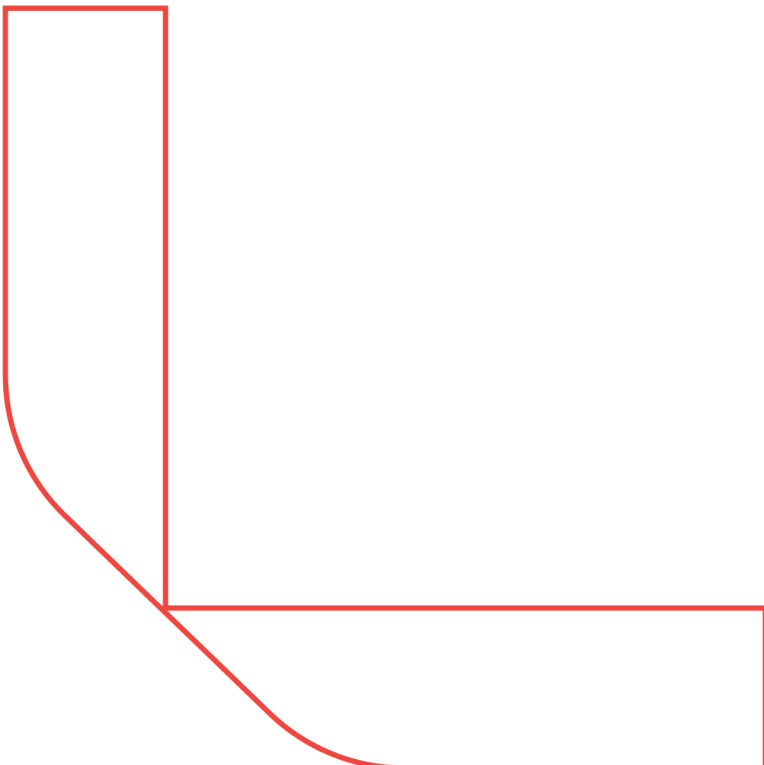# Integral
Yield Manager User Guide

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Monday, April 3, 2023 ([[[Undefined variable IDC.DocSystemVersion]]]v1)

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Contents

CHAPTER 1

Welcome to Integral Yield Manager

1.1 Introduction

Yield Manager is the first FX risk management suite delivering all the functionality needed for FX banks and brokers to offer world-class risk management to their customers. Powerful analytic tools enable you to dynamically segment and profile your customer flow, while automated bucket tipping with real-time hedging allows you to internalize and net:

- Daily Overview on page 8: The Daily Overview bar at the top of the screen shows real-time data for all risk pairs for your current business day. Yield Manager always shows the Overview.
- Dashboard on page 11: The 🎨 Dashboard is your risk warehouse command center where you manage your positions and P&L, and also monitor trading activity and market prices.
- Menu on page 9: The menu at the top of the screen allows you to navigate through all Yield Manager screens.

1.1.1 Technical Requirements

- Browser: Chrome, Firefox, Edge, and Internet Explorer 9 and above
- Screen resolution: 1600w X 1200h recommended

1.2 What's New in This Release

This release includes the following changes.

1.2.1 Off Mode Enhancements

NOTE: To enable these new Off mode enhancements, please contact your Technical Account Manager.

Yield Manager's behavior has changed when the Risk Mode for a warehouse is turned **Off** with an open position.

You determine the keep/hedge position setting with the radio buttons under **When risk mode is set to off** in the **Warehouse Management Methodology** section of the Configuration screen (⚙ **Configuration**).

Old Off Mode Behavior

- Keep/hedge setting is **hedge open position**:

  Yield Manager hedges any open position in the warehouse. Position reset and incoming trades result in hedging.

- Keep/hedge setting is **keep open position**:

  Yield Manager works to keep the position at the level it was it when warehouse was turned off. This can also result in hedging with position reset and incoming trades.

New Behavior

- Keep/hedge setting is **hedge open position**:
  - Yield Manager hedges any position in the warehouse for a hedging interval. After the interval expires, FX Yield Manager places hedging orders only if an order's canceled amount needs to be hedged.
  - Pending RiskNet orders are withdrawn.
  - Pending TWAP/TWAP Plus orders are withdrawn and the canceled amount of the order are hedged.
  - Position reset is disabled until the hedging interval expires.
- Keep/hedge setting is **keep open position**:
  - Yield Manager does not hedge any position in the warehouse unless maximum daily loss circuit breaker is tripped.
  - Pending RiskNet orders are withdrawn.
  - Pending TWAP/TWAP Plus orders are withdrawn and the canceled amount of the order are hedged.
  - Position reset is disabled until the hedging interval expires.

1.2.2 Position Reset Alert

The Position Reset tool in the Utility screen (🔧) has been enhanced. Yield Manager now alerts you if you attempt to increase a position (for example, 2M long increased to 3M long) or reverse a position (for example, 2M long to 1M short).

If you confirm the position reset and it breaches the warehouse limit, Yield Manager hedges under "AUTO" mode and does not hedge under "MANUAL" or "OFF" mode.

1.2.3 Position Reset and Circuit Breaker Enhancements

The Circuit Breaker panel in the Configuration screen (⚙ **Configuration**) allows you to configure and enable the circuit breaker to limit your daily loss.

In this release, if the circuit breaker is tripped:

- Yield Manager hedges any open position in the warehouse even if the keep/hedge setting is **keep open position** under **When risk mode is set to off** in the **Warehouse Management Methodology** section of the Configuration screen (⚙ **Configuration**).
- Yield Manager disables the Position Reset tool in the Utility screen (🔧 **Utility**) and notifies you with a message in the Position Reset tool.

  IMPORTANT: After the circuit breaker is triggered, to ensure safety and efficacy, you must manually reset the circuit breaker and manually turn on risk warehouses. See Reset and Restart on page 40.

CHAPTER 2

The Yield Manager Interface

2.1 UI Organization

Yield Manager's interface is organized into three areas:

1. : The Daily Overview bar at the top of the screen shows real-time data for all risk pairs for your current business day. Yield Manager always shows the Overview.

2. Working Area: The main area is where you manage risk and configure Yield Manager with following screens:

   -
   -
   -
   -
   -
   -
   -
   -

3. : The menu at the top of the screen allows you to navigate through all Yield Manager screens. Shown expanded.
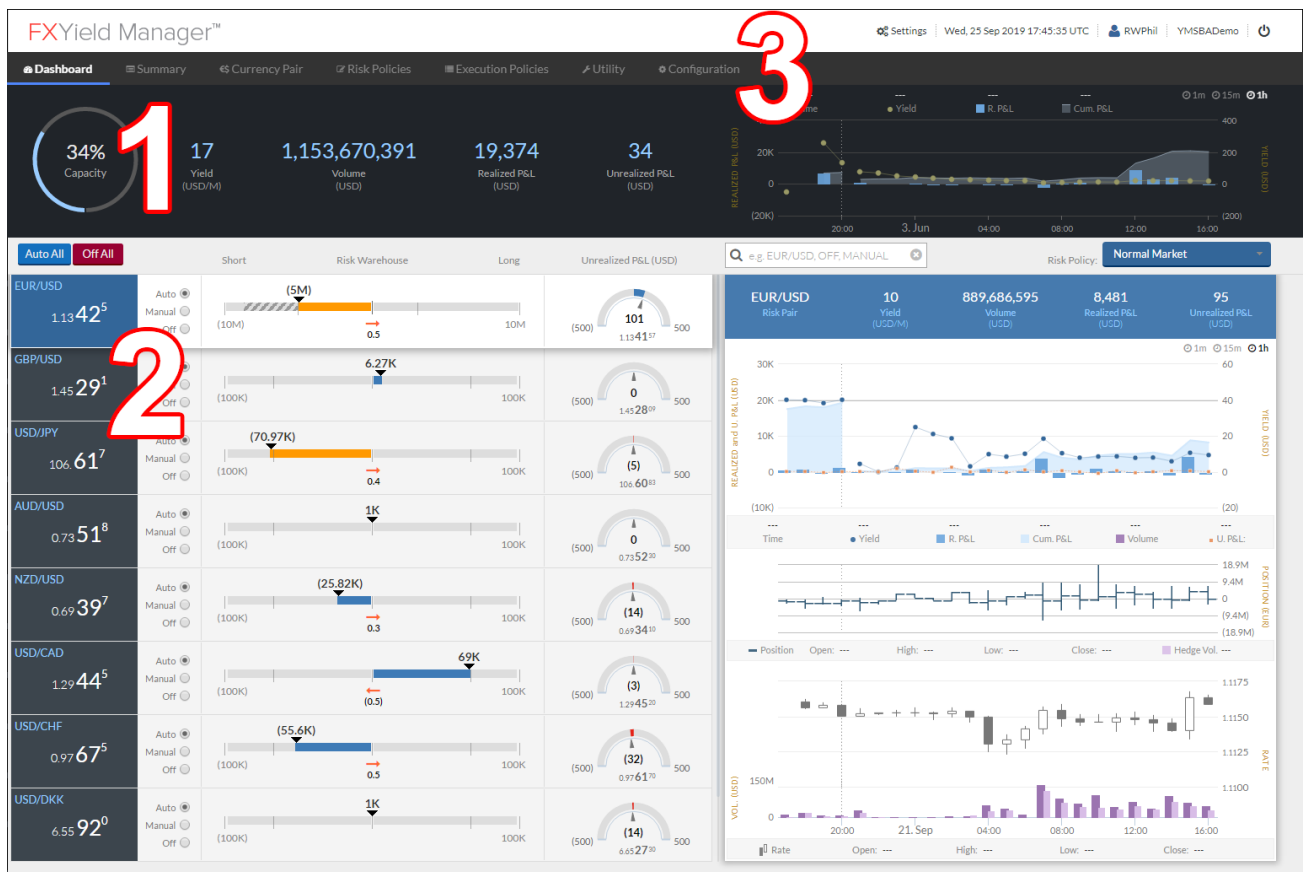
Figure 2-1 *The Yield Manager Interface*

