

SecUnit B22 Premium EURUSD 4H

Strategy 1: SuperTrend Reversal Strategy

Version: 1.01
Symbol: EURUSD
Timeframe: 4H
Strategy Type: Reversal-Based with Multi-Filter Confirmation

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Overview

SuperTrend Reversal is a trend-reversal strategy that identifies when the market changes direction and enters trades at the beginning of a new trend. Unlike trend-following strategies that wait for confirmation, this strategy enters **early** when it detects a reversal signal combined with multiple filters.

Strategy Characteristics:

Aspect	Detail
Entry Type	Reversal at trend change
Position Type	Single position per direction
Risk per Trade	Fixed SL/TP points
Market Conditions	Works best in trending markets
Timeframe Optimization	4H EURUSD (adaptable to others)
Magic Number	101010

Core Concept

The SuperTrend Reversal strategy operates on a simple but powerful principle:

"Buy when the trend turns bullish. Sell when the trend turns bearish."

However, it doesn't enter on EVERY reversal. Instead, it uses **three confirmation filters**:

1. **ADX Filter** - Confirms trend strength
2. **ATR Movement Filter** - Validates volatility conditions
3. **Moving Average Filter** - Ensures price direction alignment

Only when **ALL THREE filters align** does the strategy execute a trade.

How SuperTrend Works

Step 1: Calculate SuperTrend

SuperTrend is calculated using:

- **Pivot Points** - The center line around which bands form
- **ATR (Average True Range)** - Dynamic bands based on volatility
- **ATR Factor** - Multiplier controlling band width

Step 2: SuperTrend Bands Formula

Center = Pivot Point (highest high or lowest low)

ATR = Average True Range over ATR_Period

Upper Band = Center + (ATR_Factor × ATR)

Lower Band = Center - (ATR_Factor × ATR)

Step 3: Trend Identification

The strategy tracks:

- **Uptrend**: Price stays above the lower band (bullish bias)
- **Downtrend**: Price stays below the upper band (bearish bias)
- **Reversal**: When price crosses from one side to the other

Price > Lower Band → UPTREND (Buy Signal Potential)

Price < Upper Band → DOWNTREND (Sell Signal Potential)

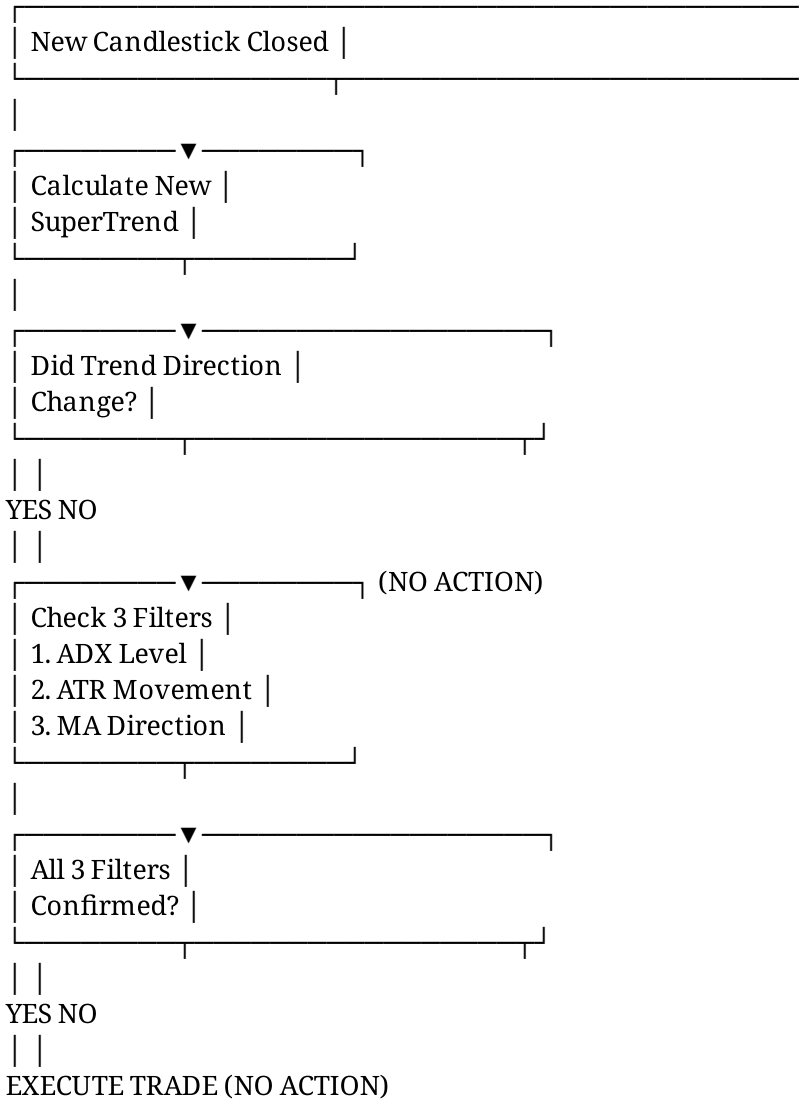
Step 4: Reversal Detection

When the trend **changes direction**:

