



Test Summary for NTCIP Conformance Testing of Solar Technology Portable LED v1 Sign

Test Summary Report Identifier

This document records the results of the second NTCIP conformance test of a 27 by 48 pixel full-matrix Solar Technology portable LED sign. The tests generally followed the test plan 056-SolarTech-NT-DMSv1-TP-2. The identifier for these test results is: 056-SolarTech-NT-DMSv1-TS-2-1.

Summary

Device Make: Solar Technology, Inc.
Controller Model: TRAFIX
Firmware Version: TRAFIX-1.9.17-inhouse16

Test Plan Identifier: 056-SolarTech-NT-DMSv1-TP-2
Test Log Identifier: 056-SolarTech-NT-DMSv1-TL-2-1

Trevilon Corporation, an independent corporation and under contract to Solar Technology, Inc., performed these tests using NTester 2.3.1. All tests were performed on October 20, 2009, except for the Short and Long "Power Loss Tests" and the location tests, which were performed on October 21, 2009.

Variances

The only variances during the main test were due to either improper configuration or invalid assumptions in the test logic, as described below. Upon full analysis, the device responded properly to all cases, even when the automated test procedures initially reported an error.

It was discovered that the sign used for remote testing (i.e., for the power loss recovery and location tests) used a different minor version of software than the sign used at Trevilon facilities. Specifically, the remote sign used TRAFIX-1.9.17.1-inhouse5. Given that the purpose of this test is to provide documentation to be submitted with bids, it is not seen as an issue to be concerned about. The specific version of software delivered on any project will have likely gone through several updates since these tests were performed.

Comprehensive Assessment

Trevilon certifies that this device passed all of the tests contained in the referenced test plan, with the identified variances. The test results are recorded in the files 091020.ntd and 091021.ntd. The capture files of the data streams are recorded in 091020.cfa and 091021.cfa.

Summary of Results

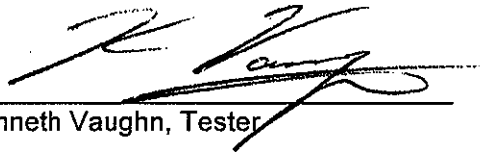
Test Name	Result	Notes
Too Big Error	PASS*	The automated test reported a failure, but an inspection of the test steps revealed that the device supported data packets that were larger than that tested by the procedure and that the response from the device properly contained all of the requested information. A subsequent manual test demonstrated that the device properly supported the feature that this test was designed to support.
Bad Value Error	PASS	
Read-only Error	PASS	
No Such Name Error	PASS	
Large Unsigned Values	PASS	
SNMP Objects	PASS	
Get with Administrator Rights	PASS	
Set with Administrator Rights	PASS	
Get with Full Access User Rights	PASS	
Set with Full Access User Rights	PASS	
Change Full Access Password	PASS	
Get with Read-only Access	PASS*	The device properly rejected the first attempt at this test because the community names had not been configured. The test passed once this configuration error was fixed.
Set with Read-only Access	PASS	
Change Read-only to Full Access	PASS	
Get Module Table Entry	PASS	
Get globalTime	PASS	
Get Event Configuration	PASS	
Create Event Classes	PASS	
Configure Events	PASS	
Get Log	PASS	
Leap Year	PASS	
Sign Configuration and Compatibility	PASS	
GUI Appearance	PASS	
VMS Configuration	PASS	
Message Table Configuration	PASS	
Get Permanent Message	PASS	
Store Changeable Message 1	PASS	
Store Changeable Message A	PASS	
Store Changeable Message B	PASS	
Store Volatile Message 1	PASS	
Store Volatile Message A	PASS	
Store Volatile Message B	PASS	
Store Errant Message	PASS	
Display a Permanent Message	PASS	
Display Changeable Message A	PASS	

Test Name	Result	Notes
Display Volatile Message A	PASS	
Display Blank Message	PASS	
Display Undefined Message	PASS	
Activate Message with Zero CRC	PASS	
Activate Message with an Invalid CRC	PASS	
Verify Control Mode	PASS	
Get Message Meta-data	PASS	
Message Priority	PASS	
Message Memory Management	PASS	
Default Character Set	PASS	
Default Page Time	PASS	
Default Page Justification	PASS	
Default Line Justification	PASS	
Default Font	PASS	
Default Flash	PASS	
Get Font Configuration	PASS	
Define Font	PASS	
Setup Default Messages	PASS	
End Duration Message	PASS	
Communication Loss Message	PASS	
Reset Message	PASS	
Short Power Loss Message	PASS	
Long Power Loss Message	PASS*	There was one timeout error during the test, but the automatic retry was successful. Given that this test was performed remotely, it appears that a single data packet was lost due to the communications network rather than the sign itself. As such, we determined that the sign passed this test.
Get Illumination Status	PASS	
Manual Illumination	PASS	
Photocell Illumination	PASS	
Illumination Curve	PASS	
Scheduling Configuration	PASS	
Set Time Base Schedule Table	PASS	
Set Day Plan Schedule	PASS	
Setup Schedule Messages	PASS	
Activate Schedule	PASS*	The device properly rejected the first attempt at this test because the message was too wide to display due to the use of the wrong default font. The test passed once this configuration error was fixed.
Activate Schedule with Offset	PASS	
Short Error Status	PASS	
Watchdog Failure Count	PASS	
MULTI Field Table	PASS	
Power Status	PASS	
Get Temperatures	PASS	

Test Name	Result	Notes
Manual – Get Sign Volts	PASS	
Manual – Lat-Long-Direction	PASS	

In addition to the NTester test results, all of the above communications were monitored by FTS software. The only anomaly that this software detected was a configuration error for a community name and for snmpEnableAuthenTraps. Neither of these issues will result in an operational problem.

When operating over direct Ethernet, the shortest response time was 80 ms, longest response time was 6.907 seconds (6907 ms), the mean response time was 419 ms and the median response time was 260 ms.


Kenneth Vaughn, Tester

20 - 21 October 2009
Test Date

*Note: FTS records the response time from end of packet to end of packet, device response time is measured from end of packet to start of response packet. Thus, in order to determine the device response time, the transmission time must be subtracted from the recorded FTS response time. However, with Ethernet transmission speeds, the transmission time is roughly 1 ms; thus, the FTS values are an adequate reflection of the actual device response time.