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 06/05/2024 11:50:37

Serial number Cable02

	Test result		
Continuity test	2 errors		
LV isolation test	No commands		
HV isolation test	6 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=10hm

Passed	LV1	LV1 S	LV1 Sr	586mOhm
Passed	LVreturn1	LVR1 S	LVR1 Sr	579,9mOhm
Passed	LV2	LV2 S	LV2 Sr	585mOhm
Passed	LVreturn2	LVR2 S	LVR2 Sr	581,1mOhm
√ Passed	LV3	LV3 S	LV3 Sr	588,7mOhm
√ Passed	LVreturn3	LVR3 S	LVR3 Sr	581,1mOhm
√ Passed	LV4	LV4 S	LV4 Sr	583mOhm
√ Passed	LVreturn4	LVR4 S	LVR4 Sr	577,7mOhm
√ Passed	LV5	LV5 S	LV5 Sr	581,6mOhm
√ Passed	LVreturn5	LVR5 S	LVR5 Sr	581,2mOhm
√ Passed	LV6	LV6 S	LV6 Sr	572mOhm
√ Passed	LVreturn6	LVR6 S	LVR6 Sr	574,3mOhm
√ Passed	LV7	LV7 S	LV7 Sr	587mOhm
√ Passed	LVreturn7	LVR7 S	LVR7 Sr	581mOhm
√ Passed	LV8	LV8 S	LV8 Sr	571,2mOhm
√ Passed	LVreturn8	LVR8 S	LVR8 Sr	571,1mOhm
💢 Open	LV9	LV9 S	LV9 Sr	1,186Ohm
√ Passed	LVreturn9	LVR9 S	LVR9 Sr	578,5mOhm
√ Passed	LV10	LV10 S	LV10 Sr	585,7mOhm
√ Passed	LVreturn10	LVR10 S	LVR10 Sr	583,9mOhm
√ Passed	LV11	LV11 S	LV11 Sr	586,7mOhm
√ Passed	LVreturn11	LVR11 S	LVR11 Sr	588,3mOhm
√ Passed	LV12	LV12 S	LV12 Sr	587,2mOhm
Passed	LVreturn12	LVR12 S	LVR12 Sr	587,4mOhm

V						
√ Passed	PH	PH S	PH Sr	590,7mOhm		
Passed	PHreturn	PHR S	PHR Sr	581mOhm		
> Drains						
💢 Open	Drain	Drain S	Drain r	22,42MOhm		
HV channels	and Tsensor for continuity test					
Threshold=15	•					
√ Passed	Tsensor1	TS1 S	TS1 Sr	12,32Ohm		
Passed	Tsensor2	TS2 S	TS2 Sr	12,380hm		
Passed	Tsensor3	TS3 S	TS3 Sr	12,120hm		
Passed	Tsensor4	TS4 S	TS4 Sr	12,210hm		
Passed	H1	H1 S	H1 Sr	12,06Ohm		
Passed	H2	H2 S	H2 Sr	12,39Ohm		
√ Passed	H3	H3 S	H3 Sr	12,06Ohm		
√ Passed	H4	H4 S	H4 Sr	12,20hm		
Passed	HR1	HR1 S	HR1 Sr	12,16Ohm		
Passed	H5	H5 S	H5 Sr	12,14Ohm		
Passed	H6	H6 S	H6 Sr	12,01Ohm		
Passed	H7	H7 S	H7 Sr	12,38Ohm		
Passed	H8	H8 S	H8 Sr	12,25Ohm		
Passed	HR2	HR2 S	HR2 Sr	12,410hm		
Passed	H9	H9 S	H9 Sr	12,22Ohm		
Passed	H10	H10 S	H10 Sr	12,19Ohm		
Passed	H11	H11 S	H11 Sr	12,03Ohm		
√ Passed	H12	H12 S	H12 Sr	12,05Ohm		
√ Passed	HR3	HR3 S	HR3 Sr	12,20hm		
INSULATION TEST 1 VS all						
> LV chann	els					

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; 568268488.8955; Ohm; 568,3MOhm Passed; LVR1; 1651708605.77895; Ohm; 1,652GOhm Passed; LV2; 1504714724.23853; Ohm; 1,505GOhm Fail; LVR2; 25556.1188031578; Ohm; 25,56kOhm Fail; LV3; 25568.5015340352; Ohm; 25,57kOhm Passed; LVR3; 1703689823.60472; Ohm; 1,704GOhm Passed; LV4; 1668401227.18297; Ohm; 1,668GOhm Passed; LVR4; 1827078705.7644; Ohm; 1,827GOhm Passed; LV5; 2209476127.22024; Ohm; 2,209GOhm Passed; LVR5; 2209429848.28769; Ohm; 2,209GOhm Passed; LV6; 906279854.475365; Ohm; 906,3MOhm Passed; LVR6; 1546621704.30928; Ohm; 1,547GOhm Fail; LV7; 25571.4991326461; Ohm; 25,57kOhm Passed; LVR7; 1927239077.3793; Ohm; 1,927GOhm Passed; LV8; 975671481.063455; Ohm; 975,7MOhm Passed; LVR8; 1171700901.53477; Ohm; 1,172GOhm Fail; LV9; 25573.6136749591; Ohm; 25,57kOhm Passed; LVR9; 1397672731.51379; Ohm; 1,398GOhm Passed; LV10; 1295185079.35057; Ohm; 1,295GOhm Passed; LVR10; 2198713374.99574; Ohm; 2,199GOhm Passed; LV11; 1700880327.13316; Ohm; 1,701GOhm Passed; LVR11; 1754106007.7083; Ohm; 1,754GOhm Passed; LV12; 1847472804.48581; Ohm; 1,847GOhm Passed; LVR12; 1483334769.37787; Ohm; 1,483GOhm