2.2 Daily Overview

The Daily Overview bar at the top of the screen shows real-time data for all risk pairs for your current business day. Yield Manager always shows the Overview.
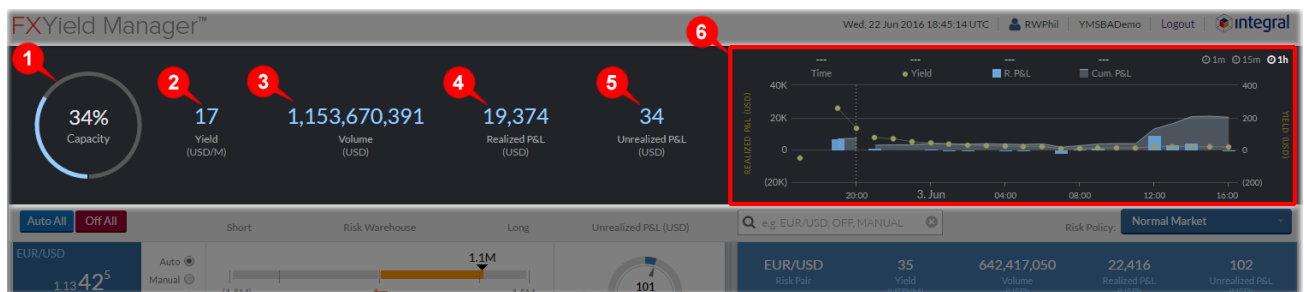

Figure 2-1 *Daily Overview*

Table 2-1 *Daily Overview Bar Components*

Item	Component	Description
1	Warehouse Capacity	The **Warehouse Capacity** gauge gives you a quick, comprehensive indication of your positions in all risk pairs. The arc represents 100% of all position limits for all risk pairs. The percentage value represents the current normalized average of all risk pair positions as a percentage of your total warehouse capacity. It is possible for the percentage value to show greater than 100%.
2	Yield	The **Yield** indicator shows your total current yield for all risk pairs per million in the reporting currency for the current business day.
3	Volume	The **Volume** indicator shows the total volume for all risk pairs in the reporting currency for the current business day.
4	Realized P&L	The **Realized P&L** indicator shows the realized P&L for all risk pairs in the reporting currency for the current business day.
5	Unrealized P&L	The **Unrealized P&L** indicator shows the total unrealized P&L for all risk pairs in the reporting currency of your open positions as they are marked to market.
6	Chart	The chart in the Business Day Overview shows the yield, realized P&L by time, and cumulative P&L for all risk pairs. You can choose the horizontal time scale of the chart to view a 24-hour overview at the **1h** scale or drill down into events with the finer **15m** and **1m** scales. When you mouse over any chart, a timeline follows your mouse pointer in the chart and the values at the top of the chart update for the time period. The end of business day is shown in all charts with a blue or orange dotted vertical line.

2.3 Menu

The menu at the top of the screen allows you to navigate through all Yield Manager screens.

You can access the following screens from the menu:

- Dashboard on page 11
- Summary on page 17
- Currency Pairs on page 22
- Risk Policies on page 25
- Execution Policies on page 30
- Utility on page 18
- Configuration on page 35

2.4 Read-only Interface

Yield Manager offers a read-only user interface so that users can monitor activity without changing anything.

Admin users assign the "YM Read Only" permission group to users who require the read-only UI.

The read-only UI has the following changes:

- Dashboard:
  - **Auto/Manual/Off** radio buttons for each risk pair disabled
  - **Auto All/Off All** buttons disabled

- ❏ **Risk Policy** drop-down list disabled
- Summary:
  - ❏ **Auto All/Off All** buttons disabled
  - ❏ **Risk Policy** drop-down list disabled
- Currency Pairs:
  - ❏ Risk pair selection buttons disabled
  - ❏ Split-currency combo boxes for warehoused risk pairs disabled
  - ❏ User can still change order of risk pairs in the Risk Pairs list. This setting is user-specific and does not affect other users.
- Risk Policies: User can click policies to view details but all configuration tools are disabled.
- Execution Policies: User can click policies to view details but all configuration tools are disabled.
- Routing Rules: User can click rules to view details but all configuration tools are disabled.
- Utility: User can select different risk pairs to view Risk Warehouse gauge in Position Reset panel. All other tools are disabled.
- Configuration: All settings disabled

CHAPTER 3

Risk Management Screens

3.1 Introduction

You monitor and manage risk in the following screens:

- Dashboard on page 11
- Summary on page 17

3.2 Dashboard

The 🎨 Dashboard is your risk warehouse command center where you manage your positions and P&L, and also monitor trading activity and market prices.
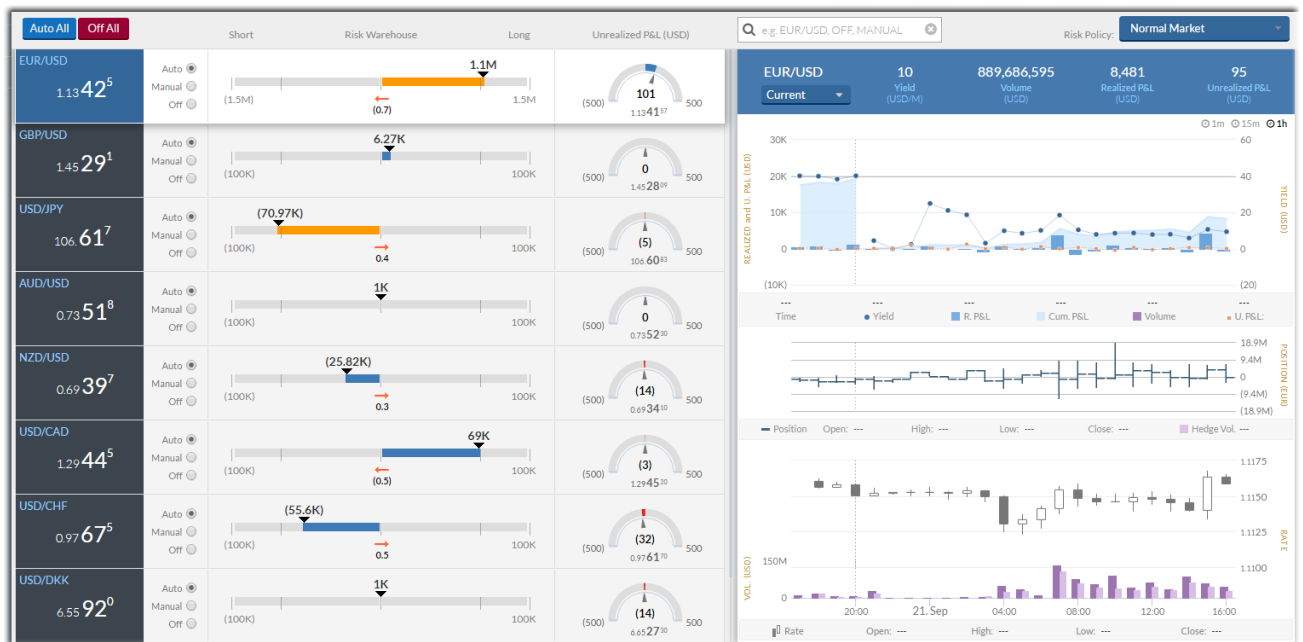

Figure 3-1 Dashboard

The **Off All** button is a "panic button" that sets the risk mode for all warehouses to "Off", hedges all positions, and sends all trades to your A book.

The **Auto All** button sets the risk mode for all warehouses to "Auto" and automatically hedges positions based on the risk policy that you set for the risk pair (see Risk Policies on page 25).
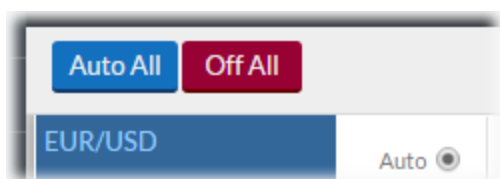
Figure 3-2 *Risk Mode Buttons*

The filter combo box allows you to focus your view of the Dashboard to a single currency, risk pair, or warehouse state (AUTO, OFF, MANUAL). To filter the Dashboard by currency, risk pair or warehouse state, type your filter criteria in the box. As you type, the Dashboard updates dynamically and a drop-down list with matches that you can select opens below the box. To clear the filter, click the remove filter button (⊗).
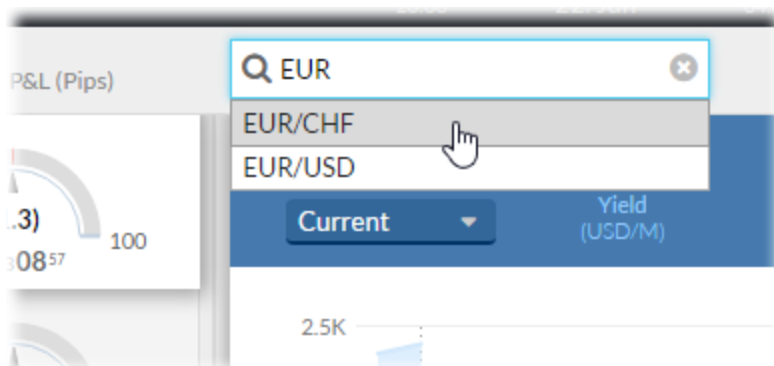

Figure 3-3 *Filter Combo Box*

The **Risk Policy** drop-down list allows you to quickly apply a risk policy from the list of policies that you have defined (see Risk Policies on page 25).

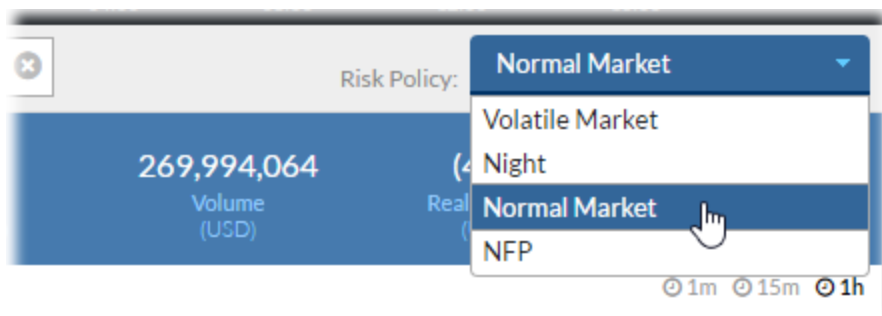**Figure 3-4** *Risk Policy Drop-down List*

The area on the left of the Dashboard shows the risk pairs. See Risk Pair Overview on page 15 for information.

