## CERN - Lab. CMS Cables - B15S-012

| | |
|---|---|
| Software version | 4.14-00 |
| Unit under test | FULL_TEST_su_cavo_ps_pp1_V3 |
| Filename | C:\Users\Public\Documents\CEETIS\Projects\FULL_TEST_su_cavo_ps_pp1_V3.project |
| Date/Time | 07/05/2024 11:25:21 |
| Serial number | Cable02 |

| Test result | |
|---|---|
| *Continuity test* | *1 error* |
| LV isolation test | No commands |
| *HV isolation test* | *8 errors* |
| Test of electrical components | No commands |
| Voltage and Current | No commands |
| Other tests | Pass |
| **FAILED** | |

Ambient Temperature:°C
Ambient Rel.Humidity:%
CONTINUITY AND RESISTANCE MEASUREMENTS
-->LV channels

**Parameters for continuity test**
Current=500mA; Threshold=40Ohm; Trise=2ms; Twait=2s; Tmeas=1ms; Auto ranging=On; Voltage limit=48V

**Parameters for continuity test**
Threshold=1Ohm

| | | | | | |
|---|---|---|---|---|---|
| ✓ | **Passed** | LV1 | LV1 S | LV1 Sr | 585,3mOhm |
| ✓ | **Passed** | LVreturn1 | LVR1 S | LVR1 Sr | 579,9mOhm |
| ✓ | **Passed** | LV2 | LV2 S | LV2 Sr | 584,9mOhm |
| ✓ | **Passed** | LVreturn2 | LVR2 S | LVR2 Sr | 581,2mOhm |
| ✓ | **Passed** | LV3 | LV3 S | LV3 Sr | 588,7mOhm |
| ✓ | **Passed** | LVreturn3 | LVR3 S | LVR3 Sr | 581,2mOhm |
| ✓ | **Passed** | LV4 | LV4 S | LV4 Sr | 583mOhm |
| ✓ | **Passed** | LVreturn4 | LVR4 S | LVR4 Sr | 578,2mOhm |
| ✓ | **Passed** | LV5 | LV5 S | LV5 Sr | 580,6mOhm |
| ✓ | **Passed** | LVreturn5 | LVR5 S | LVR5 Sr | 581,2mOhm |
| ✓ | **Passed** | LV6 | LV6 S | LV6 Sr | 571,7mOhm |
| ✓ | **Passed** | LVreturn6 | LVR6 S | LVR6 Sr | 574,4mOhm |
| ✓ | **Passed** | LV7 | LV7 S | LV7 Sr | 587,1mOhm |
| ✓ | **Passed** | LVreturn7 | LVR7 S | LVR7 Sr | 580,6mOhm |
| ✓ | **Passed** | LV8 | LV8 S | LV8 Sr | 571,7mOhm |
| ✓ | **Passed** | LVreturn8 | LVR8 S | LVR8 Sr | 571,2mOhm |
| ✓ | **Passed** | LV9 | LV9 S | LV9 Sr | 588,3mOhm |
| ✓ | **Passed** | LVreturn9 | LVR9 S | LVR9 Sr | 579,2mOhm |
| ✓ | **Passed** | LV10 | LV10 S | LV10 Sr | 586mOhm |
| ✓ | **Passed** | LVreturn10 | LVR10 S | LVR10 Sr | 583,9mOhm |
| ✓ | **Passed** | LV11 | LV11 S | LV11 Sr | 586,7mOhm |
| ✓ | **Passed** | LVreturn11 | LVR11 S | LVR11 Sr | 589,6mOhm |
| ✓ | **Passed** | LV12 | LV12 S | LV12 Sr | 587,1mOhm |
| | **Passed** | LVreturn12 | LVR12 S | LVR12 Sr | 587,3mOhm |

| | | | | |
|---|---|---|---|---|
| **Passed** | PH | PH S | PH Sr | 591mOhm |
| **Passed** | PHreturn | PHR S | PHR Sr | 581,5mOhm |

--> Drains

| | | | | |
|---|---|---|---|---|
| ***Open*** | *Drain* | *Drain S* | *Drain r* | *19,04MOhm* |

