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	08/05/2024 18:36:57
Serial number	Cable03

T e s t r e s u l t	
Continuity test	*1 error*
LV isolation test	No commands
HV isolation test	*5 errors*
Test of electrical components	No commands
Voltage and Current	No commands
Other tests	Pass
F A I L E D	

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	565,9mOhm
✓ **Passed**	LVreturn1	LVR1 S	LVR1 Sr	564,2mOhm
✓ **Passed**	LV2	LV2 S	LV2 Sr	569,5mOhm
✓ **Passed**	LVreturn2	LVR2 S	LVR2 Sr	560,3mOhm
✓ **Passed**	LV3	LV3 S	LV3 Sr	566,9mOhm
✓ **Passed**	LVreturn3	LVR3 S	LVR3 Sr	564,9mOhm
✓ **Passed**	LV4	LV4 S	LV4 Sr	562,1mOhm
✓ **Passed**	LVreturn4	LVR4 S	LVR4 Sr	560,1mOhm
✓ **Passed**	LV5	LV5 S	LV5 Sr	562,3mOhm
✓ **Passed**	LVreturn5	LVR5 S	LVR5 Sr	559,8mOhm
✓ **Passed**	LV6	LV6 S	LV6 Sr	553,1mOhm
✓ **Passed**	LVreturn6	LVR6 S	LVR6 Sr	555,5mOhm
✓ **Passed**	LV7	LV7 S	LV7 Sr	573,9mOhm
✓ **Passed**	LVreturn7	LVR7 S	LVR7 Sr	557,5mOhm
✓ **Passed**	LV8	LV8 S	LV8 Sr	550,3mOhm
✓ **Passed**	LVreturn8	LVR8 S	LVR8 Sr	549,1mOhm
✓ **Passed**	LV9	LV9 S	LV9 Sr	571,6mOhm
✓ **Passed**	LVreturn9	LVR9 S	LVR9 Sr	562,7mOhm
✓ **Passed**	LV10	LV10 S	LV10 Sr	566,7mOhm
✓ **Passed**	LVreturn10	LVR10 S	LVR10 Sr	562,3mOhm
✓ **Passed**	LV11	LV11 S	LV11 Sr	571,9mOhm
✓ **Passed**	LVreturn11	LVR11 S	LVR11 Sr	565,7mOhm
✓ **Passed**	LV12	LV12 S	LV12 Sr	565,5mOhm
Passed	LVreturn12	LVR12 S	LVR12 Sr	567,6mOhm

✓				
✓ **Passed**	PH	PH S	PH Sr	576,8mOhm
✓ **Passed**	PHreturn	PHR S	PHR Sr	562mOhm
	--> Drains			
✗ *Open*	*Drain*	*Drain S*	*Drain r*	*23,64MOhm*

HV channels and Tsensor
Parameters for continuity test
Threshold=15Ohm

✓ **Passed**	Tsensor1	TS1 S	TS1 Sr	11,76Ohm
✓ **Passed**	Tsensor2	TS2 S	TS2 Sr	11,76Ohm
✓ **Passed**	Tsensor3	TS3 S	TS3 Sr	11,82Ohm
✓ **Passed**	Tsensor4	TS4 S	TS4 Sr	11,72Ohm
✓ **Passed**	H1	H1 S	H1 Sr	11,64Ohm
✓ **Passed**	H2	H2 S	H2 Sr	11,89Ohm
✓ **Passed**	H3	H3 S	H3 Sr	11,6Ohm
✓ **Passed**	H4	H4 S	H4 Sr	11,76Ohm
✓ **Passed**	HR1	HR1 S	HR1 Sr	11,67Ohm
✓ **Passed**	H5	H5 S	H5 Sr	11,76Ohm
✓ **Passed**	H6	H6 S	H6 Sr	11,54Ohm
✓ **Passed**	H7	H7 S	H7 Sr	11,93Ohm
✓ **Passed**	H8	H8 S	H8 Sr	11,86Ohm
✓ **Passed**	HR2	HR2 S	HR2 Sr	11,76Ohm
✓ **Passed**	H9	H9 S	H9 Sr	11,95Ohm
✓ **Passed**	H10	H10 S	H10 Sr	11,84Ohm
✓ **Passed**	H11	H11 S	H11 Sr	11,49Ohm
✓ **Passed**	H12	H12 S	H12 Sr	11,56Ohm
✓ **Passed**	HR3	HR3 S	HR3 Sr	11,63Ohm

