ATC Cabinet Monitor Unit (CMU) Certification Test Report

CMU INFORMATION
Model : CMU2212-HV
Manufacturer : XYZ
Serial Number : 123456-ABC
Agency : MyDOT
Location : Signal Shop
Tested By : John Doe
Note1 : Yearly Certification Test
Note2 :

TESTER INFORMATION
Model : ACMT-5000
Serial Number : 5000-9998
Firmware Version : 5
Software Version : ACMT-5000 Test Manager v1.3
Manufacturer : ATSI

Testing Started: Feb 24 2021 02:52 pm

CMU Memory Key = ATSI test key v1

SB#1 Valid Response Test

- CMU SB#1 Address set to 0x0F
- CMU is powered down
- CMU is powered up and reset in the No Fault state
- Valid Type 67 Command Frames were sent to CMU
- Valid Type 195 Response Frames were received from CMU
- Result = Pass

SB#1 Invalid CRC Test

- CMU SB#1 Address set to 0x0F
- CMU is powered down
- CMU is powered up and reset in the No Fault state
- Type 67 Command Frames were sent to CMU with invalid CRC
- No Type 195 Response Frames were received from CMU
- Result = Pass

SB#1 Invalid Address Test

- CMU SB#1 Address set to 0x0F
- CMU is powered down
- CMU is powered up and reset in the No Fault state
- Type 67 Command Frames were sent to CMU with invalid address
- No Type 195 Response Frames were received from CMU
- Result = Pass

- CMU SB#1 Address set to 0x10
- CMU is powered down
- CMU is powered up and reset in the No Fault state
- Type 67 Command Frames were sent to CMU with invalid address
- No Type 195 Response Frames were received from CMU
- Result = Pass

- CMU SB#1 Address set to 0x11
- CMU is powered down
- CMU is powered up and reset in the No Fault state
- Type 67 Command Frames were sent to CMU with invalid address
- No Type 195 Response Frames were received from CMU
- Result = Pass

- CMU SB#1 Address set to 0x12
- CMU is powered down
- CMU is powered up and reset in the No Fault state
- Type 67 Command Frames were sent to CMU with invalid address
- No Type 195 Response Frames were received from CMU
- Result = Pass

SB#1 Type 62 Send to Local Flash (Latch) Test

- CMU SB#1 Address set to 0x0F
- CMU is powered down
- CMU is powered up and reset in the No Fault state
- Type 62 and 67 Command Frames were sent to CMU for 5 sec
- All fault bits were cleared in the Type 62 Frames
- CMU output relay state = No Fault
- Type 62 and 67 Command Frames were sent to CMU for 5 sec
- The LFSA bit was set in the Type 62 Frames
- CMU output relay state = Fault
- Type 62 and 67 Command Frames were sent to CMU for 10 sec
- All fault bits were cleared in the Type 62 Frames
- CMU output relay state = Fault
- Result = Pass

SB#1 Type 62 Send to Local Flash (Non-Latch) Test

- CMU SB#1 Address set to 0x0F
- CMU is powered down

- CMU is powered up and reset in the No Fault state
- Type 62 and 67 Command Frames were sent to CMU for 5 sec
- All fault bits were cleared in the Type 62 Frames
- CMU output relay state = No Fault
- Type 62 and 67 Command Frames were sent to CMU for 5 sec
- The NFSA bit was set in the Type 62 Frames
- CMU output relay state = Fault
- Type 62 and 67 Command Frames were sent to CMU
- All fault bits were cleared in the Type 62 Frames
- CMU output relay state = No Fault
- Result = Pass

Local Flash Status Fault Test

- CMU is powered up and reset in the No Fault state
- LF Status is set to 48 Vdc
- LF Status is set to 38 Vdc for 433ms
- LF Status is set to 48 Vdc
- After 100ms delay, CMU output relay state is read
- CMU output relay state = Fault
- Result = Pass

