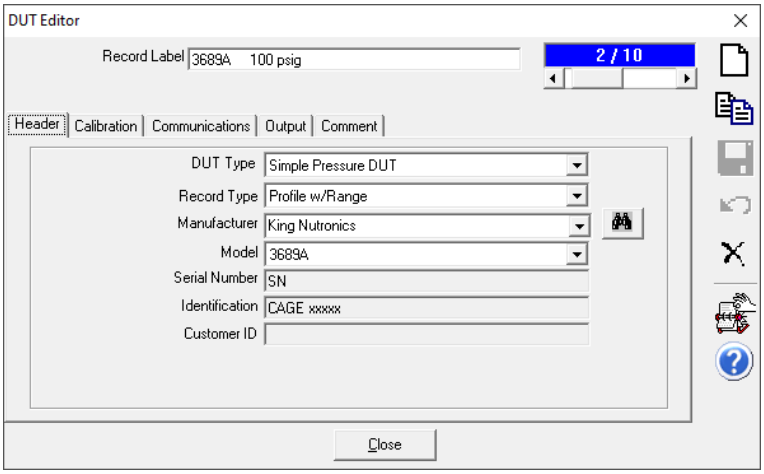
3689A DUT Setup in COMPASS for Pressure calibration software

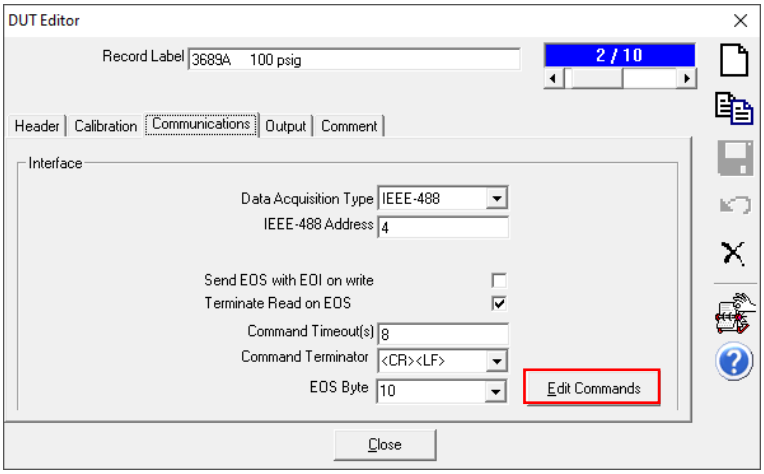
3689A DUT Setup in COMPASS for Pressure calibration software.
100 psig range shown. Other ranges are the same with exception of range and resolution (commands are the same). 100 psia range use a different initialization command for absolute mode that is 01U for psi abs, 03U for inHg abs. See the 3689A manual for more details.

Updates:
8-November-2021 to include ReplyParser macro text as Appendix A

1. Menu path to create a new DUT is: Setup → DUT
2. The 'Header' tab is shown by default.
3. Create a new DUT by clicking the white piece of paper icon at the top right of the window.
4. Enter the "Record Label" at the top as something like '3689A 100 psig'
5. The 'DUT Type' should be 'Simple Pressure DUT'. There is no reason for these devices to be setup as 'Advanced DUT'
6. The 'Record Type' should be 'Profile w/Range' so the Serial Number and/or Identification and/or Customer ID can be changed when starting a test.

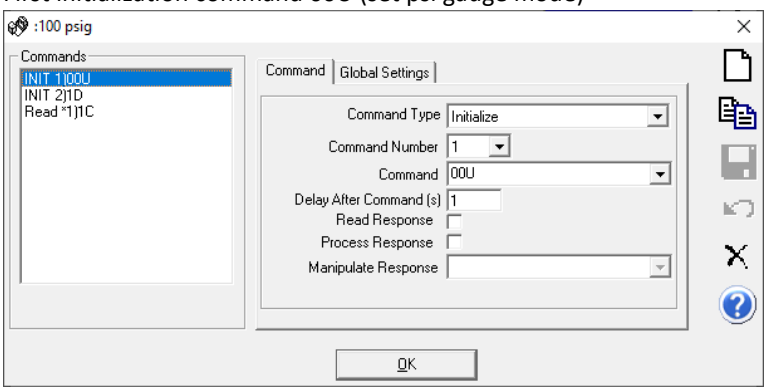


7. Select the 'Communications' tab
8. Ensure that the settings match those shown below
9. Click the [Edit Commands] button

