UUT DATA : Model **PFM** Item **AMS02 POWER DISTRIBUTION SYSTEM** C.I. **PDS 18** S/N **FM01**

STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
	Input OVC Alarm	OK	OK	
	DCDC ON/OFF	**OFF**	**OFF**	
	27V UNV	OK	OK	
	29V Trip	OK	OK	
	DCDC OFF/ON CMD	**OFF**	**OFF**	
PB2-4-A.50	Set ON on DCDC OFF/ON command window and send the command	OK	OK	
PB2-4-A.51	Click on the command READ ALL under the column Digital Readout	OK	OK	
PB2-4-A.52	Verify the status of the following flags:			
	BOARD STATUS	OK	OK	
	OVT ALARM	OK	OK	
	Input OVC Alarm	OK	OK	
	DCDC ON/OFF	**ON**	**ON**	
	27V UNV	OK	OK	
	29V Trip	OK	OK	
	DCDC OFF/ON CMD	**ON**	**ON**	
PB2-4-A.53	Read on display the voltage on ESEM 3A-4 out 1 (Check that load is not connected)	28,00V±1,00V	28,1V	
PB2-4-A.54	Set the CAN BUS board address to ~~31~~ 30	~~31~~ 30	30	See PVS-13
PB2-4-A.55	Select "CAN BUS I/F Side" to ~~B~~ A	~~B~~ A	A	See PVS-14
PB2-4-A.56	Click on the command READ ALL under the column Digital Readout	OK	OK	
PB2-4-A.57	Verify the status of the following flags:			
	BOARD STATUS	OK	OK	
	OVT ALARM	OK	OK	
	Input OVC Alarm	OK	OK	
	DCDC ON/OFF	**ON**	**ON**	
	27V UNV	OK	OK	
	29V Trip	OK	OK	
	DCDC OFF/ON CMD	**ON**	**ON**	

DATE: 6/08/2009	TEST CONDUCTOR Albertin A.	QA Francini E.	CUSTOMER

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10.3.1.5.10 ESEM 3A-4 SIDE A

STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3A-4-A.1	Click on ESEM 3A-4 button	OK	OK	Button located on left side of software window
3A-4-A.2	Connect to active loads outlet 1, 2, 3, 4, 5, 6, 7 and 8.	OK	OK	
3A-4-A.3	Verify that loads are set to 0A current absorption	OK	OK	
3A-4-A.4	Set Digital I/F Test logic value = 1 in "Commanding" column	1	1	
3A-4-A.5	Click on letter "W" on the right of the "1" value	OK	OK	
3A-4-A.6	Click on the command READ ALL under the column Digital Readout	OK	OK	
3A-4-A.7	Verify that in the column Digital Readout under the voice Digital I/F Test appears "1"	1	1	
3A-4-A.8	Set Digital I/F Test logic value = 0 in "Commanding" column	0	0	
3A-4-A.9	Click on letter "W" on the right of the "0" value	OK	OK	
3A-4-A.10	Click on the command READ ALL under the column Digital Readout	OK	OK	
3A-4-A.11	Verify that in the column Digital Readout under the voice Digital I/F Test appears "0"	0	0	
3A-4-A.12	Set ON in the window All Outlets ON/OFF and push the relative "W" command	OK	OK	
3A-4-A.13	Read on display the voltage on this ESEM 3-A loads: O_1: JPD_R O_2: ER1_R O_3: SPD1_R O_4: ER0_R O_5: UPD0 O_6: SPD0_N O_7: TPD5 O_8: TTPD_N	 28,00V±1,00V 28,00V±1,00V 28,00V±1,00V 28,00V±1,00V 28,00V±1,00V 28,00V±1,00V 28,00V±1,00V 28,00V±1,00V	 28V 28V 28V 28V 28V 28V 28V 28V	
3A-4-A.14	Click on Read All command in Digital Readout column	OK	OK	
3A-4-A.15	Verify the status of the following flags: BOARD STATUS OVT Alarm From O_1 CMD: JPD_R to O_8 CMD: TTPD_N From O_1 Status: JPD_R to O_8 Status: TTPD_N	 OK OK ON ON	 OK OK ON ON	
3A-4-A.16	Set the CAN BUS board address to 31	31	31	
3A-4-A.17	Select "CAN BUS I/F Side" to B	B	B	
3A-4-A.18	Click on Read All command in Digital Readout column	OK	OK	
3A-4-A.19	Verify the status of the following flags: BOARD STATUS OVT Alarm From O_1 CMD: JPD_R to O_8 CMD: TTPD_N From O_1 Status: JPD_R to O_8 Status: TTPD_N	 OK OK ON ON	 OK OK ON ON	

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UUT DATA : Model **PFM** Item **AMS02 POWER DISTRIBUTION SYSTEM** C.I. **PDS 18** S/N **FM01**

STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3A-4-A.20	Generate a short circuit on the passive load keyboards: From O_1: JPD_R to O_8: TTPD_N	OK	Ok	
3A-4-A.21	Read on display the voltage on this ESEM 3-A loads: O_1: TPD0 O_2: TPD4 O_3: ER0_N O_4: MPD_R O_5: SPD3_R O_6: UGPD_R O_7: SPD2_R O_8: CAB_N	 0,00V<V<1,00V 0,00V<V<1,00V 0,00V<V<1,00V 0,00V<V<1,00V 0,00V<V<1,00V 0,00V<V<1,00V 0,00V<V<1,00V 0,00V<V<1,00V	 0V 0V 0V 0V 0V 0V 0V 0V	
3A-4-A.22	Click on Read All command in Digital Readout column	OK	OK	
3A-4-A.23	Verify the status of the following flags: BOARD STATUS OVT Alarm From O_1 CMD: JPD_R to O_8 CMD: TTPD_N From O_1 Status: JPD_R to O_8 Status: TTPD_N	 **NOK** OK ON **OFF**	 **NOK** OK ON **OFF**	
3A-4-A.24	Set the CAN BUS board address to 30	30	30	
3A-4-A.25	Select "CAN BUS I/F Side" to A	A	A	
3A-4-A.26	Click on Read All command in Digital Readout column	OK	OK	
3A-4-A.27	Verify the status of the following flags: BOARD STATUS OVT Alarm From O_1 CMD: JPD_R to O_8 CMD: TTPD_N From O_1 Status: JPD_R to O_8 Status: TTPD_N	 **NOK** OK ON **OFF**	 **NOK** OK ON **OFF**	
3A-4-A.28	Set OFF in the window All Outlets ON/OFF and push the relative "W" command	OK	OK	
3A-4-A.29	Set ON in the window All Outlets ON/OFF and push the relative "W" command	OK	OK	
3A-4-A.30	Click on Read All command in Digital Readout column	OK	OK	
3A-4-A.31	Verify the status of the following flags: BOARD STATUS OVT Alarm From O_1 CMD: JPD_R to O_8 CMD: TTPD_N From O_1 Status: JPD_R to O_8 Status: TTPD_N	 **OK** OK ON **ON**	 **OK** OK ON **ON**	
3A-4-A.32	Set the CAN BUS board address to 31	31	31	
3A-4-A.33	Select "CAN BUS I/F Side" to B	B	B	
3A-4-A.34	Click on Read All command in Digital Readout column	OK	OK	
3A-4-A.35	Verify the status of the following flags: BOARD STATUS	**OK**	**OK**	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
	OVT Alarm From O_1 CMD: JPD_R to O_8 CMD: TTPD_N From O_1 Status: JPD_R to O_8 Status: TTPD_N	OK ON **ON**	OK ON **ON**	
3A-4-A.36	Using board telemetries set to 2A current absorption all the outlets: From O_1: JPD_R to O_8: TTPD_N	OK	OK	Set active loads to constant current mode. Set current on display with 100mA above the desired value with the exception of out8 that is correct.
3A-4-A.37	Push on Read All button in Analog Readout column	OK	OK	
3A-4-A.38	Verify the telemetries: O_1 Current: JPD_R O_2 Current: ER1_R O_3 Current: SPD1_R O_4 Current: ER0_R O_5 Current: UPD0 O_6 Current: SPD0_N O_7 Current: TPD5 O_8 Current: TTPD_N Temperature Analog Ref. 3.0VTemperature Analog Ref. 3.0V	2,000A±0,225A 2,000A±0,225A 2,000A±0,225A 2,000A±0,225A 2,000A±0,225A 2,000A±0,225A 2,000A±0,225A 2,00A±0,45A -40°C<T<80C° 3,000V±250mV	2,026A 2,063A 2,096A 2,067A 2,155A 2,175A 2,126A 2,194A 30,41°C 2,967V	
3A-4-A.39	Set the CAN BUS board address to 30	30	30	
3A-4-A.40	Select "CAN BUS I/F Side" to A	A	A	
3A-4-A.41	Push on Read All button in Analog Readout column	OK	OK	
3A-4-A.42	Verify the current telemetries: O_1 Current: JPD_R O_2 Current: ER1_R O_3 Current: SPD1_R O_4 Current: ER0_R O_5 Current: UPD0 O_6 Current: SPD0_N O_7 Current: TPD5 O_8 Current: TTPD_N Temperature Analog Ref. 3.0V	2,000A±0,225A 2,000A±0,225A 2,000A±0,225A 2,000A±0,225A 2,000A±0,225A 2,000A±0,225A 2,000A±0,225A 2,00A±0,45A -40°C<T<80C° 3,000V±250mV	2,048A 2,082A 2,102A 2,079A 2,107A 2,023A 2,204A 2,19A 31,05°C 3V	
3A-4-A.43	Set to 0A current absorption all the outlets: From O_1: JPD_R to O_8: TTPD_N	OK	OK	
3A-4-A.44	Set OFF in the window All Outlets ON/OFF and push the relative "W" command	OK	OK	
3A-4-A.45	Click on Raed all to in Digital readout column	OK	OK	

DATE:	TEST CONDUCTOR	QA	CUSTOMER
6/08/2009	Albertin A.	Francini E.	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3A-4-A.46	Verify from digital readout column that all outlets are OFF	OK	OK	
3A-4-A.47	Switch OFF the "power switch "of "power switch box"	OFF	OFF	See PVS-06

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS

10.3.1.5.11 ESEM 3-B SIDE A

3B-A.1	Connect all the loads. The following column resumes the currents (with Main bus equal to 120V):	OK	OK	There is no need to check the current absorption of the loads. CCS load not connected
3B-A.2	Set all the loads of the other boards to 0A	OK	OK	
3B-A.3	Set power supply voltage to 120V	120V ± 0.2V	120V	
3B-A.4	Set power supply current limitation to 27.5A	27.5A±0.5A	27.5A	
3B-A.5	Switch ON the **"power switch "of "power switch box"**	OK	OK	
3B-A.6	Take note of input current	7,9A±0,5A	7,8A	
3B-A.7	Select PDS controller software	program open	program open	
3B-A.8	Set the CAN BUS board address to 30	30	30	
3B-A.9	Select JMDC = 0	0	0	
3B-A.10	Select TX = A	A	A	
3B-A.11	Select RX = A	A	A	
3B-A.12	Select "CAN BUS I/F Side" to A	A	A	
3B-A.13	Select "PDS Side" to A	A	A	
3B-A.14	Click on Run flash command	OK	OK	
3B-A.15	Click on ESEM3-B button	OK	OK	Button located on left side of PDS controller software window
3B-A.16	Set Digital I/F Test logic value = 1 in "Commanding" column	1	1	
3B-A.17	Click on letter "W" on the right of the "1" value	OK	OK	

