

AC & DC POWER GROUPS

Rev E

Important Benefits:

- Comprehensive ABD0100.1.8 Compliance test sequence suite saves months of test development time
- Includes both AC and DC power groups (Rev E) for maximum test coverage
- Available for all AFX Series models at power levels from 6kVA to 150kVA for AC and DC testing
- Supports both Single and Three phase AC power groups (Tables A, B & C)
- Supports DC power groups (Tables D & E)
- Comprehensive Test Reports to document compliance
- Current Revision E
- Test Sequences can be customized as needed to meet changing requirements
- VISA Calls and VB Script support allows other test equipment integration into tests
- LAN, USB, RS232 and GPIB Support
- PPSC Test Manager Software Required to execute test sequences



ABD0100.1.8, Airbus A380 Electrical Tests

The Airbus ABD0100.1.8 is largely based on the RTCA DO160, Section 16 test standard but with notable changes and extensions. RTCA performance standards form the basis for FAA regulatory requirements for all commercial aircraft. The power tests covered by the ABD0100.1.8 Airbus version simulate conditions of aircraft power from before engine start to after landing including emergencies. Currently at revision E, the ABD0100.1.8 test option was developed to ensure compliance of all electrical systems on the A380 commercial airliner.

Comprehensive Coverage & Convenience

Using Pacific's extensive library of test sequences and the PPSC Test Manager Windows software, the AFX Power source turns into a powerful and easy to use compliance test system. No need to spend weeks developing your own test procedures, just connect your EUT and select what test to run. User observation of EUT behavior and additional measurement equipment to monitor EUT output is required in addition to the AFX power source.

Extensive Coverage

The ability of the AFX Series to provide both AC, DC, AC+DC and DC+AC output reduces the amount of additional test equipment and coupling devices needed to perform most tests. It also provides great test coverage for EMC Test labs to meet client's test requirements.



THE POWER OF EXPERTISE



Supported Power Groups

The following power groups are included in the ABD0100.1.8 A380 test option.

Power Group	Description	Nominal Voltage	Nominal Frequency	Phase Modes
Table A	AC Power, Constant Frequency	115Vrms L-N	400Hz	1 Phase and 3 Phase
Table B	AC Power, Constant Frequency	26Vrms L-N	400Hz	
Table C	AC Power , Wide Variable Frequency	115Vrms L-N	360 – 800Hz	
Table D	Conventional DC Power Test	28 Vdc	n/a	n/a
Table E	NBPT ¹ DC Power Test	28 Vdc	n/a	n/a

Note 1: NBPT = No Break Power Transfer DC network

AC Power Test Execution Samples – ABD0100.1.8

The following screens provide some typical captured output voltage waveforms from the AC Power Source during

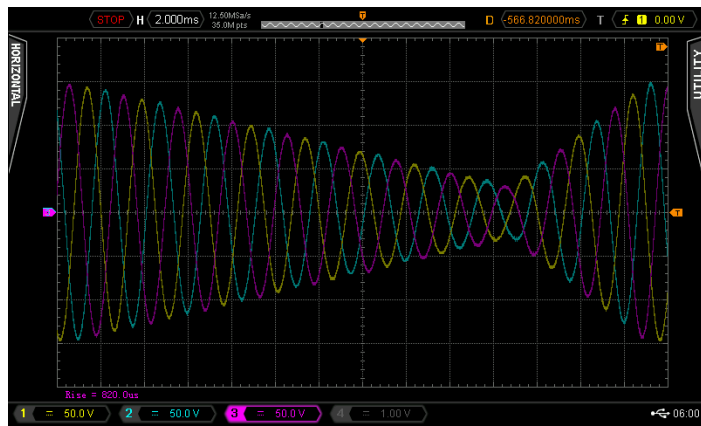


Figure 1: ABD0100.1.8 A380 Table A, Test Number 6, Three Phase Voltage Transient – short duration

ing ABD0100.1.8 AC Test Sequence execution. Samples shown reflect two different test conditions on a three phase 115VLN/200VLL AC power bus.