HV channels and Tsensor

**Parameters for continuity test**

Threshold=15Ohm

| | | | | |
|---|---|---|---|---|
| **Passed** | Tsensor1 | TS1 S | TS1 Sr | 12,3Ohm |
| **Passed** | Tsensor2 | TS2 S | TS2 Sr | 12,36Ohm |
| **Passed** | Tsensor3 | TS3 S | TS3 Sr | 12,1Ohm |
| **Passed** | Tsensor4 | TS4 S | TS4 Sr | 12,19Ohm |
| **Passed** | H1 | H1 S | H1 Sr | 12,04Ohm |
| **Passed** | H2 | H2 S | H2 Sr | 12,37Ohm |
| **Passed** | H3 | H3 S | H3 Sr | 12,04Ohm |
| **Passed** | H4 | H4 S | H4 Sr | 12,18Ohm |
| **Passed** | HR1 | HR1 S | HR1 Sr | 12,14Ohm |
| **Passed** | H5 | H5 S | H5 Sr | 12,12Ohm |
| **Passed** | H6 | H6 S | H6 Sr | 11,99Ohm |
| **Passed** | H7 | H7 S | H7 Sr | 12,36Ohm |
| **Passed** | H8 | H8 S | H8 Sr | 12,23Ohm |
| **Passed** | HR2 | HR2 S | HR2 Sr | 12,39Ohm |
| **Passed** | H9 | H9 S | H9 Sr | 12,2Ohm |
| **Passed** | H10 | H10 S | H10 Sr | 12,17Ohm |
| **Passed** | H11 | H11 S | H11 Sr | 12,01Ohm |
| **Passed** | H12 | H12 S | H12 Sr | 12,03Ohm |
| **Passed** | HR3 | HR3 S | HR3 Sr | 12,18Ohm |

INSULATION TEST 1 VS all

--> LV channels

**Parameters for HV isolation test**

Voltage=50V; Threshold=100MOhm; Trise=10s; Twait=3s; Tmeas=1s; Auto ranging=On; Current limit=1,95mA; Tmeas red.=Off; Tmeas fact.=1; Voltage ramp=120V/s

**Parameters for HV isolation test**

Trise=1s; Twait=8s; Tmeas=8s

Passed; LV1; 1252241004.0799; Ohm; 1,252GOhm
Passed; LVR1; 2192308831.14732; Ohm; 2,192GOhm
Passed; LV2; 2508580069.02557; Ohm; 2,509GOhm
Fail; LVR2; 25551.6697713726; Ohm; 25,55kOhm
Passed; LV3; 1610587282.39065; Ohm; 1,611GOhm
Passed; LVR3; 1618501947.00858; Ohm; 1,619GOhm
Passed; LV4; 2339573941.96409; Ohm; 2,34GOhm
Passed; LVR4; 1317873157.37227; Ohm; 1,318GOhm
Fail; LV5; 25558.1781291917; Ohm; 25,56kOhm
Passed; LVR5; 1137832221.22771; Ohm; 1,138GOhm
Passed; LV6; 1164992456.37965; Ohm; 1,165GOhm
Fail; LVR6; 25563.4157188378; Ohm; 25,56kOhm
Fail; LV7; 25565.4172995207; Ohm; 25,57kOhm
Fail; LVR7; 25565.9971252864; Ohm; 25,57kOhm
Passed; LV8; 1529930205.96775; Ohm; 1,53GOhm
Passed; LVR8; 1421023758.17187; Ohm; 1,421GOhm
Passed; LV9; 1446819888.44993; Ohm; 1,447GOhm
Passed; LVR9; 2124842318.36735; Ohm; 2,125GOhm
Passed; LV10; 725740278.78194; Ohm; 725,7MOhm
Passed; LVR10; 2693873362.11391; Ohm; 2,694GOhm
Passed; LV11; 1289488925.93217; Ohm; 1,289GOhm
Passed; LVR11; 1373403043.44106; Ohm; 1,373GOhm
Passed; LV12; 2064861764.1313; Ohm; 2,065GOhm
Fail; LVR12; 25569.1785570487; Ohm; 25,57kOhm

Fail; PH; 25572.1294818159; Ohm; 25,57kOhm
Passed; PHR; 1735256522.9838; Ohm; 1,735GOhm
--> HV channels
**Parameters for HV isolation test**
Voltage=1,2kV; Threshold=1GOhm; Trise=10s; Tmeas=1s