You can scroll through the risk pairs with your mouse scrollwheel or with the scrollbar at the right edge of the warehouses.
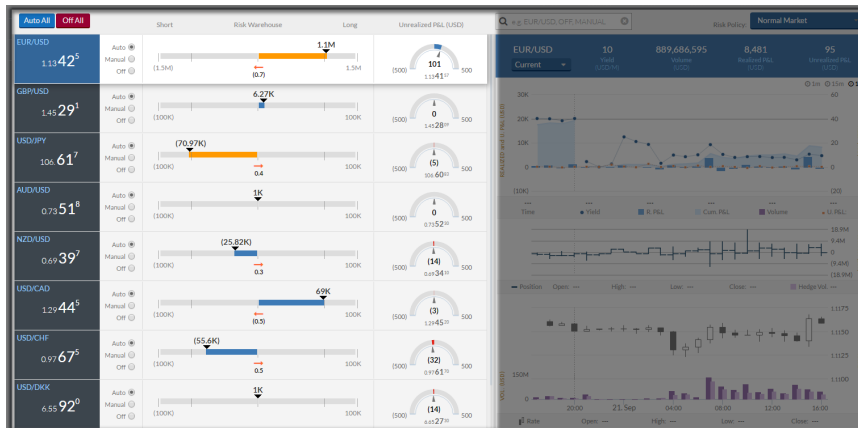

Figure 3-5 *Risk Warehouse*

The area on the right of the Dashboard shows the details of the selected risk pair for the current business day similar to the information shown in the Daily Overview at the top of the screen. See Risk Pair Details on page 16 for information.
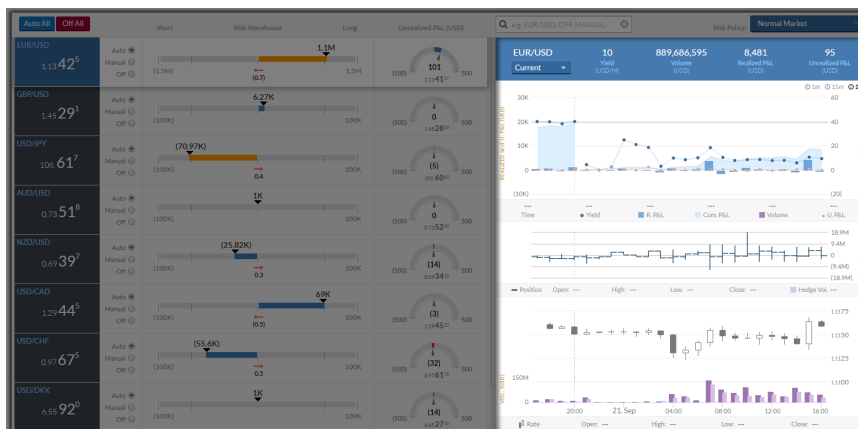

Figure 3-6 *Risk Pair Details*

The Risk Mode radio buttons allow you to choose how Yield Manager manages the risk on the risk pair:

- **Auto**: This is the default setting. Yield Manager shows positions, applies skew, and hedges the positions automatically based on the risk policy that you set for the risk pair (see Risk Policies on page 25).
- **Manual**: Positions are still taken and skew is applied, but you manually hedge the positions in Integral FX Inside.
- **Off**: Any open position is immediately hedged. The warehouse is turned off, skew is not applied, and all trades are A-booked.
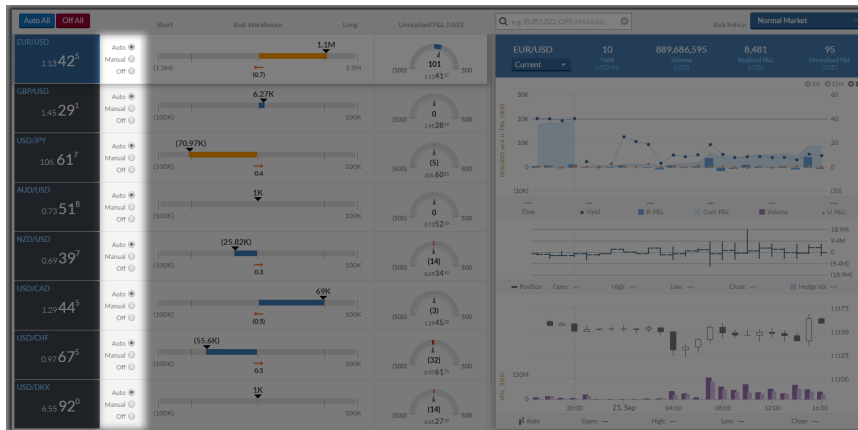

Figure 3-7 *Risk Mode Radio Buttons*

To change a risk pair's risk mode:

1. Click 🎛 **Dashboard**.
2. Click a risk mode radio button.

   Your change takes effect immediately.

   - If you change from **Manual** to **Auto** and the risk pair's risk warehouse shows greater than 100% long or short, Yield Manager immediately hedges the position.
   - If you switch to **Off** from any other risk mode, Yield Manager immediately hedges the position no matter the size of the position and the risk pair is grayed out.
   - If you change from any risk mode to **Manual**, the risk pair mid-rate box changes color to orange.

3.2.1 Risk Pair Overview

The area on the left of the Dashboard shows the risk pairs. Each warehouse listing includes overview information and Risk Mode tools. You can scroll through the risk pairs with your mouse scrollwheel or with the scrollbar at the right edge of the warehouses. You set the order of the risk pairs in the Currency Pairs screen (see Currency Pairs on page 22).

Figure 3-1 *Risk Pair Overview*

Table 3-1 *Risk Pairs Overview Components*

Item	Component	Description
1	Benchmark Mid Rate	The Mid Rate indicator shows the risk pair's real-time benchmark mid rate.
2	Risk Mode radio buttons	The Risk Mode radio buttons allow you to choose how Yield Manager manages the risk on the risk pair: **Auto**: This is the default setting. Yield Manager shows positions, applies skew, and hedges the positions automatically based on the risk policy that you set for the risk pair (see Risk Policies on page 25). **Manual**: Positions are still taken and skew is applied, but you manually hedge the positions in Integral FX Inside. **Off**: Any open position is immediately hedged. The warehouse is turned off, skew is not applied, and all trades are A-booked.
3	Risk Warehouse gauge	The **Risk Warehouse** gauge shows the current position in the base currency, short positions to the left and long to the right. The endpoint values are the **Short Position Limit** and **Long Position Limit** that you configure in the risk policy settings. When these limits are breached, Yield Manager hedges the position. The gauge bar changes color from blue to yellow to red as it approaches the limits. The points at which the bar changes from blue to yellow are the **Short Position Maint Limit** and **Long Position Maint Limit** set as a percentage of the endpoint limits in the risk policy settings. Positions that are 90% or more of the endpoint limits are shown in red, indicating that Yield Manager is about to hedge the position. Blue positions (less than the maintenance limit) are internalized. Yellow and red positions (greater than the maintenance limit but less than the endpoint limit) are internalized and netted amongst peers. Any position over red (greater than the endpoint limit) is internalized, netted with peers, and any remaining position is sent to the market. For information about risk policies, see Risk Policies on page 25.
4	TWAP execution	For TWAP execution, the gauge bar shows following: • Stripes: The remaining TWAP order amount. This shortens as clips are filled. • Solid blue or orange: The net position used for risk policy evaluation. The current position is the total open position including the net position and the pending TWAP amount. Unrealized P&L calculations use this current position. For more information about TWAP execution, see Execution Policies on page 30
5	Skew indicator	The Skew indicator shows the amount and direction of skew currently applied to the risk pair's price. See Skew on page 26 for more information.

Table 3-1 *Risk Pairs Overview Components (continued)*

Item	Component	Description
6	Unrealized P&L gauge	The **Unrealized P&L** gauge shows the unrealized P&L either in an absolute amount of the reporting currency or in pips for open positions in the risk pair as they are marked to market (see Configuration on page 35). The value on the left of the gauge is the **Unrealized P&L Stop Loss** limit and on the right is the **Unrealized P&L Take Profit** limit that you configure in the risk policy settings (see Risk Policies on page 25). The gauge value shows the actual unrealized P&L and the gauge needle shows the position as a percentage of the endpoint limits swinging left into the red for short and right into the blue for long. The average position price is shown under the gauge.

3.2.2 Risk Pair Details

The area on the right of the Dashboard shows the details of the selected risk pair for the current business day similar to the information shown in the Daily Overview at the top of the screen.
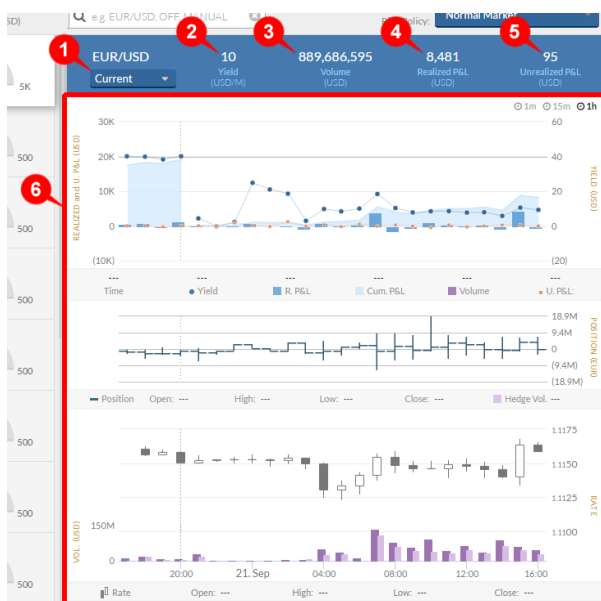
Figure 3-1 *Risk Pair Details*
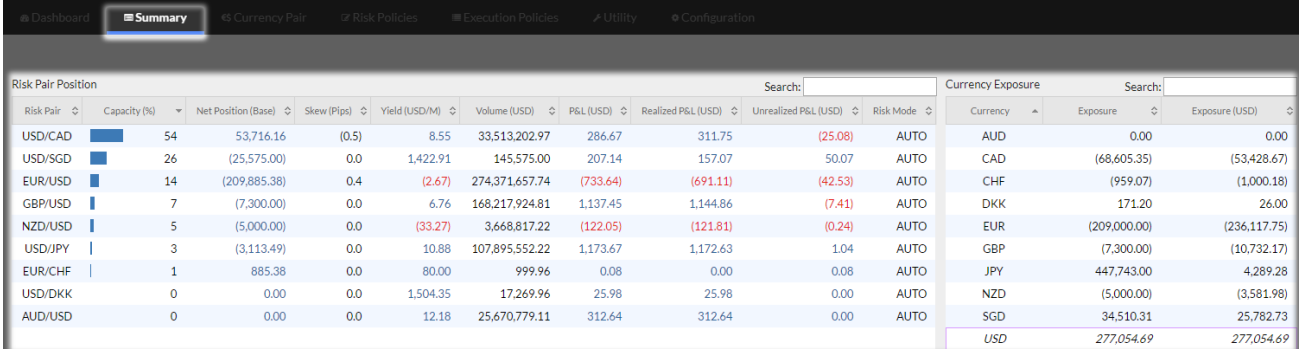
Table 3-2 *Risk Pair Details Components*

Item	Component	Description
1	Business Date	Choose the business day of data to chart from the drop-down list. The top of the panel changes color to indicate that it is showing static, historical data and not current data.
2	Yield	The **Yield** indicator shows the yield for the risk pair per million in the reporting currency.
3	Volume	The **Volume** indicator shows the volume for the risk pair in the reporting currency for the business day.
4	Realized P&L	The **Realized P&L** indicator shows the total realized P&L for the risk pair in the reporting currency for the business day. This value changes as rates change throughout the day.