- Previous direction was DOWN, now going UP → **BUY opportunity**
 - Previous direction was UP, now going DOWN → **SELL opportunity**
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Strategy Logic

Entry Flow Diagram



Buy Entry Condition

IF (SuperTrend Changed from DOWN to UP)
AND (ADX >= ADX_Level)
AND (Plus DI > Minus DI)
AND (ATR >= Average ATR × MinATR_Multiplier)
AND (Price > Moving Average)
THEN
Execute BUY Trade

Sell Entry Condition

IF (SuperTrend Changed from UP to DOWN)
AND (ADX \geq ADX_Level)
AND (Minus DI > Plus DI)
AND (ATR \geq Average ATR \times MinATR_Multiplier)
AND (Price < Moving Average)
THEN
Execute SELL Trade

Filter System

Filter 1: ADX Filter (Trend Strength Confirmation)

Purpose: Ensure the market has enough directional strength before entering

How It Works:

- ADX measures trend strength (0-100 scale)
- ADX > 20: Strong directional trend
- ADX < 20: Weak or ranging market
- Plus DI vs Minus DI: Direction confirmation

Default Value: ADX_Level = 20

What This Means:

- If ADX < 20, the trade is skipped (market is choppy)
- If ADX \geq 20 AND Plus DI > Minus DI → Buy allowed
- If ADX \geq 20 AND Minus DI > Plus DI → Sell allowed

Filter 2: ATR Movement Filter (Volatility Confirmation)

Purpose: Confirm that volatility is sufficient for the current trend change

How It Works:

1. Calculates ATR over the last ATR_LookbackPeriod bars
2. Averages these ATR values
3. Checks if current ATR \geq (Average ATR \times MinATR_Multiplier)

Default Values:

- MinATR_Multiplier = 0.9 (Allow trades if ATR is 90% of average)
- ATR_LookbackPeriod = 1 (Look back 1 bar only)

What This Means:

- Prevents trades during low volatility (whipsaws)
- Ensures sufficient price movement for profits

Filter 3: Moving Average Trend Filter (Price Direction Confirmation)

Purpose: Align trade direction with the longer-term trend

How It Works:

- Calculates Moving Average (default: 190-period EMA)
- Buy only if price is ABOVE the MA
- Sell only if price is BELOW the MA

Default Values:

- MA_Period = 190
- MA_Method = EMA (Exponential Moving Average)
- MA_Price = Close

What This Means:

- Additional confirmation that entry aligns with the big picture
- Prevents counter-trend trades during strong reversals

Parameters Explained

Group 1: Core SuperTrend Parameters

Parameter	Default	Range	Purpose
PivotPeriod	1	1-5	How many bars back to find pivot points. Lower = more responsive, Higher = more stable
ATR_Factor	3	1.5-5.0	Multiplier for SuperTrend bands. Higher = wider bands, fewer signals
ATR_Period	9	5-20	Period for ATR calculation. Higher = smoother ATR, fewer reversals

Optimization Notes:

- **PivotPeriod = 1:** Most responsive, catches early reversals (more false signals)
- **PivotPeriod = 2-3:** Balanced approach (recommended for EURUSD 4H)
- **PivotPeriod = 4-5:** More stable, late entries (fewer false signals)

Group 2: ADX Filter Settings

Parameter	Default	Range	Purpose
ADX_Period	13	10-20	Period for ADX indicator calculation
ADX_Level	20	15-30	Minimum ADX threshold to allow trades

Optimization Notes:

- **ADX_Level = 15:** More aggressive (trades in weaker trends)
- **ADX_Level = 20:** Balanced (default)
- **ADX_Level = 25-30:** Conservative (only strongest trends)

Group 3: ATR Movement Filter

Parameter	Default	Range	Purpose
MinATR_Multiplier	0.9	0.7-1.2	Minimum ATR threshold (as % of average)
ATR_LookbackPeriod	1	1-5	How many bars back to average ATR

Optimization Notes:

