

### INTRODUCTION

DynAmp calibrates its current measurement products on a high accuracy test stand located in its USA factory. Generally, this requires that measurement system performance be checked at its full scale measurement capability and in some cases, at calibration points or at other points less than full scale.

On some small aperture LKAT measuring heads, the full scale measurement or calibration point may be higher than the current which our test stand can pass through the head aperture. In these cases, DynAmp utilizes statistical extrapolation to calculate performance above the maximum test stand current that is possible for a given LKAT head aperture. This is effective and accurate due to the demonstrated linearity of the LKAT OLOP technology.

### SUMMARY

To verify this approach, DynAmp performed internal tests, comparing normal ( non-extrapolated ) calibration, to calibrations that required extrapolated data. In summary, the testing demonstrated that extrapolation was effective and accurate provided the 'actual current' data points used by the extrapolation were above 0.5kA and reach at least 10% of full scale measurement.

This testing used 3 LKAT systems which were each calibrated using all methods as follows :

Calibrated with true current to full scale (no extrapolation) for best accuracy at Full Scale  
This is represented by the blue line on the graphs below.

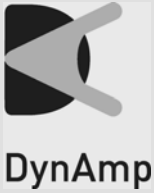
Calibrated with true current to full scale (no extrapolation) for best accuracy at 10% (the minimum for extrapolation)  
This is represented by the red line on the graphs below.

Calibrated using true current points below 10% of full scale to extrapolate performance to 100% of full scale  
This is represented by the black dashed line on the graphs below