Local Flash Status No Fault Test

- CMU is powered up and reset in the No Fault state
- LF Status is set to 48 Vdc
- LF Status is set to 38 Vdc for 190ms
- LF Status is set to 48 Vdc
- After 100ms delay, CMU output relay state is read
- CMU output relay state = No Fault
- Result = Pass

CB Trip Status Fault Test

- CMU is powered up and reset in the No Fault state
- CB Trip Status is set to 48 Vdc
- CB Trip Status is set to 38 Vdc for 433ms
- CB Trip Status is set to 48 Vdc
- After 100ms delay, CMU output relay state is read
- CMU output relay state = Fault
- Result = Pass

CB Trip Status No Fault Test

- CMU is powered up and reset in the No Fault state
- CB Trip Status is set to 48 Vdc
- CB Trip Status is set to 38 Vdc for 190ms
- CB Trip Status is set to 48 Vdc
- After 100ms delay, CMU output relay state is read
- CMU output relay state = No Fault
- Result = Pass

MC Coil Status Test

- CMU is powered up and reset in the No Fault state
- MC Coil Status is set to 38 Vdc
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent for 3 sec with all signals set to 0 Vrms
- CMU output relay state = No Fault
- Result = Pass

MC Secondary Status Test

- CMU is powered up and reset in the No Fault state
- CMU SB#1 Address set to 0x0F
- MC Secondary Status input set to 90 Vrms
- Type 67 Command Frames were sent to CMU
- Type 195 Response Frames from CMU indicate MC Secondary is active
- MC Secondary Status input is set to 69 Vrms
- Type 67 Command Frames were sent to CMU
- Type 195 Response Frames from CMU indicate MC Secondary not active
- Result = Pass

FTR Coil Status Test

- CMU is powered up and reset in the No Fault state
- CMU SB#1 Address set to 0x0F
- FTR Coil Status input set to 48 Vdc
- Type 67 Command Frames were sent to CMU
- Type 195 Response Frames from CMU indicate FTR Coil is active
- FTR Coil Status input is set to 38 Vdc
- Type 67 Command Frames were sent to CMU
- Type 195 Response Frames from CMU indicate FTR Coil not active
- Result = Pass

Door Switch Front Input Test

- CMU is powered up and reset in the No Fault state
- CMU SB#1 Address set to 0x0F
- Door Switch Front input set to 15 Vdc
- Type 67 Command Frames were sent to CMU
- Type 195 Response Frames from CMU indicate Door Switch Front is active

- Door Switch Front input is set to 9 Vdc
- Type 67 Command Frames were sent to CMU
- Type 195 Response Frames from CMU indicate Door Switch Front not active
- Result = Pass

Door Switch Rear Input Test

- CMU is powered up and reset in the No Fault state
- CMU SB#1 Address set to 0x0F
- Door Switch Rear input set to 15 Vdc
- Type 67 Command Frames were sent to CMU
- Type 195 Response Frames from CMU indicate Door Switch Rear is active
- Door Switch Rear input is set to 9 Vdc
- Type 67 Command Frames were sent to CMU
- Type 195 Response Frames from CMU indicate Door Switch Rear not active
- Result = Pass

GRN Conflict Detect Test

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  ..RRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ...............   Y = 26 Vrms, . = 0 Vrms
  GG............. ...............   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  ..RRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ...............   Y = 26 Vrms, . = 0 Vrms
  GG............. ...............   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .R.RRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ...............   Y = 26 Vrms, . = 0 Vrms
  G.G............ ...............   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