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; 1312108834.73291; Ohm; 1,312GOhm
Passed; LVR1; 2195263125.84184; Ohm; 2,195GOhm
Passed; LV2; 1873504006.98886; Ohm; 1,874GOhm
Passed; LVR2; 2149140619.62779; Ohm; 2,149GOhm
Fail; LV3; 25557.293755328; Ohm; 25,56kOhm
Passed; LVR3; 1513685349.12821; Ohm; 1,514GOhm
Passed; LV4; 1229817226.15362; Ohm; 1,23GOhm
Passed; LVR4; 2396403667.27578; Ohm; 2,396GOhm
Passed; LV5; 1428840128.33909; Ohm; 1,429GOhm
Passed; LVR5; 1044679418.55763; Ohm; 1,045GOhm
Passed; LV6; 987312721.78213; Ohm; 987,3MOhm
Passed; LVR6; 1036981072.16575; Ohm; 1,037GOhm
Passed; LV7; 1182419332.81792; Ohm; 1,182GOhm
Passed; LVR7; 2178013684.23579; Ohm; 2,178GOhm
Passed; LV8; 1609219166.31552; Ohm; 1,609GOhm
Passed; LVR8; 924082071.474165; Ohm; 924,1MOhm
Fail; LV9; 25565.3174245708; Ohm; 25,57kOhm
Passed; LVR9; 1899082671.00596; Ohm; 1,899GOhm
Passed; LV10; 1774442902.97819; Ohm; 1,774GOhm
Passed; LVR10; 3175363351.51059; Ohm; 3,175GOhm
Passed; LV11; 1947765239.31649; Ohm; 1,948GOhm
Passed; LVR11; 2184239190.59568; Ohm; 2,184GOhm
Passed; LV12; 1677435476.58262; Ohm; 1,677GOhm
Passed; LVR12; 2499376356.74362; Ohm; 2,499GOhm

Fail; PH; 25570.4451068338; Ohm; 25,57kOhm
Fail; PHR; 25572.6396658299; Ohm; 25,57kOhm
--> HV channels
Parameters for HV isolation test
Voltage=1,2kV; Threshold=1GOhm; Trise=10s; Tmeas=1s

✔ **Passed**	HV1	H1 F		>98,08GOhm
✔ **Passed**	HV2	H2 F		22,4GOhm
✔ **Passed**	HV3	H3 F		>98,08GOhm
✔ **Passed**	HV4	H4 F		>98,08GOhm
✔ **Passed**	HV5	H5 F		>98,08GOhm
✔ **Passed**	HV6	H6 F		>98,08GOhm
✔ **Passed**	HV7	H7 F		>98,08GOhm
✔ **Passed**	HV8	H8 F		>98,08GOhm
✔ **Passed**	HV9	H9 F		>98,08GOhm
✔ **Passed**	HV10	H10 F		>98,08GOhm
✔ **Passed**	HV11	H11 F		38,63GOhm
✔ **Passed**	HV12	H12 F		>98,08GOhm
✔ **Passed**	HVreturn1	HR1 F		45,56GOhm
✔ **Passed**	HVreturn2	HR2 F		47,09GOhm
✔ **Passed**	HVreturn3	HR3 F		>98,08GOhm

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

✔ **Passed**	Tsensor1	TS1 F		>4,087GOhm
✔ **Passed**	Tsensor2	TS2 F		>4,087GOhm
✔ **Passed**	Tsensor3	TS3 F		>4,087GOhm
✔ **Passed**	Tsensor4	TS4 F		>4,087GOhm

