# 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 09/05/2024 11:24:47

Serial number Cable01

	Test result		
Continuity test	2 errors		
LV isolation test	No commands		
HV isolation test	1 error		
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

V	Passed	LV1	LV1 S	LV1 Sr	559,4mOhm
V	Passed	LVreturn1	LVR1 S	LVR1 Sr	557,1mOhm
V	Passed	LV2	LV2 S	LV2 Sr	563,8mOhm
V	Passed	LVreturn2	LVR2 S	LVR2 Sr	556,2mOhm
V	Passed	LV3	LV3 S	LV3 Sr	564,9mOhm
V	Passed	LVreturn3	LVR3 S	LVR3 Sr	559mOhm
<b>V</b>	Passed	LV4	LV4 S	LV4 Sr	558,5mOhm
<b>V</b>	Passed	LVreturn4	LVR4 S	LVR4 Sr	552,6mOhm
<b>V</b>	Passed	LV5	LV5 S	LV5 Sr	558,2mOhm
<b>V</b>	Passed	LVreturn5	LVR5 S	LVR5 Sr	553,1mOhm
<b>V</b>	Passed	LV6	LV6 S	LV6 Sr	548mOhm
<b>V</b>	Passed	LVreturn6	LVR6 S	LVR6 Sr	551,6mOhm
V	Passed	LV7	LV7 S	LV7 Sr	567,4mOhm
V	Passed	LVreturn7	LVR7 S	LVR7 Sr	553,1mOhm
<b>V</b>	Passed	LV8	LV8 S	LV8 Sr	544,9mOhm
V	Passed	LVreturn8	LVR8 S	LVR8 Sr	543,6mOhm
V	Passed	LV9	LV9 S	LV9 Sr	567,3mOhm
<b>V</b>	Passed	LVreturn9	LVR9 S	LVR9 Sr	558,7mOhm
V	Passed	LV10	LV10 S	LV10 Sr	562,6mOhm
V	Passed	LVreturn10	LVR10 S	LVR10 Sr	558,2mOhm
<b>V</b>	Passed	LV11	LV11 S	LV11 Sr	565,7mOhm
<b>V</b>	Passed	LVreturn11	LVR11 S	LVR11 Sr	564,6mOhm
V	Passed	LV12	LV12 S	LV12 Sr	562mOhm
	Passed	LVreturn12	LVR12 S	LVR12 Sr	565,7mOhm

<b>√</b>								
<b>√</b> Passed	PH	PH S	PH Sr	571,5mOhm				
<b>√</b> Passed	PHreturn	PHR S	PHR Sr	558,1mOhm				
> Drains								
<b>X</b> Open	Drain	Drain S	Drain r	625,9MOhm				
HV channels	and Tsensor for continuity test							
Threshold=15								
<b>√</b> Passed	Tsensor1	TS1 S	TS1 Sr	11,720hm				
<b>√</b> Passed	Tsensor2	TS2 S	TS2 Sr	11,70hm				
🗶 Open	Tsensor3	TS3 S	TS3 Sr	>3,936GOhm				
<b>√</b> Passed	Tsensor4	TS4 S	TS4 Sr	11,67Ohm				
<b>√</b> Passed	H1	H1 S	H1 Sr	11,58Ohm				
<b>√</b> Passed	H2	H2 S	H2 Sr	11,80hm				
<b>√</b> Passed	H3	H3 S	H3 Sr	11,540hm				
<b>√</b> Passed	H4	H4 S	H4 Sr	11,66Ohm				
<b>√</b> Passed	HR1	HR1 S	HR1 Sr	11,60hm				
<b>√</b> Passed	H5	H5 S	H5 Sr	11,740hm				
<b>√</b> Passed	H6	H6 S	H6 Sr	11,5Ohm				
<b>√</b> Passed	H7	H7 S	H7 Sr	11,83Ohm				
<b>√</b> Passed	H8	H8 S	H8 Sr	11,78Ohm				
<b>√</b> Passed	HR2	HR2 S	HR2 Sr	11,66Ohm				
Passed	H9	H9 S	H9 Sr	11,89Ohm				
Passed	H10	H10 S	H10 Sr	11,77Ohm				
<b>√</b> Passed	H11	H11 S	H11 Sr	11,45Ohm				
<b>√</b> Passed	H12	H12 S	H12 Sr	11,52Ohm				
Passed	HR3	HR3 S	HR3 Sr	11,54Ohm				
	INSULATION TEST 1 VS all							
> LV channe	> 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; 2311273771.69321; Ohm; 2,311GOhm Passed; LVR1; 1993541157.42706; Ohm; 1,994GOhm Passed; LV2; 1988244827.50544; Ohm; 1,988GOhm Passed; LVR2; 2301396691.46384; Ohm; 2,301GOhm Passed; LV3; 2309193526.26052; Ohm; 2,309GOhm Passed; LVR3; 1663244834.21197; Ohm; 1,663GOhm Passed; LV4; 1290735498.37421; Ohm; 1,291GOhm Passed; LVR4; 1032925156.20429; Ohm; 1,033GOhm Passed; LV5; 2259416624.04094; Ohm; 2,259GOhm Passed; LVR5; 1601703189.78743; Ohm; 1,602GOhm Passed; LV6; 1276406993.25255; Ohm; 1,276GOhm Passed; LVR6; 1144959028.19898; Ohm; 1,145GOhm Passed; LV7; 1625819390.97378; Ohm; 1,626GOhm Passed; LVR7; 1985974797.26275; Ohm; 1,986GOhm Passed; LV8; 1774093257.25668; Ohm; 1,774GOhm Passed; LVR8; 787109863.673495; Ohm; 787,1MOhm Passed; LV9; 2535292844.86757; Ohm; 2,535GOhm Passed; LVR9; 2071526908.10781; Ohm; 2,072GOhm Passed; LV10; 1414965425.21754; Ohm; 1,415GOhm Passed; LVR10; 2298480100.32004; Ohm; 2,298GOhm Passed; LV11; 2004374677.87577; Ohm; 2,004GOhm Passed; LVR11; 1787329239.47976; Ohm; 1,787GOhm Passed; LV12; 1906445997.15821; Ohm; 1,906GOhm Passed; LVR12; 1667787993.86862; Ohm; 1,668GOhm

