

Setting ACS drive IP address automatically with Rockwell BOOTP/DHCP Server





System Requirements

Tolomatic's ACS Drive uses the Tolomatic Motion Interface (TMI) software which is dependent on NET4. Please reference the TMI User Guide 3600-4164 for minimum requirements.

Hardware

Tolomatic ACS Stepper Drive: P/N 36049666 Tolomatic ACS Servo Drive: P/N 36049662

Tolomatic ACSI - EIP motors

Software

Tolomatic Motion Interface (TMI), version 2.4 or higher. BOOTP/DHCP Server v2.3 by Rockwell

Cabling

Tolomatic ACS Stepper Drive: USB Type B cable Tolomatic ACS Servo Drive: USB Type B cable Network connection Tolomatic ACSI Motor/Drive/Controller: µ USB Type B



1.0 Introduction

This document describes how to use the Rockwell BOOTP/DHCP server application included with the RSLogix5000 software with the Tolomatic ACS drive. This application is used to assign IP addresses to EtherNet/IP[™] devices via DHCP. The ACS drive only supports DCHP. BOOTP is not supported at this time. Many IP addresses can be assigned to a network of ACS drives that are uniquely identified by their MAC address.



NOTE: Windows Firewall may interfere with the procedure. It is recommended to turn the Windows Firewall OFF before proceeding with the procedure.

2.0 ACS / TMI Setup

Run Tolomatic Motion Interface and connect to the ACS drive. Configure the actuator and motor, set the ACS Drive for EtherNet/IP on the Mode Setup tab.

Tolomatic Motion Interface	
File Tools Help	
Drive Actuator Motor Mode Select I/O Fault Safety Li	mits SHome Setup Mode Setup
Operating Mode	
Index Move	
Analog Position	
Pneumatic	
EtherNet/IP 192.168.0.240	
10hC	
LIS Connector COM1 28400 bourd Commont position: 0.000 (and and initia	

Figure 2-1; Tolomatic Motion Interface Dialog

Open the 'ACS Internet Protocol Properties' window (menu option Tools- > EtherNet/IP setup). In this window you will see the default values for IP address, Subnet Mask, and Default Gateway parameters.

Check the box for 'Obtain an IP Address automatically'. Set the Subnet Mask and Default Gateway to match your network.

For ACSI Motor/Drive/Controllers Infrastructure Mode automatically has DHCP enabled. The ACSI can also be configured using the TCP/IP EtherNet/IP Object (0xF5).



ACS Internet Proto	ocol (TCP/IP) Prop	- • ×
Network Settings	ddress automatically	
IP Address	192 . 168 . 0 . 240	
Subnet Mask	255 . 255 . 255 . 0	
Default Gateway	192 . 168 . 0 . 1	
MAC Address 00:04:A3:92:F4:1B		
OK Test Default Cancel		
DHCPAddressCo	nfigured	



Figure 2-2; IP Address Display

Click 'OK' and write settings to Flash: File->Write Current Settings to Drive Flash

Obtain MAC Address (00:04:A3:92:F4:1B in this example) from the Drive Info area on the Drive tab, or from a label on the cover of the ACS drive.



Figure 2-3; MAC Address Window

Disconnect TMI saving settings to flash.

Cycle Power on the ACS drive, it will now boot with DHCP enabled.



Rockwell BOOTP/DHCP SERVER Setup 3.0

Open BOOTP/DHCP Software

Open BOOTP/DHCP So	ftware			\wedge	
😹 BOOTP/DHCP Serve	r 2.3				
<u>F</u> ile <u>T</u> ools <u>H</u> elp					\land
Request History				$\wedge \vee$	
Clear History Add t	o Relation List			$\langle \rangle$	\langle / \rangle
(hr:min:sec) Type	Ethernet Address (MAC)	IP Address	Hostname		
					\bigvee
Relation List		\wedge		$ \rightarrow $	
New Delete Enab	le BUUTP Enable DHCP D	isable BOUTPADHCP		*	
Ethernet Address (MAC)	Type IP Address	Hostname	Description		
		$\sim //$	\sim		
	((
			$\backslash \checkmark$		
	$\langle \rangle$	())		
- Status	10-			Entries 0 of 256	
		T			
Figure 3-1; BOOTP/DHCP	Server Configuration				
Under the Relations list	. click 'NEW'				
Enter the MAC address	and IP address desired	. Then click OK.			
New Entry					
Ethernet Address (MAC):	00:04:A3:92:F4:1B				
IP Address:	192 . 168 . 0	. 140			
Hostname:					
Description					
Description.					
	OK Car	ncel			

Figure 3-2; IP Address Entry Dialog



Confirm that the Relation List includes the newly added MAC address with desired IP address.