INSULATION GROUP TEST
--> LV channels
Parameters for HV isolation test
Threshold=10MOhm
Fail; LV_group; 25577.0512559379; Ohm; 25,58kOhm
--> HV channels
Parameters for HV isolation test
Voltage=1,2kV; Threshold=100MOhm; Trise=10s

✔ **Passed**	HV_group	HV	Low group	2,985GOhm

ContinuityTest_All_Passed-Failed

processed_Cable03_08_05_20:

Failed   Passed

InsulationTest_All_Passed-Failed

processed_Cable03_08_05_20:

Failed   Passed

InsulationTest_HV_Resistence

processed_Cable03_08_05_20:

$R\ [\Omega]$

HV threshold

Tsensor threshold

$\mu_1 = 6.26e{+}10$
$L_1 = 6.26e{+}10$

$T_{sensor1}$ $T_{sensor2}$ $T_{sensor3}$ $T_{sensor4}$ HV_1 HV_2 HV_3 HV_4 HV_{R1} HV_5 HV_6 HV_7 HV_8 HV_{R2} HV_9 HV_{10} HV_{11} HV_{12} HV_{R3}

Initial Parameters : V=50 kV, Thresh.= 100 GΩ, T_{rise} = 10 s, T_{wait} = 3 s, T_{meas} = 1 s, AR = On, i_{lim} = 1.95 mA, T_{meas} red.=Off, T_{meas} fact.=1, V_{ramp}= 120 V/s

InsulationTest_LV_Resistence

processed_Cable03_08_05_20:

$R\ [\Omega]$

threshold

$\mu_1 = 1.74e{+}09$
$\sigma_1 = 1.74e{+}09$

LV_1 LV_{R1} LV_2 LV_{R2} LV_3 LV_{R3} LV_4 LV_{R4} LV_5 LV_6 LV_{R6} LV_7 LV_{R7} LV_8 LV_9 LV_{R9} LV_{10} LV_{R10} LV_{11} LV_{12} LV_{R12} PH

Initial Parameters : V=50 kV, Thresh.= 100 GΩ, T_{rise} = 10 s, T_{wait} = 3 s, T_{meas} = 1 s, AR = On, i_{lim} = 1.95 mA, T_{meas} red.=Off, T_{meas} fact.=1, V_{ramp}= 120 V/s

ContinuityTest_ResistenceHV

processed_Cable03_08_05_20:

$R[\Omega]$

threshold

$\sigma_1 = 11.733$
$\mu_1 = 0.317$
$L_1 = 77.187$

$T_{sensor1}$ $T_{sensor2}$ $T_{sensor3}$ $T_{sensor4}$ HV_1 HV_2 HV_3 HV_4 HV_{R1} HV_5 HV_6 HV_7 HV_8 HV_{R2} HV_9 HV_{10} HV_{11} HV_{12} HV_{R3}

Parameters : i=500, Thresh.= 40, T_{rise} = 2 s, T_{wait} = 2 s, T_{meas} = 1 s, AR=On, V_{lim}= 48

ContinuityTest_ResistenceLV

processed_Cable03_08_05_20:

$R[\Omega]$

threshold

$\sigma_1 = 0.001$
$\mu_1 = 0.563$
$L_1 = 36.960$

LV_1 LV_{R1} LV_2 LV_{R2} LV_3 LV_{R3} LV_4 LV_{R4} LV_5 LV_6 LV_{R6} LV_7 LV_{R7} LV_8 LV_9 LV_{R9} LV_{10} LV_{R10} LV_{11} LV_{12} LV_{R12} PH

Parameters : i=500, Thresh.= 40, T_{rise} = 2 s, T_{wait} = 2 s, T_{meas} = 1 s, AR=On, V_{lim}= 48

Cable02_08_05_2024_11_10_2

Cable02_08_05_2024_11_10_2