Passed; PHR; 1991465713.41551; Ohm; 1,991GOhm --> HV channels Parameters for HV isolation test Voltage=1,2kV; Threshold=1GOhm; Trise=10s; Tmeas=1s **Passed** 34,44GOhm HV1 H<sub>1</sub>F **Passed** HV2 H2 F >98,41GOhm **Passed** HV3 H<sub>3</sub> F >98,41GOhm Passed HV4 H4 F 75,2GOhm **Passed** HV5 H5 F >98,41GOhm **Passed** HV6 H6 F >98,41GOhm **Passed** HV7 H7 F >98,41GOhm **Passed** HV8 H8 F >98,41GOhm **Passed** HV9 H9 F >98,41GOhm **Passed** HV10 H10 F >98,41GOhm **Passed** HV11 H11 F >98,41GOhm **Passed** HV12 H12 F >98,41GOhm Passed HVreturn1 HR1 F >98,41GOhm Passed HVreturn2 HR2 F >98,41GOhm Passed HVreturn3 HR3 F >98,41GOhm Parameters for HV isolation test Voltage=50V; Threshold=100MOhm; Trise=1s; Tmeas=2s Passed Tsensor1 TS1 F >4,101GOhm **Passed** Tsensor2 TS2 F >4,101GOhm Passed Tsensor3 TS3 F >4,101GOhm 💢 Short Tsensor4 TS4 F ?NotSearched? <25,51kOhm

**INSULATION GROUP TEST** 

--> LV channels

### Parameters for HV isolation test

Threshold=10MOhm

Passed; LV\_group; 136443657.878759; Ohm; 136,4MOhm

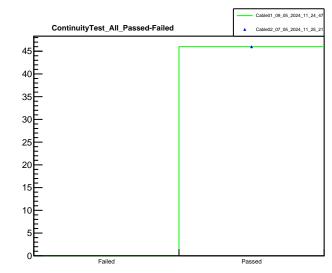
--> HV channels

## Parameters for HV isolation test

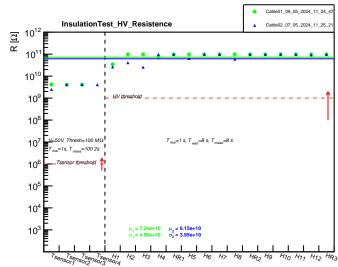
Voltage=1,2kV; Threshold=100MOhm; Trise=10s

Passed; PH; 1529818173.94454; Ohm; 1,53GOhm

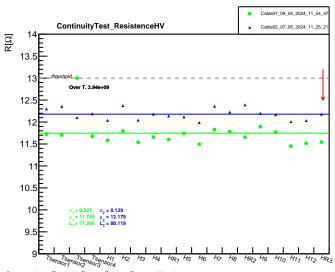
√ Passed HV\_group HV Low group >4,921GOhm



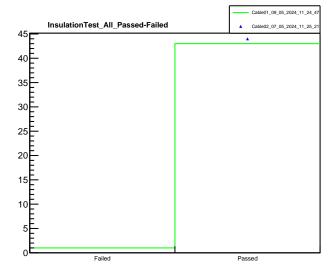
meters : i=500, Thresh.= 40,  $T_{rise} = 2$  s,  $T_{walt} = 2$  s,  $T_{meas} = 1$  s,  $V_{lim} = 48$ 



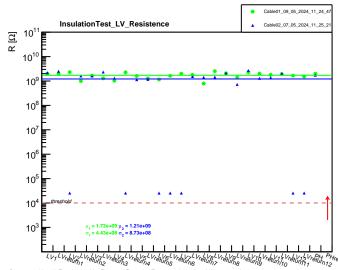
 $Initial\ Parameters: V=1.2\ kV,\ Thresh=1\ G\Omega,\ T_{_{rise}}=10\ s,\ T_{_{wait}}=8\ s,\ T_{_{meas}}=1\ s,\ i_{_{\underline{km}}}=1.95\ mA,\ V_{_{ramp}}=120\ V/s$ 



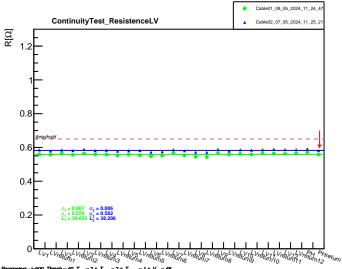
arameters : i=500, Thresh = 40,  $T_{rise} = 2$  s,  $T_{walt} = 2$  s,  $T_{meas} = 1$  s,  $V_{lim} = 48$ 



Parameters : V=50 V, Thresh.= 100 M $\Omega$ ,  $T_{rise}$  = 1 s,  $T_{mait}$  = 8 s,  $T_{meas}$  = 8 s,  $t_{lm}$  = 1.95 mA,  $V_{mmp}$  =120 V/s



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



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