, on both legs.
Initial lots	0.10	Lot size of the first pair. The same size is used on both legs.
Max slippage, points	20	Largest price movement accepted between order and fill.
Pause after a failed attempt	5	Seconds to wait after a failed attempt before trying again.

Average Spread Trigger

Setting	Default	What it does
Entry trigger mode	Average	Average : trigger when the live gap exceeds its rolling average plus the buffer. Fixed : use the Entry spread threshold.
Rolling average lookback, minutes	60	Period the average covers (Average mode only).
Extra buffer above the average, \$	0.5	Margin added to the average before a trade triggers (Average mode only).

Cycle Exit

Setting	Default	What it does
Take profit, \$	5.0	Close the whole cycle when its combined profit reaches this amount.
Loss per cycle, \$	0 (OFF)	Hard stop-loss: close everything when the combined loss reaches this amount.

Trade Cooldown

Setting	Default	What it does
Cooldown after a cycle closes, minutes	15	Wait before the next cycle. 0 = no wait.

Grid Add-on

Setting	Default	What it does
Enable grid add-on	ON	OFF = only the first pair is ever opened in a cycle.
Grid trigger type	\$ loss	\$ loss : add a pair for every extra amount of loss. Spread pips : add a pair when the gap moves further against you.
Grid loss step, \$	50.0	Extra loss between grid pairs (\$ loss type).
Grid spread step, pips	5.0	Extra adverse gap movement between grid pairs (Spread pips type). For gold quoted like 4292.46, 1 pip = \$0.01.
Grid qty type	Addition	Fixed : same lots each step. Addition : initial x step number. Doubling : initial x 2 each step.
Max grid entries per cycle	10	Largest number of pairs in one cycle, including the first.
Stop add-ons after N failed attempts	3	If adding a pair fails this many times in a row (for example no margin), no more are tried in that cycle.

Futures Expiry

Setting	Default	What it does
No entries for N days at contract start/end	2	Stay out of the market this many days after a new contract starts and before the current one expires. 0 = OFF.

Weekend Restriction

Setting	Default	What it does
Block new entries from Friday afternoon	ON	No new trades from the hour below until the weekly close.
Friday restriction hour (server time)	12	Hour 0-23 when the restriction starts.

Daily Limits

Setting	Default	What it does
Daily profit limit, \$	0 (OFF)	Stop opening new trades for the day once today's profit reaches this.
Daily loss limit, \$	0 (OFF)	Same, for losses.
Max new hedge entries per day	0 (no limit)	Largest number of new cycles per day. Grid add-ons do not count.

Misc

Setting	Default	What it does
Magic number	26090501	ID the EA uses to recognise its own trades. Use a different number for each copy of the EA on the same account.
Order comment	GoldArbitrage EA	Label written on every trade.

8. Day-to-day operation

Starting and stopping

- **To start:** attach the EA, sign in, and make sure the dashboard shows **Status RUNNING** and **Entry Gates READY**.
- **To stop new trades but keep managing open ones:** set **Max new hedge entries per day** to a small number, or use the Daily limits. To pause completely, use the Algo Trading toolbar button.
- **To remove the EA:** right-click the chart > **Expert Advisors > Remove**. This does not close open positions - close them manually if you want them closed.

Changing settings while trades are open

It is safe to change settings with positions open. The EA recognises its own trades by the magic number, rebuilds the cycle (direction and grid count) from them, and carries on. Keep the magic number the same so it still recognises them.

After a restart

If the terminal or the computer restarts, the EA resumes: it restores its state, finds its open trades, and signs in with the saved session. Check the License panel shows green, and the dashboard shows the expected position.

Several accounts or symbols

Use one EA per Spot chart. If you run more than one copy on the same account, give each a different **magic number**.

Where to look when something is unclear

- The **dashboard** and the **License panel** on the chart show the live state and the reason for any pause.
- The **Trade** and **History** tabs (View > Toolbox) show the positions and closed trades; the comment is the Order comment setting.
- This is a production build, so the EA writes no log or debug messages to the Experts tab.

9. Troubleshooting

What you see	What to do
License panel: "DLL imports are not allowed"	Right-click the chart > Expert Advisors > Properties > Common tab, tick Allow DLL imports , press OK.
"Could not reach the license server"	Check your internet connection and any firewall or proxy. The EA keeps its offline grace period running and retries every 15 seconds.

What you see	What to do
"Invalid credentials" or wrong password	Use the email and password of your account at license.trendsoftwares.com . After repeated wrong passwords the account is locked for 15 minutes.
"This is a new computer..." (approval needed)	Open the email from the license service, approve the computer, then press Sign in again.
"No subscription" or "subscription expired"	Subscribe or renew at license.trendsoftwares.com , then sign in again. A demo can only be taken once per product.
Session limit reached	Choose a running system from the list to end, or end it in the portal under your subscriptions.
"This system signed in again, so this session was replaced"	The same account was signed in again on this computer. Attach the EA again or press Sign in; use one terminal per system slot.
UPDATE REQUIRED - TRADING PAUSED	Download and install the newer version from the link in the panel, then re-attach.
Dashboard shows the Futures symbol in red / "not found"	The Futures symbol name does not exist at your broker. Open View > Symbols , find the exact Futures gold name and enter it in Futures symbol name .
Futures Expiry: NOT FOUND	The EA could not read the contract dates from the symbol. Check the symbol description in View > Symbols. Until the dates are known the EA cannot apply the expiry protection.
Entry Gates: BLOCKED	The dashboard names the reason: contract start/expiry window, Friday afternoon restriction, the cool-off period, or a daily limit. This is normal and clears by itself.
Markets show CLOSED	One market is outside its trading hours. The EA waits and tries again automatically.
No trades although everything is green	The gap may simply not have reached the trigger. Compare the live spread rows with the Threshold row on the dashboard. Also check that Algo Trading is on and the account allows trading.
Orders rejected	Check lot size against your broker's minimum and maximum, free margin, and that both symbols are tradable. The terminal's Journal tab records the broker's reply to each rejected order.

If you still need help, note the exact message in the License panel and the dashboard state (a screenshot is ideal), and contact the publisher or reseller you bought the EA from.

10. Risk warning

Please read: Trading leveraged products such as gold, futures and CFDs carries a high level of risk and can result in the loss of more than your deposit. This EA is a trading tool, not a promise of profit. Past or simulated results do not guarantee future results.

- Test on a **demo account** first, and start with small lot sizes.
- A hedge pair is not risk-free. The two prices can keep drifting apart, spreads and commissions apply, one leg can be rejected, and grid lot sizes grow when you use Addition or Doubling.
- Make sure your account has enough margin for the largest position the settings can build.
- Brokers differ in symbol names, trading hours, contract rollover dates, spreads and execution. Check them with your broker.

- A technical fault, internet interruption or broker issue can prevent the EA from acting. Monitor your account regularly and keep stop-loss and daily limits that match your risk tolerance.
- You are responsible for all trading decisions and results on your account.