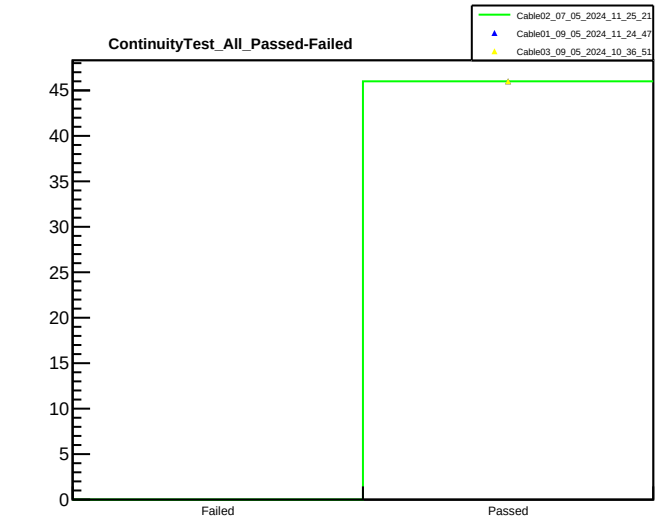
| | | | | |
|---|---|---|---|---|
| **Passed** | HV1 | H1 F | | 26,17GOhm |
| **Passed** | HV2 | H2 F | | 40,94GOhm |
| **Passed** | HV3 | H3 F | | 25,58GOhm |
| **Passed** | HV4 | H4 F | | >98,11GOhm |
| **Passed** | HV5 | H5 F | | >98,11GOhm |
| **Passed** | HV6 | H6 F | | 63,36GOhm |
| **Passed** | HV7 | H7 F | | >98,11GOhm |
| **Passed** | HV8 | H8 F | | >98,11GOhm |
| **Passed** | HV9 | H9 F | | 59,03GOhm |
| **Passed** | HV10 | H10 F | | >98,11GOhm |
| **Passed** | HV11 | H11 F | | >98,11GOhm |
| **Passed** | HV12 | H12 F | | >98,11GOhm |
| **Passed** | HVreturn1 | HR1 F | | >98,11GOhm |
| **Passed** | HVreturn2 | HR2 F | | 92,8GOhm |
| **Passed** | HVreturn3 | HR3 F | | >98,11GOhm |

**Parameters for HV isolation test**
Voltage=50V; Threshold=100MOhm; Trise=1s; Tmeas=2s

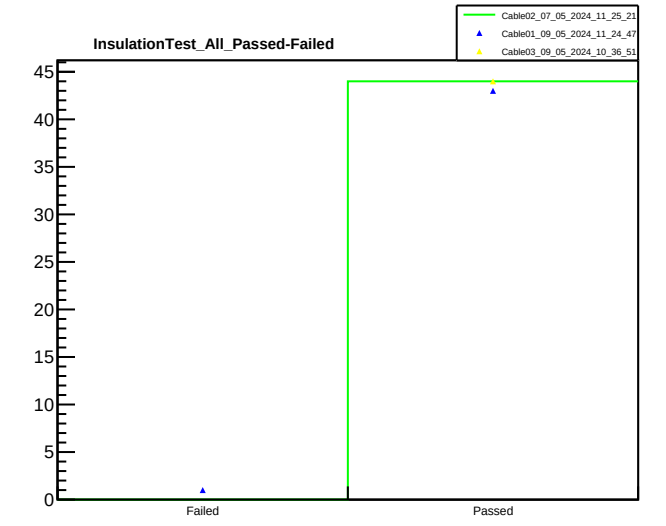
| | | | | |
|---|---|---|---|---|
| **Passed** | Tsensor1 | TS1 F | | 2,484GOhm |
| **Passed** | Tsensor2 | TS2 F | | >4,088GOhm |
| **Passed** | Tsensor3 | TS3 F | | >4,088GOhm |
| **Passed** | Tsensor4 | TS4 F | | >4,088GOhm |

INSULATION GROUP TEST
--> LV channels
**Parameters for HV isolation test**
Threshold=10MOhm
Fail; LV_group; 25576.7680364949; Ohm; 25,58kOhm
--> HV channels
**Parameters for HV isolation test**
Voltage=1,2kV; Threshold=100MOhm; Trise=10s

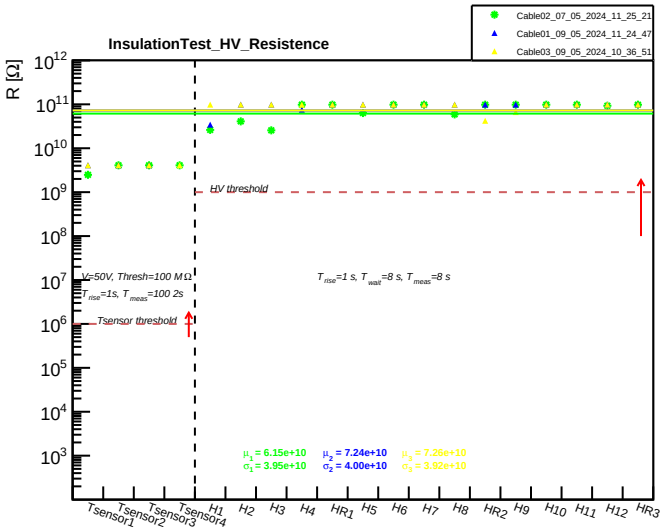
| | | | | |
|---|---|---|---|---|
| **Passed** | HV_group | HV | Low group | >4,918GOhm |