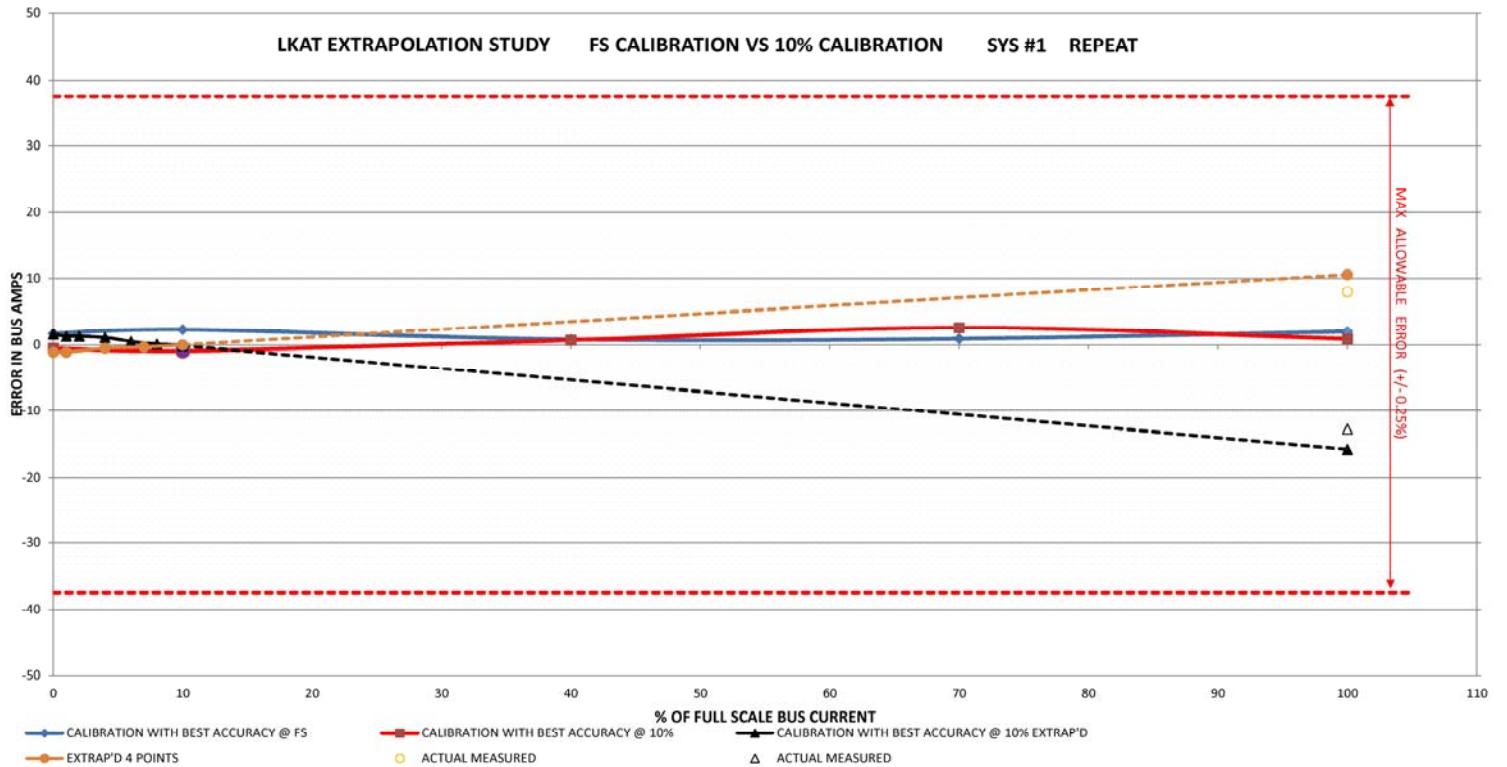
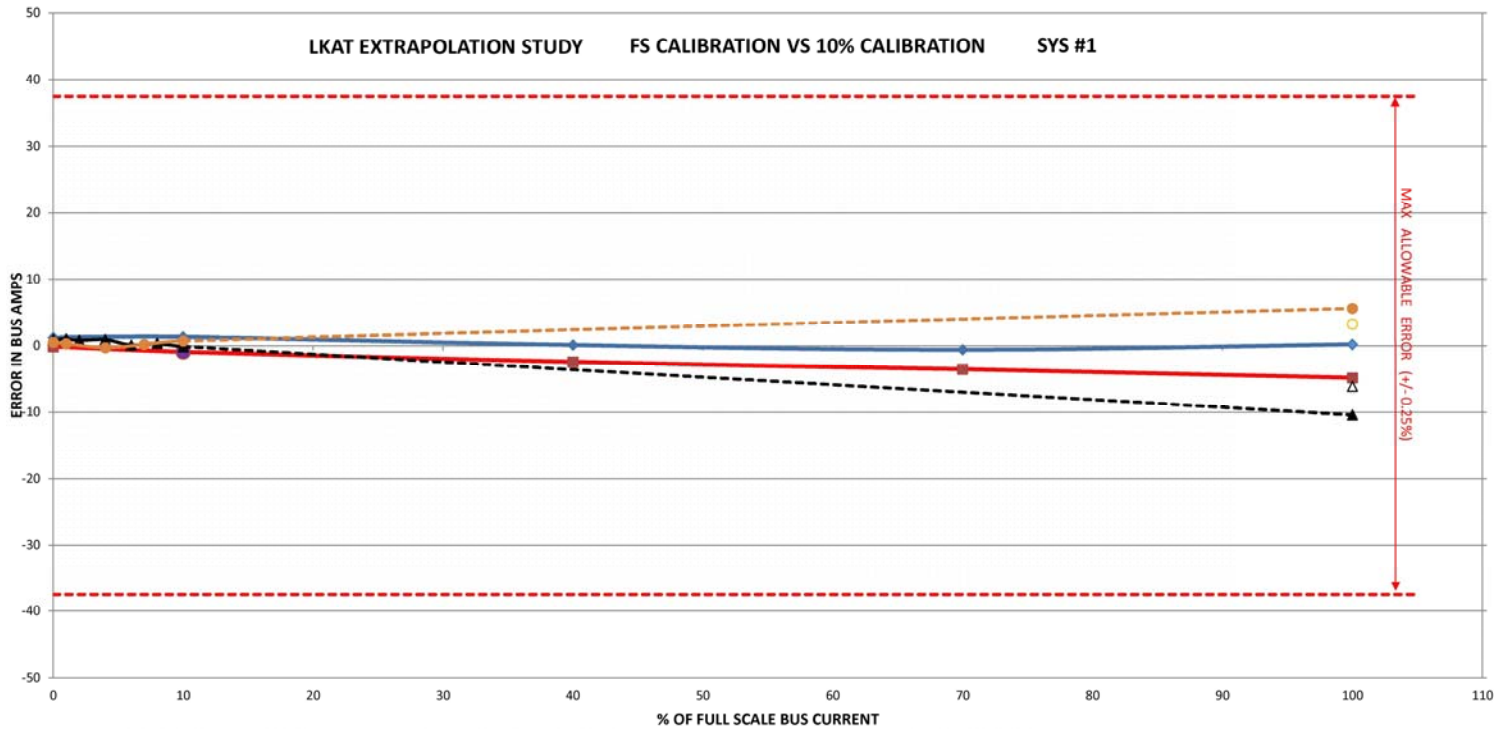
For clarity of performance, each graph also has the error limits per product specification  
This is represented by the red dashed lines above and below the lines noted above.