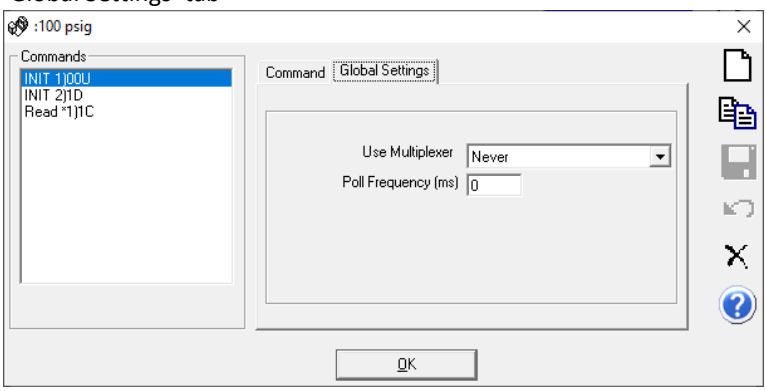


10. Ensure that the settings for each of the two initialization commands, and one read command, match those shown below.
11. If changes are made to a command, then press the save icon that is a black disk  to save the changes before moving to the next command.

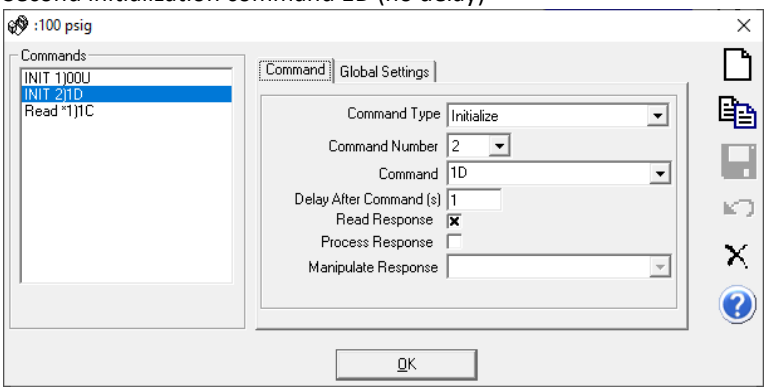
12. First initialization command 00U (set psi gauge mode)