Table 3-2 *Risk Pair Details Components (continued)*

Item	Component	Description
5	Unrealized P&L	The **Unrealized P&L** indicator shows the unrealized P&L for the risk pair in the reporting currency of your open positions as they are marked to market.
6	Chart	The Risk Pair Details area contains three charts: The Realized and Unrealized P&L chart at the top shows the yield, realized and unrealized P&L by time, and cumulative P&L for the risk pair. The Position chart in the middle shows the size and direction of positions in the base currency over time. The Rate/Volume chart at the bottom shows a candle chart of the risk pair's rate and a volume bar chart for the risk pair that includes both the total volume and the hedged volume. When you mouse over any chart, the risk pair's open/close and high/low rates for the time period are shown in the chart. You can choose the horizontal time scale of the charts to view a 24-hour overview at the **1h** scale or drill down into events with the finer **15m** and **1m** scales. A timeline follows your mouse pointer in the charts and all values for the time period update at the top of the chart and in the Rate/Volume chart as you move the pointer. The end of business day is shown in all charts with a dotted vertical line.

3.3 Summary

The 🗒 Summary screen shows the position details for every risk pair and the total exposure for every currency.

Risk Pair	Capacity (%)	Net Position (Base)	Skew (Pips)	Yield (USD/M)	Volume (USD)	P&L (USD)	Realized P&L (USD)	Unrealized P&L (USD)	Risk Mode		Currency	Exposure	Exposure (USD)
USD/CAD	54	53,716.16	(0.5)	8.55	33,513,202.97	286.67	311.75	(25.08)	AUTO		AUD	0.00	0.00
USD/SGD	26	(25,575.00)	0.0	1,422.91	145,575.00	207.14	157.07	50.07	AUTO		CAD	(68,605.35)	(53,428.67)
EUR/USD	14	(209,885.38)	0.4	(2.67)	274,371,657.74	(733.64)	(691.11)	(42.53)	AUTO		CHF	(959.07)	(1,000.18)
GBP/USD	7	(7,300.00)	0.0	6.76	168,217,924.81	1,137.45	1,144.86	(7.41)	AUTO		DKK	171.20	26.00
NZD/USD	5	(5,000.00)	0.0	(33.27)	3,668,817.22	(122.05)	(121.81)	(0.24)	AUTO		EUR	(209,000.00)	(236,117.75)
USD/JPY	3	(3,113.49)	0.0	10.88	107,895,552.22	1,173.67	1,172.63	1.04	AUTO		GBP	(7,300.00)	(10,732.17)
EUR/CHF	1	885.38	0.0	80.00	999.96	0.08	0.00	0.08	AUTO		JPY	447,743.00	4,289.28
USD/DKK	0	0.00	0.0	1,504.35	17,269.96	25.98	25.98	0.00	AUTO		NZD	(5,000.00)	(3,581.98)
AUD/USD	0	0.00	0.0	12.18	25,670,779.11	312.64	312.64	0.00	AUTO		SGD	34,510.31	25,782.73
											USD	*277,054.69*	*277,054.69*

Figure 3-1 *Summary*

The Currency Exposure table lists your total exposure both in the currency pair and converted to the reporting currency. The reporting currency is highlighted. Click a currency in the Currency Exposure table to toggle between all positions and only positions that include that currency in the Risk Pair Position table.

Use the **Search** fields to search positions and exposures by currency, risk pair, or warehouse state. As you type, the Position screen updates dynamically. To clear the search and show all positions, click the clear search button (✖).

CHAPTER 4

Utility

4.1 Introduction

The 🔧 Utility screen collects the following tools:

- Position Reset: Adjust your positions to account for trades done in other systems (Position Reset on page 18)
- Hedging Residual Amounts: Hedge residual amounts that may result when a risk pair's position is hedged automatically (Hedge Residual Amounts on page 19)
- Circuit Breaker Reset: Manual reset after the circuit breaker has been triggered (Circuit Breaker Reset and Warehousing Restart on page 20)

4.2 Position Reset

Use the Position Reset tool in the 🔧 Utility screen to adjust your positions to account for trades done in other systems.

In this release, if the circuit breaker is tripped:

> **NOTE:** If the circuit breaker is tripped, Yield Manager disables the Position Reset tool. To reset the circuit breaker and enable the Position Reset tool, see Reset and Restart on page 40.

Yield Manager automatically prepares the tool for you:

- Entering the full position amount
- Choosing the side opposite your position, either **SOLD** or **BOUGHT**
- Entering the underlying market rate

You can enter a different amount and rate, and choose either side.

To add a position, confirm the position settings and click **Submit**. Yield Manager notifies you of the added position with a confirmation message in the Position Reset tool.

Figure 4-1 *Position Reset*

4.3 Hedge Residual Amounts

Hedge residual amounts that may result when a risk pair's position is hedged automatically

When a risk pair's bucket is tipped, Yield Manager optimizes liquidity by hedging in regular minimum lots. As a result, a residual amount may remain in the pair's Risk Warehouse.

You can hedge those residual amounts with the **Hedge** utility button in the **Warehouse Management** section of the Utility screen (🔧 **Utility**).

To hedge residual amounts, make sure that the Risk Warehouses in the Dashboard have their Risk Mode set to OFF and then click the **Hedge** button.
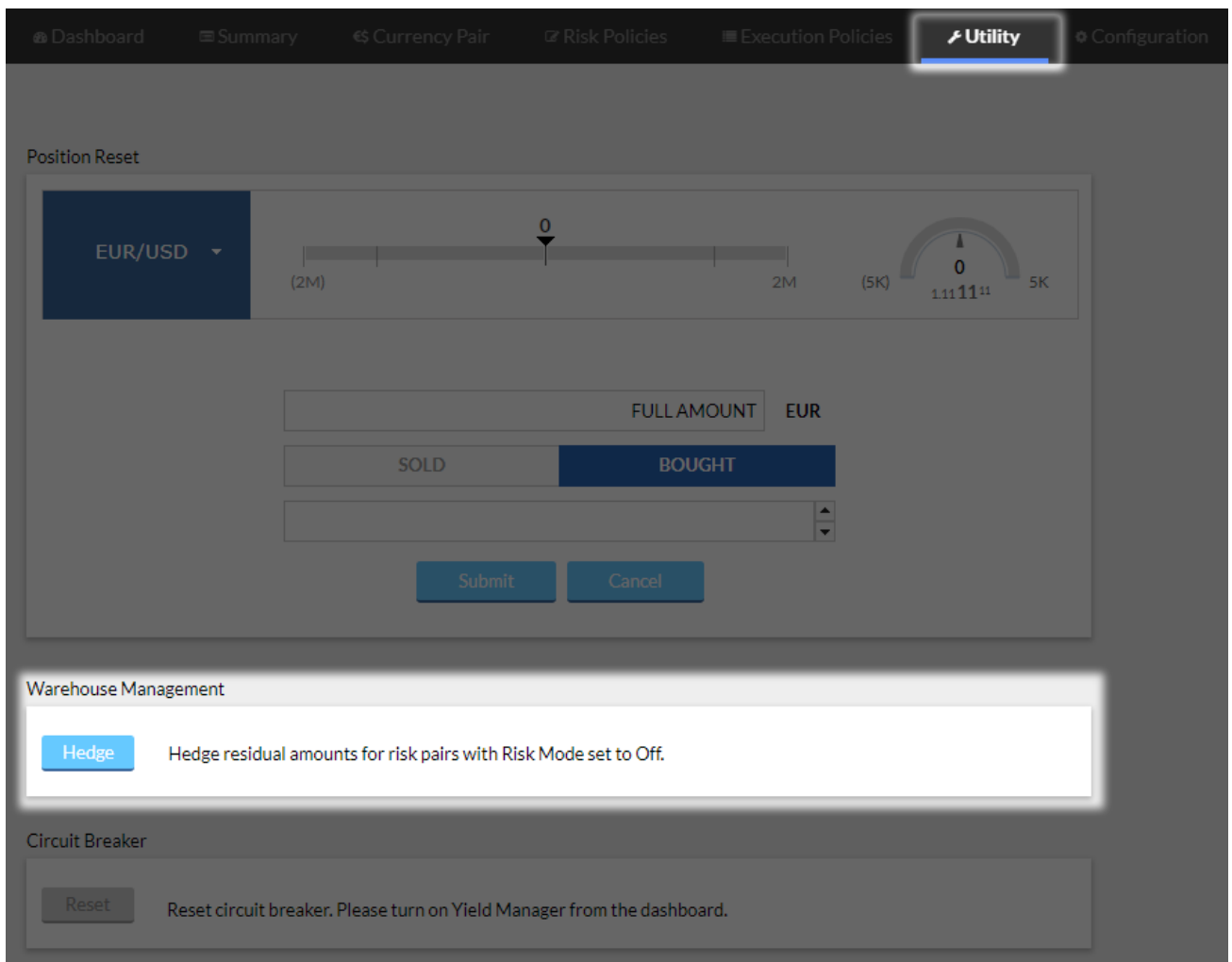
Figure 4-1 *Warehouse Management*

4.4 Circuit Breaker Reset and Warehousing Restart

IMPORTANT: After the circuit breaker is triggered, to ensure safety and efficacy, you must manually reset the circuit breaker and manually turn on risk warehouses.