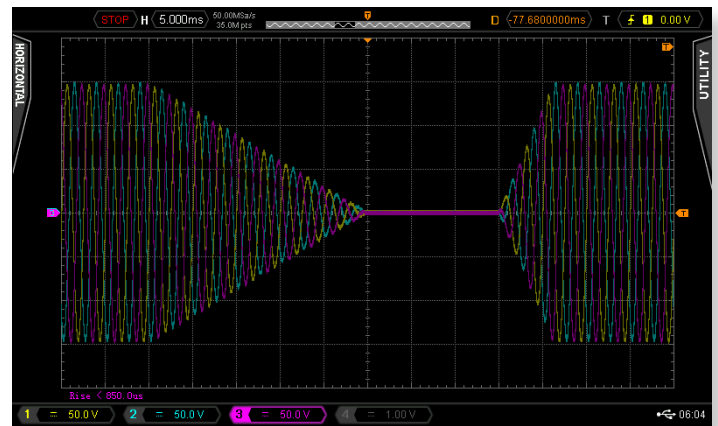


Figure 2: ABD0100.1.8 A380 Table A, Test Number 6, Three Phase Voltage Transient – long duration

DC Power Test Execution Samples – ABD0100.1.8

The following screens provide some typical captured output voltage waveforms from the DC Power Source during

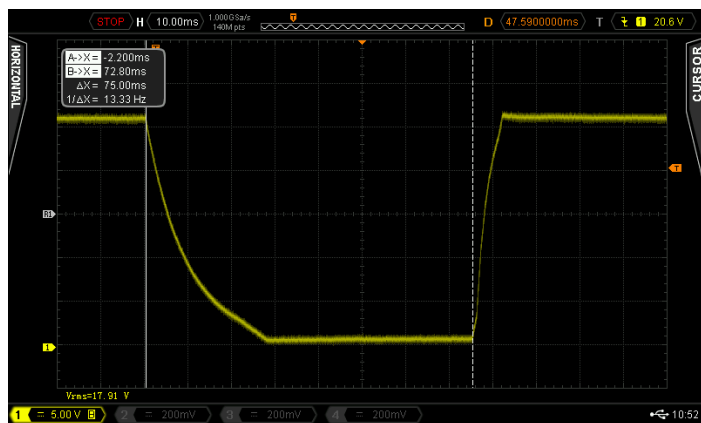


Figure 3: ABD0100.1.8E Table D, Test 6 per Fig 1.2 Voltage Transient

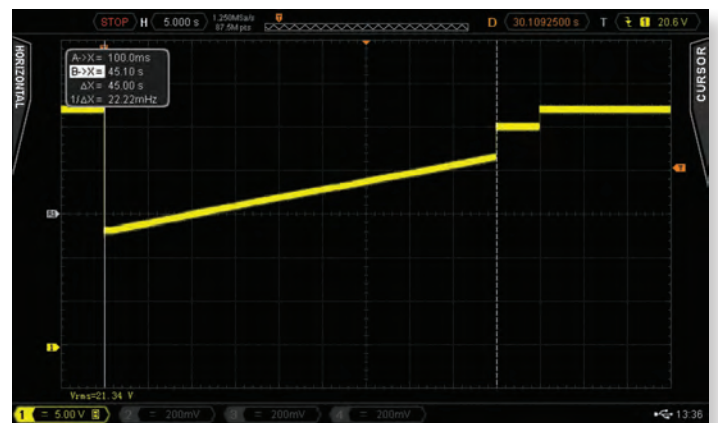
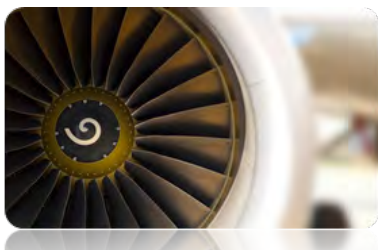