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- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RR.RRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ...............   Y = 26 Vrms, . = 0 Vrms
  G..G........... ...............   G = 26 Vrms, . = 0 Vrms
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- Type 1 command frames received from the CMU for HDSP1-16
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  Channel 1-16     Channel 17-32
  .RRR.RRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ...............   Y = 26 Vrms, . = 0 Vrms
  G...G.......... ...............   G = 26 Vrms, . = 0 Vrms
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  .RRRR.RRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ...............   Y = 26 Vrms, . = 0 Vrms
  G....G......... ...............   G = 26 Vrms, . = 0 Vrms
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- Type 1 command frames received from the CMU for HDSP1-16
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  .RRRRR.RRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ...............   Y = 26 Vrms, . = 0 Vrms
  G.....G......... ...............   G = 26 Vrms, . = 0 Vrms
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  ............... ...............   Y = 26 Vrms, . = 0 Vrms
  G......G........ ...............   G = 26 Vrms, . = 0 Vrms
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  ............... ...............   Y = 26 Vrms, . = 0 Vrms
  G.......G....... ...............   G = 26 Vrms, . = 0 Vrms
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```
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  .RRRRRRRR.RRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ...............   Y = 26 Vrms, . = 0 Vrms
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  .RRRRRRRRR.RRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ...............   Y = 26 Vrms, . = 0 Vrms
  G.........G..... ...............   G = 26 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRR.RRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ...............   Y = 26 Vrms, . = 0 Vrms
  G..........G.... ...............   G = 26 Vrms, . = 0 Vrms
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  ............... ...............   Y = 26 Vrms, . = 0 Vrms
  G...........G... ...............   G = 26 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRR.RR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ...............   Y = 26 Vrms, . = 0 Vrms
  G............G.. ...............   G = 26 Vrms, . = 0 Vrms
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  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRR.R RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... .............   Y = 26 Vrms, . = 0 Vrms
  G.............G. .............   G = 26 Vrms, . = 0 Vrms
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  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRR. RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... .............   Y = 26 Vrms, . = 0 Vrms
  G.............G .............   G = 26 Vrms, . = 0 Vrms
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  ............... .............   Y = 26 Vrms, . = 0 Vrms
  G.............. G.............   G = 26 Vrms, . = 0 Vrms
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  ............... .............   Y = 26 Vrms, . = 0 Vrms
  G.............. .G............   G = 26 Vrms, . = 0 Vrms
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  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RR.RRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... .............   Y = 26 Vrms, . = 0 Vrms
  G.............. ..G............   G = 26 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRR.RRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... .............   Y = 26 Vrms, . = 0 Vrms
  G.............. ...G...........   G = 26 Vrms, . = 0 Vrms
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- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRR.RRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... .............   Y = 26 Vrms, . = 0 Vrms
  G.............. ....G..........   G = 26 Vrms, . = 0 Vrms
```

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- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
```

```
  .RRRRRRRRRRRRRR RRRRR.RRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... .............   Y = 26 Vrms, . = 0 Vrms
  G............... .....G.........   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRR.RRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... .............   Y = 26 Vrms, . = 0 Vrms
  G............... ......G.........   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRRR.RRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... .............   Y = 26 Vrms, . = 0 Vrms
  G............... .......G........   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRRRR.RRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... .............   Y = 26 Vrms, . = 0 Vrms
  G............... ........G.......   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRRRRR.RRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... .............   Y = 26 Vrms, . = 0 Vrms
  G............... .........G......   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRRRRRR.RRRRR   R = 26 Vrms, . = 0 Vrms
  ............... .............   Y = 26 Vrms, . = 0 Vrms
  G............... ..........G.....   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRRRRRRR.RRRR   R = 26 Vrms, . = 0 Vrms
  ............... .............   Y = 26 Vrms, . = 0 Vrms
  G............... ...........G....   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRRRRRRRR.RRR   R = 26 Vrms, . = 0 Vrms
  ............... .............   Y = 26 Vrms, . = 0 Vrms
  G............... ............G...   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state

- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRRRRRRRR.RR   R = 26 Vrms, . = 0 Vrms
  ..............  ..............    Y = 26 Vrms, . = 0 Vrms
  G.............. .............G..   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRRRRRRRRR.R   R = 26 Vrms, . = 0 Vrms
  ..............  ..............    Y = 26 Vrms, . = 0 Vrms
  G.............. ............G.   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

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- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRRRRRRRRRR.   R = 26 Vrms, . = 0 Vrms
  ..............  ..............    Y = 26 Vrms, . = 0 Vrms
  G.............. ..............G   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

YEL Conflict Detect Test

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  ..RRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  YY.............. ...............   Y = 26 Vrms, . = 0 Vrms
  ..............  ...............   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

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  Channel 1-16     Channel 17-32
  ..RRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  YY.............. ...............   Y = 26 Vrms, . = 0 Vrms
  ..............  ...............   G = 26 Vrms, . = 0 Vrms
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- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .R.RRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  Y.Y.............. ...............   Y = 26 Vrms, . = 0 Vrms
  ..............  ...............   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RR.RRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  Y..Y............ ...............   Y = 26 Vrms, . = 0 Vrms
  ..............  ...............   G = 26 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  .RRR.RRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  Y...Y........... ...............   Y = 26 Vrms, . = 0 Vrms
```

```
  ..............  ..............   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RRRR.RRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  Y....Y.........  ..............   Y = 26 Vrms, . = 0 Vrms
  ..............  ..............   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RRRRR.RRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  Y.....Y.........  ..............   Y = 26 Vrms, . = 0 Vrms
  ..............  ..............   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RRRRRR.RRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  Y......Y.........  ..............   Y = 26 Vrms, . = 0 Vrms
  ..............  ..............   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
```

```
  .RRRRRRR.RRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  Y.......Y.......  ..............   Y = 26 Vrms, . = 0 Vrms
  ..............  ..............   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RRRRRRRR.RRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  Y........Y......  ..............   Y = 26 Vrms, . = 0 Vrms
  ..............  ..............   G = 26 Vrms, . = 0 Vrms
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- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
  Channel 1-16     Channel 17-32
  .RRRRRRRRR.RRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  Y.........Y.....  ..............   Y = 26 Vrms, . = 0 Vrms
  ..............  ..............   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

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- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 500ms:

```
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  .RRRRRRRRRR.RRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
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```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRR.R RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  Y............Y. ...............   Y = 26 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRR. RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  Y.............Y ...............   Y = 26 Vrms, . = 0 Vrms
  ............... ...............   G = 26 Vrms, . = 0 Vrms
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  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR R.RRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  Y............... .Y...............   Y = 26 Vrms, . = 0 Vrms
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  .............. ..............   G = 26 Vrms, . = 0 Vrms
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  .RRRRRRRRRRRRRR RRRRR.RRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  Y.............. .....Y........   Y = 26 Vrms, . = 0 Vrms
  .............. ..............   G = 26 Vrms, . = 0 Vrms
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  Y.............. ......Y........   Y = 26 Vrms, . = 0 Vrms
  .............. ..............   G = 26 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRR.RRRRRRRR   R = 26 Vrms, . = 0 Vrms
  Y.............. .......Y.......   Y = 26 Vrms, . = 0 Vrms
  .............. ..............   G = 26 Vrms, . = 0 Vrms
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```
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  Y.............. ........Y.......   Y = 26 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRRRR.RRRRRR   R = 26 Vrms, . = 0 Vrms
  Y.............. .........Y......   Y = 26 Vrms, . = 0 Vrms
  .............. ..............   G = 26 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRRRRR.RRRRR   R = 26 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRRRRRR.RRRR   R = 26 Vrms, . = 0 Vrms
  Y.............. ...........Y....   Y = 26 Vrms, . = 0 Vrms
```

```
  ..............  ..............   G = 26 Vrms, . = 0 Vrms
```

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```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRRRRRRR.RRR   R = 26 Vrms, . = 0 Vrms
  Y.............. ............Y...   Y = 26 Vrms, . = 0 Vrms
  ..............  ..............   G = 26 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRRRRRRRR.RR   R = 26 Vrms, . = 0 Vrms
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  ..............  ..............   G = 26 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRR RRRRRRRRRRRRR.R   R = 26 Vrms, . = 0 Vrms
  Y.............. .............Y.   Y = 26 Vrms, . = 0 Vrms
  ..............  ..............   G = 26 Vrms, . = 0 Vrms
```

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```
  Channel 1-16     Channel 17-32
```