To restart Yield Manager warehousing after the circuit breaker is triggered:

1. Click ⚙ **Configuration**.
2. Do one of the following in the Circuit Breaker section:
   - Wait until the start of the next business day when the P&L amounts are reset.
   - Enter a new, larger max loss limit.
   - Click the slider to turn off the circuit breaker.
3. Click 🔧 **Utility**.
4. Click the **Reset** button in the Circuit Breaker section. The button is only active after the circuit breaker has been triggered and is turned off or the daily loss is less than the circuit breaker limit.
5. Click 🎛 **Dashboard**.

6. Do one of the following to restart warehousing:
    - ❑ Turn on all warehouses: Click the **Auto All** button in the top left of the Dashboard.
    - ❑ Turn on individual warehouses: Click the **Auto** radio button in the warehouses.

Figure 4-1 *Circuit Breaker Reset*

CHAPTER 5

Settings

5.1 Introduction

The menu at the top of the screen allows you to navigate through all Yield Manager screens.

You configure Yield Manager behavior in the following screens:

- Currency Pairs on page 22
- Risk Policies on page 25
- Routing Modes on page 33
- Configuration on page 35
- Settings Screen

5.2 Currency Pairs

The **€$**Currency Pairs screen allows you to choose and arrange the currency pairs in the Dashboard. You must configure your currency pairs when you use Yield Manager for the first time.
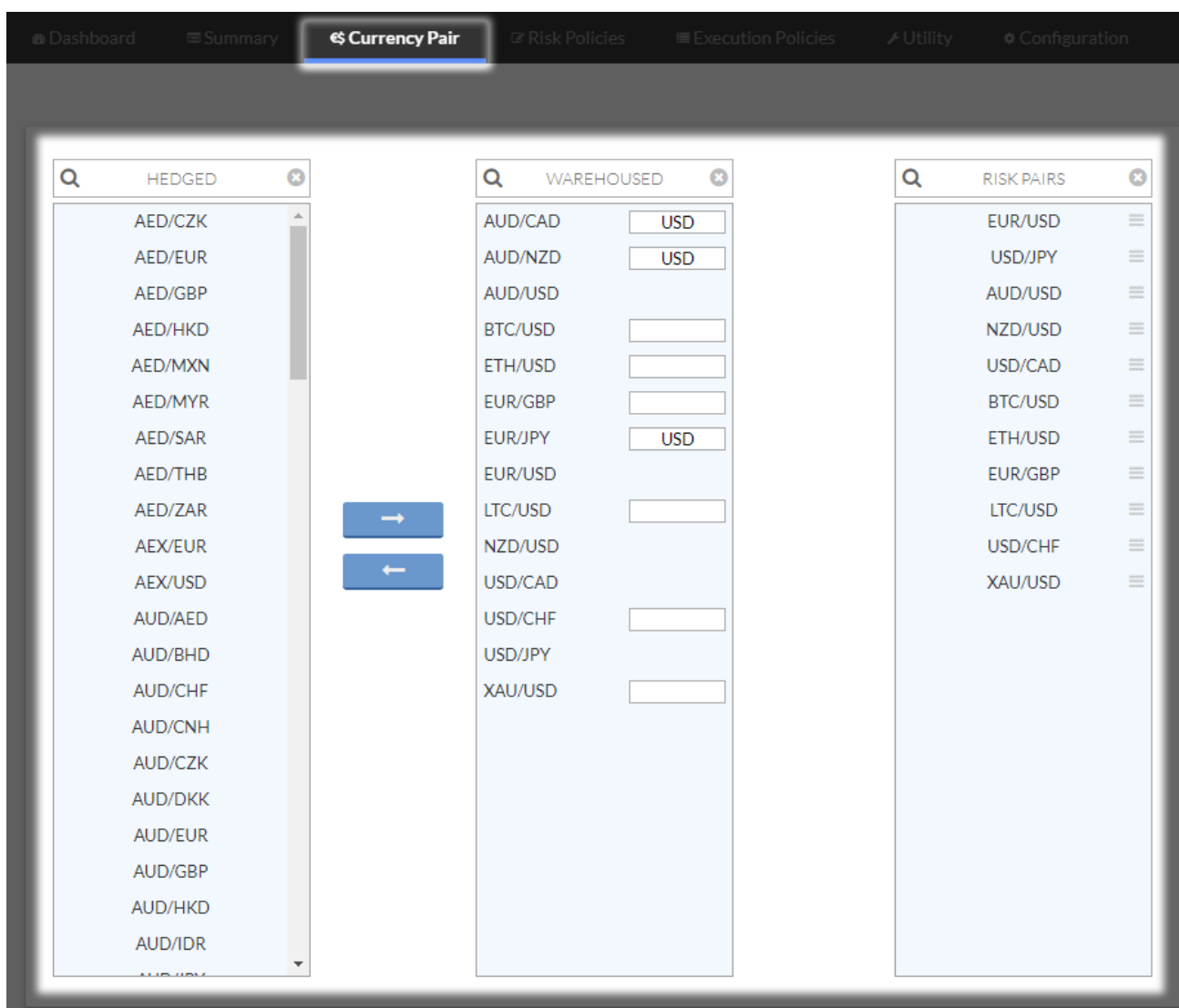
Figure 5-1 *Currency Pairs*

Click a currency pair or enter it in the field at the top of the list. Click the arrow buttons to move the currency pair between lists. Your changes are saved as you work.

- The **HEDGED** list shows the eligible currency pairs automatically hedged and not currently warehoused by the execution management system.

- The **WAREHOUSED** list shows the currency pairs where risk is managed and hedged, both directly traded pairs and component pairs. Mouse over the pairs in the **WAREHOUSED** list to see component pairs in the **RISK PAIRS** list when applicable.

  Pairs with an adjacent combo box indicate the split currency used to break the down the warehoused pair into component risk pairs. An empty combo box indicates that a split currency is available, but has not been selected. Click the combo box and enter a split currency or choose it from the drop-down list.

- The **RISK PAIRS** list shows the currency pairs in the Dashboard.

  Click and drag the currency pairs in this list to change the order of currency pairs in your Dashboard and all other screens.
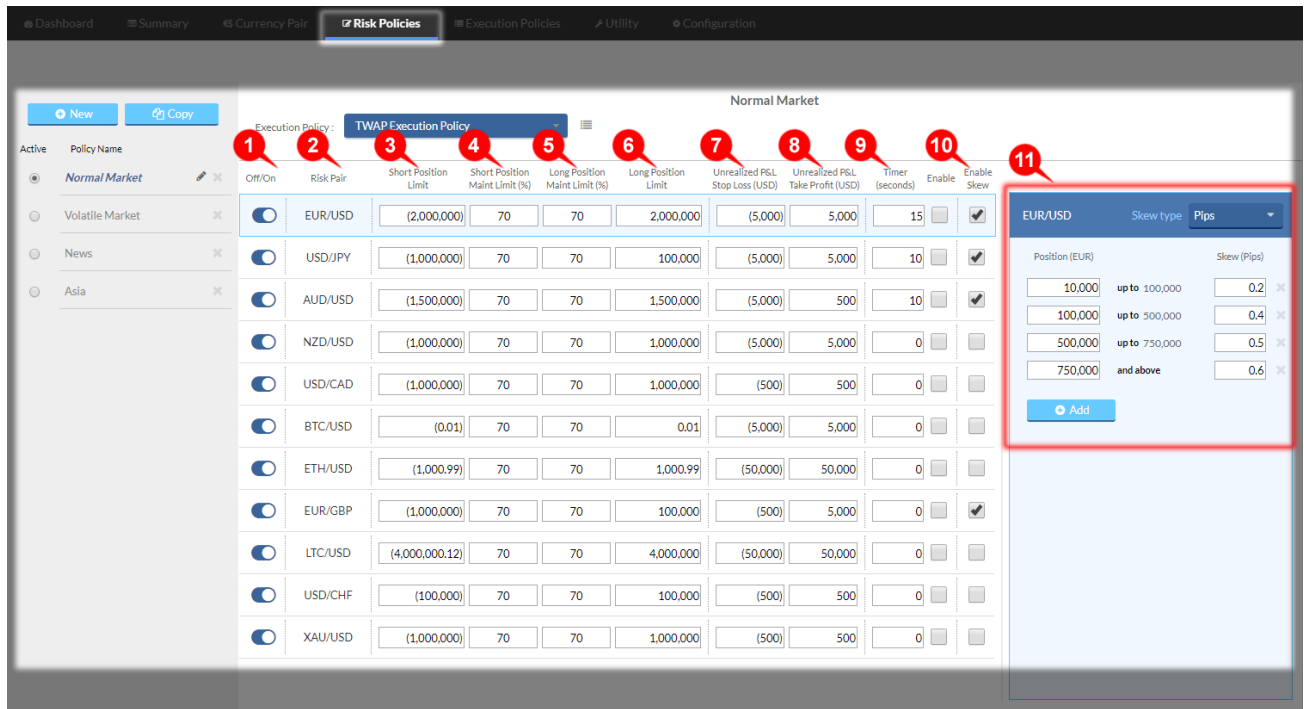
When you add a risk pair, it is added to all risk policies automatically with warehousing switched off. If you want to manage risk in the risk pair, you must use both the **Mode** slider switch in the Risk Policies screen for the active risk policy to enable warehousing and the **Auto** or **Manual** radio buttons in the Dashboard's currency pair overview. See Risk Policies on page 25 and Risk Mode radio buttons on page 15.

5.3 Risk Policies

The ✎ Risk Policies screen defines how to mitigate your risk in each risk pair by position size, unrealized P&L, time, and position-based skew.

You can have one active risk policy at a time.

The risk pairs in a policy are shown in the same order from top to bottom as they are on the Dashboard (see the **RISK PAIRS** list in Currency Pairs on page 22).

Figure 5-1 Risk Policies

Table 5-1 Risk Policy Components

Item	Component	Description
1	Mode	The **Mode** slider switch enables and disables the warehouse for the risk pair. When you create a new risk policy, all risk pairs are switched off by default. To manage risk in a risk pair, you must use both the **Mode** slider switch in the Risk Policies screen for the active risk policy to enable warehousing and the **Auto** or **Manual** radio buttons in the Dashboard's risk pair overview. See Risk Mode radio buttons on page 15 and Add a New Risk Policy on page 29.
2	Risk Pair	The risk pair to which the policy applies. Always the same list of supported warehoused pairs.
3	Short Position Limit	The absolute short limit in the base currency. This is the left endpoint of the **Risk Warehouse** gauge in the Dashboard. You must specify this value as a number less than zero. When the risk mode is set to **Auto**, Yield Manager hedges the position when your position reaches this level or below. Any position beyond this endpoint limit is internalized, netted with peers, and any remaining position is sent to the market.

