

Bollinger Stoch Session Scalper

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Mean Reversion (Session-Gated Scalper)

TIMEFRAME

M5 / M15

WEBSITE

www.algotbot.live

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Overview

The **Bollinger Stoch Session Scalper** is a session-gated mean-reversion Expert Advisor for MetaTrader 5. On lower timeframes, price frequently over-extends past its volatility envelope and then snaps back toward its average value. This EA fades those stretches — but only when three independent conditions agree, which is what keeps it out of genuine trend legs (the classic failure mode of any fade system).

A signal requires a triple confluence: price must pierce the outer **Bollinger Band** (the stretch), the **RSI** must already read exhausted at that extreme, and the **Stochastic %K/%D** oscillator must be turning back *from* the extreme (i.e. the snap-back has actually begun). Trades are opened only inside a configurable liquid-session window defined in UTC hours, because thin, low-liquidity hours are precisely where the false pierces that trap reversion systems occur.

Every position is protected from the outset with an ATR-based stop and take-profit, and a **smart trailing ratchet** converts a winning scalp into a protected free-roll once price has moved sufficiently in favour. The strategy is single-timeframe and indicator-based, reading whatever timeframe the chart is set to — it was designed with M5/M15 FX scalping (e.g. EURUSD) in mind.

Design intent. This is a *counter-trend* scalper. It performs best in ranging or mean-reverting conditions during liquid sessions and will deliberately stand aside during off-session hours. It is not a trend-following system.

How It Works

Entry Logic — Triple Confluence

Entry decisions are evaluated **once per closed bar**. On each new bar, the just-closed bar is measured against all three indicators. A trade is only taken when every condition lines up in the same direction:

- **Bollinger Bands** — the closed bar's close must pierce the outer rail (SMA mean \pm deviation \times population standard deviation).
- **RSI** — momentum must already read exhausted at the extreme (below the oversold level for longs, above the overbought level for shorts).
- **Stochastic %K/%D** — the fast oscillator must be turning back from the extreme, confirming the reversal has begun.