Figure 4: ABD0100.1.8E Table D, Test 7, A380 Heavy Load square DC pulse



Compliance Matrix ABD0100.1.8

Table	Test No.	Description	Vnom	Freq	1 Phs	3 Phs	Notes
A	1	Steady state voltage and frequency: normal & emergency operation	115Vac	400Hz	Y	Y	
	2	Steady state voltage and frequency: abnormal operation			Y	Y	
	3	Voltage surge: normal transients			Y	Y	
	4	Voltage surge: abnormal transients			Y	Y	
	5	Voltage spikes			R	R	Requires spike generator and coupling network
	6	Switching transients			Y	Y	
	7	Voltage modulation			Y	Y	
	8	Frequency excursions in abnormal operation			Y	Y	
	9	Frequency modulation			Y	Y	
	10	Distorted voltage			Y	Y	
	11	Voltage DC content			Y	Y	
Table	Test No.	Description	Vnom	Freq	1 Phs	3 Phs	Notes
B	1	Steady state voltage and frequency: normal & emergency operation	26Vac	400Hz CF	Y	N/A	
	2	Steady state voltage and frequency: abnormal operation			Y	N/A	
	3	Voltage surge: normal transients			Y	N/A	
	4	Voltage surge: abnormal transients			Y	N/A	
	5	Voltage spikes			R	N/A	Requires spike generator and coupling network
	6	Switching transients			Y	N/A	
	7	Voltage modulation			Y	N/A	
	8	Frequency excursions in abnormal operation			Y	N/A	
	9	Frequency modulation			Y	N/A	
	10	Distorted voltage			Y	N/A	
	11	Voltage DC content			Y	N/A	
Table	Test No.	Description	Vnom	Freq	1 Phs	3 Phs	Notes
C	1	Steady state voltage and frequency: normal & emergency operation	115Vac	360 - 800Hz VF	Y	Y	
	2	Steady state voltage and frequency: abnormal operation			Y	Y	
	3	Voltage surge: normal transients			Y	Y	
	4	Voltage surge: abnormal transients			Y	Y	
	5	Voltage spikes			R	R	Requires spike generator and coupling network
	6	Switching transients			Y	Y	
	7	Voltage modulation			Y	Y	
	8	Frequency excursions in abnormal operation			Y	Y	
	9	Frequency modulation			Y	Y	
	10	Distorted voltage			Y	Y	
	11	Voltage DC content			Y	Y	
Table	Test No.	Description	Vnom	Freq	1 O/P	3 O/P	Notes
D	1	Steady state voltage and frequency: normal & emergency operation	28Vdc	n/a	Y	Y	
	2	Steady state voltage and frequency: abnormal operation			Y	Y	
	3	Voltage surge: normal transients			Y	Y	
	4	Voltage surge: abnormal transients			Y	Y	
	5	Voltage spikes			R	R	Requires spike generator and coupling network
	6	Switching transients			Y	Y	
	7	Square waves due to large load variations in normal conditions			Y	Y	
	8	Ripple voltage			R	R	Up to 20kHz AC ripple
Table	Test No.	Description	Vnom	Freq	1 O/P	3 O/P	Notes
E	1	Steady state voltage and frequency: normal, abnormal & emergency operation	28Vdc NBPT	n/a	Y	Y	
	2	Voltage surge: normal transients			Y	Y	
	3	Voltage surge: abnormal transients			Y	Y	
	4	Voltage spikes			R	R	Requires spike generator and coupling network
	5	Switching transients			Y	Y	
	6	Ripple voltage			R	R	Up to 20kHz AC ripple

Notes: Y = Full support. No additional equipment is needed to perform the required AC stimulus
 R = Requires additional equipment. See notes for details
 N = Not supported

N/A = Not Applicable - No Test required
 NBPT = No Break Power Transfer DC network
 DC Tests Table D & E are provided in both single or three phase mode versions

Test Executive

Rather than being fixed with no ability for customization or enhancements, Pacific Power Source's Test Sequences are developed within its PPSC Test Manager test executive environment. The PPSC Test Manager is a plug-in to the standard Pacific Power Source PPSC Manager windows software and provides complete access to the underlying Test Sequence implementation.