```
  .RRRRRRRRRRRRRR RRRRRRRRRRRRRR.   R = 26 Vrms, . = 0 Vrms
  Y.............. ..............Y   Y = 26 Vrms, . = 0 Vrms
  ..............  ..............   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

Multiple Indication Detect Test

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 450ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  Y.............. ..............   Y = 26 Vrms, . = 0 Vrms
  G.............. ..............   G = 26 Vrms, . = 0 Vrms
```

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- Result = Pass

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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  .Y............. ..............   Y = 26 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ..Y............ ..............   Y = 26 Vrms, . = 0 Vrms
  ..G............ ..............   G = 26 Vrms, . = 0 Vrms
```

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- Type 1 command frames received from the CMU for HDSP1-16
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ...Y............ ................   Y = 26 Vrms, . = 0 Vrms
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  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
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  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... .....Y..........   Y = 26 Vrms, . = 0 Vrms
  ............... .....G..........   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 450ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ......Y.........   Y = 26 Vrms, . = 0 Vrms
  ............... ......G.........   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 450ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... .......Y........   Y = 26 Vrms, . = 0 Vrms
  ............... .......G........   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 450ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ........Y.......   Y = 26 Vrms, . = 0 Vrms
  ............... ........G.......   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 450ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... .........Y......   Y = 26 Vrms, . = 0 Vrms
  ............... .........G......   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state

- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 450ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ..........Y.....   Y = 26 Vrms, . = 0 Vrms
  ............... ..........G.....   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 450ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ...........Y....   Y = 26 Vrms, . = 0 Vrms
  ............... ...........G....   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 450ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ............Y...   Y = 26 Vrms, . = 0 Vrms
  ............... ............G...   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 450ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... .............Y..   Y = 26 Vrms, . = 0 Vrms
  ............... .............G..   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 450ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ..............Y.   Y = 26 Vrms, . = 0 Vrms
  ............... ..............G.   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 450ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 26 Vrms, . = 0 Vrms
  ............... ...............Y   Y = 26 Vrms, . = 0 Vrms
  ............... ...............G   G = 26 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

15 Vrms Ignore Test

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  yyyyyyyyyyyyyyy yyyyyyyyyyyyyyy   y =  14 Vrms, . = 0 Vrms
  ggggggggggggggg ggggggggggggggg   g =  14 Vrms, . = 0 Vrms
```

- CMU output relay state = No Fault
- Result = Pass

Lack of Signal Detect Test

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
```

```
  rRRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

  Channel 1-16     Channel 17-32
  RrRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

  Channel 1-16     Channel 17-32
  RRrRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

  Channel 1-16     Channel 17-32
  RRRrRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

  Channel 1-16     Channel 17-32
  RRRRrRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

  Channel 1-16     Channel 17-32
  RRRRRrRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

  Channel 1-16     Channel 17-32
  RRRRRRrRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

  Channel 1-16     Channel 17-32
  RRRRRRRrRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
```

- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRrRRRRRRR RRRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRrRRRRRR RRRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRrRRRRRR RRRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRrRRRRR RRRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRrRRRRR RRRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRrRRRR RRRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRrRRR RRRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

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- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRrRR RRRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

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- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRrR RRRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

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- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRr RRRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

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- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR rRRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

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- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RrRRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

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- Type 1 command frames received from the CMU for HDSP1-16
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRrRRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

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- Type 1 command frames received from the CMU for HDSP1-16
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRRrRRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

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- Result = Pass

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- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRRRrRRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

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- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRRRRrRRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

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- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRRRRRrRRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
```

```
  RRRRRRRRRRRRRRR RRRRRRRrRRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRrRRRRRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRrRRRRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRrRRRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRrRRRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRrRRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRrRRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRrRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRrRRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRrRR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRrR   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state

- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 1533ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRr   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

Lack of Signal Ignore Test

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 700ms:

```
  Channel 1-16     Channel 17-32
  rrrrrrrrrrrrrrr rrrrrrrrrrrrrrr   R = 120 Vrms, r = 49 Vrms
  ............... ...............   Y = 120 Vrms, . =  0 Vrms
  ............... ...............   G = 120 Vrms, . =  0 Vrms
```