OUTLET	CURRENT [A] SET
1	1,200±100mA
2	3,200±100mA
3	1,200±100mA
4	1,200±100mA
5	2,400±100mA
6	1,200±100mA
7	1,200±100mA
8	1,200±100mA
9	1,200±100mA
10	1,200±100mA
11	1,200±100mA
12	3,520±100mA

DATE:	TEST CONDUCTOR	QA	CUSTOMER
6/08/2009	Albertin A.	Francini E.	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3B-A.18	Click on the command READ ALL under the column Digital Readout	OK	OK	
3B-A.19	Verify that in the column Digital Readout under the voice Digital I/F Test appears "1"	1	1	
3B-A.20	Set Digital I/F Test logic value = 0 in "Commanding" column	0	0	
3B-A.21	Click on letter "W" on the right of the "0" value	OK	OK	
3B-A.22	Click on the command READ ALL under the column Digital Readout	OK	OK	
3B-A.23	Verify that in the column Digital Readout under the voice Digital I/F Test appears "0"	0	0	
3B-A.24	Verify the status of the following flags: BOARD STATUS OVT Alarm O__1 CMD: AH_OUT1 O__2 CMD: AH_OUT2 O__3 CMD: AH_OUT3 O__4 CMD: AH_OUT4 O__5 CMD: AH_OUT5 O__6 CMD: AH_OUT6 O__7 CMD: AH_OUT7 O__8 CMD: AH_OUT8 O__9 CMD: AH_OUT9 O_10 CMD: AH_OUT10 O_11 CMD: AH_OUT11 O_12 CMD: AO_CCEB O__1 Status: AH_OUT1 O__2 Status: AH_OUT2 O__3 Status: AH_OUT3 O__4 Status: AH_OUT4 O__5 Status : AH_OUT5 O__6 Status: AH_OUT6 O__7 Status: AH_OUT7 O__8 Status: AH_OUT8 O__9 Status: AH_OUT9 O_10 Status: AH_OUT10 O_11 Status: AH_OUT11 O_12 Status: AO_CCEB O_12 Trip: AO_CCEB	OK OK ON ON ON OFF OFF ON OFF OFF OFF OFF OFF OFF ON ON ON OFF OFF ON OFF OFF OFF OFF OFF OFF	OK OK ON ON ON OFF OFF ON OFF OFF OFF OFF OFF OFF ON ON ON OFF OFF ON OFF OFF OFF OFF OFF OFF	
3B-A.25	Push on Read All button in Analog Readout column	OK	OK	
3B-A.26	Take note of the following values in "Analog readout" column: Temperature O_12 Current: AO_CCEB Analog Ref. 2.5V	-40°C<T<80C° 0,00A±0,45A 2,500V±150mV	27,7°C 0,112A 2,502V	

DATE:	TEST CONDUCTOR	QA	CUSTOMER
6/08/2009	Albertin A.	Francini E.	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3B-A.27	Set the CAN BUS board address to 31	31	31	
3B-A.28	Select "CAN BUS I/F Side" to B	B	B	
3B-A.29	Click on Run flash button	OK	OK	
3B-A.30	Click on Read All command in Digital Readout column	OK	OK	
3B-A.31	Verify the status of the following flags: BOARD STATUS OVT Alarm O__1 CMD: AH_OUT1 O__2 CMD: AH_OUT2 O__3 CMD: AH_OUT3 O__4 CMD: AH_OUT4 O__5 CMD: AH_OUT5 O__6 CMD: AH_OUT6 O__7 CMD: AH_OUT7 O__8 CMD: AH_OUT8 O__9 CMD: AH_OUT9 O_10 CMD: AH_OUT10 O_11 CMD: AH_OUT11 O_12 CMD: AO_CCEB O__1 Status: AH_OUT1 O__2 Status: AH_OUT2 O__3 Status: AH_OUT3 O__4 Status: AH_OUT4 O__5 Status : AH_OUT5 O__6 Status: AH_OUT6 O__7 Status: AH_OUT7 O__8 Status: AH_OUT8 O__9 Status: AH_OUT9 O_10 Status: AH_OUT10 O_11 Status: AH_OUT11 O_12 Status: AO_CCEB O_12 Trip: AO_CCEB	OK OK **ON** **ON** **ON** OFF OFF **ON** OFF OFF OFF OFF OFF OFF **ON** **ON** **ON** OFF OFF **ON** OFF OFF OFF OFF OFF OFF OK	OK OK **ON** **ON** **ON** OFF OFF **ON** OFF OFF OFF OFF OFF OFF **ON** **ON** **ON** OFF OFF **ON** OFF OFF OFF OFF OFF OFF OK	
3B-A.32	Push on Read All button in Analog Readout column	OK	OK	
3B-A.33	Take note of the following values in "Analog readout" column: Temperature O_12 Current: AO_CCEB Analog Ref. 2.5V	-40°C<T<80C° 0,00A±0,45A 2,500V±150mV	28,16°C 0,121A 2,493V	
3B-A.34	Set OFF in the window All Outlets ON/OFF and push the relative "W" command	OK	OK	

DATE:	TEST CONDUCTOR	QA	CUSTOMER
6/08/2009	Albertin A.	Francini E.	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3B-A.35	Click on the command READ ALL under the column Digital Readout	OK	OK	
3B-A.36	Verify the status of the following flags: BOARD STATUS OVT Alarm From O__1 CMD: AH_OUT1 to O_11 CMD: AH_OUT11 O_12 CMD: AO_CCEB From O__1 Status: AH_OUT1 to O_11 Status: AH_OUT11 O_12 Status: AO_CCEB O_12 Trip: AO_CCEB	OK OK OFF OFF OFF OFF OK	OK OK OFF OFF OFF OFF OK	
3B-A.37	Set the CAN BUS board address to 30	30	30	
3B-A.38	Select "CAN BUS I/F Side" to A	A	A	
3B-A.39	Click on the command READ ALL under the column Digital Readout	OK	OK	
3B-A.40	Verify the status of the following flags: BOARD STATUS OVT Alarm From O__1 CMD: AH_OUT1 to O_11 CMD: AH_OUT11 O_12 CMD: AO_CCEB From O__1 Status: AH_OUT1 to O_11 Status: AH_OUT11 O_12 Status: AO_CCEB O_12 Trip: AO_CCEB	OK OK OFF OFF OFF OFF OK	OK OK OFF OFF OFF OFF OK	
3B-A.41	Verify with a multimeter the voltage of the outlets: AH_OUT1 AH_OUT2 AH_OUT3 AH_OUT4 AH_OUT5 AH_OUT6 AH_OUT7 AH_OUT8 AH_OUT9 AH_OUT10 AH_OUT11 AO_CCEB	V<5,00V V<5,00V V<5,00V V<5,00V V<5,00V V<5,00V V<5,00V V<5,00V V<5,00V V<5,00V V<5,00V V<5,00V	0V 0V 0V 0V 0V 0V 0V 0V 0V 0V 0V 0V	
3B-A.42	Set ON in the window All Outlets ON/OFF and push the relative "W" command	OK	OK	
3B-A.43	Take note of input current	21A±1A	20,3A	
3B-A.44	Click on the command READ ALL under the column Digital Readout	OK	OK	
3B-A.45	Verify the status of the following flags:			

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6/08/2009	Albertin A.	Francini E.	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
	BOARD STATUS OVT Alarm From O__1 CMD: AH_OUT1 to O_11 CMD: AH_OUT11 O_12 CMD: AO_CCEB From O__1 Status: AH_OUT1 to O_11 Status: AH_OUT11 O_12 Status: AO_CCEB O_12 Trip: AO_CCEB	OK OK ON ON ON ON OK	OK OK ON ON ON ON OK	
3B-A.46	Set the CAN BUS board address to 31	31	31	
3B-A.47	Select "CAN BUS I/F Side" to B	B	B	
3B-A.48	Click on the command READ ALL under the column Digital Readout	OK	OK	
3B-A.49	Verify the status of the following flags: BOARD STATUS OVT Alarm From O__1 CMD: AH_OUT1 to O_11 CMD: AH_OUT11 O_12 CMD: AO_CCEB From O__1 Status: AH_OUT1 to O_11 Status: AH_OUT11 O_12 Status: AO_CCEB O_12 Trip: AO_CCEB	OK OK ON ON ON ON OK	OK OK ON ON ON ON OK	
3B-A.50	Set the CAN BUS board address to 30	30	30	
3B-A.51	Select "CAN BUS I/F Side" to A	A	A	
3B-A.52	Measure the PDS input voltage: connect a multimeter between PIN "bypass thermal interlock" (positive) and "PRI_GND"(negative) on side A of the J300 test box	117,50V±1,00V	117,26V	See PVS-07
3B-A.53	Verify with a multimeter the voltage of the outlets: AH_OUT1 AH_OUT2 AH_OUT3 AH_OUT4 AH_OUT5 AH_OUT6 AH_OUT7 AH_OUT8 AH_OUT9 AH_OUT10 AH_OUT11 AO_CCEB	115V ~~117V~~<V<120,00V 115V ~~117V~~<V<120,00V 115V ~~117V~~<V<120,00V 115V ~~117V~~<V<120,00V 115V ~~117V~~<V<120,00V 115V ~~117V~~<V<120,00V 115V ~~117V~~<V<120,00V 115V ~~117V~~<V<120,00V 115V ~~117V~~<V<120,00V 115V ~~117V~~<V<120,00V 115V ~~117V~~<V<120,00V 115V ~~117V~~<V<120,00V	115,4V 115,5V 115,4V 115,4V 115,4V 115,3V 115,5V 115,5V 115,5V 115,5V 115,5V 116,2V	Measurement on the load See PVS-09
3B-A.54	Set OFF the command All Outlets ON/OFF in commanding column and click on relative "W"	OK	OK	
3B-A.55	Connect the short circuit simulator in parallel to outlet 12	OK	OK	
3B-A.56	Set the short circuit simulator to 10ms short circuit duration	OK	OK	

DATE:	TEST CONDUCTOR	QA	CUSTOMER
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UUT DATA : Model **PFM** Item **AMS02 POWER DISTRIBUTION SYSTEM** C.I. **PDS 18** S/N **FM01**

STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3B-A.57	Set "ON" in the window ~~"O_12:AO_CCEB" and push the relative "W" command~~ All Outlets ON/OFF and push the relative "W" command	OK	OK	See PVS-15
3B-A.58	Create the short circuit	OK	OK	
3B-A.59	Click on the command READ ALL under the column Digital Readout	OK	OK	
3B-A.60	Verify the status of the following flags: BOARD STATUS OVT Alarm From O__1 Status: AH_OUT1 to O_11 Status: AH_OUT11 O_12 Status: AO_CCEB O_12 Trip: AO_CCEB	NOK OK ON ON OFF TRIP	NOK OK ON ON OFF TRIP	
3B-A.61	Set the CAN BUS board address to 31	31	31	
3B-A.62	Select "CAN BUS I/F Side" to B	B	B	
3B-A.63	Click on the command READ ALL under the column Digital Readout	OK	OK	
3B-A.64	Verify the status of the following flags: BOARD STATUS OVT Alarm From O__1 Status: AH_OUT1 to O_11 Status: AH_OUT11 O_12 Status: AO_CCEB O_12 Trip: AO_CCEB	NOK OK ON ON OFF TRIP	NOK OK ON ON OFF TRIP	
3B-A.65	Set the CAN BUS board address to 30	30	30	
3B-A.66	Select "CAN BUS I/F Side" to A	A	A	
3B-A.67	Disconnect short circuit simulator	OK	OK	
3B-A.68	Set OFF the command O_12:AO_CCEB in commanding column and click on relative "W"	OK	OK	Protection reset
3B-A.69	Set ON the command O_12:AO_CCEB in commanding column and click on relative "W"	OK	OK	
3B-A.70	Click on the command READ ALL under the column Digital Readout	OK	OK	
3B-A.71	Verify the status of the following flags: BOARD STATUS O_12 Status: AO_CCEB O_12 Trip: AO_CCEB	OK ON OK	OK ON OK	
3B-A.72	Set the CAN BUS board address to 31	31	31	
3B-A.73	Select "CAN BUS I/F Side" to B	B	B	
3B-A.74	Click on the command READ ALL under the column Digital Readout	OK	OK	
3B-A.75	Verify the status of the following flags: BOARD STATUS O_12 Status: AO_CCEB O_12 Trip: AO_CCEB	OK ON OK	OK ON OK	
3B-A.76	Set the CAN BUS board address to 30	30	30	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3B-A.77	Select "CAN BUS I/F Side" to A	A	A	
3B-A.78	Set OFF the command All Outlets ON/OFF in commanding column and click on relative "W"	OK	OK	
3B-A.79	Switch OFF main power bus	OK	OK	
3B-A.80	Disconnect current probe	OK	OK	
3B-A.81	Switch OFF the "power switch "of "power switch box"	Switch OFF	Switch OFF	

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10.3.1.5.11.1 CCS LOAD VERIFICATION

STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
CCS.1	Connect AI_120V and AI_120V_RTN power supply signals	OK	OK	CCS load is connected only to A bus. During this test the unit is supplied from Main bus.
CCS.2	Set all the loads to 0A current absorption (external heaters included)	0A absorbtion set	0A	
CCS.3	Set power supply voltage to 120V	120V ± 0.2V	120V	
CCS.4	Set power supply current limitation to 27.5A	27.5A±0.5A	27,5A	
CCS.5	Insert an amperometer in serie to CCS load	OK	OK	
CCS.6	Switch ON the "power switch "of "power switch box"	OK	OK	
CCS.7	Take note of input current	1,1A±0,5A	1,1A	
CCS.8	Select PDS controller software	program open	program open	
CCS.9	Set the CAN BUS board address to 30	30	30	
CCS.10	Select JMDC = 0	0	0	
CCS.11	Select TX = A	A	A	
CCS.12	Select RX = A	A	A	
CCS.13	Select "CAN BUS I/F Side" to A	A	A	
CCS.14	Select "PDS Side" to A	A	A	
CCS.15	Click on Run flash command	OK	OK	
CCS.16	Click on **ESEM3-B** icon	OK	OK	
CCS.17	Set OFF in All Outlets ON/OFF window and send the command	OFF	OFF	
CCS.18	Click on **ESEM3-A 1** icon	OK	OK	
CCS.19	Using the telemetry regulate the current of ESEM3-A 1 outlet 3	1,80A±100mA	1,83A	Default ON load
CCS.20	Command ON the outlet 5 (UGPD_N)	ON	ON	
CCS.21	Using the telemetry regulate the current of ESEM3-A 1 outlet 5	1,20A ±100mA	1,204A	
CCS.22	Click on **PB2-2** icon	OK	OK	
CCS.23	Set ON to DCDC OFF/ON command and send the command	ON	ON	
CCS.24	Click on **ESEM3-A-2** icon	OK	OK	
CCS.25	Command ON the outlet 5 (MPD_N)	1,80A ±100mA	1,81A	
CCS.26	Command ON the outlet 8 (CAB_R)	0,70A±100mA	0,79A	
CCS.27	Click on **PB2-3** icon	OK	OK	
CCS.28	Set ON to DCDC OFF/ON command and send the command	ON	ON	
CCS.29	Click on **ESEM3-A-3** icon	OK	OK	
CCS.30	Command ON the outlet 8 (O_8:CAB_N)	2,50A±100mA	2,453A	
CCS.31	Click on **ESEM3-A-4** icon	OK	OK	
CCS.32	Command ON the outlet 1 (JPD_R)	1,80A ±100mA	1,83A	
CCS.33	Take note of input current	3,70A±0,50A	3,81A	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
CCS.34	Set ON the CCS load switch	ON	ON	
CCS.35	Take note of CCS current reading by amperometer	5,00A±0,50A	4,68A	
CCS.36	Take note of input current from main bus	8,40A±0,50A	8,47A	
CCS.37	Set OFF the CCS load switch	OFF	OFF	
CCS.38	Switch OFF the "power switch "of "power switch box"	Switch OFF	Switch OFF	
CCS.39	Disconnect amperometer	OK	OK	

10.3.1.6 SIDE A TELEMETRY VERIFICATION

10.3.1.6.1 INPUT STAGE CURRENT MONITOR

IBUS-A.1	Connect all the ESEM3B loads. The following column resumes the currents (with Main bus equal to 120V):	OK	OK	There is no need to check the current absorption of the loads. CCS load not connected
IBUS-A.2	Set all the loads of the other boards to 0A	OK	OK	
IBUS-A.3	Set power supply voltage to 120V	120V ± 0.2V	120V	
IBUS-A.4	Set power supply current limitation to 27.5A	27.5A±0.5A	27.5A	
IBUS-A.5	Switch ON the **"power switch "of "power switch box"**	OK	OK	
IBUS-A.6	Take note of input current	7,9A±0,5A	7,77A	
IBUS-A.7	Select PDS controller software	program open	program open	
IBUS-A.8	Set the CAN BUS board address to 30	30	30	
IBUS-A.9	Select JMDC = 0	0	0	

OUTLET	CURRENT [A] SET
1	1,200±100mA
2	3,200±100mA
3	1,200±100mA
4	1,200±100mA
5	2,400±100mA
6	1,200±100mA
7	1,200±100mA
8	1,200±100mA
9	1,200±100mA
10	1,200±100mA
11	1,200±100mA
12	3,520±100mA

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
IBUS-A.10	Select TX = A	A	A	
IBUS-A.11	Select RX = A	A	A	
IBUS-A.12	Select "CAN BUS I/F Side" to A	A	A	
IBUS-A.13	Select "PDS Side" to A	A	A	
IBUS-A.14	Click on Run flash command	OK	OK	
IBUS-A.15	Set the CAN BUS board address to 31	31	31	
IBUS-A.16	Select "CAN BUS I/F Side" to B	B	B	
IBUS-A.17	Click on Run flash command	OK	OK	
IBUS-A.18	Set the CAN BUS board address to 30	30	30	
IBUS-A.19	Select "CAN BUS I/F Side" to A	A	A	
IBUS-A.20	Click on ESEM3-B button	OK	OK	Button located on left side of PDS controller software window
IBUS-A.21	Verify the status of the following flags: BOARD STATUS OVT Alarm O__1 CMD: AH_OUT1 O__2 CMD: AH_OUT2 O__3 CMD: AH_OUT3 O__4 CMD: AH_OUT4 O__5 CMD: AH_OUT5 O__6 CMD: AH_OUT6 O__7 CMD: AH_OUT7 O__8 CMD: AH_OUT8 O__9 CMD: AH_OUT9 O_10 CMD: AH_OUT10 O_11 CMD: AH_OUT11 O_12 CMD: AO_CCEB O__1 Status: AH_OUT1 O__2 Status: AH_OUT2 O__3 Status: AH_OUT3 O__4 Status: AH_OUT4 O__5 Status : AH_OUT5 O__6 Status: AH_OUT6 O__7 Status: AH_OUT7 O__8 Status: AH_OUT8 O__9 Status: AH_OUT9 O_10 Status: AH_OUT10 O_11 Status: AH_OUT11	OK OK ON ON ON OFF OFF ON OFF OFF OFF OFF OFF OFF ON ON ON OFF OFF ON OFF OFF OFF OFF OFF	OK OK ON ON ON OFF OFF ON OFF OFF OFF OFF OFF OFF ON ON ON OFF OFF ON OFF OFF OFF OFF OFF	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
	O_12 Status: AO_CCEB O_12 Trip: AO_CCEB	OFF OK	OFF OK	
IBUS-A.22	Push on Read All button in Analog Readout column	OK	OK	
IBUS-A.23	Take note of the following values in "Analog readout" column: Temperature O_12 Current: AO_CCEB Analog Ref. 2.5V	-40°C<T<80C° 0,00A±0,45A 2,500V±150mV	29,24°C 0,123A 2,503V	
IBUS-A.24	Set OFF in the window All Outlets ON/OFF and push the relative "W" command	OK	OK	
IBUS-A.25	Take note of input current	1.1A±0.2A	1,1A	
IBUS-A.26	Click on the command READ ALL under the column Digital Readout	OK	OK	
IBUS-A.27	Verify the status of the following flags: BOARD STATUS OVT Alarm From O__1 CMD: AH_OUT1 to O_11 CMD: AH_OUT11 O_12 CMD: AO_CCEB From O__1 Status: AH_OUT1 to O_11 Status: AH_OUT11 O_12 Status: AO_CCEB O_12 Trip: AO_CCEB	OK OK OFF OFF OFF OFF OK	OK OK OFF OFF OFF OFF OK	
IBUS-A.28	Fill the table at the end of paragraph	OK	OK	
IBUS-A.29	To switch ON the loads Set "ON" in the window "O_x: AH_OUTx" and push the relative "W" command	OK	OK	
IBUS-A.30	To read telemetries change from CAN BUS 30 to CAN BUS 31 using the following parameters: *CAN BUS 30 verification* Set the CAN BUS board address to 30 Select "CAN BUS I/F Side" to A *CAN BUS 31 verification* Set the CAN BUS board address to 31 Select "CAN BUS I/F Side" to B	OK	OK	
IBUS-A.31	Using the table at the end of paragraph verify that Iload-Itlm is lower than 7,6A	OK	OK	Verify that all telemetries are in line with tolerance 20% F.S. see RFW PDS-WV-CGS-002
IBUS-A.32	Set OFF in the window All Outlets ON/OFF and push the relative "W" command	OK	OK	
IBUS-A.33	Switch OFF the "power switch "of "power switch box"	Switch OFF	OK	
IBUS-A.34	Disconnect all Loads	OK	OK	

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Side A Input Stage - current monitors

	INPUT STAGE	
	CAN BUS 30	CAN BUS 31
Iload ~1,1A [A] – Loads OFF	1,02	1,02
Itlm ~1,1A [A] – Loads OFF	0,351	0,671
Itlm - Iload < 7,6A	-0,669	-0,349
Iload ~4,7A [A] – Switch ON out 1, 5	4,5	4,5
Itlm ~4,7A [A] – Switch ON out 1, 5	4,421	4,902
Itlm - Iload < 7,6A	-0,079	0,402
Iload ~10,3A [A] – Switch ON out 2, 3 ,4	10,02	10,02
Itlm ~10,3A [A] – Switch ON out 2, 3, 4	10,17	10,85
Itlm - Iload < 7,6A	0,150	0,830
Iload ~15,1A [A] – Switch ON out 6, 7, 8 ,9	14,4	14,4
Itlm ~15,1A [A] – Switch ON out 6, 7, 8 ,9	14,84	15,59
Itlm - Iload < 7,6A	0,440	1,190
Iload ~21,1A [A] – Switch ON out 10, 11, 12	20	20
Itlm ~21,1A [A] – Switch ON out 10, 11, 12	20,17	21,12
Itlm - Iload < 7,6A	0,170	1,120

