Tag Advanced Functions

Helping Customers Increase Asset Reliability & Availability with a Quality Data Foundation

Statistics & Control, Inc.

OptiRamp Tag Advanced Functions (TAF)

Tag Advanced Functions is a powerful tool that can use simple mathematical equations or delve into complex mathematical calculations to derive valuable analysis

Features

- Provides an environment for building simple mathematical expressions, totalizers and complex statistical analysis
- Calculates a performance and the real-time deviation from target or expected value.
- Alarms abnormal conditions and deviation from target in real time.
- Track Planned vs. Actual Production Profiles
- Generates a forecast of future production rates and to determine the expected reserves.

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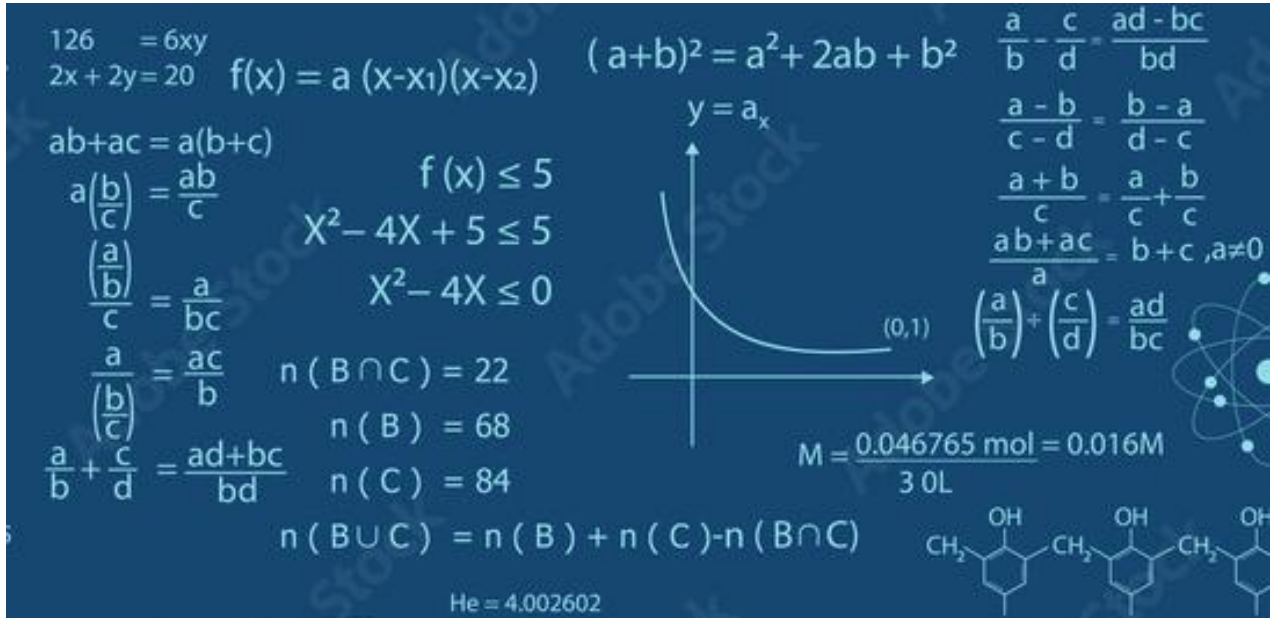
Template Formula

Purpose: Perform mathematical calculations on VTS tags.

Allows for simple math operations – Add, subtract, multiply, divide.