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Long : close <= lower band AND RSI < RsiOversold AND %K < StochOversold AND %K > %D -> BUY
Short: close >= upper band AND RSI > RsiOverbought AND %K > StochOverbought AND %K < %D -> SELL
```

The `%K > %D` (long) / `%K < %D` (short) test is the crucial "turning back" filter — it demands that the oscillator has already begun to hook up out of oversold (or down out of overbought), rather than fading into a still-accelerating move.

Session Gate

Entries are permitted only inside the configured UTC window (`SessionStartUtc` to `SessionEndUtc`). The window logic supports same-day ranges as well as ranges that wrap past midnight; setting start equal to end enables 24-hour operation. Importantly, the session gate applies to **entries only** — management of any live position (trailing and exits) continues around the clock.

Exit Logic — ATR Stop & Target

Every entry is placed with a fixed volatility-scaled bracket derived from the ATR of the signal bar:

- **Stop loss** = entry - (`AtrStopMult` \times ATR) for longs, or entry + (`AtrStopMult` \times ATR) for shorts.
- **Take profit** = entry + (`AtrTpMult` \times ATR) for longs, or entry - (`AtrTpMult` \times ATR) for shorts.

With the defaults (stop $1.5 \times$ ATR, target $2.0 \times$ ATR) each trade carries a reward-to-risk ratio of roughly 1.33 : 1 before trailing is considered.

Smart Trailing Ratchet

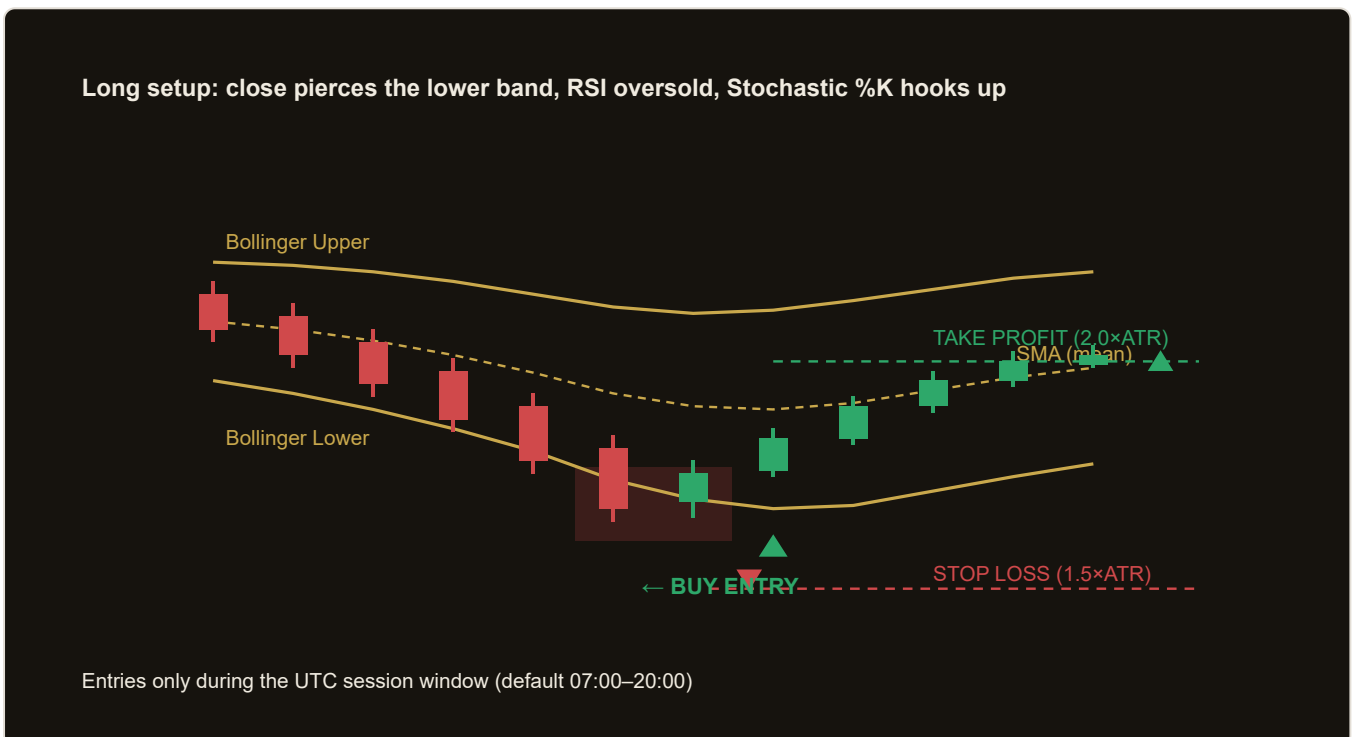
Trailing is managed on **every tick** for any open position, independent of new-bar arrival, so the ratchet reacts to intrabar movement. Once price has travelled `TrailStartMult` \times ATR in the trade's favour, the stop begins ratcheting to `TrailMult` \times ATR behind price. The stop only ever tightens — it never loosens — and a

small epsilon (5% of ATR) suppresses trivial churn adjustments. This converts a winning scalp into a protected free-roll while leaving room for the move to extend toward target.

One position at a time. As a scalper the EA holds at most one open position per magic number — it never stacks or pyramids. A new signal is ignored while a trade is live.

Strategy in Action

The illustration below shows an example of how the strategy identifies a setup and triggers its entry and exit. This is a simplified, illustrative example for educational purposes — not real market data.



Illustrative example only. Actual market behaviour varies.

Parameters

All defaults below match the strategy's `DescribeParameters()` definition and the MQL5 `input` block.

Parameter	Default	Description
BandPeriod	20	Bollinger Bands SMA period. Range 10–50, step 2.
BandDeviations	2.0	Standard-deviation multiple for the outer bands. Range 1.0–3.0, step 0.25.
RsiPeriod	14	RSI lookback period. Range 5–30, step 1.
RsiOversold	35	RSI must read below this to permit a long. Range 10–45, step 5.
RsiOverbought	65	RSI must read above this to permit a short. Range 55–90, step 5.
StochKPeriod	14	Stochastic %K period (high/low lookback). Range 5–30, step 1.
StochDPeriod	3	Stochastic %D period (SMA of raw %K). Range 2–10, step 1.
StochOversold	25	%K must be below this (and above %D) for a long. Range 5–45, step 5.
StochOverbought	75	%K must be above this (and below %D) for a short. Range 55–95, step 5.