Tab. 3: Side A Input Stage current monitors

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10.3.1.6.2 INPUT STAGE – ESEM1A TELEMETRY

STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
VBUS-A.1	Connect main power supply between AI_120V (positive) and AI_120V_RTN (negative)	J100 connected	J100 connected	
VBUS-A.2	Set Power supply alim to 120V	120,00V±1,00V	120,00V	
VBUS-A.3	Set output current limitation to 3A	3A±0,5A	3A	
VBUS-A.4	Enable power supply output	enabled	enabled	
VBUS-A.5	Verify that green led of **"power switch box"** is lighted	Green led ligthed	Green led ligthed	
VBUS-A.6	Switch ON the **"power switch "**of **"power switch box"**	Switch ON	Switch ON	
VBUS-A.7	Verify that red led of **"power switch box"** is lighted	Red led ligthed	Red led ligthed	
VBUS-A.8	Verify the current absorption from Main Bus	1,10A±0,20A	1.2A	Note: this current can be read from power supply display or amperometer. In case of power supply reading, verify the correctness of measurements.
VBUS-A.9	Select PDS controller software	program open	program open	
VBUS-A.10	Set the CAN BUS board address to 30	30	30	
VBUS-A.11	Select JMDC = 0	0	0	
VBUS-A.12	Select TX = A	A	A	
VBUS-A.13	Select RX = A	A	A	
VBUS-A.14	Select "CAN BUS I/F Side" to A	A	A	
VBUS-A.15	Select "PDS Side" to A	A	A	
VBUS-A.16	Click on Run flash command	OK	OK	
VBUS-A.17	Set the CAN BUS board address to 31	31	31	
VBUS-A.18	Select "CAN BUS I/F Side" to B	B	B	
VBUS-A.19	Click on Run flash command	OK	OK	
VBUS-A.20	Set the CAN BUS board address to 30	30	30	
VBUS-A.21	Select "CAN BUS I/F Side" to A	A	A	
VBUS-A.22	Fill the table at the end of paragraph	OK	OK	
VBUS-A.23	Connect a multimeter between PIN "bypass thermal interlock" (positive) and "PRI_GND"(negative) on side A of the J300 test box	OK	OK	
VBUS-A.24	To set the Voltage value use the multimeter connected on J300 test box	OK	OK	
VBUS-A.25	To read the telemetry of the ESEM1A board *Click on ESEM1A button and Press button "READ"*	OK	OK	Button located on left side of software window
VBUS-A.26	To read the telemetry of the INPUT STAGE *Click on button "READ" relevant to INPUT STAGE*	OK	OK	Button located on left side of software window
VBUS-A.27	To read telemetries change from CAN BUS 30 to CAN BUS 31 using the following parameters:	OK	OK	

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UUT DATA : **Model** **PFM** **Item** **AMS02 POWER DISTRIBUTION SYSTEM** **C.I.** **PDS 18** **S/N** **FM01**

STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
	CAN BUS 30 verification Set the CAN BUS board address to 30 Select "CAN BUS I/F Side" to A *CAN BUS 31 verification* Set the CAN BUS board address to 31 Select "CAN BUS I/F Side" to B			
VBUS-A.28	Using the table at the end of paragraph verify that Iload-Itlm is lower than 9.5V	OK	OK	Verify that all telemetries are in line with tolerance 5% F.S.
VBUS-A.29	Set Power supply alim to 120V	120,00V±1,00V	120,00V	
VBUS-A.30	Switch OFF the "power switch "of "power switch box"	Switch OFF	Switch OFF	
VBUS-A.31	Switch OFF main power bus	OK	OK	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS

Side A Input Stage – Esem1A telemetry

	INPUT STAGE		ESEM1A	
	CAN BUS 30	CAN BUS 31	CAN BUS 30	CAN BUS 31
Vbus 90V [V]	89,8	89,8	89,8	89,8
Vtel 90 [V]	90,82	90,2	88,41	89,97
Vtlm - Vbus < 9,5V	1,020	0,400	-1,390	0,170
Vbus 110V [V]	110,3	110,3	110,3	110,3
Vtel 110 [V]	110,1	109,6	110,4	110,1
Vtlm - Vbus < 9,5V	-0,200	-0,700	0,100	-0,200
Vbus 120V [V]	120,4	120,4	120,4	120,4
Vtel 120 [V]	119,6	119,7	120,7	120,8
Vtlm - Vbus < 9,5V	-0,800	-0,700	0,300	0,400
Vbus 130V [V]	130,5	130,5	130,5	130,5
Vtel 130 [V]	129,6	130,5	130,9	130,3
Vtlm - Vbus < 9,5V	-0,900	0,000	0,400	-0,200
Vbus 145V [V]	145,57	145,57	145,57	145,57
Vtel 145 [V]	145,8	145,9	145,1	145,4
Vtlm - Vbus < 9,5V	0,230	0,330	-0,470	-0,170

Tab. 4: Side A Input Stage - ESEM 1-A telemetry

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS

10.3.2 B SECTION

10.3.2.1 SETUP

3.2.1.1	Verify that the **"power switch box"** is connected between power supply alim and PDS cables	Connected	Connected	
3.2.1.2	Verify that the **"power switch"** of the **"power switch box"** is set in OFF position	OFF	OFF	
3.2.1.3	Verify that all load are connected except for external heaters	Connected	Connected	
3.2.1.4	Set all the loads to 0A current absorption (external heaters included)	0A absorbtion set	0A absorbtion set	
3.2.1.5	Launch the PDS controller software and select FM in the Model window	Program open	Program open	
3.2.1.6	Launch the USCM controller software: Open the file **"USCM"**	File open	File open	

10.3.2.2 POWER ON WITH ISS MAIN BUS

3.2.2.1	Connect main power supply between BI_120V (positive) and BI_120V_RTN (negative)	J200 ~~J100~~ connected	J200	See PVS-03
3.2.2.2	Set Power supply to 120V	120,00V±1,00V	120,00V	
3.2.2.3	Set output current limitation to 3A	3A±0,5A	3A	
3.2.2.4	Enable power supply output	enabled	enabled	
3.2.2.5	Verify that green led of **"power switch box"** is lighted	Green led ligthed	Green led ligthed	
3.2.2.6	Switch ON the **"power switch "**of **"power switch box"**	Switch ON	Switch ON	
3.2.2.7	Verify that red led of **"power switch box"** is lighted	Red led ligthed	Red led ligthed	
3.2.2.8	Verify the current absorption from Main Bus	1,10A±0,20A	1,1A	Note: this current can be read from power supply display or amperometer. In case of power supply reading, verify the correctness of measurements.
3.2.2.9	**Unmated connectors verfication**			
3.2.2.10	Measure with multimeter the volrtage between 2P_120V (positive) and 2P_120V_RTN (negative)	<5V	8mV	Power bus isolation verification
3.2.2.11	Measure with multimeter the volrtage between AP_120V (positive) and AP_120V_RTN (negative)	<5V	6mV	Power bus isolation verification

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS

10.3.2.2.1 CAN BUS COMMUNICATION LINE CHECK BOARD 30

3.2.2.12	Objective: to verify the external CAN BUS lines communication			
3.2.2.13	Select USCM controller software	USCM selcted	USCM selcted	
3.2.2.14	set the CAN BUS board address to 30 in the command widow	30	30	
3.2.2.15	Select JMDC = 0	0	0	
3.2.2.16	Select TX = A	A	A	
3.2.2.17	Select RX = A	A	A	
3.2.2.18	press button READ and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.19	Verify MODE window	PDS_PROM	PDS_PROM	
3.2.2.20	Verify Version window	26-Jan-09 17:06	26-Jan-09 17:06	
3.2.2.21	Verify History window	POWER ON 0	POWER ON 0	
3.2.2.22	select Select TX = B	B	B	
3.2.2.23	Select RX = B	B	B	
3.2.2.24	press button READ and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.25	Verify MODE window	PDS_PROM	PDS_PROM	
3.2.2.26	Verify Version window	26-Jan-09 17:06	26-Jan-09 17:06	
3.2.2.27	Verify History	POWER ON 0	POWER ON 0	

10.3.2.2.2 CAN BUS COMMUNICATION LINE CHECK BOARD 31

3.2.2.28	Objective: To verify the external CAN BUS lines communication			
3.2.2.29	Set the CAN BUS board address to 31 in the command widow	31	31	
3.2.2.30	Select JMDC = 0	0	0	
3.2.2.31	Select TX = A	A	A	
3.2.2.32	Select RX = A	A	A	
3.2.2.33	press button READ and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.34	Verify MODE window	PDS_PROM	PDS_PROM	
3.2.2.35	Verify Version window	26-Jan-09 17:06	26-Jan-09 17:06	
3.2.2.36	Verify History window	POWER ON 0	POWER ON 0	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3.2.2.37	select Select TX = B	B	B	
3.2.2.38	Select RX = B	B	B	
3.2.2.39	press button READ and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.40	Verify MODE window	PDS_PROM	PDS_PROM	
3.2.2.41	Verify Version window	26-Jan-09 17:06	26-Jan-09 17:06	
3.2.2.42	Verify History	POWER ON 0	POWER ON 0	

10.3.2.2.3 PDS INTERNAL SERIAL COMMUNICATION CHECK BOARD 30

3.2.2.43	**Objective: To verify the internal communication of the CAN BUS boards 30 with the PDS B side boards**			
3.2.2.44	set the CAN BUS board address to 30	30	30	
3.2.2.45	select JMDC = 0	0	0	
3.2.2.46	select TX = A	A	A	
3.2.2.47	select RX = A	A	A	
3.2.2.48	Press button "RUN Flash" and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.49	press button READ and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.50	Verify MODE window	PDS_FLASH	PDS_FLASH	
3.2.2.51	Verify Version window	26-Jan-09 17:07	26-Jan-09 17:07	
3.2.2.52	Verify History	PROM 3	PROM 3	
3.2.2.53	Select PDS controller software	program open	program open	
3.2.2.54	set the CAN BUS board address to 30	30	30	
3.2.2.55	select JMDC = 0	0	0	
3.2.2.56	select TX = A	A	A	
3.2.2.57	select RX = A	A	A	
3.2.2.58	Select "CAN BUS I/F Side" to A	A	A	
3.2.2.59	Select "PDS Side" to B	B	B	
3.2.2.60	Press button "READ INPUT" button and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.61	Verify Input Stage B Voltage (V)monitor	120V ± 9.5V	120,4V	
3.2.2.62	Verify Input stage B Current (A) monitor	1,1A ± 20%	1,04A	
3.2.2.63	Press button "READ" to verify all board status			
3.2.2.64	Verify "Sta" column values	All boards OK	OK	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3.2.2.65	Verify "OVT" column values	All boards OK	OK	With the exception of ESEM1-A board: OVT flag not present
3.2.2.66	Verify "Temp" column values	-20°C to +80°C	OK	No full scale values must be present All temperatures must be inside unit temp limits
3.2.2.67	Verify "Ref" colum values	2,5V ± 0,25V 2,0V ± 0,25V 3,0V ± 0,25V 2,0V ± 0,25V 3,0V ± 0,25V 2,0V ± 0,25V 3,0V ± 0,25V 2,0V ± 0,25V 3,0V ± 0,25V 4,0V ± 0,25V	2,5V 2,19 V 2,98 V 2,2 V 2,97,V 2,1 V 3 V 2,2 V 2,96 V 4,04 V	All