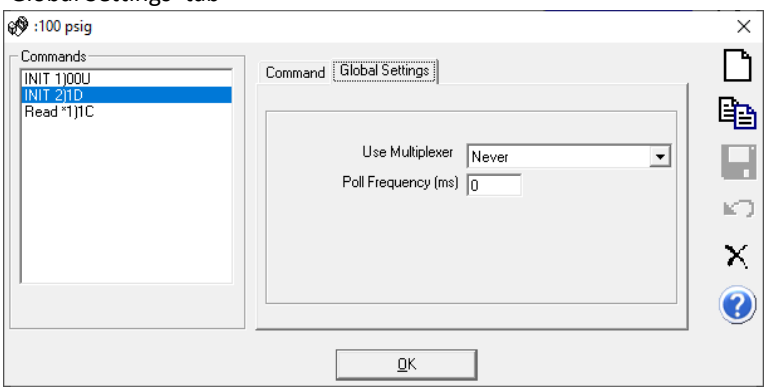
'Global Settings' tab



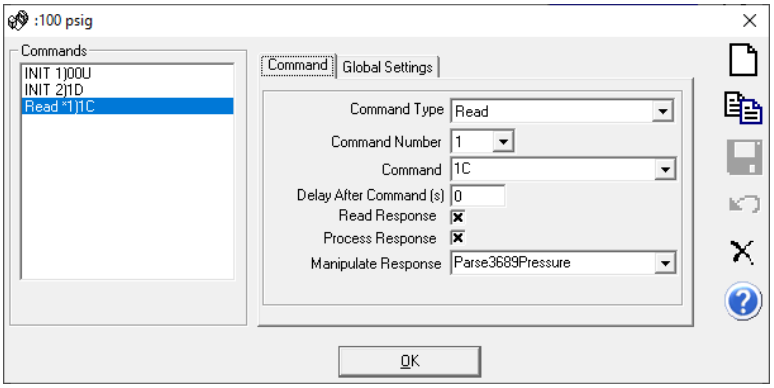
13. Second initialization command 1D (no delay)