Pacific Power's Test Manager software provides powerful tools for controlling test execution, collecting measurement data from the Power Source and or the unit under test as required.

Other instruments can be controlled through the PPSC Test Manager executive using VISA drivers and VB Scripting, thus providing powerful tools to test engineers. Alternatively, the Test Sequences can be

run as provided, controlling just the Pacific Power Source AC Source with no further customization required. Test Sequence libraries can be password protected by the user to prevent unauthorized modifications. Revision control of test procedures is built into the PPSC Test Manager executive.

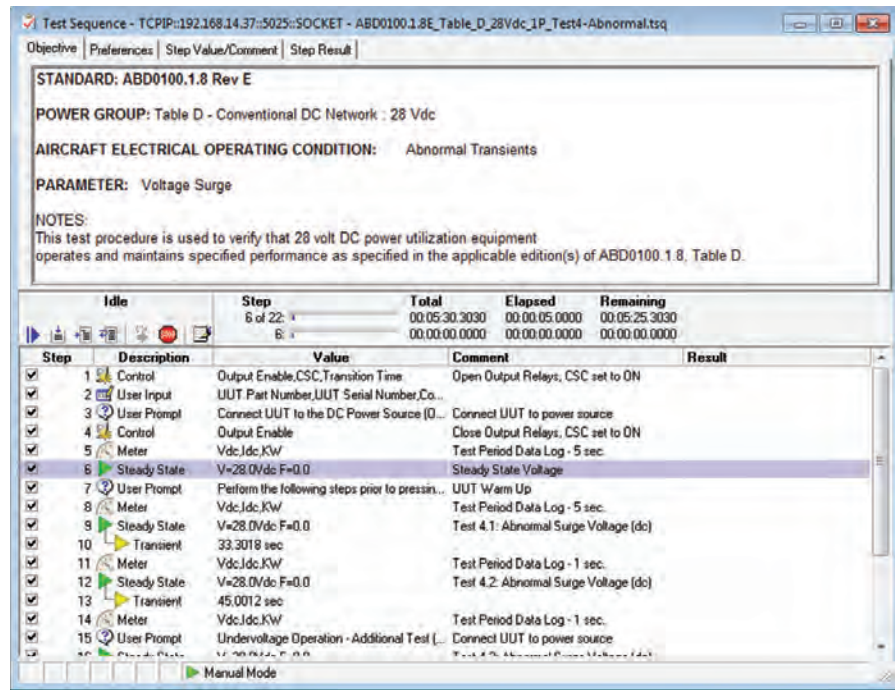


Figure 5: ABD0100.1.8, Table D, Test 4, Abnormal Voltage Surge Screen

Ordering Information

Option	Description	Part Number
ABD0100.1.8	Provides Test Sequences for ABD0100.1.8, Revision E, Dated May 2005, Electrical and Installation Requirements. Included are AC and DC Power groups tests Tables A through E for both Single and Three phase equipment at both 26Vac and 115Vac nominal for AC and 28Vdc for DC power. DC tests require use of AFX Series AC and DC power source. Distribution revision 1.3 or higher required for AFX Series.	149102
PPSC Manager	Basic PPSC Manager functions (PPSC Control, Output Sequence Browser, Waveform Editor) . Does not include PPSC Test Manager license for access to Test Sequences and Test Plans. No cost license.	Free license with registration
PPSC Test Manager	Registration and access to PPSC Test Manager Software. Create, Open, and Edit Output Test Sequences using PPSC Manager Features	Separate License required for each power source

Deliverables

- Test Sequence Installer Download Link
- User Documentation PDF Download Link



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