Passed; PHR; 2644147465.72211; Ohm; 2,644GOhm --> HV channels Parameters for HV isolation test Voltage=1,2kV; Threshold=1GOhm; Trise=10s; Tmeas=1s **Passed** H1 F 27,02GOhm HV1 **Passed** HV2 H2 F 61,24GOhm **Passed** HV3 H₃ F 11,89GOhm Passed HV4 H4 F >98,2GOhm Passed HV5 H5 F 44,47GOhm **Passed** HV6 H6 F 49GOhm **Passed** HV7 H7 F >98,2GOhm **Passed** HV8 H8 F 68,75GOhm Passed HV9 H9 F 49,09GOhm **Passed** HV10 H10 F >98,2GOhm **Passed** HV11 H11 F >98,2GOhm **Passed** HV12 H12 F >98,2GOhm Passed HVreturn1 HR1 F >98,2GOhm 🌠 Passed HVreturn2 HR2 F >98,2GOhm Passed HVreturn3 HR3 F >98,2GOhm Parameters for HV isolation test Voltage=50V; Threshold=100MOhm; Trise=1s; Tmeas=2s Passed Tsensor1 TS1 F >4,092GOhm **Passed** Tsensor2 TS2 F >4,092GOhm Passed Tsensor3 TS3 F 2,458GOhm Passed Tsensor4 TS4 F >4,092GOhm **INSULATION GROUP TEST**

--> LV channels

Parameters for HV isolation test

Threshold=10MOhm

Fail; LV_group; 25582.4255991317; Ohm; 25,58kOhm

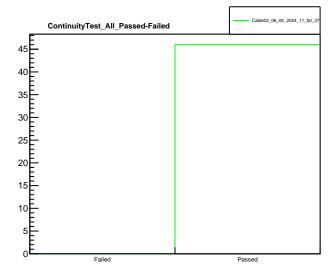
--> HV channels

Parameters for HV isolation test

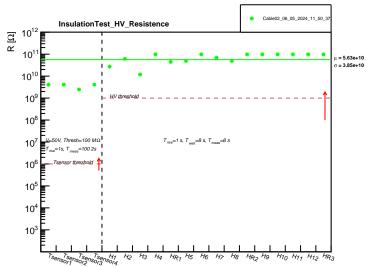
Voltage=1,2kV; Threshold=100MOhm; Trise=10s

Fail; PH; 25576.1071938523; Ohm; 25,58kOhm

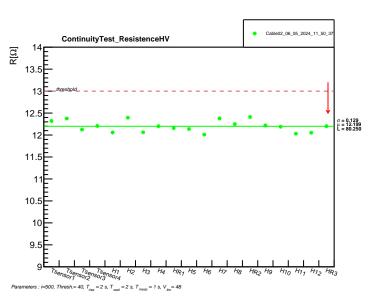
Passed HV_group HV3,794GOhm Low group



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



 $Initial\ Parameters: V=1.2\ kV,\ Thresh=1\ G\Omega,\ T_{rise}=10\ s,\ T_{wait}=8\ s,\ T_{meas}=1\ s,\ i_{lim}=1.95\ mA,\ V_{namp}=120\ V/s$



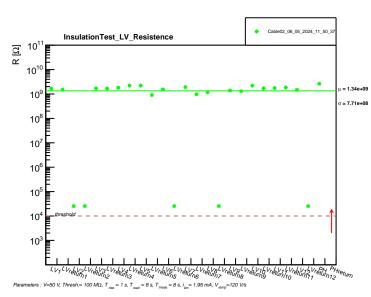
35 30 25 20 15 10

Passed

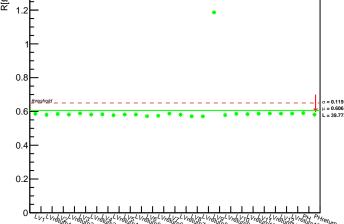
 $Parameters: V=50 \ V, \ Thresh=100 \ M\Omega, \ T_{_{rise}}=1 \ s, \ T_{_{meat}}=8 \ s, \ I_{_{meas}}=8 \ s, \ i_{_{lim}}=1.95 \ mA, \ V_{_{mmp}}=120 \ V/s$

InsulationTest_All_Passed-Failed

40



ContinuityTest_ResistenceLV



Parameters : i=500, Thresh.= 40, $T_{\rm rise}$ = 2 s, $T_{\rm wall}$ = 2 s, $T_{\rm meas}$ = 1 s, $V_{\rm lim}$ = 48