BOOTP/DHCP Server 2.3	
<u>E</u> ile <u>T</u> ools <u>H</u> elp	
Request History	
Clear History Add to Relation List	
(hr:min:sec) Type Ethernet Address (MAC) IP Address Hostname	
Relation List	
New Delete Enable BOOTP Enable DHCP Disable BOOTP/DHCP	
Ethernet Address (MAC) Type IP Address Hostname Description	
00:04:A3:92:F4:1B 192.168.0.140	
Status	Entries
[Disable DHCP] Command successful	1 9 256

Figure 3-3; BOOTP/DHCP Server Configuration

Once the server software sends the IP address to the drive, a 'Request History' message should appear displaying the new IP address for the ACS drive.

BOOTP/DHCP Server 2.3		
Eile Iools Help Request History Clear History (hr:min:sec) Type Ethernel Ad 15:30:34 DHCP 00:04:A3:92 15:30:34 DHCP 00:04:A3:92 Relation List New Dense Enable 100TF E	Iddess (MAG) 2:F4:18 2:F4:18 2:F4:18 1:92:+68:0.140 2:F4:18 1:92:+68:0.140 2:F4:18 1:92:+68:0.140 2:F4:18 1:92:+68:0.140 2:F4:18 1:92:+68:0.140 2:F4:18 1:92:+68:0.140 2:F4:18 1:92:+68:0.140 2:F4:18 1:92:+68:0.140 2:F4:18 1:92:+68:0.140 2:F4:18 1:92:+68:0.140 2:F4:18 1:92:+68:0.140 2:F4:18 1:92:+68:0.140 2:F4:18 1:92:+68:0.140 2:F4:18 1:92:+68:0.140	name
Ethernet Address (MAC) Type 00:04:A3:92:E4:18 DHCP	IP Address Hostname Desc 192.168.0.140	ription
Status Sent 192.168.0.140 to Ethernet address (00:04:A3:92:F4:1B	Entries 1 of 256

Figure 3-4; BOOTP/DHCP Server Configuration



4.0 Confirm IP Address

To verify that the IP address assignment was successful, connect the ACS drive with TMI and validate the updated IP address.

ACS Internet Protocol (TCP/IP) Prop	
Network Settings	
Obtain an IP Address automatically	
IP Address 192 . 168 . 0 . 140	
Subnet Mask 255 . 255 . 255 . 0	
Default Gateway 192 . 168 . 0 . 1	
MAC Address 00:04:A3:92:F4:1B	
OK Test Default Cano	
DHCPAddressConfigured	

Figure 4-1; IP Address Dialog

On the DHCP Server software select the ACS drive MAC address and click Disable BOOTP/DHCP.

BOOTP/DHCP Server 2.3	_ 🗆 🗙
Eile Iools Help	
Request History	
Clear History Add to Relation Life	
(hr:min:sec) Type Ethernet Address (MAC) IP Address Hostname	
New Delete Enable BUILTP Enable DHCP Disable BUILTP/DHCP	
Ethernet Address (MAC) Type IP Address Hostname Description	
100,04,A3,32,14,10 132,166,0,140	
C Status	Entries
[Disable DHCP] Command successful	1 of 256

Figure 4-2; BOOTP/DHCP Server Configuration



Confirm the 'Obtain an IP Address automatically' check box is unchecked. This will require the window to be reopened.

Technical Note

ACS Internet Protocol (TCP/IP) Prop	
Network Settings	
Obtain an IP Address automatically	
IP Address 192 . 168 . 0 . 140	
Subnet Mask 255 . 255 . 255 . 0	
Default Gateway 192 . 168 . 0 . 1	
MAC Address 00:04:A3:92:F4:1B	
OK Test Default Cancel	$\langle \rangle \rangle$
DHCPAddressConfigured	
Figure 4-3; IP Address Dialog	
The process is now complete.	
5.0 Conclusion	

This tutorial went through the process of using Rockwell's BOOTP/DHCP Server to automatically assign IP addresses to Tolomatic ACS drives. The second ACS drive connection to TMI was only to show the ACS drive's behavior using DHCP. Normally only the initial TMI connection and configuration is necessary. Using DHCP, many IP addresses can be assigned to a network of ACS drives that are uniquely identified by their MAC addresses.