AtrPeriod	14	ATR period used for stops, targets and trailing. Range 5–30, step 1.
AtrStopMult	1.5	Stop-loss distance as a multiple of ATR. Range 0.5–4.0, step 0.25.
AtrTpMult	2.0	Take-profit distance as a multiple of ATR. Range 0.5–5.0, step 0.25.
TrailStartMult	1.0	Profit (in ATR) required before the trailing stop arms. Range 0.3–3.0, step 0.1.
TrailMult	1.0	Trail distance behind price (in ATR) once armed. Range 0.3–3.0, step 0.1.
SessionStartUtc	7	Session open hour, UTC. Range 0–23, step 1.
SessionEndUtc	20	Session close hour, UTC. Range 0–23, step 1.
Lots	0.10	Fixed trade volume in lots. Range 0.01–1.0, step 0.05.
Magic	5150	Magic number identifying this EA's positions (management is scoped per magic).

Tip — setting the session window. If `SessionStartUtc` equals `SessionEndUtc`, the EA trades 24 hours. If start is greater than end (e.g. 20 → 6), the window wraps past midnight to cover the late US / early Asia overlap.

Recommended Settings

The strategy was designed and tuned around major-pair FX scalping. A sensible starting point:

- **Symbol:** EURUSD (or another tight-spread major such as GBPUSD / USDJPY).
- **Timeframe:** M5 or M15.
- **Session:** defaults of 07:00–20:00 UTC, covering the liquid London and New York hours.
- **Bracket:** keep stops ($1.5 \times \text{ATR}$) and targets ($2.0 \times \text{ATR}$) at defaults until you have baseline backtest data.
- **Volume:** size `Lots` to your account so a full $1.5 \times \text{ATR}$ stop is a small, fixed fraction of equity.

Example configuration — EURUSD M5

Defaults throughout, session 07:00–20:00 UTC, `Lots = 0.10`. The EA fades pierces of the 20-period, 2σ Bollinger Band that are confirmed by an oversold/overbought RSI and a turning Stochastic, brackets each scalp at $1.5 \times \text{ATR}$ risk / $2.0 \times \text{ATR}$ reward, and ratchets the stop once price is $1 \times \text{ATR}$ in profit.

Optimise on a demo first. The parameter ranges above are wide by design. Always validate any change on out-of-sample data and a demo account before trading it live — a fade system is especially sensitive to spread, session choice and volatility regime.

How to Install on MetaTrader 5

- 1 Copy `BollingerStochSessionScalper.ex5` to your MT5 `MQL5\Experts\` folder
- 2 Restart MetaTrader 5 and refresh the Navigator panel
- 3 Drag the EA onto a chart matching the recommended symbol and timeframe
- 4 Configure the input parameters and click **OK**
- 5 Enable **Algo Trading** in the MT5 toolbar

Broker server time vs UTC. The session gate uses true UTC (`TimeGMT`), not broker server time. No adjustment for your broker's server offset is required — set `SessionStartUtc` / `SessionEndUtc` in plain UTC hours.

Risk Warning

Trading foreign exchange, CFDs, and other leveraged financial instruments involves substantial risk of loss and is not suitable for all investors. The strategies and tools described in this document are provided for **educational purposes only** and do not constitute financial advice, investment recommendations, or solicitation to trade. Always consult a qualified financial adviser before making trading decisions. Past backtest performance is not indicative of future results.