- **MinATR_Multiplier = 0.7:** Very permissive (trades in low volatility)
- **MinATR_Multiplier = 0.9:** Balanced
- **MinATR_Multiplier = 1.0-1.2:** Conservative (only high volatility trades)

Group 4: Moving Average Trend Filter

Parameter	Default	Range	Purpose
MA_Period	190	50-250	Longer = smoother trend, Shorter = more responsive
MA_Method	EMA	SMA/EMA/SMA/DEMA	Type of moving average
MA_Price	Close	Close/Open/High/Low	Price source for MA

Optimization Notes:

- **MA_Period = 100-150:** More responsive, catches trend changes earlier
- **MA_Period = 190-250:** More stable, filters more noise
- **EMA vs SMA:** EMA weights recent prices more (recommended for faster markets)

Group 5: SuperTrend TP/SL

Parameter	Default	Range	Purpose
ReversalSL_Points	500	300-800	Stop Loss distance in points (0.0001 units)
ReversalTP1_Points	364	200-500	Take Profit distance in points
UseReversalStrategy	true	-	Enable/Disable this strategy

Risk/Reward Analysis:

- Default: SL = 500 pts, TP = 364 pts → Risk:Reward = 1:0.73 (negative)
- Recommended: SL = 400 pts, TP = 500 pts → Risk:Reward = 1:1.25 (positive)

Trade Execution

Buy Trade Execution

WHEN: All filters confirmed for UPTREND reversal

ENTRY PRICE: Current ASK price

STOP LOSS: Ask - (ReversalSL_Points × 0.0001)

TAKE PROFIT: Ask + (ReversalTP1_Points × 0.0001)

POSITION SIZE: Normalized Lot Size

MAGIC NUMBER: 101010

Example (EURUSD):

- Current ASK: 1.0850
- SL Points: 500 (50 pips)
- TP Points: 364 (36.4 pips)

BUY 0.01 @ 1.0850

SL: 1.0800 (500 points below)

TP: 1.0886 (364 points above)

Risk: \$50 | Reward: \$36.40 (⚠ Negative RR!)

Sell Trade Execution

WHEN: All filters confirmed for DOWNTREND reversal

ENTRY PRICE: Current BID price

STOP LOSS: Bid + (ReversalSL_Points \times 0.0001)

TAKE PROFIT: Bid - (ReversalTP1_Points \times 0.0001)

POSITION SIZE: Normalized Lot Size

MAGIC NUMBER: 101010

Position Management

Important Rules:

1. **One position per direction** - Only 1 BUY or 1 SELL open at a time
 2. **Automatic closure on reversal** - When trend reverses, opposite position closes automatically
 3. **No pyramiding** - Additional entries not allowed
 4. **SL/TP validation** - Strict broker-level validation before execution
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Optimization Guide

Step 1: Backtesting Strategy

1. Open Strategy Tester in MT5
2. Symbol: EURUSD
3. Period: 4H
4. Model: Every tick (most accurate)
5. Run from: Last 2 years minimum

Step 2: Parameter Optimization Process

Phase 1: Find Optimal Pivot Period

Test values: 1, 2, 3, 4, 5

Observe:

- Number of trades
- Win rate %
- Drawdown %
- Profit factor

Recommendation: Choose value with:

- 50+ trades (statistical significance)
- Win rate > 50%
- Drawdown < 20%
- Profit factor > 1.5

Phase 2: Optimize ATR_Factor

Test values: 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0

Keep other parameters from Phase 1

Measure: Same metrics

Phase 3: Optimize ADX_Level

Test values: 15, 18, 20, 22, 25, 30

Lower ADX = more trades

Higher ADX = fewer, higher quality trades

Phase 4: Optimize Moving Average Period

Test values: 100, 150, 190, 220, 250

Shorter MA = more entries

Longer MA = fewer but stronger entries

Step 3: Walk-Forward Analysis

1. Split data into training (60%) and testing (40%)
2. Optimize on training data
3. Test parameters on out-of-sample data
4. If results similar → parameters are robust
5. If results differ significantly → overfitted (reduce parameters)

Step 4: Live/Demo Testing

Before using real money:

1. Forward test on demo account: 2-4 weeks minimum
2. Observe: Slippage, spread impact, order rejection rates
3. Adjust SL/TP if necessary
4. Once confirmed, use on real account with minimum lot size

Common Mistakes

✗ Mistake 1: Too Tight Stop Loss

Problem: SL too close causes hits by noise/spikes

Example:

SL = 200 points (20 pips) ← Too tight!

Result: Stopped out on noise, then price continues

Solution: Increase to at least 300-400 points (30-40 pips)

✗ Mistake 2: Inconsistent Risk/Reward Ratio

Problem: Default TP:SL is negative (364:500)

Example:

You need 58% win rate just to break even!