10.3.2.2.4 PDS INTERNAL SERIAL COMMUNICATION CHECK BOARD 31

3.2.2.68	Select USCM controller software	USCM selcted	USCM selcted	
3.2.2.69	Set the CAN BUS board address to 31	31	31	
3.2.2.70	select JMDC = 0	0	0	
3.2.2.71	select TX = A	A	A	
3.2.2.72	select RX = A	A	A	
3.2.2.73	Press button "RUN Flash" and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.74	press button READ and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.75	Verify MODE window	PDS_FLASH	PDS_FLASH	
3.2.2.76	Verify Version window	26-Jan-09 17:07	26-Jan-09 17:07	
3.2.2.77	Verify History	PROM 3	PROM 3	
3.2.2.78	Select PDS controller software	program open	program open	
3.2.2.79	Set the CAN BUS board address to 31	31	31	
3.2.2.80	select JMDC = 0	0	0	
3.2.2.81	select TX = A	A	A	
3.2.2.82	select RX = A	A	A	
3.2.2.83	Select "CAN BUS I/F Side" to B	B	B	
3.2.2.84	Select "PDS Side" to B	B	B	
3.2.2.85	Click on Run flash button	OK	OK	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3.2.2.86	Press button "READ INPUT" button and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.87	Verify "Input Stage B" Voltage (V)monitor	120V ± 9.5V	119,5V	
3.2.2.88	Verify "Input stage B" Current (A) monitor	1,1A ± 20%	0,717A	20% Full Scale value
3.2.2.89	Press button "READ" to verify all board status	Command execute OK	OK	
3.2.2.90	Verify "Sta" column values	All boards OK	OK	
3.2.2.91	Verify "OVT" column values	All boards OK	OK	With the exception of ESEM1-A board: OVT flag not present
3.2.2.92	Verify "Temp" column values	-20°C to +80°C	OK	No full scale values must be present All temperatures must be inside unit temp limits Some difference can be present due to different board power dissipation
3.2.2.93	Verify "Ref" colum values	2,5V ± 0,25V 2,0V ± 0,25V 3,0V ± 0,25V 2,0V ± 0,25V 3,0V ± 0,25V 2,0V ± 0,25V 3,0V ± 0,25V 2,0V ± 0,25V 3,0V ± 0,25V 4,0V ± 0,25V	2,5V 2,2V 2,96V 2,23V 3V 2,18V 2,99V 2,20V 2,95V 4,01V	
3.2.2.94	Switch OFF 120V main bus			

10.3.2.2.5 CAN BUS BOARDS CROSS CMD OFF/ON AND SIUCIDE TEST

3.2.2.95	Objective: to verify the possibility to command OFF and ON one board from the other			
3.2.2.96	Verify that the **"power switch box"** is connected between power supply alim and PDS cables	Connected	Connected	
3.2.2.97	Verify that the **"power switch"** of the **"power switch box"** is set in OFF position	OFF	OFF	
3.2.2.98	Lunch the PDS controller software	Program open	Program open	
3.2.2.99	Launch the USCM controller software	File open	File open	
3.2.2.100	Set to "FM" the window Model	FM	FM	
3.2.2.101	Connect "J300 test box" to the unit J300 connector	OK	OK	
3.2.2.102	Connect main power supply between BI_120V (positive) and BI_120V_RTN (negative)	J200 connected	J200 connected	
3.2.2.103	Set Power supply alim to 120V	120,00V±1,00V	120,00V	V1
3.2.2.104	Set output current limitation to 3A	3A±0,5A	3A	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3.2.2.105	Enable power supply output	enabled	enabled	
3.2.2.106	Verify that green led of **"power switch box"** is lighted	Green led ligthed	Green led ligthed	
3.2.2.107	Switch ON the **"power switch "**of **"power switch box"**	Switch ON	Switch ON	
3.2.2.108	Verify that red led of **"power switch box"** is lighted	Red led ligthed	Red led ligthed	
3.2.2.109	Verify the current absorption from Main Bus	1,10A±0,20A	1,1A	Note: this current can be read from power supply display or amperometer. In case of power supply reading, verify the correctness of measurements.
3.2.2.110	Select USCM controller software	USCM selcted	USCM selcted	
3.2.2.111	set the CAN BUS board address to 30 in the command window	30	30	
3.2.2.112	Select JMDC = 0	0	0	
3.2.2.113	Select TX = A	A	A	
3.2.2.114	Select RX = A	A	A	
3.2.2.115	press button READ and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.116	Verify MODE window	PDS_PROM	PDS_PROM	
3.2.2.117	Verify Version window	26-Jan-09 17:06	26-Jan-09 17:06	
3.2.2.118	Verify History window	POWER ON 0	POWER ON 0	
3.2.2.119	Measure the CAN BUS internal power supply: connect a multimeter between PIN Vcc (positive) and SEC_GND (negative) on side A of the J300 test box	5.3V ± 0.1V	5,285V	
3.2.2.120	Set the CAN BUS board address to 31 in the command window	31	31	
3.2.2.121	Select JMDC = 0	0	0	
3.2.2.122	Select TX = A	A	A	
3.2.2.123	Select RX = A	A	A	
3.2.2.124	press button READ and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.125	Verify MODE window	PDS_PROM	PDS_PROM	
3.2.2.126	Verify Version window	26-Jan-09 17:06	26-Jan-09 17:06	
3.2.2.127	Verify History window	POWER ON 0	POWER ON 0	
3.2.2.128	Measure the CAN BUS internal power supply: connect a multimeter between PIN Vcc (positive) and SEC_GND (negative) on side B of the J300 test box	5.30 ± 0.1V	5,308V	
3.2.2.129	set the CAN BUS board address to 30 in the command window	30	30	
3.2.2.130	press button SOFF and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.131	Set the CAN BUS board address to 31 in the command window	31	31	
3.2.2.132	press button READ and verify on the command status window	Command execute failed	Command execute failed	

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6/08/2009	Albertin A.	Francini E.	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3.2.2.133	Measure the CAN BUS 31 internal power supply: connect a multimeter between PIN Vcc (positive) and SEC_GND (negative) on side B of the J300 test box	0.50 ± 0.1V	0,516V	
3.2.2.134	Measure the CAN BUS 30 internal power supply: connect a multimeter between PIN Vcc (positive) and SEC_GND (negative) on side A of the J300 test box	5.30 ± 0.1V	5,306V	
3.2.2.135	set the CAN BUS board address to 30 in the command window	30	30	
3.2.2.136	press button SON and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.137	Set the CAN BUS board address to 31 in the command window	31	31	
3.2.2.138	press button READ and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.139	Measure the CAN BUS internal power supply: connect a multimeter between PIN Vcc (positive) and SEC_GND (negative) on side B of the J300 test box	5.3V ± 0.1V	5,284V	
3.2.2.140	Verify MODE window	PDS_PROM	PDS_PROM	
3.2.2.141	Verify Version window	26-Jan-09 17:06	26-Jan-09 17:06	
3.2.2.142	Verify History window	POWER ON 0	POWER ON 0	
3.2.2.143	Set the CAN BUS board address to 31 in the command window	31	31	
3.2.2.144	press button SOFF and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.145	set the CAN BUS board address to 30 in the command window	30	30	
3.2.2.146	press button READ and verify on the command status window	Command execute failed	Command execute failed	
3.2.2.147	Measure the CAN BUS internal power supply: connect a multimeter between PIN Vcc (positive) and SEC_GND (negative) on side A of the J300 test box	0,5V ± 0.1V	0,520V	
3.2.2.148	Measure the CAN BUS internal power supply: connect a multimeter between PIN Vcc (positive) and SEC_GND (negative) on side B of the J300 test box	5.3V ± 0.1V	5,283V	
3.2.2.149	Set the CAN BUS board address to 31 in the command window	31	31	
3.2.2.150	press button SON and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.151	set the CAN BUS board address to 30 in the command window	30	30	
3.2.2.152	press button READ and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.153	Measure the CAN BUS internal power supply: connect a multimeter between PIN Vcc (positive) and SEC_GND (negative) on side B of the J300 test box	5.3V ± 0.1V	5,307V	
3.2.2.154	Verify MODE window	PDS_PROM	PDS_PROM	
3.2.2.155	Verify Version window	26-Jan-09 17:06	26-Jan-09 17:06	
3.2.2.156	Verify History window	POWER ON 0	POWER ON 0	
3.2.2.157	**SUICIDE BOARD 30 COMMAND TEST**			

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6/08/2009	Albertin A.	Francini E.	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3.2.2.158	set the CAN BUS board address to 30 in the command window	30	30	
3.2.2.159	press button SUIC and verify on the command status window	Command execute failed	Command execute failed	
3.2.2.160	Measure the CAN BUS internal power supply: connect a multimeter between PIN Vcc (positive) and SEC_GND (negative) on side A of the J300 test box	0.50 ± 0.1V	0,520V	
3.2.2.161	press button READ and verify on the command status window	Command execute failed	Command execute failed	
3.2.2.162	Set the CAN BUS board address to 31 in the command window	31	31	
3.2.2.163	press button SON and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.164	set the CAN BUS board address to 30 in the command window	30	30	
3.2.2.165	press button READ and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.166	Measure the CAN BUS internal power supply: connect a multimeter between PIN Vcc (positive) and SEC_GND (negative) on side 30 of the J300 test box	5.3V ± 0.1V	5,307V	
3.2.2.167	Verify MODE window	PDS_PROM	PDS_PROM	
3.2.2.168	Verify Version window	26-Jan-09 17:06	26-Jan-09 17:06	
3.2.2.169	Verify History window	POWER ON 0	POWER ON 0	
3.2.2.170	**SUICIDE BOARD 31 COMMAND TEST**			
3.2.2.171	Set the CAN BUS board address to 31 in the command window	31	31	
3.2.2.172	press button SUIC and verify on the command status window	Command execute failed	Command execute failed	
3.2.2.173	Measure the CAN BUS internal power supply: connect a multimeter between PIN Vcc (positive) and SEC_GND (negative) on side B of the J300 test box	0.5V ± 0.1V	0,512V	
3.2.2.174	press button READ and verify on the command status window	Command execute failed	Command execute failed	
3.2.2.175	set the CAN BUS board address to 30 in the command window	30	30	
3.2.2.176	press button SON and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.177	Set the CAN BUS board address to 31 in the command window	31	31	
3.2.2.178	press button READ and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.179	Measure the CAN BUS internal power supply: connect a multimeter between PIN Vcc (positive) and SEC_GND (negative) on side B of the J300 test box	5.30V ± 0.1V	5,283V	
3.2.2.180	Verify MODE window	PDS_PROM	PDS_PROM	
3.2.2.181	Verify Version window	26-Jan-09 17:06	26-Jan-09 17:06	
3.2.2.182	Verify History window	POWER ON 0	POWER ON 0	

DATE:	TEST CONDUCTOR	QA	CUSTOMER
6/08/2009	Albertin A.	Francini E.	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3.2.2.183	Switch OFF the "power switch "of "power switch box"	OFF	OFF	
3.2.2.184	Disable power supply output	Disable	Disable	

