Synthetic 32 pen Example Walkthrough

Version 1.0.0 | Investigate a 70 second interval | 20 October 2026

This exercise uses invented gas-turbine signals to practise selection, visibility, scales, A/B measurement and native PNG/CSV export. It uses no plant or customer data.

1 Open the correct demonstration

1. Launch the approved Desktop shortcut or complete packaged application.

2. File > Open... Examples > TrendView_Synthetic_32Pen_LOG_Demo inside the supplied application folder and select the full filename below.

3. Wait for Select Pens. With no browser Search, use Add All Filtered and Apply. Check Loaded 32, Selected 32, Visible 32. Choose Full for 0 to 1200 seconds.

SYNTHETIC_DEMO 2026-01-01 12.00.00 (UTC+0) PartLoad_FullLoad_Disturbance.log



All 32 synthetic pens over the full 20-minute trend.

The original 16-signal, three-minute examples remain directly in Examples. This 32-pen exercise is in its own subfolder. Preserve its complete LOG timestamp name.

2 Build the eight trace investigation

Click Hide All, keep Table: All and find these pens using Search. Tick Show for each. Between terms delete Search with Ctrl+A and Backspace, not Clear.

Tag suffix after SYNTH.	Unit	Search
MW_ACTUAL.A_NAME	MW	MW
MW_DEMAND.A_NAME	MW	MW
FUEL_DEMAND_PCT.A_NAME	percent	FUEL
FUEL_VALVE_PCT.A_NAME	percent	FUEL
FUEL_PRESS_BAR.A_NAME	bar	FUEL
EXHAUST_AVG_C.A_NAME	C	EXHAUST
EXHAUST_SPREAD_C.A_NAME	C	EXHAUST
FUEL_PRESS_LOW_ALARM.B_NAME	0/1	FUEL_PRESS_LOW_ALARM

Expected counts: Loaded 32, Selected 32, Visible 8. All 32 were initially shown, so Group may still contain 32. Hiding traces does not remove membership. Search and Group are row filters, not export scopes.

Choose MW_ACTUAL as Active Scale, then FUEL_PRESS_BAR, then return to MW_ACTUAL. The axis changes units; raw values are unchanged. Optionally practise a valid scale edit, noting and restoring the original bounds.

3 Inspect and measure the disturbance

1. Zoom and pan to about 650 to 820 seconds, or drag a background zoom rectangle.

2. Hover near the disturbance onset around 720 seconds. Inspect Current, then move away to clear it.

3. Place A at 710 seconds and B at 780 seconds with context commands and keyboard nudges. Absolute times are 12:11:50 and 12:13:00 on 2026-01-01.

4. Check Delta T 70.00 seconds and table A, B and Delta. Do not treat overlay heights as common engineering units.



Eight traces and stable A/B anchors around the synthetic disturbance.

Expect temporary fuel-pressure and output reductions, valve/exhaust changes and a low-pressure alarm transition. These invented traces do not establish a real equipment fault diagnosis.

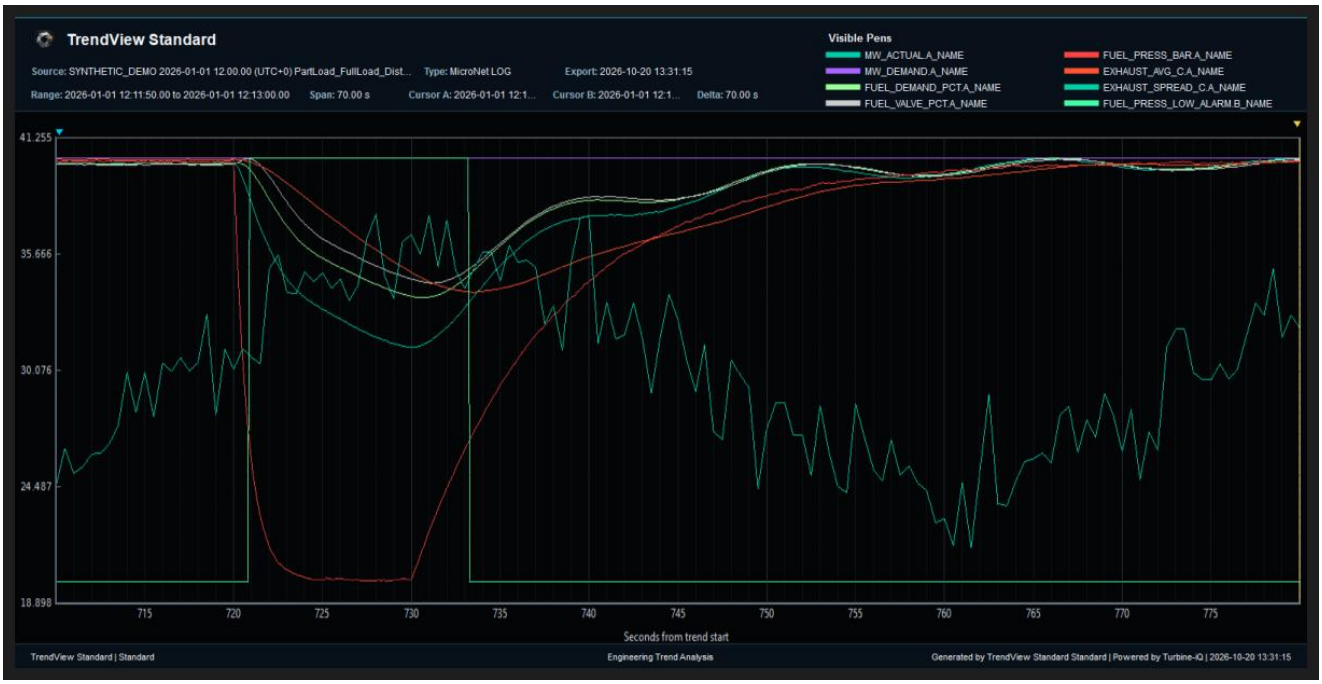
4 Save both outputs under new names

1. Right-click > Zoom Between Cursors; confirm 710 to 780 seconds.

2. Save View Image... to Desktop as TrendView_Synthetic_AB_710_780_Take01.png. Use another take number if it exists. Inspect the PNG.

3. File > Export CSV > Visible Pens - Between Cursor A/B, or the matching context command. Save a unique Desktop CSV using the same take name.

4. Check eight tags and inclusive interval timestamps. Unqualified Between Cursor A/B would export all loaded pens.



The native application PNG report for the exact interval.

Exact endpoints and these eight pens yield 3,788 data rows plus header: four 100 ms channels contribute 701 each, two 200 ms channels contribute 351 each and two 500 ms channels contribute 141 each. Approximate cursor placement can change the count.

5 Reopen and check the exported data

1. Retain the PNG as a view reference before replacing the session.

2. File > Open... the new Desktop CSV. Apply all eight pens if needed.

3. Check eight tags and absolute timestamps 12:11:50 through 12:13:00. Relative time uses export start as the new origin.

4. Compare representative values with the CSV. Group, Show and manual bounds are not saved UI state.

Completion checklist

[ ] Correct synthetic LOG filename retained

[ ] Loaded 32 and selected 32 before filtering

[ ] Eight visible traces for export

[ ] A 710 seconds and B 780 seconds

[ ] New PNG and CSV on Desktop

[ ] Eight tags and 3,788 rows for exact endpoints

[ ] Original input unchanged and no customer data used