Allows for more simple C# functions with sqrt(), log(), and/or statements, min and max functions, normal distribution



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Decline Analysis

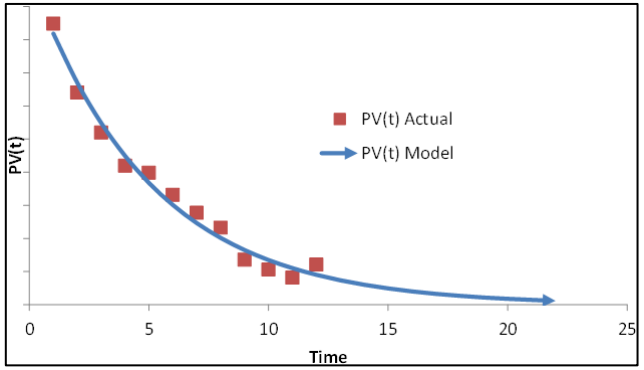
Purpose: Track variables for declining performance

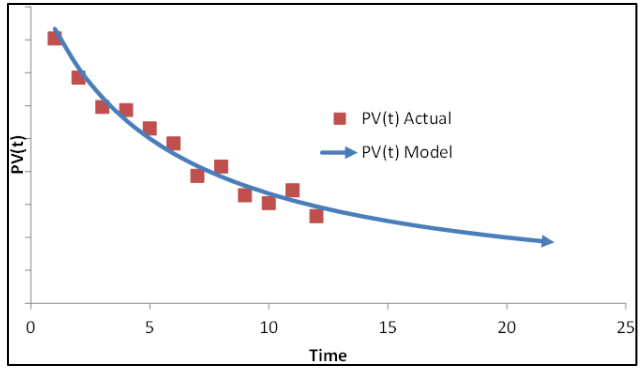
Trend Analysis:

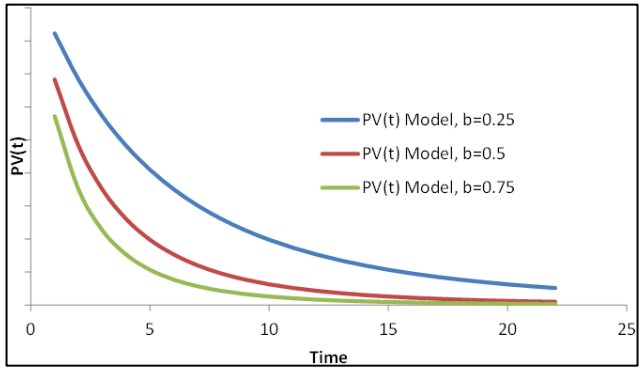
- Exponential decline
- Harmonic decline
- Hyperbolic decline
- Modified hyperbolic decline

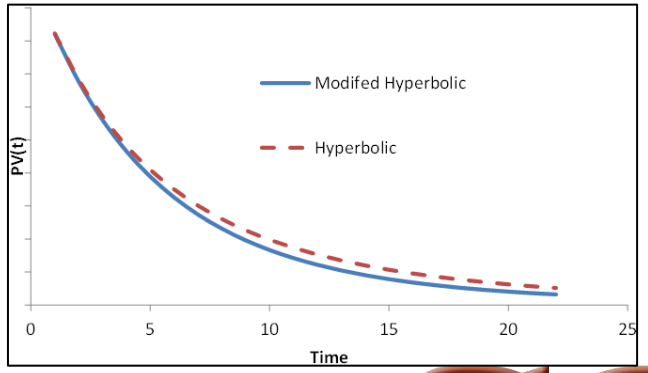
Useful for tracking:

- Production decline
- Rotating Equipment efficiency decline









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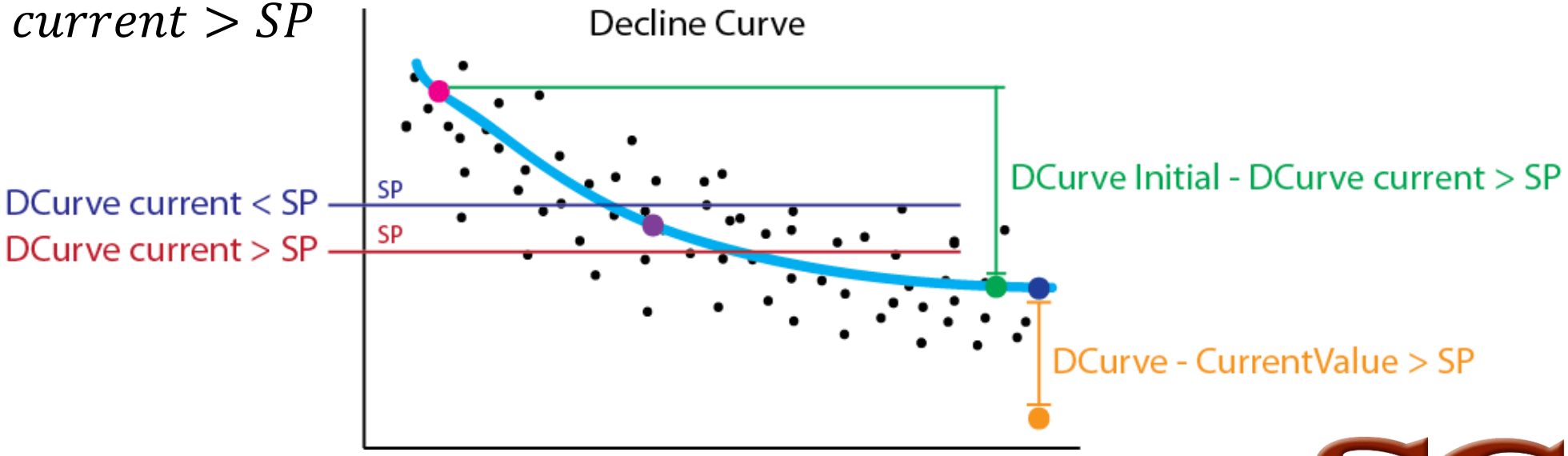
Decline Analysis

Notifications:

- $DCurve - CurrentValue > SP$
- $DCurve\ initial - DCurve\ current > SP$
- $DCurve\ current < SP$
- $DCurve\ current > SP$



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Statistical Analysis

Purpose: Determine certain process characteristics using statistics

Statistics:

- Mean, $\bar{X} = \frac{\sum_{i=1}^{n} X_i}{n}$
- Median, $\tilde{X} = MID(X)$
- IQR
- Range, $R = X_{max} - X_{min}$
- Standard deviation, $s = \sqrt{\frac{\sum_{i=1}^{n}(X_i - \bar{X})^2}{n-1}}$
- Normal distribution plots

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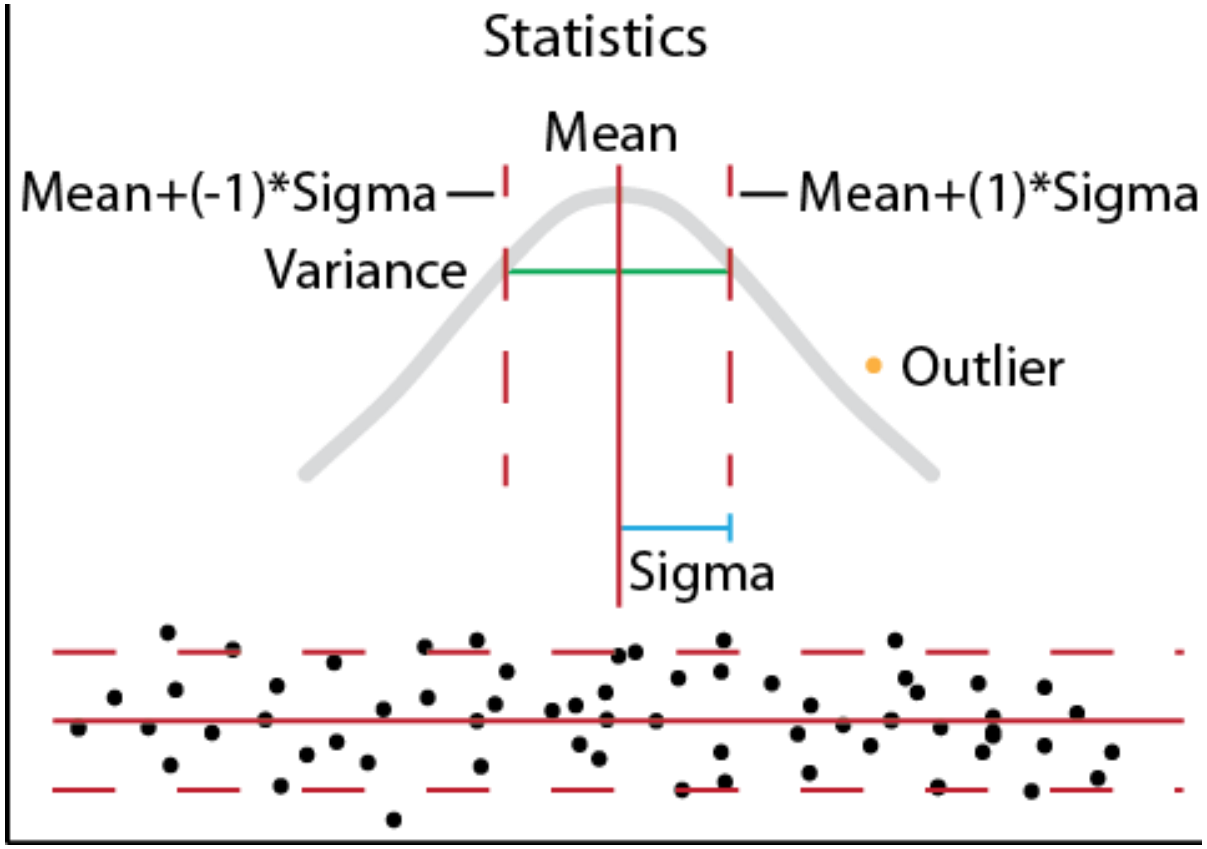
Statistical Analysis