10.3.2.3 POWER VIDEO GRAPPLE FIXTURE 2 POWER SUPPLY VERIFICATION (2P)

3.2.2.185	Connect main power supply between 2P_120V (positive) and 2P_120V_RTN (negative)	CONNECTED	CONNECTED	
3.2.2.186	Connect ESEM 3-B outlet 1 to default load	CONNECTED	CONNECTED	Default current absorption equal to 1,200A±100mA
3.2.2.187	Set Power supply alim to 120V	120,00V±1,00V	120,00V	
3.2.2.188	Set output current limitation to 5A	5A±0,5A	5A	
3.2.2.189	Enable power supply output	Enabled	Enabled	
3.2.2.190	Verify that green led of **"power switch box"** is lighted	Green led ligthed	Green led ligthed	
3.2.2.191	Switch ON the **"power switch "**of **"power switch box"**	Switch ON	Switch ON	
3.2.2.192	Verify that red led of **"power switch box"** is lighted	Red led ligthed	Red led ligthed	
3.2.2.193	Verify the current absorption from Main Bus	2,30A±0,20A	2,3A	Note: this current can be read from power supply display or amperometer. In case of power supply reading, verify the correctness of measurements.
3.2.2.194	Launch the PDS controller software	OPEN	OPEN	
3.2.2.195	Set to "FM" the window Model	FM	FM	
3.2.2.196	Set the CAN BUS board address to 31	31	31	
3.2.2.197	select JMDC = 0	0	0	
3.2.2.198	select TX = A	A	A	
3.2.2.199	select RX = A	A	A	
3.2.2.200	Select "CAN BUS I/F Side" to B	B	B	
3.2.2.201	Select "PDS Side" to B	B	B	
3.2.2.202	Press button "RUN Flash" and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.203	Press button "READ" to verify all board status	Command execute OK	Command execute OK	
3.2.2.204	Verify the status of the flags indicated on "Sta" column. All flags must be "OK"	OK	OK	Click on READ command under Sta column This column resumes the status of al the boards
3.2.2.205	Set the CAN BUS board address to 31	30	30	
3.2.2.206	Set to "B" the window PDS Side	B	B	
3.2.2.207	Set the window CAN BUS I/F Side to "A" configuration	A	A	
3.2.2.208	Click on Run flash button			Command located on up-left
3.2.2.209	Press button "READ" to verify all board status	Command execute OK	Command execute OK	

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6/08/2009	Albertin A.	Francini E.	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3.2.2.210	Verify the status of the flags indicated on "Sta" column. All flags must be "OK"	OK	OK	Click on READ command under Sta column This column resumes the status of al the boards
3.2.2.211	Measure with multimeter the voltage on ESEM 3-B outlet 1	117,00V<V<120,00V	118,5V	This test is used to verify that input diode located in input stage board is not damaged
3.2.2.212	Switch OFF main power bus	OK	OK	
3.2.2.213	Disconnect ESEM 3-B outlet 1 to default load	OK	OK	

10.3.2.4 APCU POWER SUPPLY TEST

3.2.2.214	Connect main power supply between AP_120V (positive) and AP_120V_RTN (negative)	CONNECTED	CONNECTED	
3.2.2.215	Connect ESEM 3-B outlet 1 to default load	CONNECTED	CONNECTED	Default current absorption equal to 1,200A±100mA
3.2.2.216	Set Power supply alim to 120V	120,00V±1,00V	120,00V	
3.2.2.217	Set output current limitation to 5A	5A±0,5A	5A	
3.2.2.218	Enable power supply output	Enabled	Enabled	
3.2.2.219	Verify that green led of **"power switch box"** is lighted	Green led ligthed	Green led ligthed	
3.2.2.220	Switch ON the **"power switch "**of **"power switch box"**	Switch ON	Switch ON	
3.2.2.221	Verify that red led of **"power switch box"** is lighted	Red led ligthed	Red led ligthed	
3.2.2.222	Verify the current absorption from Main Bus	2,30A±0,20A	2,3A	Note: this current can be read from power supply display or amperometer. In case of power supply reading, verify the correctness of measurements.
3.2.2.223	Launch the PDS controller software	OPEN	OPEN	
3.2.2.224	Set to "FM" the window Model	FM	FM	
3.2.2.225	Set the CAN BUS board address to 31	31	31	
3.2.2.226	select JMDC = 0	0	0	
3.2.2.227	select TX = A	A	A	
3.2.2.228	select RX = A	A	A	
3.2.2.229	Select "CAN BUS I/F Side" to B	B	B	
3.2.2.230	Select "PDS Side" to B	B	B	
3.2.2.231	Press button "RUN Flash" and verify on the command status window	Command execute OK	Command execute OK	
3.2.2.232	Press button "READ" to verify all board status	Command execute OK	Command execute OK	
3.2.2.233	Verify the status of the flags indicated on "Sta" column. All flags must be "OK"	OK	OK	Click on READ command under Sta column This column resumes the status of al the boards
3.2.2.234	Set the CAN BUS board address to 30	30	30	
3.2.2.235	Set to "B" the window PDS Side	B	B	

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6/08/2009	Albertin A.	Francini E.	

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UUT DATA : **Model** **PFM** **Item** **AMS02 POWER DISTRIBUTION SYSTEM** **C.I.** **PDS 18** **S/N** **FM01**

STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3.2.2.236	Set the window CAN BUS I/F Side to "A" configuration	A	A	
3.2.2.237	Click on Run flash button			Command located on up-left
3.2.2.238	Press button "READ" to verify all board status	Command execute OK	Command execute OK	
3.2.2.239	Verify the status of the flags indicated on "Sta" column. All flags must be "OK"	OK	OK	Click on READ command under Sta column This column resumes the status of al the boards
3.2.2.240	Measure with multimeter the voltage on ESEM 3-B outlet 1	117,00V<V<120,00V	118,7V	This test is used to verify that input diode located in input stage board is not damaged
3.2.2.241	Switch OFF main power bus	OK	OK	
3.2.2.242	Disconnect ESEM 3-B outlet 1 to default load	OK	OK	

DATE: 6/08/2009	TEST CONDUCTOR Albertin A.	QA Francini E.	CUSTOMER

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10.3.2.5 UNIT CHECK

STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3.2.5.1	Connect BI_120V and BI_120V_RTN power supply signals	OK	OK	
3.2.5.2	Verify that all the cables of the section are connected	OK	OK	
3.2.5.3	Launch the PDS controller software	Program open	Program open	
3.2.5.4	Set to "FM" the window Model	OK	OK	
3.2.5.5	Set the CAN BUS board address to 31	31	31	
3.2.5.6	select JMDC = 0	0	0	
3.2.5.7	select TX = A	A	A	
3.2.5.8	select RX = A	A	A	
3.2.5.9	Select "CAN BUS I/F Side" to B	B	B	
3.2.5.10	Select "PDS Side" to B	B	B	
3.2.5.11	Set input bus voltage to 120V	120V±1V	120V	V1
3.2.5.12	Set input bus current limitation to 27,5 A	27,5 A±1A	27,5A	
3.2.5.13	Enable power supply output	Enabled	Enabled	
3.2.5.14	Verify that green led of **"power switch box"** is lighted	Green led ligthed	Green led ligthed	
3.2.5.15	Switch ON the **"power switch "**of **"power switch box"**	Switch ON	Switch ON	
3.2.5.16	Verify that red led of **"power switch box"** is lighted	Red led ligthed	Red led ligthed	
3.2.5.17	Take note of power supply output current	1,1A±0,5A	1,1A	I1
3.2.5.18	Press button "RUN Flash" and verify on the command status window	Command execute OK	Command execute OK	

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10.3.2.5.1 INPUT STAGE B VERIFICATION

STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3.2.5.19	Push the command "Read input" located in the bottom left of the software window	OK	OK	
3.2.5.20	Take note of the value "V" indicated in Input Stage B window	V1±9,50V	119,7V	V1 is indicated in step 3.2.5.11
3.2.5.21	Take note of the value "I" indicated in Input Stage B window	I1± 20%	0,621A	20% Full Scale value
3.2.5.22	Set the CAN BUS board address to 30	30	30	
3.2.5.23	Select "CAN BUS I/F Side" to A	A	A	
3.2.5.24	Press button "RUN Flash" and verify on the command status window	Command execute OK	Command execute OK	
3.2.5.25	Push the command "Read input" located in the bottom left of the software window	OK	OK	
3.2.5.26	Take note of the value "V" indicated in Input Stage B window	V1±9,50V	120,5V	
3.2.5.27	Take note of the value "I" indicated in Input Stage B window	I1± 20%	0,837A	20% Full Scale value
3.2.5.28	Switch OFF main power bus	OFF	OFF	
3.2.5.29	Connect external heaters	Connected	Connected	
3.2.5.30	Switch ON main bus	ON	ON	
3.2.5.31	Verify the current absorption from Main Bus	7,80A±0,50A	7,8A	verify that heater lines are working
3.2.5.32	Switch OFF main power bus	OFF	OFF	
3.2.5.33	Disconnect external heaters	Disconnected	Disconnected	

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UUT DATA : Model PFM Item AMS02 POWER DISTRIBUTION SYSTEM C.I. PDS 18 S/N FM01

10.3.2.5.2 ESEM 1-A SIDE B

STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
1A-B.1	Set input bus voltage to 120V	120V±1V	120V	V1
1A-B.2	Set input bus current limitation to ~~15A~~	~~15A~~ 27,5±1A	27,5A	See PVS-04
1A-B.3	Switch ON main bus	ON	ON	
1A-B.4	Take note of power supply output current	1,1A±0,5A	1,1A	I1
1A-B.5	Set the CAN BUS board address to 31	31	31	
1A-B.6	Select "CAN BUS I/F Side" to B	B	B	
1A-B.7	Press button "RUN Flash" and verify on the command status window	Command execute OK	Command execute OK	
1A-B.8	Click on ESEM 1-A button	OK	OK	
1A-B.9	Set Digital I/F Test logic value = 1 in "Commanding" column	1	1	
1A-B.10	Click on letter "W" on the right of the "1" value	OK	OK	
1A-B.11	Click on the command READ ALL under the column Digital Readout	OK	OK	
1A-B.12	Verify that in the column Digital Readout under the voice Digital I/F Test appears "1"	1	1	
1A-B.13	Set Digital I/F Test logic value = 0 in "Commanding" column	0	0	
1A-B.14	Click on letter "W" on the right of the "0" value	OK	OK	
1A-B.15	Click on the command READ ALL under the column Digital Readout	OK	OK	
1A-B.16	Verify that in the column Digital Readout under the voice Digital I/F Test appears "0"	0	0	
1A-B.17	Verify the status of the following flags: BOARD STATUS DCDC 1 OVC DCDC 2 OVC DCDC 1 STATUS DCDC 2 STATUS MAIN POWER STATUS	 OK OK OK ON ON ON	 OK OK OK ON ON ON	Flags located in Digital readout column
1A-B.18	Click on PB2-1 button	OK	OK	
1A-B.19	Set to "ON" the line "DCDC OFF/ON CMD" in the "commanding" column"	ON	ON	
1A-B.20	Press "W" button" in the line "DCDC OFF/ON CMD" in the "commanding" column	Command execute OK	Command execute OK	
1A-B.21	Verify that in the column Digital Readout under the voice DCDC ON/OFF appears "ON"	ON	ON	
1A-B.22	Click on PB2-2 button	OK	OK	
1A-B.23	Set to "ON" the line "DCDC OFF/ON CMD" in the "commanding" column"	ON	ON	
1A-B.24	Press "W" button" in the line "DCDC OFF/ON CMD" in the "commanding" column	Command execute OK	Command execute OK	
1A-B.25	Verify that in the column Digital Readout under the voice DCDC ON/OFF appears "ON"	ON	ON	
1A-B.26	Click on PB2-3 button	OK	OK	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
1A-B.27	Set to "ON" the line "DCDC OFF/ON CMD" in the "commanding" column"	ON	ON	
1A-B.28	Press "W" button" in the line "DCDC OFF/ON CMD" in the "commanding" column	Command execute OK	Command execute OK	
1A-B.29	Verify that in the column Digital Readout under the voice DCDC ON/OFF appears "ON"	ON	ON	
1A-B.30	Click on PB2-4 button	OK	OK	
1A-B.31	Set to "ON" the line "DCDC OFF/ON CMD" in the "commanding" column"	ON	ON	
1A-B.32	Press "W" button" in the line "DCDC OFF/ON CMD" in the "commanding" column	Command execute OK	Command execute OK	
1A-B.33	Verify that in the column Digital Readout under the voice DCDC ON/OFF appears "ON"	ON	ON	
1A-B.34	Take note of power supply output current	1,6A±0,5A	1,6A	All the PB2 DC/DC are ON