- CMU output relay state = No Fault
- Result = Pass

Short YEL Clearance Detect Test

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  G.............. ...............   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  .RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  Y.............. ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
```

```
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  R.RRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  .G............. ...............   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  R.RRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  .Y............. ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RR.RRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ..G............ ...............   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  RR.RRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
```

```
  ..Y............. .................   Y = 120 Vrms, . = 0 Vrms
  ............... .................   G = 120 Vrms, . = 0 Vrms

- Type 129 response frames sent with the following data for 3000ms:

  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... .................   Y = 120 Vrms, . = 0 Vrms
  ............... .................   G = 120 Vrms, . = 0 Vrms

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 3000ms:

  Channel 1-16     Channel 17-32
  RRR.RRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... .................   Y = 120 Vrms, . = 0 Vrms
  ...G........... .................   G = 120 Vrms, . = 0 Vrms

- Type 129 response frames sent with the following data for 2500ms:

  Channel 1-16     Channel 17-32
  RRR.RRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ...Y........... .................   Y = 120 Vrms, . = 0 Vrms
  ............... .................   G = 120 Vrms, . = 0 Vrms

- Type 129 response frames sent with the following data for 3000ms:

  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... .................   Y = 120 Vrms, . = 0 Vrms
  ............... .................   G = 120 Vrms, . = 0 Vrms

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 3000ms:

  Channel 1-16     Channel 17-32
  RRRR.RRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... .................   Y = 120 Vrms, . = 0 Vrms
  ............... .................   G = 120 Vrms, . = 0 Vrms
```



```
  ....G........... .................   G = 120 Vrms, . = 0 Vrms

- Type 129 response frames sent with the following data for 2500ms:

  Channel 1-16     Channel 17-32
  RRRR.RRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ....Y........... .................   Y = 120 Vrms, . = 0 Vrms
  ............... .................   G = 120 Vrms, . = 0 Vrms

- Type 129 response frames sent with the following data for 3000ms:

  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... .................   Y = 120 Vrms, . = 0 Vrms
  ............... .................   G = 120 Vrms, . = 0 Vrms

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 3000ms:

  Channel 1-16     Channel 17-32
  RRRRR.RRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... .................   Y = 120 Vrms, . = 0 Vrms
  .....G......... .................   G = 120 Vrms, . = 0 Vrms

- Type 129 response frames sent with the following data for 2500ms:

  Channel 1-16     Channel 17-32
  RRRRR.RRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  .....Y......... .................   Y = 120 Vrms, . = 0 Vrms
  ............... .................   G = 120 Vrms, . = 0 Vrms

- Type 129 response frames sent with the following data for 3000ms:

  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... .................   Y = 120 Vrms, . = 0 Vrms
  ............... .................   G = 120 Vrms, . = 0 Vrms

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
```

- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRR.RRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ......G......... ...............   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  RRRRRR.RRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ......Y......... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
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- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRR.RRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  .......G........ ...............   G = 120 Vrms, . = 0 Vrms
```

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```
  Channel 1-16     Channel 17-32
  RRRRRRR.RRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  .......Y........ ...............   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
```