Notifications:

- $Outlier > Sigma \times SP$
- $Variance > SP$

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Maintenance Analysis

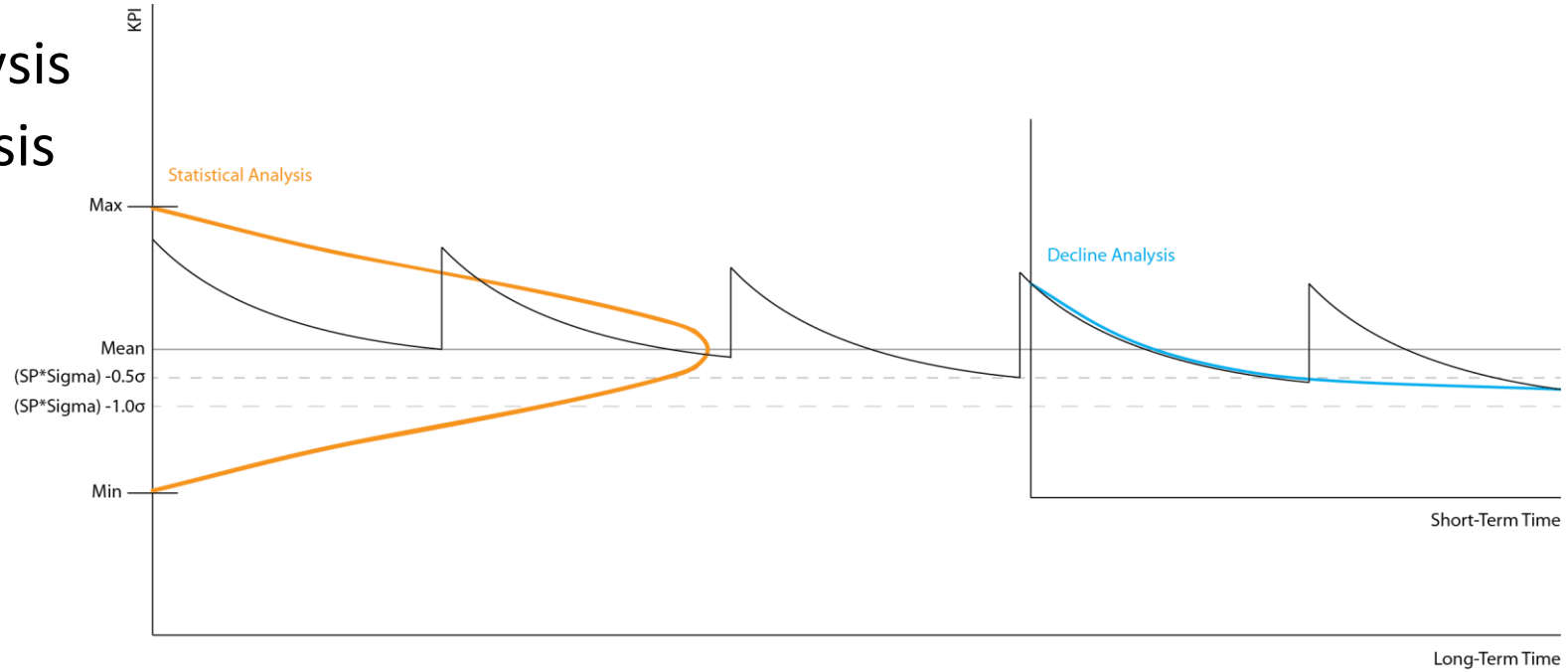
Purpose: Track KPIs to maintain equipment efficiency