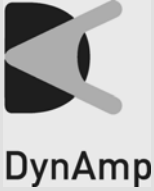
Finally the complete process was repeated on each system a second time.

As the graphs show, the deviation between actual 'calibrated' vs. 'extrapolated' full scale was well within the accuracy tolerance.

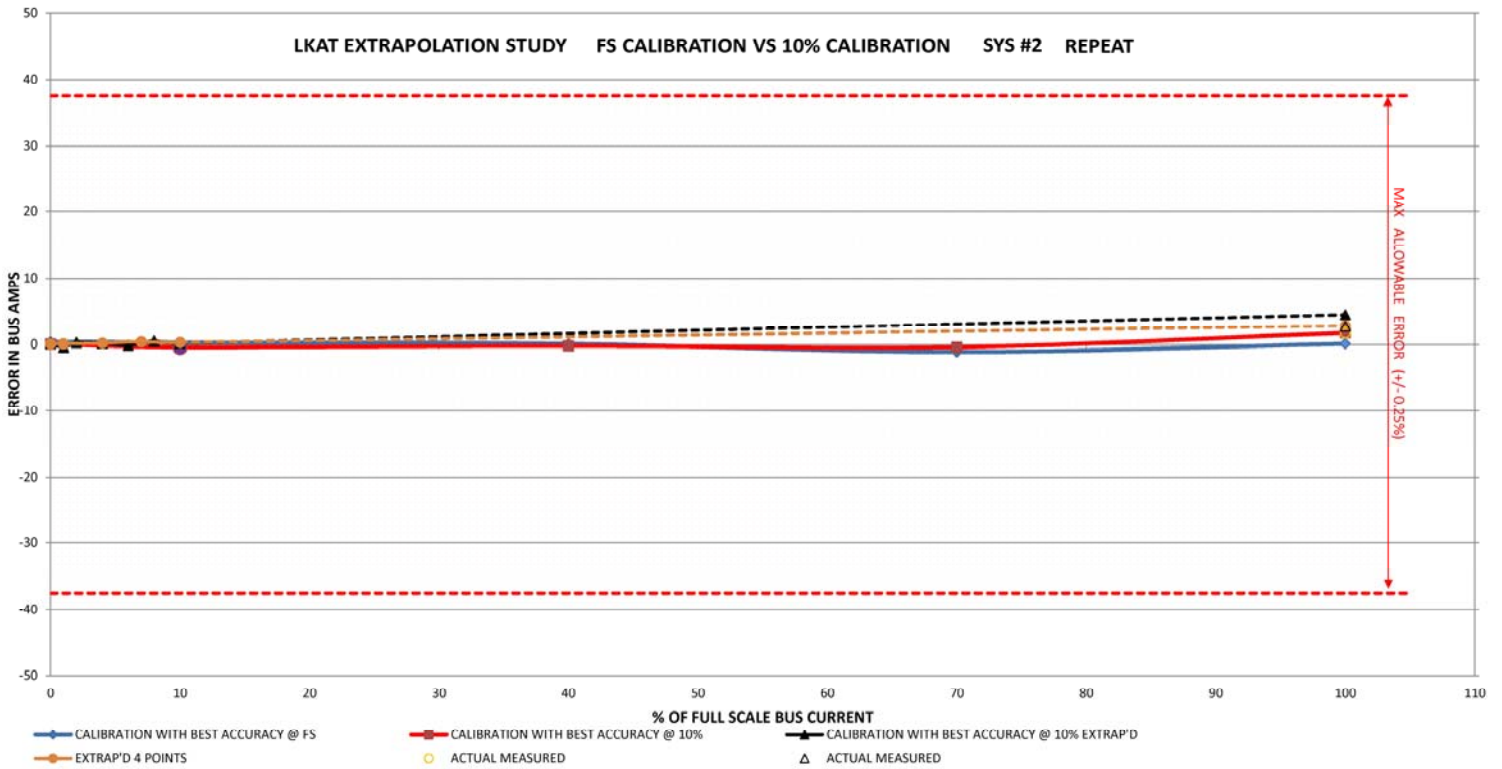
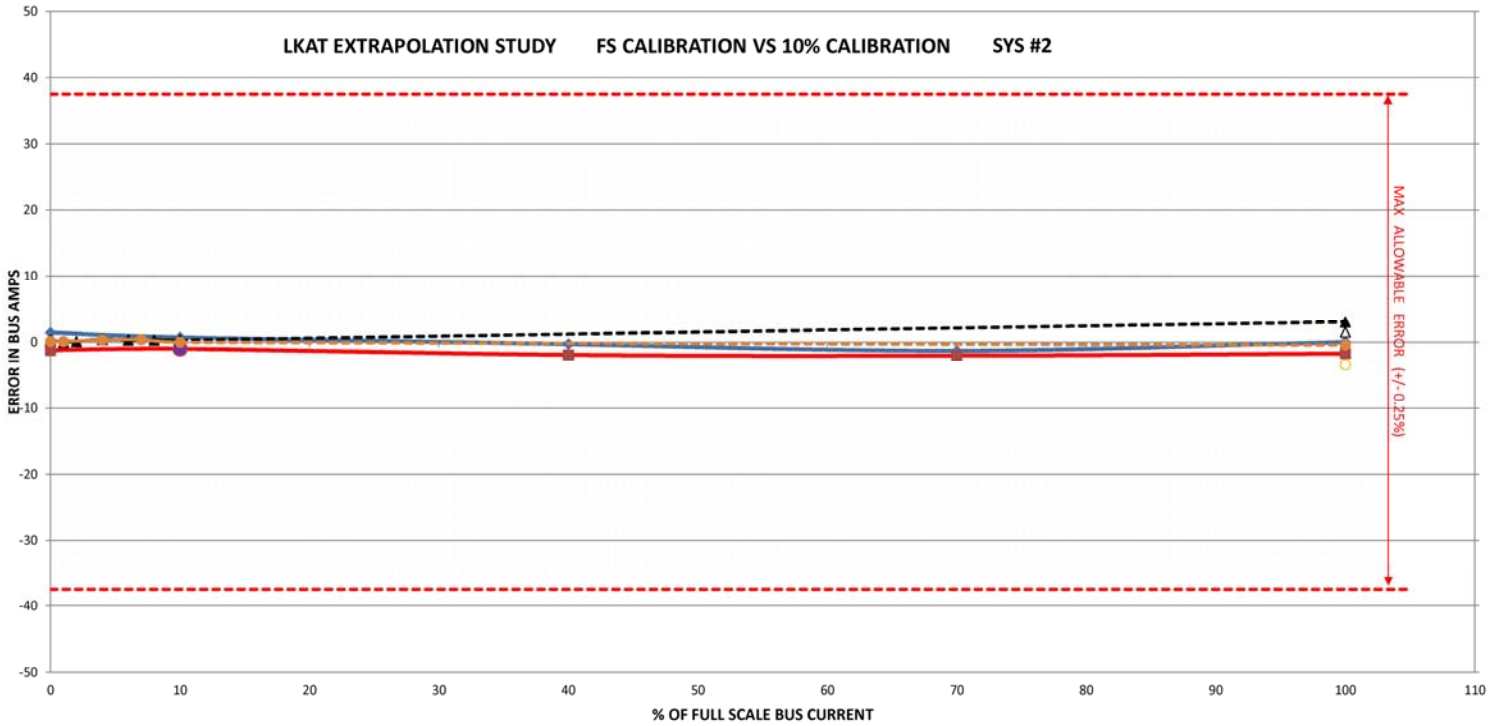


## LKAT Calibration requiring Extrapolation





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