

**EtherNet/IP™ - ODVA Conformance Test Results**

<b>Test Information</b>	
Scheduled Test Date	<b>September 4, 2014</b>
Composite Test Revision	<b>CT11</b>
ODVA File Number	<b>11310.01</b>
Test Type	<b>Single Product</b>

<b>Vendor Information</b>	
Vendor Name	<b>Tolomatic</b>

<b>Device Information</b>			
<b>Device Information from Identity Object Instance* 1</b>			
For multiple identity object instances, additional Device Information tables are inserted into the report.			
<b>Identity Object</b>	<b>Attribute</b>	<b>Value</b>	
Attribute 1	Vendor ID (decimal)	<b>1230</b>	
Attribute 2	Device Type (hex)	<b>0x2b</b>	
Not an Attribute	Device Profile Name	<b>Generic Device (keyable)</b>	
Attribute 4	Product Revision (decimal)	Major Rev   <b>2</b>	Minor rev   <b>037</b>
<b>Identity Object</b>	<b>Attribute</b>	<b>Value for Device 1</b>	<b>Value for Device 2</b>
Attribute 3	Product Code (decimal)	<b>9046</b>	<b>N/A</b>
Attribute 7	Product Name	<b>ACS Drive &amp; Controller</b>	<b>N/A</b>

\*For multiple instances, additional Device Information tables should be inserted into the report.

<b>TSP Information</b>	
TSP Location	ODVA TSP - Ann Arbor
Engineer Initials or Name	wbh
Completion Date	September 4, 2014
<b>Test Result</b>	<b>PASS</b>
All advisories, warnings, and failures are summarized and described in Table 1 below.	

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**Table 1 Conformance Failures and Advisories**

**NOTE:** **Advisories** indicate recommendations, **Warnings** indicate behavior that may be required to be changed before subsequent tests as indicated in Warning description, and **Failures** must be resolved to pass

Index	Test Item	Advisories and Failures: Observed DUT Behavior	Required Behavior & Specification Reference
1	Protocol Test	Test passes - no errors	
2			
3			
4			
5			
6			
7			
8			

## EtherNet/IP™ Device Under Test

**SOC - Statement of Conformance Data**

Enter/change device name:  
11310\_ACS\_DRIVE

File name (no extension):  
11310\_ACS\_DRIVE

Product name: ACS Drive & Controller

Vendor name: Tolomatic

Device type: Generic Device (keyable)  
Vendor specific device type:

Product code: 9046

Revision: 2.37

**Select Implemented Objects**

Selected Device:  
11310\_ACS\_DRIVE

Profile Objects:

- Identity
- Message Router
- Assembly
- Connection
- Connection Manager
- Register
- Discrete Input Point
- Discrete Output Point
- Analog Input Point
- Analog Output Point
- Presence Sensing
- Parameter Object

Implemented Objects:

- Identity
- Message Router
- Assembly
- Connection Manager
- TCP/IP Interface
- Ethernet Link

**Physical Conformance Data**

**Communication**

Rates (M bits/sec):  10  100  1000

Duplex:  Half  Full

**Communication setting**

Rate:  Switches  Software Set  Auto-negotiate

Duplex:  Switches  Software Set  Auto-negotiate

Other:

**TCP/IP Configuration Capabilities**

BOOTP Client  DHCP Client

DNS Client  DHCP-DNS Update

Configuration Settable

Hardware Configurable

Interface Configuration Change Requires Reset

ACD Capable

Other:

**Network address**

MAC address: 00:04:A3:E7:C7:83

IP address: 192 . 168 . 0 . 100

**Performance levels (Physical layer)**

Commercial  Industrial

**Supported LEDs**

Module  Combo Mod/Net

Network  I/O

**Connector style**

Open  Sealed

Copper:  RJ-45  M12-4D  M12-8X

Fiber:  SC  ST  MT-RJ  LC

**Set Message Wait Timers**

Minimum Wait for Explicit Msgs:  ms

Encap. timeout (Default 500ms):  ms

Maximum Wait for All Msgs:  ms

Wait for Device Reset:  ms

Minimum Probe Interval after Reset:  ms

Do Max EPR Test:

**Conformance Tests**

Test Mode:  Development,  **Conformance**,  Performance

Test Repetitions:  Times,  Stop On Error,  Run Continuously

**Network Technology Tests**

- Encapsulation
- Connection Manager
- TCP/IP Interface
- Ethernet Link
- Profile Verification
- Identity
- Type 1 Reset
- Message Router
- DeviceNet
- Connection
- Acknowledge Handler
- Port

**CIP Application Object Tests**

<input type="checkbox"/> Discrete Input Point	<input type="checkbox"/> Analog Input Point	<input type="checkbox"/> S-Device Supervisor
<input type="checkbox"/> Discrete Output Point	<input type="checkbox"/> Analog Output Point	<input type="checkbox"/> S-Analog Sensor
<input type="checkbox"/> Discrete Input Group	<input type="checkbox"/> Analog Input Group	<input type="checkbox"/> S-Analog Actuator
<input type="checkbox"/> Discrete Output Group	<input type="checkbox"/> Analog Output Group	<input type="checkbox"/> S-Single Stage Controller
<input type="checkbox"/> Discrete Group	<input type="checkbox"/> Analog Group	<input type="checkbox"/> S-Gas Calibration
<input type="checkbox"/> Presence Sensing		<input type="checkbox"/> S-Sensor Calibration
<input checked="" type="checkbox"/> Assembly	<input type="checkbox"/> Motion Device Axis	<input type="checkbox"/> Trip Point
<input type="checkbox"/> Register	<input type="checkbox"/> Motor Data	<input type="checkbox"/> Position Sensor
<input type="checkbox"/> Parameter	<input type="checkbox"/> Control Supervisor	<input type="checkbox"/> Position Control Super.
<input type="checkbox"/> Parameter Group	<input type="checkbox"/> AC/DC Drive	<input type="checkbox"/> Position Controller
<input type="checkbox"/> Selection	<input type="checkbox"/> Overload	<input type="checkbox"/> Block Sequencer
<input type="checkbox"/> File	<input type="checkbox"/> Soft Start	<input type="checkbox"/> Command Block
<input type="checkbox"/> Connection Config	<input type="checkbox"/> Time Sync	<input type="checkbox"/> Base Switch
<input type="checkbox"/> QoS	<input type="checkbox"/> Base Energy	<input type="checkbox"/> RSTP Bridge
<input type="checkbox"/> Device Level Ring	<input type="checkbox"/> Electrical Energy	<input type="checkbox"/> RSTP Port
	<input type="checkbox"/> Non-Electrical Energy	

**EtherNet/IP™ Conformance Composite Test Results - CT11**

<b>DUT Name:</b> ACS Drive & Controller
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**1 Protocol Conformance Test**

Protocol Test Software Revision	CT11
SOC File Name	11310_ACS_DRIVE.stc
Protocol Test Log Files	11310_ACS_DRIVE.log 11310_ACS_DRIVE_ProfileTest.log
Result Pass/Fail	Pass

**2 Physical Layer Test**

If the product includes an LED identified by a label name defined in Chapter 9 of EtherNet/IP Adaptation of CIP, the product supports the LED. Supported LEDs must have the behaviors described below.

Industrial Grade Claimed in SOC	No		
<b>2.1 Indicator check: LEDs supported</b>		<b>Present in DUT</b>	<b>Result</b>
	Module Status LED	No	Pass
	Network Status LED	No	Pass
<b>2.2 Module status LED operation</b>		<b>Result</b>	
	The product contains a red/green indicator for the module status.	N/A	
	The indicator is labeled "MS", "Mod", "Mod Status", or "Module Status".	N/A	
	Indicator operation (0.25 sec GREEN, then 0.25 sec RED at a self-test).	N/A	
<b>2.3 Network status LED operation</b>		<b>Result</b>	
	The product contains a red/green indicator for the network status.	N/A	
	The indicator is labeled "NS", "Net", "Net Status", or "Network Status".	N/A	
	Indicator operation (0.25 sec GREEN, then 0.25 sec RED at a self-test).	N/A	
<b>2.4 Network connector</b>		<b>Present in DUT</b>	<b>Result</b>
	The DUT has a connector per Volume 2, Chapter 8 - (No "pigtail" allowed)	Yes	Pass
	The DUT has a connector per Volume 2 - Section 8-9.2.3 N/A if Industrial Grade is not claimed in SOC		N/A