10.3.2.5.2.1 ESEM 1-A SIDE B UNDER VOLTAGE TEST

1A-B.35	Click on ESEM 1-A button	OK	OK	
1A-B.36	Press "READ ALL" button in the column "ANALOG READOUT"	Command execute OK	Command execute OK	
1A-B.37	Verify the "Analog ref. 4.0V" telemetry	4,0V ± 0,15V	3,96V	
1A-B.38	Measure the input voltage with a multimeter	120V ± 0.2V	120,18V	
1A-B.39	In the column "ANALOG READOUT" press R Button near Main Power Volt.	120V ± 4.5V	118,3V	
1A-B.40	Decrease the input voltage to 113V	113V ± 0.2V	113,09V	
1A-B.41	In the column "ANALOG READOUT" press R Button near Main Power Volt.	113V ± 4.5V	110,3V	
1A-B.42	Decrease the input voltage to 85V (below threshold and accuracy)	85V ± 0,2V	85V	Threshold = 88V ± 2V
1A-B.43	Verify current absorption from Main Bus	0,000A±200mA	0,1A	
1A-B.44	In the column "ANALOG READOUT" press R Button near Main Power Volt.	Command execute Failed	Command execute Failed	
1A-B.45	Set the CAN BUS board address to 30	30	30	
1A-B.46	Select "CAN BUS I/F Side" to A	A	A	
1A-B.47	In the column "ANALOG READOUT" press R Button near Main Power Volt.	Command execute Failed	Command execute Failed	
1A-B.48	Increase the input voltage to 113V	113V ± 0.2V	113,17V	
1A-B.49	Take note of power supply output current	1,3A±0,5A	1,3A	
1A-B.50	Set power supply to 120V	120V ± 0.2V	120V	
1A-B.51	Take note of power supply output current	1,1A±0,5A	1,1A	
1A-B.52	Press button "RUN Flash" and verify on the command status window	Command execute OK	Command execute OK	
1A-B.53	Set the CAN BUS board address to 31	31	31	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
1A-B.54	Select "CAN BUS I/F Side" to B	B	B	
1A-B.55	Press button "RUN Flash" and verify on the command status window	Command execute OK	Command execute OK	
1A-B.56	Click on ESEM1-A button	OK	OK	
1A-B.57	Press "READ ALL" button in the column "DIGITAL READOUT"	Command execute OK	Command execute OK	
1A-B.58	Verify the following parameter: Board status DCDC 1 OVC DCDC 2 OVC DCDC 1 STATUS DCDC 2 STATUS MAIN POWER STATUS	 0 (OK) 0 (OK) 0 (OK) 1 (ON) 1 (ON) 1 (ON)	 0 (OK) 0 (OK) 0 (OK) 1 (ON) 1 (ON) 1 (ON)	
1A-B.59	Click on Read All command in the column Analog Readout	OK	OK	
1A-B.60	Verify the value of the following telemetries: Temperature Main Power Volt. Analog Ref. 4.0V	 -40℃<T<80C° 120,00V±7,50V 4,000V±150mV	 28,6℃ 118,0V 4,053V	

10.3.2.5.2.2 ESEM 1-A SIDE B OVER VOLTAGE TEST

1A-B.61	Click on PB2-1 button	OK	OK	
1A-B.62	Set to "ON" the line "DCDC OFF/ON CMD" in the "commanding" column"	ON	ON	
1A-B.63	Press "W" button" in the line "DCDC OFF/ON CMD" in the "commanding" column	W	W	
1A-B.64	Verify that in the column Digital Readout under the voice DCDC ON/OFF appears "ON"	ON	ON	
1A-B.65	Click on PB2-2 button	OK	OK	
1A-B.66	Set to "ON" the line "DCDC OFF/ON CMD" in the "commanding" column"	ON	ON	
1A-B.67	Press "W" button" in the line "DCDC OFF/ON CMD" in the "commanding" column	W	W	
1A-B.68	Verify that in the column Digital Readout under the voice DCDC ON/OFF appears "ON"	ON	ON	
1A-B.69	Click on PB2-3 button	OK	OK	
1A-B.70	Set to "ON" the line "DCDC OFF/ON CMD" in the "commanding" column"	ON	ON	
1A-B.71	Press "W" button" in the line "DCDC OFF/ON CMD" in the "commanding" column	W	W	
1A-B.72	Verify that in the column Digital Readout under the voice DCDC ON/OFF appears "ON"	ON	ON	
1A-B.73	Click on PB2-4 button	OK	OK	
1A-B.74	Set to "ON" the line "DCDC OFF/ON CMD" in the "commanding" column"	ON	ON	
1A-B.75	Press "W" button" in the line "DCDC OFF/ON CMD" in the "commanding" column	W	W	

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UUT DATA : Model **PFM** Item **AMS02 POWER DISTRIBUTION SYSTEM** C.I. **PDS 18** S/N **FM01**

STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
1A-B.76	Verify that in the column Digital Readout under the voice DCDC ON/OFF appears "ON"	ON	ON	
1A-B.77	Take note of power supply output current	1,6A±0,5A	1,6A	All the PB2 DC/DC are ON
1A-B.78	Increase the input voltage to 126V	126V ± 0.2V	126,05V	
1A-B.79	Click on ESEM1-A button	OK	OK	
1A-B.80	In the column "ANALOG READOUT" press R Button near Main Power Volt	126V ± 4.5V	124,4V	
1A-B.81	Increase the input voltage to 130V	130V ± 0.2V	130,18V	
1A-B.82	In the column "ANALOG READOUT" press R Button near Main Power Volt.	130V ± 4.5V	128V	
1A-B.83	Set the input voltage to 153V (up the threshold and accuracy)	153V ± 0,2V	153V	Threshold = 150V ± 2V
1A-B.84	Verify current absorption from Main Bus	0,000A±200mA	0,2A	
1A-B.85	In the column "ANALOG READOUT" press R Button near Main Power Volt.	Command execute Failed	Command execute Failed	
1A-B.86	Set the CAN BUS board address to 30	30	30	
1A-B.87	Select "CAN BUS I/F Side" to A	A	A	
1A-B.88	In the column "ANALOG READOUT" press R Button near Main Power Volt.	Command execute Failed	Command execute Failed	
1A-B.89	Set the input voltage to 126V	126V ± 0.2V	126V	
1A-B.90	Take note of power supply output current	1,0A±0,5A	1A	
1A-B.91	Press button "RUN Flash" and verify on the command status window	Command execute OK	Command execute OK	
1A-B.92	Set power supply to 120V	120V ± 0.2V	120,15V	
1A-B.93	Take note of power supply output current	1,1A±0,5A	1,1A	
1A-B.94	Set the CAN BUS board address to 31	31	31	
1A-B.95	Select "CAN BUS I/F Side" to B	B	B	
1A-B.96	Press button "RUN Flash" and verify on the command status window	Command execute OK	Command execute OK	
1A-B.97	Click on ESEM1-A button	OK	OK	
1A-B.98	Press "READ ALL" button in the column "DIGITAL READOUT"	OK	OK	
1A-B.99	Verify the following parameter:			
1A-B.100	Board status	0 (OK)	0 (OK)	
1A-B.101	DCDC 1 OVC	0 (OK)	0 (OK)	
1A-B.102	DCDC 2 OVC	0 (OK)	0 (OK)	
1A-B.103	DCDC 1 STATUS	1 (ON)	1 (ON)	
1A-B.104	DCDC 2 STATUS	1 (ON)	1 (ON)	
1A-B.105	MAIN POWER STATUS	1 (ON)	1 (ON)	
1A-B.106	Verify the value of the following telemetries: Temperature Main Power Volt.	-40°C<T<80C° 120,00V±7,50V	28,14°C 122,4V	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
	Analog Ref. 4.0V	4,000V±150mV	3,993V	

10.3.2.5.2.3 ESEM 1-A SIDE B GLOBAL ON/OFF TEST

1A-B.1	Set OFF in the Global ON/OFF window and click on relative "W" command	OFF	OFF	
1A-B.2	Verify current absorption from Main Bus	0,000A±200mA	0,2A	
1A-B.3	Press "READ ALL" button in the column "DIGITAL READOUT"	OK	OK	
1A-B.4	Verify that appears the message "Command execution failed!"	Command execution failed!	Command execution failed!	
1A-B.5	Perform a power cycle OFF/ON on the main bus	OK	OK	
1A-B.6	Click on Run flash button	OK	OK	
1A-B.7	Click on Read all command under Digital Readout column and verify that appears the message "Command executed O.K."	Command executed OK	Command executed OK	
1A-B.8	Verify that the value of Board status in Digital Readout column in "OK"	OK	OK	
1A-B.9	Set the CAN BUS board address to 30	30	30	
1A-B.10	Select "CAN BUS I/F Side" to A	A	A	
1A-B.11	Click on Run flash button	OK	OK	
1A-B.12	Click on Read all command under Digital Readout column and verify that appears the message "Command executed O.K."	Command executed OK	Command executed OK	
1A-B.13	Verify that the value of Board status in Digital Readout column in "OK"	OK	OK	
1A-B.14	Set OFF in the Global ON/OFF window and click on relative "W" command	OK	OK	
1A-B.15	Verify current absorption from Main Bus	0,000A±200mA	0,2A	
1A-B.16	Press "READ ALL" button in the column "DIGITAL READOUT"	OK	OK	
1A-B.17	Verify that appears the message "Command execution failed!"	Command execution failed!	Command execution failed	
1A-B.18	Perform a power cycle OFF/ON on the main bus	OK	OK	
1A-B.19	Set the CAN BUS board address to 31	31	31	
1A-B.20	Select "CAN BUS I/F Side" to B	B	B	
1A-B.21	Click on Run flash button	OK	OK	
1A-B.22	Click on Read all command under Digital Readout column and verify that appears the message "Command executed O.K."	Command executed OK	Command executed OK	
1A-B.23	Verify that the value of Board status in Digital Readout column in "OK"	OK	OK	
1A-B.24	Switch OFF main power bus	OFF	OFF	

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6/08/2009	Albertin A.	Francini E.	

