

Account Alert Formula Reference

Account value fields, formula syntax, and risk monitoring conditions

Purpose and scope

This document is a working reference for building account-level alerts and risk columns in CQG One and CQG Desktop. It covers three things: the account value fields available to the formula editor, the operators and constraints of that editor, and a library of ready-to-use conditions for common risk scenarios.

Field definitions are taken from the platform's own autocomplete tooltips. Where a definition is ambiguous or a threshold depends on an unverified convention, the item is listed in Open Items for Verification at the end rather than resolved by assumption.

All thresholds shown in the formula tables are placeholders. They must be set to values appropriate to the account, the product mix, and the firm's risk policy before deployment.

How account alerts are created

Account alerts are built from named formulas. In the Account Summary Graphic, click +Alert, then +Add new formula if no suitable condition already exists. Name the formula, then enter the expression: typing "account." opens the field autocomplete.

Once saved, the formula becomes a Condition that can be attached to an alert. Alerts can be delivered by email to the address in the customer profile, and can optionally be set to liquidate positions and cancel working orders. That last capability requires special enablement through the broker.

The same formula syntax drives custom columns in Account Summary and view filters. Whether a formula acts as a condition or as a displayed value depends on the Condition checkbox, so a single expression can serve both purposes.

Formula editor: operators and constraints

The editor supports elementary operators only. There are no functions — no ABS, no MIN or MAX, no conditional logic.

Category	Operators	Notes
Arithmetic	+ - * / %	% is remainder, not percent. Write 15% as *0.15.
Comparison	== != < > <= >=	Standard numeric comparison.
Boolean	&& !	OR, AND, NOT. Used to combine conditions.
Bitwise	& ^ ~ << >> >>>	Supported but rarely useful for account risk.
Unary	- + ! ~	Negation, plus, logical NOT, bitwise NOT.
Grouping	()	Parentheses are supported.

Three constraints that shape every formula

- **No absolute value function.** Any test on magnitude regardless of direction must be written as two comparisons joined by ||. The Net Directional Limit formula shows the pattern.

- **No division guard.** A flat or unmarginated account will divide by zero. Every ratio condition below is prefixed with a denominator test joined by &&. Custom columns cannot be guarded this way and will display an error or infinity when the denominator is zero.
- **Percent is remainder.** The % operator returns a remainder, not a percentage. Percentages must be written as decimal multipliers.

Account value field reference

The middle column reproduces the platform tooltip. The right column expands on it where the tooltip is terse or where the field is commonly misread.

Field	Platform tooltip	In practice
account.cashExcess	<i>Cash excess</i>	Cash available above the amount required for margin.
account.currentBalance	<i>Total account balance</i>	The ledger balance for the account, including the current day's realised P/L.
account.longOpenPositionsQty	<i>Sum of position quantities among all long positions</i>	Total long quantity across open positions. Includes hedge and spread legs, so it is not a directional view.
account.margin	<i>Total margin</i>	The account's total margin requirement. Broader than positionMargin.
account.marginCredit	<i>Allowable margin credit of the account</i>	Credit extended to the account against its margin requirement. Confirm with the FCM whether this is a credit line or a SPAN offset — see Open Items.
account.marginExcess	<i>Margin Excess</i>	Margin available above the requirement. Negative means the account is deficient.
account.minDaysTillPositionContractExpiration	<i>Minimal value of days till contract expiration</i>	Days until the nearest-expiring open contract. Drives roll and delivery alerts.
account.mvo	<i>Market value of options</i>	Market value of open option positions. Not the value of all open positions.
account.netChangePercent	<i>Net change from previous day balance, in %</i>	Change measured against yesterdayBalance. Different denominator from netLiquidationValuePercent.
account.netLiquidationValuePercent	<i>profitLoss / yesterdayNetLiquidationValue</i>	Current-day P/L as a proportion of yesterday's NLV. Despite the name, this is not NLV expressed as a percentage.