**3 EDS File Test**

<b>3.1 EDS File Syntax Utility</b>	<b>EZ-EDS Revision:</b>		<b>3.9</b>
EDS File Name	36049654.eds		
EDS File Revision	1.3		
<b>3.2 EDS File Minimum Content</b>			<b>Result</b>
ProdType (must match Identity Object Attribute 2)	ProdType =	42	Pass
ProdCode (must match Identity Object Attribute 3)	ProdCode =	9046	Pass
MajRev (must match Identity Object Attribute 4, byte 0)	MajRev =	2	Pass
EZ-EDS Result - Minimum Content			Pass
<b>3.3 EDS File Connection Entries</b>			<b>Result</b>
All connections defined: Keyword - Path and Sizes			Pass
<b>3.4 EDS File Port Labels (multiple Ethernet Ports only)</b>			<b>Result</b>
All Ethernet Link Interface sections labels match Ethernet Link object labels			N/A

**4 TCP/IP Interface Object Tests** Object 0xF5 (245)

(See EtherNet/IP Interoperability Specification for details)

4.1 Interface Configuration and Subnet Test Cases		Result
Interface Configuration - BOOTP (use Attribute 3 or other applicable interface to configure)		N/A
Interface Configuration - DHCP Client (use Attribute 3 or other interface to configure)		Pass
Interface Configuration - SW Configurable (using stored values - use Attribute 3 to configure)		Pass
Interface Configuration - HW Configurable (setting address switches - use switches and attr 3)		N/A
Subnet test case 1 (Reply) (DHCP Server used for setup - Get_Attribute_Single for request)		Pass
Subnet test case 2 (No reply) (PC interface Properties - Get_Attribute_Single for request)		Pass
Subnet test case 3 (Reply) (DHCP Server used for setup - Network Settings/DUT power cycle)		Pass
Subnet test case 4 (No reply) (Network Connections -> Properties)		Pass
Subnet test case 5 (Reply) (DHCP Server used for setup - Network Settings/DUT power cycle)		Pass
Subnet test case 6 (Widest Subnet - Reply) (Subnet mask for DUT - use 255.0.0.0)		Pass
TTL Test (Attr. 8) - See TTL Test Below	Get_AttributeSingle Status Code/Value: 0x14	N/A
MCast Test (Attr 9) - See TTL Test Below	Get_AttributeSingle Status Code/Value: 0x14	N/A
4.2 TCP/IP Objects - Multiple Interfaces Tests		Result
4.4.1 N/A if only one instance of the TCP/IP object		N/A

**5 Ethernet Link Object Tests** Object 0xF6 (246)

Connect straight into the device for speed test cases (DO NOT USE A HUB - a crossover cable may be needed)

5.1 Ethernet Link Object Test Cases		Result
Speed test cases (Attribute 1) - Force PC NIC to 10Mbps (Full or Half) - Value reported OK		Pass
Speed test cases (Attribute 1) - Force PC NIC to 100Mbps, Full Duplex - Value reported OK		Pass
Interface Flags test cases (Attribute 2) - Force PC NIC to 100Mbps Full - Value reported OK		Pass
Interface Flags test cases (Attribute 2) - Force PC NIC to 100Mbps Half - Value reported OK		Pass
Force DUT and PC NIC to 100Mbps Full Duplex - DUT and PC communicate		N/A
Force DUT and PC NIC to 100Mbps Half Duplex - DUT and PC communicate		N/A
Force DUT and PC NIC to 10Mbps Full Duplex - DUT and PC communicate		N/A
Force DUT and PC NIC to 10Mbps Half Duplex - DUT and PC communicate		N/A
Physical Address test cases (attribute 3) - Match IEEE OUI listings - See wireshark capture		Pass

**6 Port Scans (Direct connection from PC to DUT)**

6.0 Port Scans - Verify Device Reacheable during and after each Ports Scan session			Result
Index	Protocol		
1	TCP <nmap -n -v -r -p- -scan-delay 1ms -oX TCP.xml DUT.IP.ADDR>	44818	Pass
2	UDP <nmap -n -v -r -p- -scan-delay 1ms -sU -oX UDP.xml DUT.IP.ADDR>	2222, 44818	Pass
3	IP <nmap -n -v -r -p- -scan-delay 1ms -sO -oX IP.xml DUT.IP.ADDR>	1, 2, 6, 17	Pass