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10.3.2.5.3 PB2-1 SIDE B

STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
PB2-1-B.1	Connect BI_120V and BI_120V_RTN power supply signals	OK	OK	
PB2-1-B.2	Verify that all the cables of the section are connected	OK	OK	
PB2-1-B.3	Launch the PDS controller software	Program open	Program open	
PB2-1-B.4	Set to "FM" the window Model	OK	OK	
PB2-1-B.5	Select "PDS Side" to B	B	B	
PB2-1-B.6	Set the CAN BUS board address to 31	31	31	
PB2-1-B.7	Select JMDC = 0	0	0	
PB2-1-B.8	Select TX = A	A	A	
PB2-1-B.9	Select RX = A	A	A	
PB2-1-B.10	Select "CAN BUS I/F Side" to B	B	B	
PB2-1-B.11	Set input bus voltage to 120V	120V±1V	120V	
PB2-1-B.12	Set input bus current limitation to ~~15A~~ 27.5A	27,5A ~~15A~~±1A	27,5A	See PVS-02
PB2-1-B.13	Enable power supply output	enabled	enabled	
PB2-1-B.14	Verify that green led of "power switch box" is lighted	Green led ligthed	Green led ligthed	
PB2-1-B.15	Switch ON the "power switch "of "power switch box"	Switch ON	Switch ON	
PB2-1-B.16	Verify that red led of "power switch box" is lighted	Red led ligthed	Red led ligthed	
PB2-1-B.17	Take note of power supply output current	1,1A±0,5A	1,1A	
PB2-1-B.18	Click on Run flash button	OK	OK	
PB2-1-B.19	Set the CAN BUS board address to 30	30	30	
PB2-1-B.20	Select "CAN BUS I/F Side" to A	A	A	
PB2-1-B.21	Click on Run flash button	OK	OK	
PB2-1-B.22	Set the CAN BUS board address to 31	31	31	
PB2-1-B.23	Select "CAN BUS I/F Side" to B	B	B	
PB2-1-B.24	Click on PB2-1 button	OK	OK	This board is default ON
PB2-1-B.25	Set Digital I/F Test logic value = 1 in "Commanding" column	1	1	Button located on left side of software window
PB2-1-B.26	Click on letter "W" on the right of the "1" value	OK	OK	
PB2-1-B.27	Click on the command READ ALL under the column Digital Readout	OK	OK	
PB2-1-B.28	Verify that in the column Digital Readout under the voice Digital I/F Test appears "1"	1	1	
PB2-1-B.29	Set Digital I/F Test logic value = 0 in "Commanding" column	0	0	
PB2-1-B.30	Click on letter "W" on the right of the "0" value	OK	OK	
PB2-1-B.31	Click on the command READ ALL under the column Digital Readout	OK	OK	
PB2-1-B.32	Verify that in the column Digital Readout under the voice Digital I/F Test appears "0"	0	0	
PB2-1-B.33	Verify the status of the following flags: BOARD STATUS	OK	OK	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
	OVT ALARM Input OVC Alarm DCDC ON/OFF 27V UV 29V Trip DCDC OFF/ON CMD	OK OK **ON** OK OK **ON**	OK OK **ON** OK OK **ON**	
PB2-1-B.34	Read on display the voltage on ESEM 3A-1 out 3 (Check that load is not connected)	28,00V±1,00V	28,1V	V1
PB2-1-B.35	Verify the value of the following telemetry: Output Voltage	V1±1.092V	28,15V	
PB2-1-B.36	Set OFF on DCDC ON /OFF command window and send the command	OK	OK	Click on relative Rbutton
PB2-1-B.37	Click on the command READ ALL under the column Digital Readout	OK	OK	Power cell OFF
PB2-1-B.38	Verify the status of the following flags: BOARD STATUS OVT ALARM Input OVC Alarm DCDC ON/OFF 27V UNV 29V Trip DCDC OFF/ON CMD	OK OK OK **OFF** OK OK **OFF**	OK OK OK **OFF** OK OK **OFF**	
PB2-1-B.39	Click on the command READ ALL under the column Analog Readout	OK	OK	
PB2-1-B.40	Verify the value of the following telemetries: Temperature Analog Ref. 2.0V	-40℃<T<80C° 2,000V±150mV	34,17℃ 2,02V	
PB2-1-B.41	Verify the following analog monitor: Output Voltage	0,00V±1.092V	0V	
PB2-1-B.42	Read on display the voltage on ESEM 3-A 1 out 3 (Check that load is not connected)	0,00V±0,10V	0V	
PB2-1-B.43	Set the CAN BUS board address to 30	30	30	
PB2-1-B.44	Select "CAN BUS I/F Side" to A	A	A	
PB2-1-B.45	Click on the command READ ALL under the column Digital Readout	OK	OK	
PB2-1-B.46	Verify the status of the following flags: BOARD STATUS OVT ALARM Input OVC Alarm DCDC ON/OFF 27V UNV 29V Trip DCDC OFF/ON CMD	OK OK OK **OFF** OK OK **OFF**	OK OK OK **OFF** OK OK **OFF**	
PB2-1-B.47	Set ON on DCDC OFF/ON command window and send the command	OK	OK	Power cell ON

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6/08/2009	Albertin A.	Francini E.	

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STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
PB2-1-B.48	Click on the command READ ALL under the column Digital Readout	OK	OK	
PB2-1-B.49	Verify the status of the following flags:			
	BOARD STATUS	OK	OK	
	OVT ALARM	OK	OK	
	Input OVC Alarm	OK	OK	
	DCDC ON/OFF	**ON**	**ON**	
	27V UNV	OK	OK	
	29V Trip	OK	OK	
	DCDC OFF/ON CMD	**ON**	**ON**	
PB2-1-B.50	Read on display the voltage on ESEM 3-A 1 out 3 (Check that load is not connected)	28,00V±1,00V	28,1V	
PB2-1-B.51	Set the CAN BUS board address to 31	31	31	
PB2-1-B.52	Select "CAN BUS I/F Side" to B	B	B	
PB2-1-B.53	Click on the command READ ALL under the column Digital Readout	OK	OK	
PB2-1-B.54	Verify the status of the following flags:			
	BOARD STATUS	OK	OK	
	OVT ALARM	OK	OK	
	Input OVC Alarm	OK	OK	
	DCDC ON/OFF	**ON**	**ON**	
	27V UNV	OK	OK	
	29V Trip	OK	OK	
	DCDC OFF/ON CMD	**ON**	**ON**	

DATE:	TEST CONDUCTOR	QA	CUSTOMER
6/08/2009	Albertin A.	Francini E.	

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10.3.2.5.4 ESEM 3A-1 SIDE B

STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
3A-1-B.1	Click on ESEM 3A-1 button	OK	OK	Button located on left side of software window
3A-1-B.2	Connect to active loads outlet 1, 2, 3, 4, 5, 6, 7 and 8.	OK	OK	
3A-1-B.3	Verify that loads are set to 0A current absorption	OK	OK	
3A-1-B.4	Set Digital I/F Test logic value = 1 in "Commanding" column	1	1	
3A-1-B.5	Click on letter "W" on the right of the "1" value	OK	OK	
3A-1-B.6	Click on the command READ ALL under the column Digital Readout	OK	OK	
3A-1-B.7	Verify that in the column Digital Readout under the voice Digital I/F Test appears "1"	1	1	
3A-1-B.8	Set Digital I/F Test logic value = 0 in "Commanding" column	0	0	
3A-1-B.9	Click on letter "W" on the right of the "0" value	OK	OK	
3A-1-B.10	Click on the command READ ALL under the column Digital Readout	OK	OK	
3A-1-B.11	Verify that in the column Digital Readout under the voice Digital I/F Test appears "0"	0	0	
3A-1-B.12	Set ON in the window All Outlets ON/OFF and push the relative "W" command	OK	OK	
3A-1-B.13	Read on display the voltage on this ESEM 3-A loads: O_1: TPD3 O_2: TPD7 O_3: JPD_N O_4: SPD1_N O_5: UGPD_N O_6:SPD0_R O_7: TPD1 O_8:TTPD_R	 28,00V±1,00V 28,00V±1,00V 28,00V±1,00V 28,00V±1,00V 28,00V±1,00V 28,00V±1,00V 28,00V±1,00V 28,00V±1,00V	 28,1V 28,1V 28,1V 28,1V 28,1V 28,1V 28,1V 28,1V	
3A-1-B.14	Click on Read All command in Digital Readout column	OK	OK	
3A-1-B.15	Verify the status of the following flags: BOARD STATUS OVT Alarm From O_1 CMD: TPD3 to O_8 CMD: TTPD_R From O_1 Status: TPD3 to O_8 Status: TTPD_R	 OK OK ON ON	 OK OK ON ON	
3A-1-B.16	Set the CAN BUS board address to 30	30	30	
3A-1-B.17	Select "CAN BUS I/F Side" to A	A	A	
3A-1-B.18	Click on Read All command in Digital Readout column	OK	OK	
3A-1-B.19	Verify the status of the following flags: BOARD STATUS OVT Alarm From O_1 CMD: TPD3 to O_8 CMD: TTPD_R	 OK OK ON	 OK OK ON	

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UUT DATA : **Model** **PFM** **Item** **AMS02 POWER DISTRIBUTION SYSTEM** **C.I.** **PDS 18** **S/N** **FM01**

STEP n°	TEST SEQUENCE	EXPECTED VALUE	MEASURED VALUE	REMARKS
	From O_1 Status: TPD3 to O_8 Status: TTPD_R	ON	ON	
3A-1-B.20	Generate a short circuit on the passive load keyboards: From O_1: TPD3 to O_8: TTPD_R	OK	OK	
3A-1-B.21	Read on display the voltage on this ESEM 3-A loads: O_1: TPD3 O_2: TPD7 O_3: JPD_N O_4: SPD1_N O_5: UGPD_N O_6:SPD0_R O_7: TPD1 O_8:TTPD_R	 0,00V<V<1,00V 0,00V<V<1,00V 0,00V<V<1,00V 0,00V<V<1,00V 0,00V<V<1,00V 0,00V<V<1,00V 0,00V<V<1,00V 0,00V<V<1,00V	 0V 0V 0V 0V 0V 0V 0V 0V	
3A-1-B.22	Click on Read All command in Digital Readout column	OK	OK	
3A-1-B.23	Verify the status of the following flags: BOARD STATUS OVT Alarm From O_1 CMD: TPD3 to O_8 CMD: TTPD_R From O_1 Status: TPD3 to O_8 Status: TTPD_R	 **NOK** OK ON **OFF**	 **NOK** OK ON **OFF**	
3A-1-B.24	Set the CAN BUS board address to 31	31	31	
3A-1-B.25	Select "CAN BUS I/F Side" to B	B	B	
3A-1-B.26	Click on Read All command in Digital Readout column	OK	OK	
3A-1-B.27	Verify the status of the following flags: BOARD STATUS OVT Alarm From O_1 CMD: TPD3 to O_8 CMD: TTPD_R From O_1 Status: TPD3 to O_8 Status: TTPD_R	 **NOK** OK ON **OFF**	 **NOK** OK ON **OFF**	
3A-1-B.28	Set OFF in the window All Outlets ON/OFF and push the relative "W" command	OK	OK	
3A-1-B.29	Set ON in the window All Outlets ON/OFF and push the relative "W" command	OK	OK	
3A-1-B.30	Click on Read All command in Digital Readout column	OK	OK	
3A-1-B.31	Verify the status of the following flags: BOARD STATUS OVT Alarm From O_1 CMD: TPD3 to O_8 CMD: TTPD_R From O_1 Status: TPD3 to O_8 Status: TTPD_R	 **OK** OK ON **ON**	 **OK** OK ON **ON**	
3A-1-B.32	Set the CAN BUS board address to 30	30	30	
3A-1-B.33	Select "CAN BUS I/F Side" to A	A	A	
3A-1-B.34	Click on Read All command in Digital Readout column	OK	OK	
3A-1-B.35	Verify the status of the following flags:			

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