Table 5-1 *Risk Policy Components (continued)*

Item	Component	Description
4	Short Position Maint Limit (%)	Set as a percentage of the short limit. Must be between zero and 100. The Risk Warehouse gauge bar in the Dashboard changes color from blue to yellow and red as it passes this limit. Blue positions (greater than the maintenance limit) are internalized. Yellow and red positions (less than the maintenance limit but greater than the endpoint limit) are internalized and netted amongst peers. Any position over red (less than the short endpoint limit) is internalized, netted with peers, and any remaining position is sent to the market.
5	Long Position Maint Limit (%)	Set as a percentage of the long limit. Must be between zero and 100. The Risk Warehouse gauge bar in the Dashboard changes color from blue to yellow and red as it passes this limit. Blue positions (less than the maintenance limit) are internalized. Yellow and red positions (greater than the maintenance limit but less than the endpoint limit) are internalized and netted amongst peers. Any position over red (greater than the long endpoint limit) is internalized, netted with peers, and any remaining position is sent to the market.
6	Long Position Limit	The absolute long limit in the base currency. This is the right endpoint of the **Risk Warehouse** gauge in the Dashboard. You must specify this value as a number greater than zero. When the risk mode is set to **Auto**, Yield Manager hedges the position when your position reaches this level or above. Any position beyond this endpoint limit is internalized, netted with peers, and any remaining position is sent to the market.
7	Unrealized P&L Stop Loss	The minimum unrealized P&L in an absolute amount of the reporting currency or in pips (see Configuration on page 35). If unrealized P&L reaches this limit, Yield Manager hedges the position. Can be specified as a positive number.
8	Unrealized P&L Take Profit	The maximum unrealized P&L in an absolute amount of the reporting currency or in pips (see Configuration on page 35). If unrealized P&L reaches this limit, Yield Manager hedges the position.
9	Timer	The time elapsed since a position is taken and the warehouse continues in the same direction after which Yield Manager hedges the position regardless of the position size or unrealized P&L. Not active by default. Check the **Enable** checkbox and enter a whole positive number of seconds to activate the timer. The timer is reset whenever the risk warehouse position is reversed. For example, you activate the timer with 60 seconds. If you take a long position and it remains unchanged for 60 seconds, Yield Manager hedges the position. If the long position continues to fluctuate and has not breached the long limit or the take profit limit after 60 seconds, Yield Manager hedges the position. However, if the position goes short before 60 seconds, the timer is reset.
10	Enable Skew	Select to enable skew for the risk pair.
11	Skew	Skew allows you to automatically adjust the prices you publish based on your inventory in Yield Manager. You define skew by risk pair in a risk policy. For more information, see Skew on page 26.

5.3.1 Skew

Skew allows you to automatically adjust the prices you publish based on your inventory in Yield Manager. You define skew by risk pair in a risk policy.

To enable skew tools and functionality, see To enable or disable position skew on all of your warehouses: on page 37.

The Skew indicator shows the amount and direction of skew currently applied to the risk pair's price. See item 5 in Risk Pair Overview on page 15.

For the cross pairs defined in the Currency Pairs screen (Currency Pairs on page 22), Yield Manager derives the skew and position limits from underlying risk pairs.

Figure 5-1 *Skew Settings in a Risk Policy*

Table 5-2 *Skew Settings Components*

Item	Component	Description
1	Enable Skew	Select to enable skew for the risk pair.
2	Skew type	Choose how the skew is applied: • Pips • Percentage of spread Yield Manager retains your skew values when you switch between pips and percentage of spread.
3	Position	Lower limit of the position tier (inclusive). You can use M and K as amount shortcuts (enter 25k for 25,000).
4	up to	Upper limit of the position tier (not inclusive)
5	Skew	The skew applied when the risk pair's position size is within the tier. Enter pips to one-tenth of a pip and percentage of spread in whole numbers.
6	Remove	Click to remove a tier.
7	Add	Click to add a tier. The tiers sort by size automatically as you edit them.

5.3.2 Edit Skew in a Risk Policy

Skew allows you to automatically adjust the prices you publish based on your inventory in Yield Manager. You define skew by risk pair in a risk policy.

To edit skew in a risk policy:

1. Click ✐ **Risk Policies**.
2. Click the risk policy that you want to edit. The ✎ Edit symbol indicates the risk policy that you are editing.
3. Select the checkbox in **Enable Skew** column to enable skew for the risk pair.
4. Edit the skew tiers. See Skew on page 26.

    To remove a tier, click ✖ Remove.

    Your changes to skew in the risk policy are saved dynamically as you make them. If you edit the active policy, your changes take effect immediately.

5.3.3 Activate a Risk Policy

To activate a different risk policy:

1. Click ✐ **Risk Policies**.
2. Click the **Active** radio button next to a policy in the **Policy Name** list.

    A popup window asks you to confirm your choice.
3. Click **OK**.

    If the activated policy is a new policy, the **Mode** slider switches are ignored and the risk mode is set to **Off** for all risk pairs as an additional safety measure. You must go to the Dashboard and individually set the risk mode of currencies with the risk mode radio buttons. See Risk Mode radio buttons on page 15.

    If the activated policy is an existing policy or a copy of an existing policy, Yield Manager starts managing your risk with the active policy.

5.3.4 Edit a Risk Policy

To edit a risk policy:

1. Click ✐ **Risk Policies**.
2. Click the risk policy that you want to edit. The ✎ Edit symbol indicates the risk policy that you are editing.
3. To rename the policy, click the policy's name and enter a new name. Your new name should include only alphanumeric characters and spaces.
4. Edit the policy settings. See Risk Policies on page 25.
5. Edit the skew. See Skew on page 26.

Your changes to the policy are saved dynamically as you make them. If you edit the active policy, your changes take effect immediately.

5.3.5 Copy a Risk Policy

To copy an existing risk policy:

1. Click ✏ **Risk Policies**.
2. Click a policy in the **Policy Name** list.
3. Click 🗐 **Copy**.

   A duplicate policy is added as an inactive policy. All aspects of the source policy are duplicated, including the risk mode settings for risk pairs.
4. Click the duplicate policy's name and enter a new name using only alphanumeric characters and spaces.
5. Edit the duplicate policy as necessary. See Risk Policies on page 25.

   Your changes to the policy are saved dynamically as you make them.

   When you activate your duplicate policy, all risk pairs with the **Mode** slider switch set to on are set to the **Auto** risk policy by default in the Dashboard. See Risk Mode radio buttons on page 15.

5.3.6 Add a New Risk Policy

To add a new risk policy:

1. Click ✏ **Risk Policies**.
2. Click ➕ **New**.

   A new, empty policy is added to the list.
3. Click the new policy's name and enter a new name. The name should contain only alphanumeric characters and spaces.
4. Edit the policy settings. Your changes are saved dynamically. See Risk Policies on page 25 and Skew on page 26.

   Your new policy is saved as inactive. If you activate the new policy, Yield Manager ignores the **Mode** and sets the risk mode to **Off** for all risk pairs as an additional safety measure. You must go to the Dashboard and individually set the risk mode of currencies with the risk mode radio buttons. See Activate a Risk Policy on page 28 and Risk Mode radio buttons on page 15.

5.3.7 Delete a Risk Policy

You cannot delete the active risk policy. If you need to delete the active policy, you must first activate another policy.

To delete a risk policy:

1. Click ✏ **Risk Policies**.

2. Click the ✖ delete button of the inactive policy that you want to delete.

    A popup window asks you to confirm the deletion.

3. Click **OK**.

    If the activated policy is a new policy, the **Mode** slider switches are ignored and the risk mode is set to **Off** for all risk pairs as an additional safety measure. You must go to the Dashboard and individually set the risk mode of currencies with the risk mode radio buttons. See Risk Mode radio buttons on page 15.

    If the activated policy is an existing policy or a copy of an existing policy, Yield Manager starts managing your risk with the active policy.

5.4 Execution Policies

The ☰ Execution Policies screen defines how to execute your positions by position amount. You assign execution policies to risk policies.

You can choose between the following execution types:

- **MARKET**: The order is matched with best market prices until filled. Used for unrealized P&L breaches.
- **TWAP**: Time-Weighted Average Price, an algo order that slices the order amount into smaller *clips* submitted over time to minimize the effect of your order on the market. Used for position size and time limits. Order size must be 1M or greater. Not supported for metals.
- **TWAP Plus**: Similar to the TWAP algo, but combines both passive and aggressive execution strategies for each clip. A clip starts as a resting order in Integral's unlit midrate matching venue (OCX RiskNet) before being submitted as an aggressing order against market-making liquidity (OCX Streams). Order size must be 1M or greater. Not supported for metals.

For algo execution, you can further set the interval between clips and the randomization of both the interval and clip size.

Yield Manager uses algo execution for both size-based and time-based bucket tipping (a position limit is breached or the position timer expires, see Risk Policies on page 25).

For unrealized P&L limit breaches, Yield Manager uses market execution. Algo execution does not apply.

When you activate a risk policy, the associated execution policy is activated as well.

The risk pairs in the Execution Policies screen are shown in the same order from top to bottom as they are on the Dashboard (see the **RISK PAIRS** list in Currency Pairs on page 22).

Figure 5-1 *Execution Policies*

Table 5-3 *Execution Policies Components*

Item	Component	Description
1	Order Amount (>=, <)	The position size that Yield Manager executes according to your execution instructions. The value you enter is inclusive (less than or equal) and the second value is exclusive (greater than).
2	Range	The range no worse than the best bid/offer that Yield Manager executes. Applies only to TWAP execution.
3	TIF	The active duration of your order in seconds. Applies only to TWAP execution.
4	Execution Type	The method Yield Manager uses to execute the order: **MARKET**: The order is matched with best market prices until filled. Used for unrealized P&L breaches. **TWAP**: Time-Weighted Average Price, an algo order that slices the order amount into smaller *clips* submitted over time to minimize the effect of your order on the market. Used for position size and time limits. Order size must be 1M or greater. Not supported for metals. **TWAP Plus**: Similar to the TWAP algo, but combines both passive and aggressive execution strategies for each clip. A clip starts as a resting order in Integral's unlit midrate matching venue (OCX RiskNet) before being submitted as an aggressing order against market-making liquidity (OCX Streams). Order size must be 1M or greater. Not supported for metals.
5	Action on Expiry	The action on any residual amount when order expires. Only for TWAP execution.
6	Possible Clip Sizes	Range of clip sizes based on TWAP parameters. Only for TWAP execution.