Field	Platform tooltip	In practice
account.nlv	<i>Net liquidity value of account</i>	Current net liquidation value. Composition mirrors the yesterday field: cash balance + collateral + OTE + MVO.
account.noMultiplierPositionMargin	<i>Position margin without multiplier applied</i>	Base position margin before any account-level margin multiplier.
account.openTradeLossUnrealizedLoss	<i>Absolute value of OTE/UPL if it is negative</i>	A positive magnitude when unrealised P/L is negative. Equivalent to a negative test on oteUpl, with the sign flipped.
account.optionPremium	<i>Option premium</i>	Premium on option positions. Confirm sign convention and its relationship to mvo before use.
account.oteUpl	<i>Open trade equity / unrealized profit-loss</i>	Combined unrealised result: futures open trade equity plus options unrealised P/L.
account.oteUplAndPl	<i>Open trade equity / unrealized profit-loss, and P/L</i>	The above plus current-day realised P/L. The fullest single view of today's result.
account.positionMargin	<i>Position margin</i>	Margin attributable to filled positions, as distinct from the account's total margin.
account.profitLoss	<i>Current day P/L</i>	Realised profit or loss for the session.
account.purchasingPower	<i>Total purchasing power</i>	Capacity to open new positions.
account.shortOpenPositionsQty	<i>Sum of position quantities among all short positions</i>	Total short quantity across open positions. As with the long field, includes hedge and spread legs.
account.totalFilledOrders	<i>Count of filled orders for the current day</i>	Order count, not quantity. Pairs with totalFilledQty to give average fill size.
account.totalFilledQty	<i>Sum of all fill sizes for the current day</i>	Total quantity executed today.
account.upl	<i>Unrealized profit/loss for options</i>	Options only. Futures unrealised result sits in OTE.
account.yesterdayBalance	<i>Previous day account balance</i>	Prior-day ledger balance.
account.yesterdayCollateral	<i>Yesterday's collateral</i>	Collateral on deposit as of the prior day. Assets posted, not a requirement.
account.yesterdayMvo	<i>Yesterday's market value of options</i>	Prior-day option market value. Baseline for premium-decay comparisons.
account.yesterdayNetLiquidationValue	<i>NLV: cash balance + collateral + OTE + MVO</i>	Prior-day net liquidation value, and the reference point for day-over-day comparisons.
account.yesterdayOldestMarginCallAgeDays	<i>Age in days of the oldest outstanding margin call</i>	Escalation driver. Ageing past T+2 usually warrants intervention.
account.yesterdayOte	<i>Yesterday's OTE</i>	Prior-day open trade equity on futures.

Field	Platform tooltip	In practice
<code>account.yesterdayTotalOutstandingMarginCalls</code>	<i>Total outstanding margin calls in the account</i>	Confirm whether this returns a currency amount or a count before setting a threshold.

Fields most often misread

`mvo` is the market value of **options**, not of open positions generally. It sits alongside OTE for futures and UPL for options; the three are not synonyms. NLV composition confirms this: cash balance + collateral + OTE + MVO.

`netLiquidationValuePercent` is not NLV expressed as a percentage. It is current-day P/L divided by yesterday's NLV — a daily return measure. Its denominator differs from `netChangePercent`, which measures against the previous day's balance.

`openTradeLossUnrealizedLoss` is the absolute value of OTE/UPL when negative, so it is a positive number that grows as losses grow. It is the same measurement as a negative test on `oteUp1`, not a separate gross-loss figure. Use one or the other, not both.

Alert conditions

Margin adequacy

The first two are the core pair: one fires on breach, the other before it. Cushion measured as a proportion of the requirement scales across account sizes without per-account thresholds.

Formula name	Expression
Margin Deficient	<code>account.marginExcess<0</code>
Margin Cushion Under 15 Pct	<code>account.margin>0&&account.marginExcess/account.margin<0.15</code>
Cash Deficit	<code>account.cashExcess<0</code>
Purchasing Power Exhausted	<code>account.purchasingPower<=0</code>
NLV Coverage Under 1 Point 5x	<code>account.margin>0&&account.nlv/account.margin<1.5</code>

Note: NLV Coverage Under 1 Point 5x is the same measurement as a test of margin against a proportion of NLV, expressed as a ratio. Deploy one form, not both.

Credit dependence

These two test how much of the account's apparent health depends on extended credit rather than posted value. The second is a continuous stress test: it fires if the account would be deficient with the credit removed.

Formula name	Expression
Credit Over Half Of Margin	<code>account.margin>0&&account.marginCredit/account.margin>0.5</code>
Deficient Without Credit	<code>account.margin+account.marginCredit>account.purchasingPower</code>

Daily loss

Three different measurements sit here and the distinction matters. oteUplAndPI captures realised and unrealised together, netLiquidationValuePercent is built on realised P/L only, and netChangePercent measures against the previous day's balance. The unrealised-inclusive versions fire earlier; the realised versions confirm.

Formula name	Expression
Daily Loss Limit Dollar	account.oteUplAndPI<-25000
Down 5 Pct Including Unrealised	account.yesterdayNetLiquidationValue>0&&account.oteUplAndPI/account.yesterdayNetLiquidationValue<-0.05
Realised Loss 5 Pct Of NLV	account.netLiquidationValuePercent<-5
Balance Net Change Down 5 Pct	account.netChangePercent<-5
Unrealised Loss Half Of Margin	account.margin>0&&account.oteUpl<-0.5*account.margin
Open Trade Loss Magnitude	account.openTradeLossUnrealizedLoss>50000

Net liquidation value

NLV Below Margin is liquidation territory and should be treated as the most severe condition in this document.

Formula name	Expression
NLV Below Margin	account.nlv<account.margin
NLV Down 10 Pct Day Over Day	account.yesterdayNetLiquidationValue>0&&account.nlv<account.yesterdayNetLiquidationValue*0.9
Debit Account	account.nlv<0
Balance Drop 10 Pct	account.yesterdayBalance>0&&account.currentBalance<account.yesterdayBalance*0.9

Margin calls

The combination conditions are the ones worth escalating. An outstanding call alongside a deficient account means the call is not being met; trading activity while a call is aged means new risk is being added before existing risk is resolved.