'Global Settings' tab

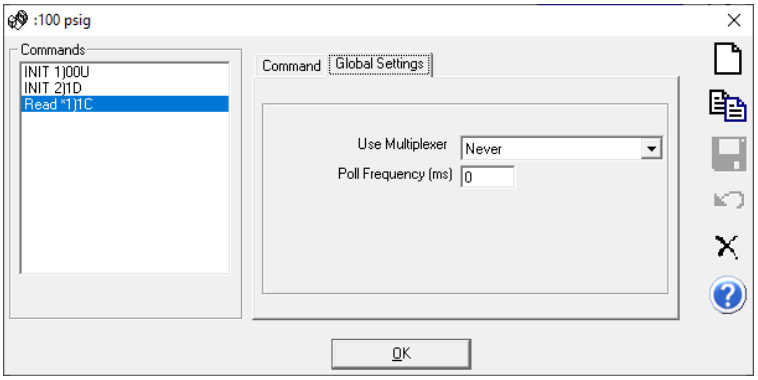


14. Read command 1C (Not a closed system. Compensate for barometric pressure changes.)



See Appendix A for "Parse3689Pressure" ReplyParser macro text

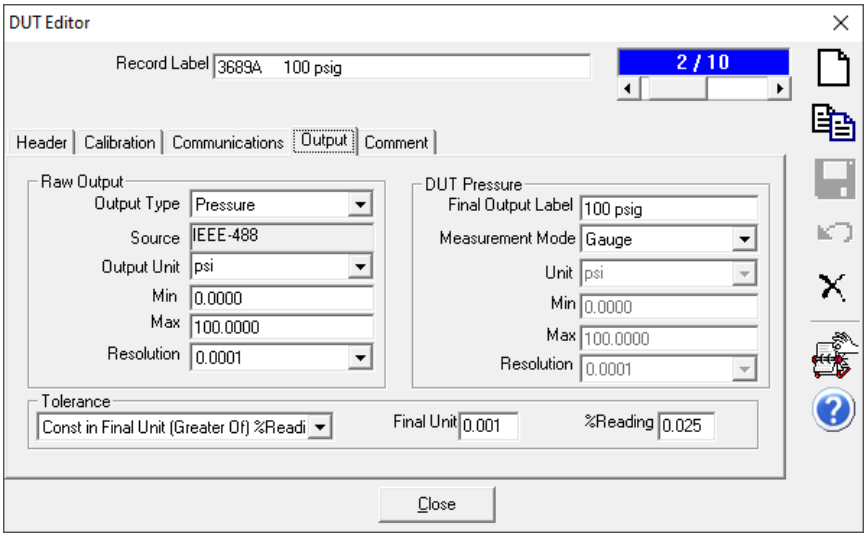
'Global Settings' tab



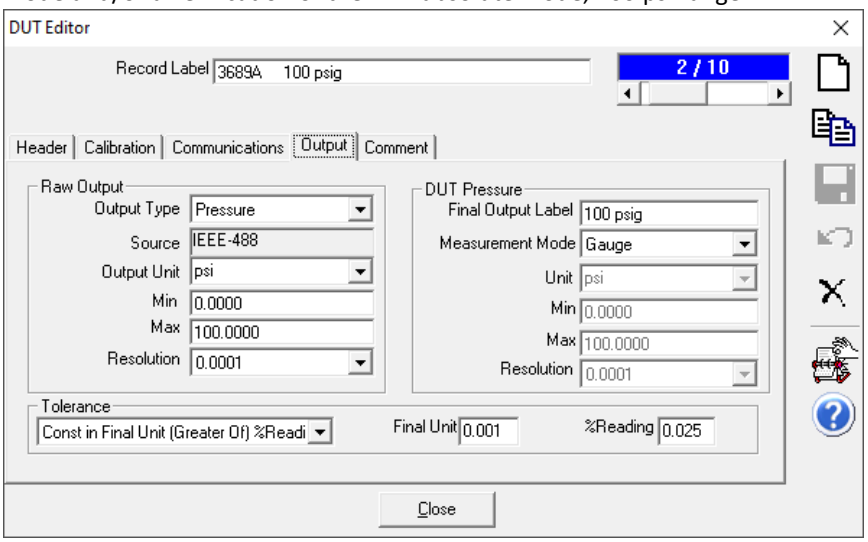
15. If changes are made, then press the save icon that is a black disk to save the changes
16. Press the [OK] button to return to the prior window
17. Press the save icon that is a black disk to save the changes

Repeat the above steps for each range 3689A DUT in the same manner. Each range is a different DUT in COMPASS.

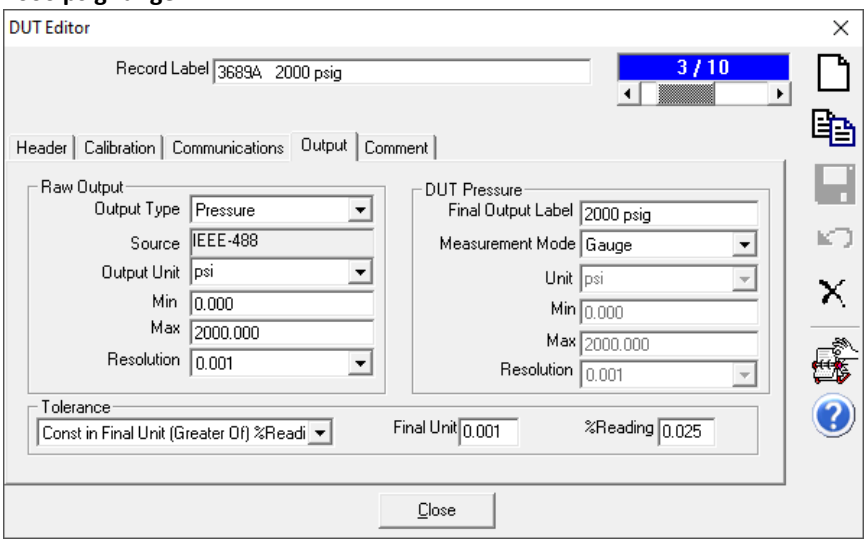
The below images show the 'Output' tab for each 3689A Range. Verify that the 'Output' tab matches those shown below. **100 psig range has 4 digits of resolution**.



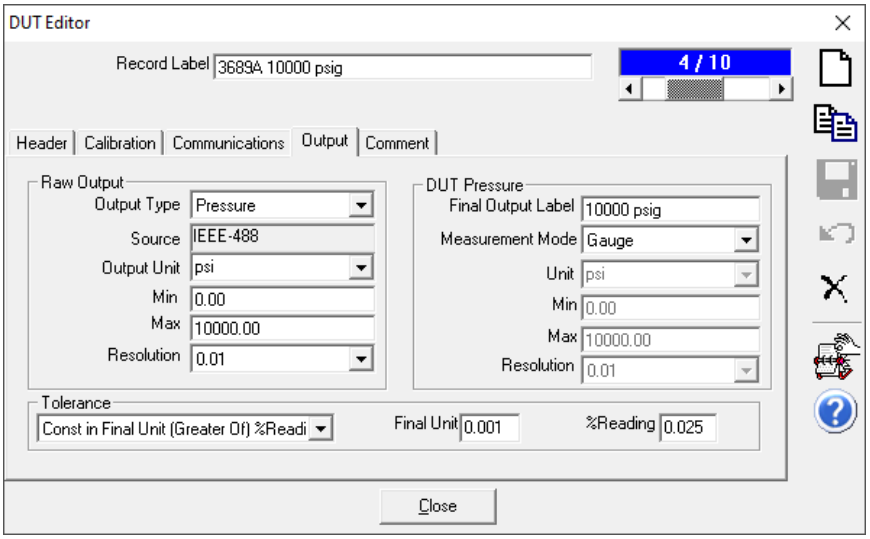
100 psia range (optional, not formally calibrated by these systems but can be done as a check of the PG7601-500 System in absolute mode and/or a verification of the TI in absolute mode, 100 psi range.