```
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
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- Type 1 command frames received from the CMU for HDSP1-16
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```
  Channel 1-16     Channel 17-32
  RRRRRRRR.RRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ........G....... ...............   G = 120 Vrms, . = 0 Vrms
```

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```
  Channel 1-16     Channel 17-32
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  ........Y....... ...............   Y = 120 Vrms, . = 0 Vrms
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```

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```
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  ............... ...............   Y = 120 Vrms, . = 0 Vrms
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- CMU output relay state = Fault
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- Type 1 command frames received from the CMU for HDSP1-16
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRR.RRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
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```
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRR.RRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
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```
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  .........Y..... ...............   Y = 120 Vrms, . = 0 Vrms
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```
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```
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  RRRRRRRRRR.RRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRR.RRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRR.RRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
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  ............... ...............   Y = 120 Vrms, . = 0 Vrms
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```

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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRR.RRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRR.RRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............Y.. ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

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```
  Channel 1-16     Channel 17-32
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  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRR.RR RRRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ..............G.. ................   G = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRR.RR RRRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ..............Y.. ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRR.R RRRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
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  ..............G. ................   G = 120 Vrms, . = 0 Vrms
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- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRR.R RRRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ..............Y. ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRR. RRRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ..............G ................   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRR. RRRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ..............Y ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
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- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
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  ................ ................   G = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR .RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ G...............   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR .RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ................ Y...............   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR R.RRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ .G..............   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR R.RRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ................ .Y..............   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

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- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RR.RRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ................ ..G.............   G = 120 Vrms, . = 0 Vrms
  ................ ................   B = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RR.RRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ................ ..Y.............   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRR.RRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRR.RRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ................ ...Y............   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
```

```
  RRRRRRRRRRRRRRR RRRR.RRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ................   Y = 120 Vrms, . = 0 Vrms
  ............... ....G...........   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRR.RRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ....Y...........   Y = 120 Vrms, . = 0 Vrms
  ............... ................   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ................   Y = 120 Vrms, . = 0 Vrms
  ............... ................   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRR.RRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ................   Y = 120 Vrms, . = 0 Vrms
  ............... .....G...........   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRR.RRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... .....Y...........   Y = 120 Vrms, . = 0 Vrms
  ............... ................   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ................   Y = 120 Vrms, . = 0 Vrms
  ............... ................   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRR.RRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ................   Y = 120 Vrms, . = 0 Vrms
  ............... ......G.........   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRR.RRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ......Y.........   Y = 120 Vrms, . = 0 Vrms
  ............... ................   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ................   Y = 120 Vrms, . = 0 Vrms
  ............... ................   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRR.RRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ................   Y = 120 Vrms, . = 0 Vrms
  ............... .......G........   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRR.RRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... .......Y........   Y = 120 Vrms, . = 0 Vrms
  ............... ................   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
```

```
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

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- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRR.RRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ........G.......   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRR.RRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ........Y.......   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
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- Type 1 command frames received from the CMU for HDSP1-16
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRR.RRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... .........G......   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRR.RRRRRR   R = 120 Vrms, . = 0 Vrms
```

```
  ............... .........Y......   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
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- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRR.RRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ..........G.....   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRR.RRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ..........Y.....   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
  ............... ...............   G = 120 Vrms, . = 0 Vrms
```

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- CMU is powered up and reset in the No Fault state
- Type 1 command frames received from the CMU for HDSP1-16
- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRR.RRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...............   Y = 120 Vrms, . = 0 Vrms
```

```
  ............... ...........G....   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRR.RRRR   R = 120 Vrms, . = 0 Vrms
  ............... ...........Y....   Y = 120 Vrms, . = 0 Vrms
  ............... ................   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 3000ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRR.RRR   R = 120 Vrms, . = 0 Vrms
  ............... ................   Y = 120 Vrms, . = 0 Vrms
  ............... ............G...   G = 120 Vrms, . = 0 Vrms
```

- Type 129 response frames sent with the following data for 2500ms:

```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRR.RRR   R = 120 Vrms, . = 0 Vrms
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  ............... ................   G = 120 Vrms, . = 0 Vrms
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```
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  ............... ..............G.   G = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRR.R   R = 120 Vrms, . = 0 Vrms
  ............... ..............Y.   Y = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRR RRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ............... ................   Y = 120 Vrms, . = 0 Vrms
```

```
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

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  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRRRRRRRRRRRRRR.   R = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRRRRRRRRRRRRRR.   R = 120 Vrms, . = 0 Vrms
  ................ ................Y   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
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```
  Channel 1-16     Channel 17-32
  RRRRRRRRRRRRRRRR RRRRRRRRRRRRRRRR   R = 120 Vrms, . = 0 Vrms
  ................ ................   Y = 120 Vrms, . = 0 Vrms
  ................ ................   G = 120 Vrms, . = 0 Vrms
```

- CMU output relay state = Fault
- Result = Pass

Testing Completed: Feb 24 2021 03:08 pm
No failures