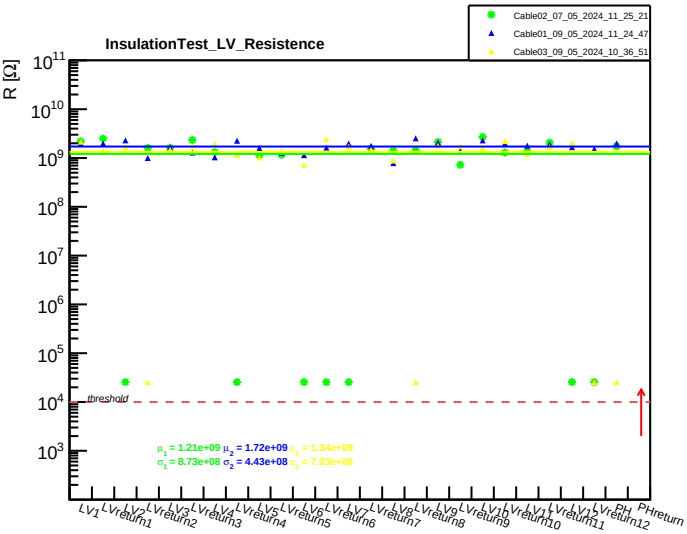

*Parameters : I=500, Thresh.= 40, $T_{stop}$ = 2 s, $T_{wait}$ = 2 s, $T_{meas}$ = 1 s, $V_{lim}$ = 48*



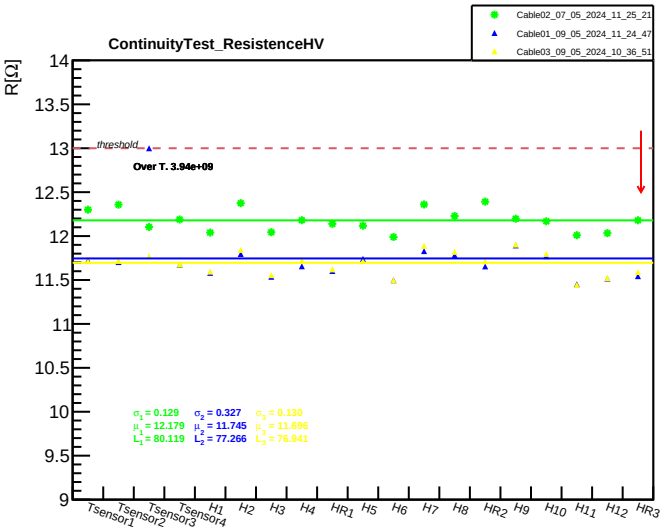

*Parameters : V=50 V, Thresh.= 100 MΩ, $T_{rise}$ = 1 s, $T_{wait}$ = 8 s, $T_{meas}$ = 8 s, $i_{lim}$ = 1.95 mA, $V_{ramp}$=120 V/s*



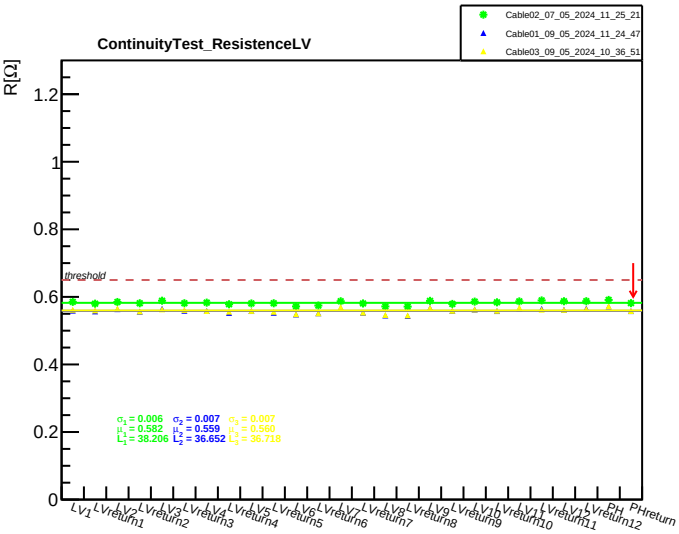

*Initial Parameters : V=1.2 kV, Thresh.= 1 GΩ, $T_{rise}$ = 10 s, $T_{wait}$ = 8 s, $T_{meas}$ = 1 s, $i_{lim}$ = 1.95 mA, $V_{ramp}$=120 V/s*




*Parameters : V=50 V, Thresh.= 100 MΩ, $T_{rise}$ = 1 s, $T_{wait}$ = 8 s, $T_{meas}$ = 8 s, $i_{lim}$ = 1.95 mA, $V_{ramp}$=120 V/s*




*Parameters : I=500, Thresh.= 40, $T_{stop}$ = 2 s, $T_{wait}$ = 2 s, $T_{meas}$ = 1 s, $V_{lim}$ = 48*




*Parameters : I=500, Thresh.= 40, $T_{stop}$ = 2 s, $T_{wait}$ = 2 s, $T_{meas}$ = 1 s, $V_{lim}$ = 48*