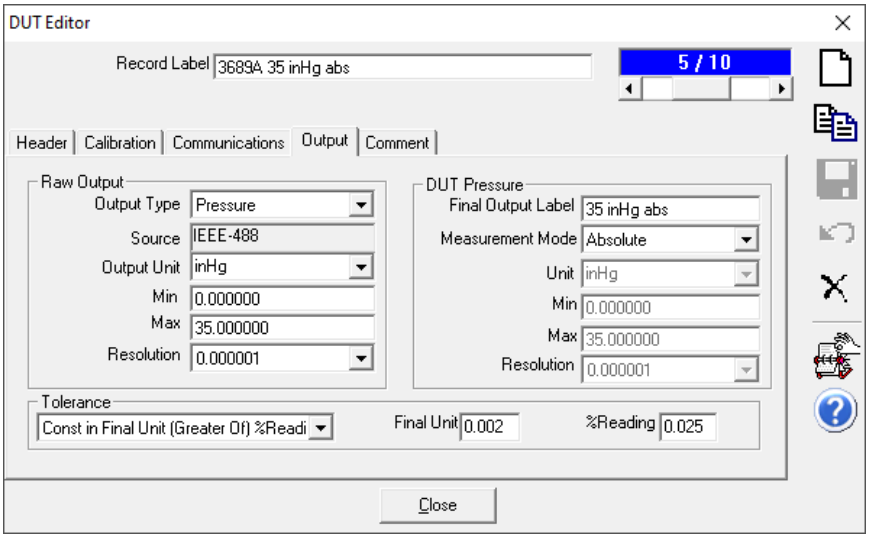
2000 psig range



10,000 psig range



35 inHg absolute range



18. Appendix A. “Parse3689Pressure” ReplyParser macro text

```
'*************************************************
'This Function must return the fully formatted response
'of a device.  The output is used as the Raw output
'in the relationship determination of the Final Output.
'
'Reply     :Raw unmanipulated response of a device.
'ParamID   :Parameter ID of the device
'cRange    :Range class that the output applies to.
'
'The value is returned by setting the function name =
'to the calculated value..
'
'For example: ReplyParser49457 =  val(mid(rawReply,5))
'*************************************************
Function Parse3689Pressure(Reply, ParamID, cRange)

On Error Resume Next

temp1 = trim(reply) 'remove any leading or trailing spaces
'       cDebug.LogStatus "Raw reply = " & reply & ", Trimmed reply = " & temp

temp = Replace(temp1,"","") 'remove , ASCII undefined character, ASCII code 127
'       cDebug.LogStatus "Raw reply = " & reply & ", trimmed reply without spaces or ASCII 127 character  = " & temp

p = Instr(temp,Chr(0))

If P > 0 Then
'       cDebug.LogStatus "Null Found:" & P
        prs= Mid(temp,p+1)
Else
'       cDebug.LogStatus "Null Found:" & temp
        prs = temp
End If

L=0
fText = qextract(prs,0,1," ")

L = len (fText)
rtv= ""
If L =1 Then
        rtv = GetVal(qextract(reply,1,0," "))
Else
        rtv = GetVal(reply)
End If
'       cDebug.LogStatus "End value = " & rtv

Parse3689Pressure = rtv

End Function
```

19. **End of instructions**