Formula name	Expression
Open Margin Call	account.yesterdayTotalOutstandingMarginCalls>0

Formula name	Expression
Aged Call T Plus 2	account.yesterdayOldestMarginCallAgeDays>=2
Call And Still Deficient	account.yesterdayTotalOutstandingMarginCalls>0&&account.marginExcess<0
Trading While On Call	account.yesterdayOldestMarginCallAgeDays>=1&&account.totalFilledQty>0

Options exposure

MVO turns negative as short option value builds. Long premium is decaying collateral rather than cash, which is why measuring it against NLV is more informative than a bare dollar threshold.

Formula name	Expression
Net Short Premium	account.mvo<-10000
Premium Heavy Versus NLV	account.nlv>0&&account.mvo/account.nlv>0.4
Options Unrealised Loss	account.upl<-25000
Premium Value Down 25 Pct	account.yesterdayMvo>0&&account.mvo<account.yesterdayMvo*0.75
Option Premium Exposure	account.optionPremium<-25000

Expiration and delivery

The third condition is the one that catches genuine trouble: an expiring position in an account without the cushion to fund a delivery-period margin increase.

Formula name	Expression
Roll Warning 3 Days	account.minDaysTillPositionContractExpiration<=3
Long Into Delivery	account.minDaysTillPositionContractExpiration<=1&&account.longOpenPositionsQty>0
Expiry With Thin Cushion	account.minDaysTillPositionContractExpiration<=2&&account.marginExcess<account.margin*0.25

Position and activity

Separating gross from net size lets a spreader carry size while outright exposure stays capped. The final condition is a data integrity check rather than a risk alert — a flat account still carrying position margin usually indicates a stale position or an unreconciled give-up.

Formula name	Expression
Gross Size Limit	account.longOpenPositionsQty+account.shortOpenPositionsQty>500
Net Directional Limit	account.longOpenPositionsQty-account.shortOpenPositionsQty>200 account.shortOpenPositionsQty-account.longOpenPositionsQty>200
Fill Volume Ceiling	account.totalFilledQty>2000
Order Count Ceiling	account.totalFilledOrders>500
High Churn Flat Close	account.totalFilledQty>2000&&account.longOpenPositionsQty+account.shortOpenPositionsQty==0

Formula name	Expression
Flat But Margined	<code>account.longOpenPositionsQty+account.shortOpenPositionsQty==0&&account.positionMargin>0</code>

Suggested custom columns

For a risk desk monitoring many accounts, ratio measures are often more useful displayed continuously than as alerts. The alert is then reserved for the hard breach. These expressions are saved as formulas with the Condition box left unchecked.

Formula name	Expression
Margin Cushion Pct	<code>account.marginExcess/account.margin*100</code>
Credit Reliance Pct	<code>account.marginCredit/account.margin*100</code>
NLV Coverage Ratio	<code>account.nlv/account.margin</code>
Average Fill Size	<code>account.totalFilledQty/account.totalFilledOrders</code>
Net Position	<code>account.longOpenPositionsQty-account.shortOpenPositionsQty</code>
Day Change In NLV	<code>account.nlv-account.yesterdayNetLiquidationValue</code>

Average Fill Size, read alongside fill volume, is a reasonable proxy for detecting an algorithm fragmenting orders. Remember that none of these columns can carry a division guard, so accounts with a zero denominator will display an error.

Open items for verification

Each of the following affects at least one formula in this document. None should be resolved by assumption before the reference is published or given to a customer.

Item	What to confirm
marginCredit definition	The tooltip reads 'allowable margin credit of the account', which suggests an account-level credit extension rather than a SPAN intermarket offset. The two carry very different risk stories. Confirm with the FCM before publishing the Credit Dependence section.
netLiquidationValuePercent scaling	The tooltip shows the raw ratio <code>profitLoss / yesterdayNetLiquidationValue</code> . Confirm whether the field returns percentage points (-5) or a fraction (-0.05) and set thresholds accordingly.
netChangePercent scaling	Documented as a percentage, but verify the same way. Note its denominator is <code>yesterdayBalance</code> , not <code>NLV</code> .
optionPremium sign and scope	Confirm the sign convention for short premium and how the field relates to <code>mvo</code> , which may already capture the same exposure.
margin versus positionMargin	Confirm whether margin includes working-order margin while <code>positionMargin</code> covers filled positions only. Several formulas here treat margin as the total requirement.
yesterdayTotalOutstandingMarginCalls units	Currency amount or count of calls. Changes how any threshold above zero should be written.

Summary

The field reference above reflects the platform's own definitions rather than inferred meanings, and the formula library covers margin adequacy, credit dependence, daily loss, net liquidation value, margin calls, options exposure, expiration risk, and position activity.

Before any of these conditions is deployed against live accounts, three steps remain: set thresholds to values appropriate to the book, resolve the open items listed above with the FCM, and test each condition against an account where the trigger state can be induced deliberately.