CUSTOM INSTRUMENTATION
SERVICES CORPORATION

Calibration Drift Correction

Calibration Drift Correction

CiSCO uses Calibration Correction in all projects except for those under South Coast Air Quality Management District (SCAQMD) jurisdiction.

CiSCO will remove the Calibration Correction function from the PLC upon request.

Calibration Drift Correction

Calibration Correction is used to correct for minor error in analyzer response found during a calibration check.

Errors may be due to signal transmission, and analyzer detector inconsistencies like electronic noise, or even slight drift.

Calibration Drift Correction

Calibration correction is not meant to replace the need for a technician.

Errors cause by cylinder gases, the gas concentration level, and drift over time should still be maintained by technicians.

How does it work?

The adjustment is performed by the CEMS PLC.

The PLC performs the calibration check sequence of an analyzer based on the daily QA requirements.

This can either be done automatically by the system or initiated manually by a user.

How does it work?

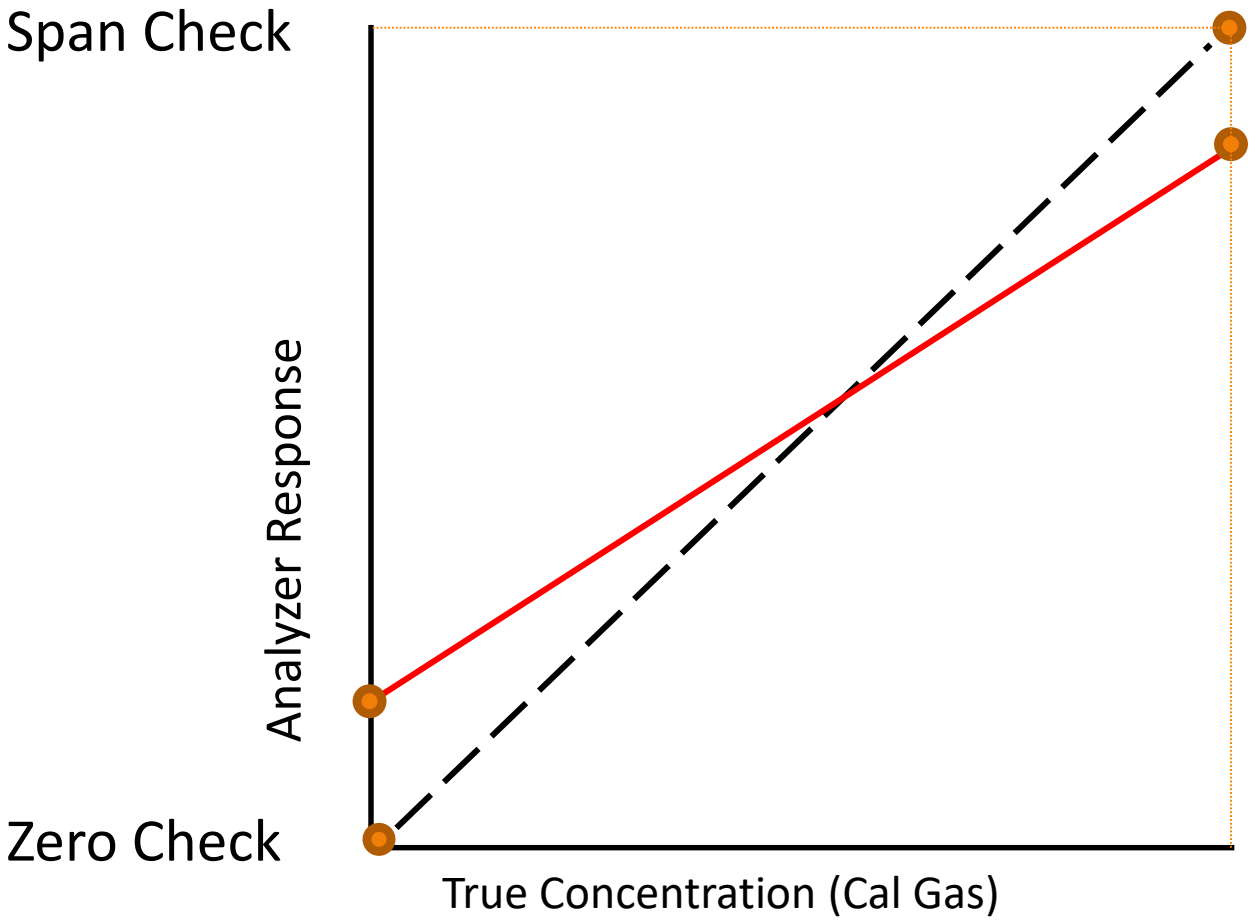
Each time a calibration check occurs, the system resets itself so it is looking at the raw data.

The PLC will detect the drift error measured at both the Zero and the Upscale Calibration Check.

Then the PLC comes up with an equation to adjust for the error that it detects.

How does it work?

If the analyzer drift is within the allowable tolerances, then it will use the Zero Error and the Span Error in a slope and intercept type of formula to correct all of the analyzer data going forward until the next calibration check occurs.


Span Check
Zero Check
Analyzer Response
True Concentration (Cal Gas)

Calibration Drift Correction

Calibration correction does not get applied during a calibration check.

Each time a calibration check occurs, the system resets the slope/intercept back to zero and one and looks at the raw data.

Calibration Drift Correction

The raw drift detected during a calibration check is reported as calibration drift.

The calibration check result displays in CeDAR reflect the calibration drift of the raw, uncorrected values .

Calibration Drift Correction

If an analyzer drifts beyond its allowable limits the analyzer fails the calibration check.

If you fail a calibration check, the calibration drift correction does not get applied to the data.

Calibration Drift Correction

The data is invalid or Out Of Control (OOC) until you perform and pass a new calibration check.

Invalid data results in a CEMS downtime for Part 60 and data substitution for Part 75.

Calibration Drift Correction

This is different than an automatic Analyzer drift Adjustment.

Analyzers performing self-adjustments will always report zero drift and it may not be known if the analyzer is not responding correctly.

CiSCO does not use analyzers that self-adjust .

Calibration Drift Correction

South Coast Air Quality Management District does not allow calibration drift correction.

For Part 75, if you use calibration correction, it must also be used on the quarterly linearity check.

If you are using calibration drift correction at your site, it automatically gets applied to the linearity check data.

Calibration Drift Correction

All CEMS analyzer data on the DAHS computer is calibration corrected on systems where it is used.

There may be a difference between the reported CEMS analyzer values in CeDAR and the raw values on the screen display of the analyzer.

The difference is due to calibration correction.

Calibration Drift Correction

On newer OIT panels or RealView windows both the raw value and the cal corrected value are displayed.

RealView windows are a user interface of the OIT panels developed by CiSCO.

Calibration Drift Correction

On all systems, the calibration correction function can be removed by placing the CEMS Out of Service.

When trouble shooting, place the CEMS Out of Service to avoid confusion with the calibration correction.