Analysis submodules:

- Short-Term Trend Analysis
- Long-Term Trend Analysis

Notifications:

- $I > M + SP \times Sigma$
- $I < M + SP \times Sigma$



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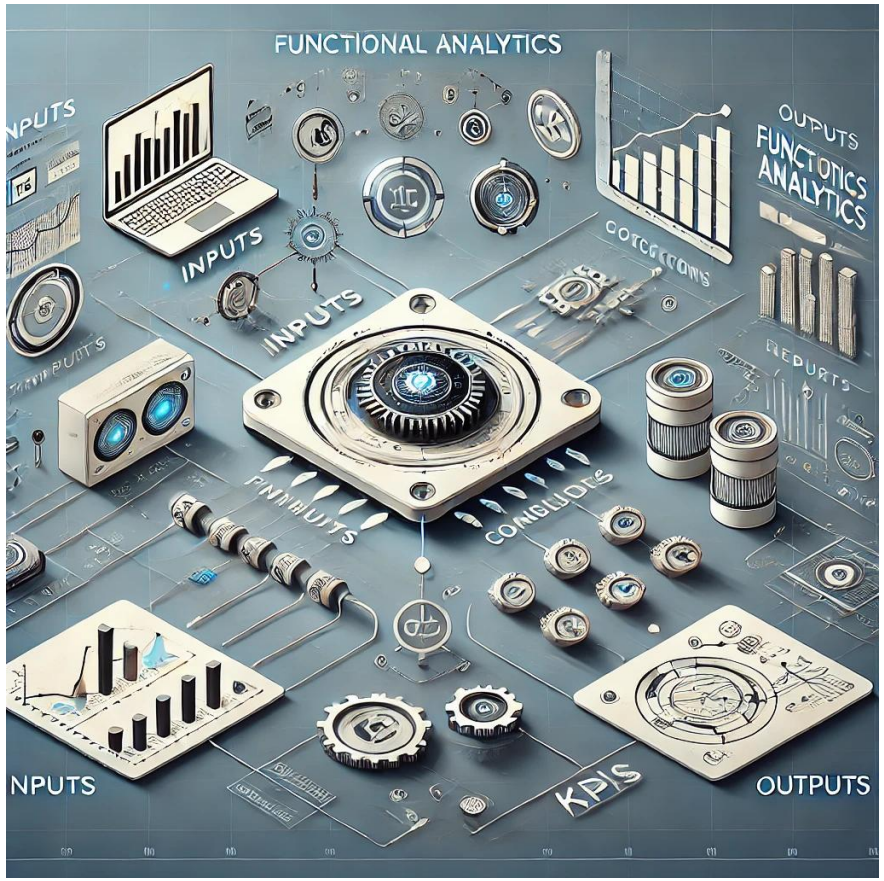
Functional Analytics

Purpose: Complex calculations based on multiple event types

Analytics submodules:

- Event Filtering
- Formula
- Inputs/Outputs
- Notifications

Functional Analytics is used to calculate complex economics or production based on certain events



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