Table 5-3 *Execution Policies Components (continued)*

Item	Component	Description
7	SL Multiplier	Control slippage for TWAP execution with a multiplier. The market price when the TWAP is submitted is the order price. If the market moves against you and the slippage exceeds the limit, the TWAP is withdrawn and the remaining amount is executed on the market. The limit is defined as the Unrealized P&L Stop Loss Range from the active Execution Policy multiplied by the stop loss multiplier.
8	Algo Parameters	**Clip Interval**: The base interval between each clip. With TIF and order amount, this also determines the base size of each clip. For example, with an order amount of 10M and TIF of 100 seconds, a clip interval of 5 seconds yields a base clip size of 500K (100 seconds / 5 seconds = 20 intervals, 10M / 20 intervals = 500K per clip). **Interval Randomize**: Each interval is randomized by this percentage of the base interval. For example, with an interval of 10 seconds randomized by 30%, the clip interval range is between 7 and 13 seconds. **Size Randomize**: The size of each clip is randomized by this percentage of the clip size. **Passive Time**: For TWAP Plus execution only. The percentage of the interval time that a clip rests in Integral's unlit midrate matching venue (OCX RiskNet) before being submitted as an aggressing order against market-making liquidity (OCX Streams).
9	Risk Policies	The risk policies that use the selected execution policy.

5.4.1 Assign an Execution Policy

To assign an execution policy to a risk policy:

1. Click ✎ **Risk Policies**.
2. Select the execution policy from the **Execution Policy** drop-down list.

5.4.2 Edit an Execution Policy

To edit an execution policy:

1. Click ☰ **Execution Policies**.
2. Click the policy that you want to edit. The ✎ Edit symbol indicates the policy that you are editing.
3. To rename the policy, click the policy's name and enter a new name using only alphanumeric characters and spaces.
4. Edit the policy settings. See Execution Policies on page 30.

   Your changes to the policy are saved as you make them. If you edit the execution policy assigned to the active risk policy, your changes take effect immediately.

5.4.3 Copy a Risk Policy

To copy an existing execution policy:

1. Click ☰ **Execution Policies**.
2. Click a policy in the **Policy Name** list.

3. Click 🗐 **Copy**.

    A duplicate policy is added.

4. Click the policy's name and enter a new name using only alphanumeric characters and spaces.

5. Edit the policy as necessary. See Execution Policies on page 30.

    Your changes to the policy are saved as you make them.

    You must assign the execution policy to a risk policy for it to have any effect. See Assign an Execution Policy on page 32.

5.4.4 Add a New Execution Policy

To add a new execution policy:

1. Click ☰ **Execution Policies**.

2. Click ➕ **New**.

    A new policy is added.

3. Click the policy's name and enter a new name using only alphanumeric characters and spaces.

4. Edit the policy settings. Your changes are saved as you make them. See Execution Policies on page 30.

    Your new policy has no effect until you assign it to a risk policy. See Assign an Execution Policy on page 32.

5.4.5 Delete an Execution Policy

You cannot delete the execution policy assigned to the active risk policy. If you need to delete the active execution policy, you must either change the policy assignment or activate another risk policy.

To delete an execution policy:

1. Click ☰ **Execution Policies**.

2. Click the ✖ delete button of the policy that you want to delete.

    A popup window asks you to confirm the deletion.

3. Click **OK**.

5.5 Routing Modes

Routing Modes allow you to define how your B-book liquidity is routed to Yield Manager. Routing Modes are based on retail accounts and are provided in Yield Manager as a basic solution. For counterparty-based institutional trading, banks can continue to use Integral's Pricing Engine (Broker Adaptor) execution rules to route customer flow as well.

5.5.1 Activate a Routing Rule

To activate a different routing rule:

1. Click ⤨ **Routing Rules**.
2. Click the **Active** radio button next to a rule in the list.

    A popup window asks you to confirm your choice.
3. Click **OK**.

5.5.2 Edit a Routing Rule

To edit a routing rule:

1. Click ⤨ **Routing Rules**.
2. To rename the rule, click the rule's name and enter a new name. Your new name should contain only alphanumeric characters and spaces.
3. Choose the filtering that the rule applies with the following radio buttons:
    - ❑ **Include All**: All accounts are eligible for warehousing. Overrides any retail accounts in the list.
    - ❑ **Include**: The retail accounts in the list are included for warehousing.
    - ❑ **Exclude**: The retail accounts in the list are excluded from warehousing.
4. Edit the retail accounts in the field. Use a comma to separate accounts in the list.

    Your changes to the rule are saved dynamically. If you have edited the active rule, your new settings take effect immediately.

5.5.3 Copy a Routing Rule

To copy an existing routing rule:

1. Click ⤨ **Routing Rules**.
2. Click a rule in the list.
3. Click ❐ **Copy**.

    A duplicate rule is added as an inactive rule.
4. Click the duplicate rule's name and enter a new name using only alphanumeric characters and spaces.
5. Edit the duplicate rule as necessary. Your changes to the rule are saved dynamically.

5.5.4 Add a New Routing Rule

To add a new routing rule:

1. Click ⤨ **Routing Rules**.
2. Click ⊕ **New**.

    A new, empty rule is added to the list.

3. Click the new rule's name and enter a new name. Your new name should contain only alphanumeric characters and spaces.
4. Choose the filtering that the rule applies with the following radio buttons:
    - ❍ **Include All**: All accounts are eligible for warehousing. Overrides any retail accounts in the list.
    - ❍ **Include**: The retail accounts in the list are included for warehousing.
    - ❍ **Exclude**: The retail accounts in the list are excluded from warehousing.
5. Enter the retail accounts in the field as a comma-delimited list.

    Your changes to the new rule are saved dynamically and your new rule is saved as inactive. See Activate a Routing Rule on page 34.

5.5.5 Delete a Routing Rule

You cannot delete the active rule. If you need to delete the active rule, you must first activate another rule.

To delete a routing rule:

1. Click ⤭ **Routing Rules**.
2. Click the ✖ delete button of the inactive rule that you want to delete.

    A popup window asks you to confirm the deletion.

3. Click **OK**.

5.6 Configuration

The ⚙ Configuration screen allows you to set:

- Routing Mode: How your B-book liquidity is routed to Yield Manager (To choose the routing mode: on page 35).
- Warehouse Management Methodology:
    - ❍ How your positions are hedged internally and with peers (To configure how your positions are hedged: on page 36).
    - ❍ How P&L limits are displayed and applied (To configure how to apply P&L limits: on page 36).
    - ❍ What happens to your positions in a risk pair when you turn the risk pair off (To configure what happens to your positions in a risk pair when you turn risk off: on page 36).
    - ❍ Whether or not position skew is applied to your warehouses (To enable or disable position skew on all of your warehouses: on page 37)
- Circuit Breaker: Limit your daily loss (Circuit Breaker on page 38

To choose the routing mode:

1. Click ⚙ **Configuration**.
2. Click a radio button in the **Routing Mode** section:
    - ❍ **Use Integral FX Yield Manager routing rules**: Routing based on retail accounts. See Routing Modes on page 33.
    - ❍ **Use Integral MT4 Gateway routing rules**: Routing based on retail account groups
    - ❍ **Use Integral Pricing Engine execution rules**: Counterparty-based institutional trading

To configure how your positions are hedged:

1. Click ⚙ **Configuration**.
2. In the **Warehouse Management Methodology** section, click a radio button under **When a warehouse position size breaches the limit**:
   ❍ **hedge entire position.**
   ❍ **hedge position amount that exceeds maintenance level.**
   ❍ **hedge position amount that exceeds limit level.**

To configure how to apply P&L limits:

1. Click ⚙ **Configuration**.
2. In the **Warehouse Management Methodology** section, click a radio button under **Apply unrealized P&L limit as**:
   ❍ **Amount (USD)**: define limits in absolute amounts
   ❍ **Pips**: define limits in pips

   Your setting changes the Unrealized P&L limits in the Risk Policies screen (Risk Policies on page 25) and Unrealized P&L gauges on the Dashboard (Risk Pair Overview on page 15).

To configure what happens to your positions in a risk pair when you turn risk off:

1. Click ⚙ **Configuration**.
2. In the **Warehouse Management Methodology** section, click a radio button under **When risk mode is set to off**:
   ❍ **hedge open position.**
   ❍ **keep open position.**

When you turn off the warehouse for a risk pair and the setting is keep/hedge setting is **hedge open position**:

● Yield Manager hedges any position in the warehouse for a hedging interval. After the interval expires, FX Yield Manager places hedging orders only if an order's cancelled amount needs to be hedged.
● Pending RiskNet orders are withdrawn.
● Pending TWAP/TWAP Plus orders are withdrawn and the cancelled amount of the order are hedged.
● Position reset is disabled until the hedging interval expires.

When you turn off the warehouse for a risk pair and the setting is keep/hedge setting is **keep open position**:

● Yield Manager does not hedge any position in the warehouse unless maximum daily loss circuit breaker is tripped (Circuit Breaker on page 38).
● Pending RiskNet orders are withdrawn.
● Pending TWAP/TWAP Plus orders are withdrawn and the cancelled amount of the order are hedged.
● Position reset is disabled until the hedging interval expires.

To enable or disable position skew on all of your warehouses:

1. Click ✿ **Configuration**.
2. In the **Warehouse Management Methodology** section, click the **Enable position skew** slider switch to toggle skew on or off.

To limit your daily loss on Yield Manager:

> **IMPORTANT:** After the circuit breaker is triggered, to ensure safety and efficacy, you must manually reset the circuit breaker and manually turn on risk warehouses (Circuit Breaker Reset and Warehousing Restart on page 20)

Click ✿ **Configuration**.