With 50% win rate, you LOSE money

Solution: Adjust to TP >= SL (at minimum 1:1 ratio)

Better settings:

SL = 400 points

TP = 500+ points

Ratio = 1:1.25 (positive expectancy)

✘ Mistake 3: Ignoring ADX Filter

Problem: Trading in choppy markets with $ADX < 20$

Result: High false signals, multiple whipsaws

Solution: Never lower `ADX_Level` below 15. Better: use 20-25

✘ Mistake 4: Using Too Many Trades Same Direction

Problem: Multiple buys stacked when trend strong

Result: Excessive drawdown when reversal occurs

Solution: Ensure strategy closes previous position before new entry

✘ Mistake 5: Over-Optimization

Problem: Optimizing for past 3 months creates curve-fitting

Result: Parameters don't work on live market

Solution: Use at least 2 years data, test on out-of-sample period

✘ Mistake 6: Ignoring Spread Impact

Problem: Backtester uses 0 spread, real market has 1-2 pips

Result: Expected 36 pips profit becomes -14 pips loss

Solution: Increase TP by 5-10 pips to account for spread

Advanced Tips

Tip 1: Adapt to Market Conditions

High Volatility Period (News Event):

- Increase `PivotPeriod` to 3-4 (reduce false signals)
- Increase `ATR_Factor` to 3.5-4.0 (wider bands)
- Increase `ADX_Level` to 25-30 (stronger confirmation)

Low Volatility Period (Ranging):

- Don't trade! Disable strategy
- Or increase all filters significantly

Tip 2: Multi-Timeframe Confirmation

Add manual confirmation:

1. Check 1D chart: Is the 4H reversal aligned with daily trend?
2. Check 1H chart: Is there confluence at entry level?
3. Check Support/Resistance: Entry near key levels = higher quality

Tip 3: Correlation-Based Filtering

If trading EURUSD:

- Check GBPUSD, EURJPY - similar direction
- Check if USD overall is strong/weak
- Avoid trades against major USD moves

Tip 4: Time-Based Rules

Add time-based rules:

- Don't trade during major news releases (± 30 min)
- Asian session usually ranges (0:00-8:00 GMT)
- European session more volatile (8:00-16:00 GMT)
- US session most volatile (14:00-22:00 GMT)

Tip 5: Position Sizing with Kelly Criterion

Instead of fixed 0.01 lot:

Optimal Lot = $(\text{Win}\% \times \text{AvgWin} - \text{Loss}\% \times \text{AvgLoss}) / \text{AvgWin}$

Example:

Win% = 52%, AvgWin = 364 pts

Loss% = 48%, AvgLoss = 500 pts

Optimal = $(0.52 \times 364 - 0.48 \times 500) / 364$

= $(189 - 240) / 364$

= Negative (not profitable with current settings!)

Action: Adjust TP to 500+ points

Tip 6: Profit Target Scaling

Instead of single TP:

1. Close 50% at 200 pips
2. Close 30% at 364 pips
3. Close 20% with trailing stop

This locks profits early while keeping upside open.

Summary & Recommendations

Quick Settings for EURUSD 4H:

Conservative (Fewer, Higher Quality Trades):

PivotPeriod = 3
ATR_Factor = 3.5
ADX_Level = 25
MA_Period = 190
ReversalSL_Points = 400
ReversalTP1_Points = 500

Balanced (Recommended):

PivotPeriod = 2
ATR_Factor = 3.0
ADX_Level = 20
MA_Period = 190
ReversalSL_Points = 400
ReversalTP1_Points = 450

Aggressive (More Trades, Higher Risk):

PivotPeriod = 1
ATR_Factor = 2.5
ADX_Level = 18
MA_Period = 150
ReversalSL_Points = 350
ReversalTP1_Points = 400

Testing Checklist:

- ☐ Backtest on 2+ years data
- ☐ Win rate > 50%
- ☐ Profit factor > 1.5
- ☐ Max drawdown < 25%
- ☐ Forward test 2-4 weeks on demo
- ☐ Verify slippage and spread impact
- ☐ Start with minimum lot size
- ☐ Monitor first 20 trades carefully

Next Steps

1. **Choose settings** from recommendations above
2. **Backtest thoroughly** using Strategy Tester
3. **Record results** for comparison
4. **Demo test** before live trading
5. **Start small** - prove consistency first
6. **Increase size** gradually after 100+ profitable trades

Good luck with Strategy 1! Ready to document Strategy 2: Smart Money BOS?

