**Apply Offset and Slope correction to DUT, COMPASS Relationship Macro**

*'\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\**

*'This Function must return the device output*

*'in the Final Output Unit by manipulating the*

*'parameters provided.*

*'*

*'Out1 :By default, this is the raw formatted, output of a*

*' device. In other cases, it is final output of a*

*' test configured device in the configured output unit.*

*'Out2 :Final output of a test configured device in the*

*' configured output unit.*

*'Out3 :Final output of a test configured device in the*

*' configured output unit.*

*'ParamID :Parameter ID of the device .*

*'cCalc :Calculation Class of the output.*

*'\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\**

**Function** **ApplyOffsetAndSlope**(Out1, Out2, Out3, ParamID, cCalc)

*'This proportional correction is used with DUTs with an offset and span correcton*

*'Use ApplyOffset for voltage DUTs and current 'DUTs with a simple offset correction*

*'This macro corrects with this formula*

*'Adjusted Final Pressure = (DUTRaw - Offset)\* SlopeCorrection*

n = cCOMPASS.cConfig.DUTPrs.Count

cyc = cCOMPASS.PressureCycle

 cDebug.LogStatus "Pressure Cycle # " & cyc

**For** i = 1 **to** n

 **If** cyc = 1 **Then**

 Offset= **GetVal**(cCOMPASS.cConfig.DUTPrs(n).RangeMain.GetParent.CalInfo1)

 *'If Offset = 0 Then Exit Function*

 Slope=**GetVal**(ccompass.cConfig.DUTPrs(n).RangeMain.getparent.CalInfo2)

 *'If Slope=0 Then Exit Function*

 cDebug.LogStatus "Cycle 1, use CalCoef1 and CalCoef2 for offset and slope"

 cDebug.LogStatus "SN: " & cCalc.RangeMain.GetParent.SN

 cDebug.LogStatus "CalInfo1 (Offset): " & cCalc.RangeMain.GetParent.CalInfo1

 cDebug.LogStatus "Offset: " & Offset

 cDebug.LogStatus "CalInfo2 (Slope or Span): " & cCalc.RangeMain.GetParent.CalInfo2

 cDebug.LogStatus "Slope (Span): " & Slope

 **ElseIf** cyc = 2 **Then**

*' Offset= GetVal(cCOMPASS.cConfig.DUTPrs(n).RangeMain.GetParent.CalInfo4)*

 Offset = cCOMPASS.DataCollection(n).DUT.CalibrationCoefficient4

 *'If Offset = 0 Then Exit Function*

*' Slope=GetVal(ccompass.cConfig.DUTPrs(n).RangeMain.getparent.CalInfo5)*

 Slope = cCOMPASS.DataCollection(n).DUT.CalibrationCoefficient5

 *'If Slope=0 Then Exit Function*

 cDebug.LogStatus "Cycle 2, use CalCoef4 and CalCoef5 for offset and slope"

 cDebug.LogStatus "SN: " & cCalc.RangeMain.GetParent.SN

 cDebug.LogStatus "CalInfo4 (Offset): " & cCalc.RangeMain.GetParent.CalInfo4

 cDebug.LogStatus "Offset: " & Offset

 cDebug.LogStatus "CalInfo5 (Slope or Span): " & cCalc.RangeMain.GetParent.CalInfo5

 cDebug.LogStatus "Slope (Span): " & Slope

 **End If**

 MinRawOut = cCalc.RangeMain.MinRaw

 cDebug.LogStatus "RawMin: " & MinRawOut

 MaxRawOut = cCalc.RangeMain.MaxRaw

 cDebug.LogStatus "RawMax: " & MaxRawOut

 MinFinalOut = cCalc.RangeMain.MinFinal

 cDebug.LogStatus "FinalMin:" & MinFinalOut

 MaxFinalOut = cCalc.RangeMain.MaxFinal

 cDebug.LogStatus "Final Max: " & MaxFinalOut

 cDebug.LogStatus "Raw Output (Out1): " & Out1

 Out1A = Out1 - Offset

 cDebug.LogStatus "Adjusted Raw Output: " & Out1A

 *'Pct = (Out1A-MinRawOut)/(MaxRawOut-MinRawOut)*

 NewFinal = (Out1-Offset)\*Slope

 cDebug.LogStatus "Final Output:" & NewFinal

**ApplyOffsetAndSlope** = NewFinal

**Next**

**End Function**