The Circuit Breaker panel in the Configuration screen (✿ **Configuration**) allows you to configure and enable the circuit breaker to limit your daily loss.
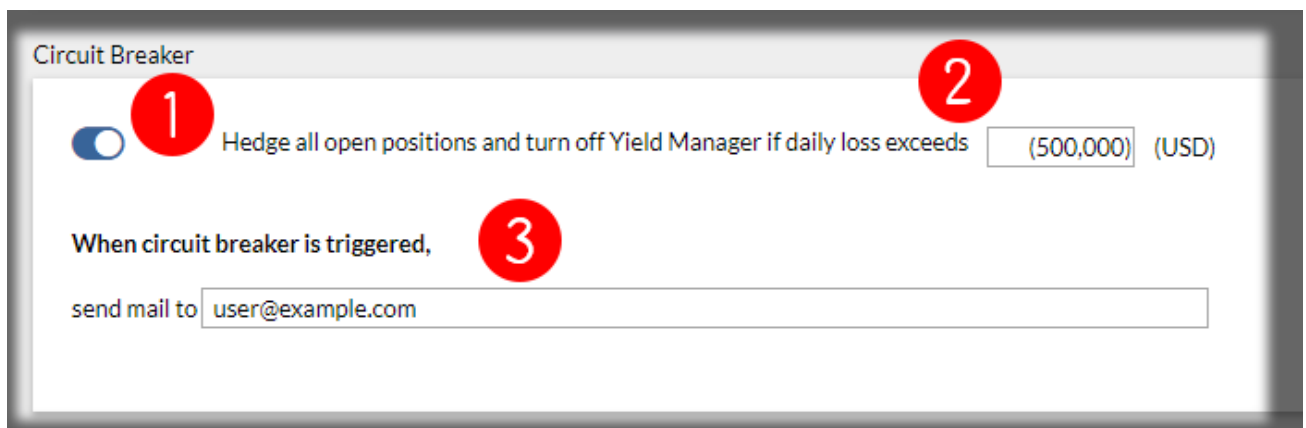

Figure 5-1 *Circuit Breaker Panel in Configuration Screen*

1	Circuit breaker slider switch	Turns circuit breaker on or off
2	Max loss limit	Must be a negative number. If the sum of the **Realized P&L** and **Unrealized P&L** on the Dashboard is lower than this value, the circuit breaker is triggered and Yield Manager hedges and turns off all warehouses for all risk pairs.
3	Notification email address	Yield Manager sends a notification email to this address when the circuit breaker is triggered or is reset.

CHAPTER 6

Concepts

6.1 Circuit Breaker

You can set a daily loss limit. If your overall P&L for all risk pairs crosses the circuit breaker threshold, Yield Manager stops warehousing in all risk pairs, hedges all positions, and locks the dashboard until you reset the circuit breaker.

6.1.1 Workflow

1. **You:** Configure the circuit breaker (Configure on page 38):
   - Daily loss limit amount
   - Enter notification email address
2. **You:** Turn on the circuit breaker.
3. **Yield Manager**: The sum of the **Realized P&L** and **Unrealized P&L** on the Dashboard breaches the limit.
4. **Yield Manager**: Turns off all warehouses in all risk pairs and hedges all positions.
5. **Yield Manager**: Alerts you on the Dashboard that the circuit breaker has been triggered (Alert on page 39).
6. **Yield Manager**: Sends email notification that the circuit breaker has been triggered.
7. **You:** Wait for the end-of-day P&L reset, change the circuit breaker limit, or turn off the circuit breaker.
8. **You:** Reset the circuit breaker (Reset and Restart on page 40).
9. **Yield Manager**: Sends email notification that the circuit breaker has been reset.
10. **You:** Turn on warehouses.

6.1.2 Configure

The Circuit Breaker panel in the Configuration screen (⚙ **Configuration**) allows you to configure and enable the circuit breaker to limit your daily loss.
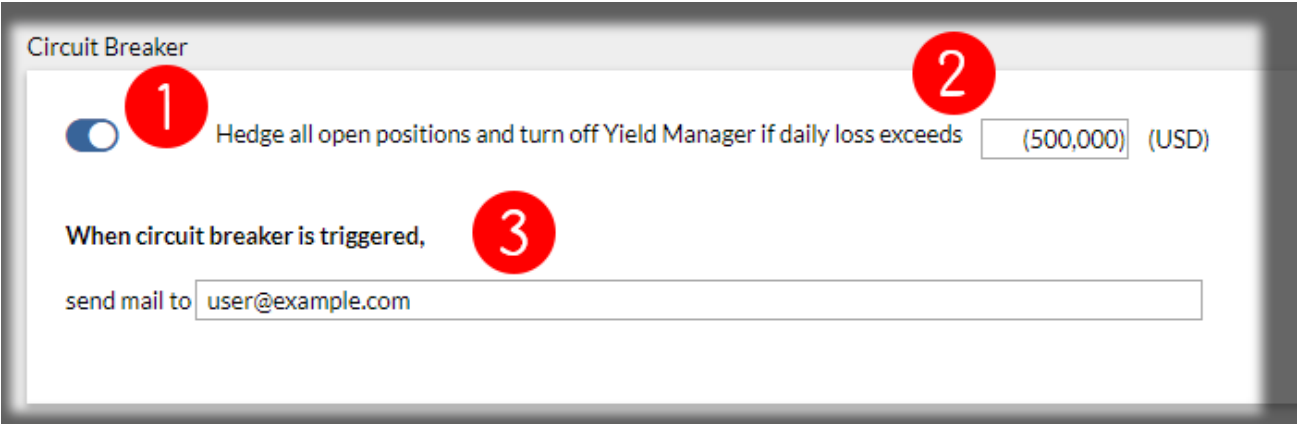
Figure 6-1 *Circuit Breaker Panel in Configuration Screen*

1	Circuit breaker slider switch	Turns circuit breaker on or off
2	Max loss limit	Must be a negative number. If the sum of the **Realized P&L** and **Unrealized P&L** on the Dashboard is lower than this value, the circuit breaker is triggered and Yield Manager hedges and turns off all warehouses for all risk pairs.
3	Notification email address	Yield Manager sends a notification email to this address when the circuit breaker is triggered or is reset.

6.1.3 Alert

When the circuit breaker is triggered, Yield Manager:

- Turns off all warehouses
- Hedges all positions
- Sends a notification email
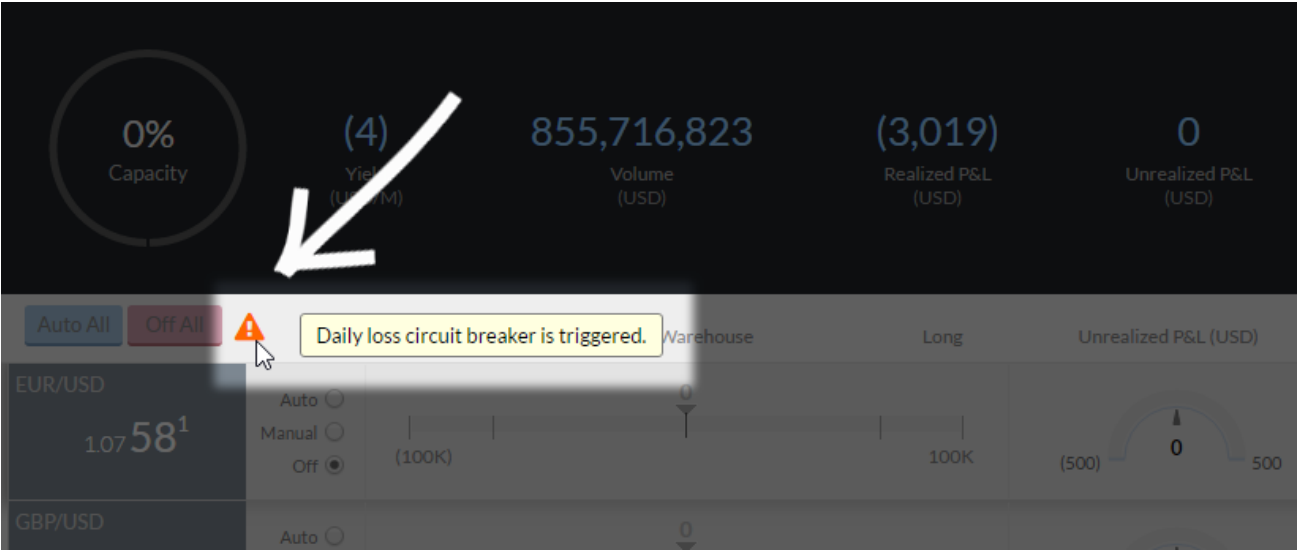- Alerts you on the Dashboard

Figure 6-2 Circuit Breaker Trigger Alert on Dashboard

6.1.4 Reset and Restart

IMPORTANT: After the circuit breaker is triggered, to ensure safety and efficacy, you must manually reset the circuit breaker and manually turn on risk warehouses.

To restart Yield Manager warehousing after the circuit breaker is triggered:

1. Click ⚙ **Configuration**.
2. Do one of the following in the Circuit Breaker section:
    - Wait until the start of the next business day when the P&L amounts are reset.
    - Enter a new, larger max loss limit.
    - Click the slider to turn off the circuit breaker.
3. Click 🔧 **Utility**.
4. Click the **Reset** button in the Circuit Breaker section. The button is only active after the circuit breaker has been triggered and is turned off or the daily loss is less than the circuit breaker limit.
5. Click 🎭 **Dashboard**.
6. Do one of the following to restart warehousing:
    - Turn on all warehouses: Click the **Auto All** button in the top left of the Dashboard.
    - Turn on individual warehouses: Click the **Auto** radio button in the warehouses.

6.1.5 Permission

The permission group "YM Circuit Breaker Configuration" controls access to the Circuit Breaker panel in the Configuration screen (⚙ **Configuration**) and in the Utility screen (🔧 **Utility**).

6.2 RiskNet Integration

Integration with RiskNet allows Yield Manager to hedge your Risk Warehouses with buy and sell interest orders submitted to the RiskNet mid-point matching engine.

NOTE: To ensure priority execution when a bucket is tipped, Yield Manager cancels all RiskNet orders.

Yield Manager manages your warehouses through RiskNet according to the following parameters.

6.2.1 Warehouse Threshold

When a warehouse's position reaches a certain threshold, Yield Manager sends orders to RiskNet. The threshold can be set as one of the following:

- Position Maint Limit: The maintenance limit as configured for the risk pair in the active risk policy. Positions larger than the maintenance limit and smaller than the absolute position limit are sent to RiskNet.

- Max Unexposure Limit: The maximum position size that is allowed to remain for internalization, typically defined to match the minimum regular order size (for example, 10K). Yield Manager enforces this regardless of the maintenance limits defined in the active risk policy.

6.2.2 Warehouse Update Interval

RiskNet notifies Yield Manager of order execution so that position bars accurately reflect the current state of your Risk Warehouses.

6.2.3 Regular Order Size

Yield Manager optimizes liquidity by sending orders to RiskNet with a regular order size.