



# ControlWorks CONNECT! Module Application Guide






## Description

This module allows an Ethernet-equipped Crestron 2-series processor to determine its public IP address. This will work even behind a router or DSL or Cable Modem. You will get your public (WAN) IP address. If a new address is retrieved, a record is updated in an account at the ControlWorks CONNECT! administration website, mapping the dynamic IP address of the Crestron processor to the static hostname that you have chosen in one of several domains. This allows:

1. Programmers to keep track of systems installed on circuits with dynamic IP addresses.
2. "English" names (e.g. [yourclient.mycrestron.com](http://yourclient.mycrestron.com)) to be given to clients and other technicians for ease of access to eControl web pages or other resources.
3. Frames to be programmed to access third party applications, such as video server windows, that will not need to be reprogrammed each time the IP address is released.
4. Toolbox, Viewport, RoomView, & eControl2 access to dynamic clients using a hostname
5. Any other application for which a static host name is desired for a Crestron processor with a dynamic public address.
6. The premium version of ControlWorks CONNECT! will additionally provide monitoring of Error LED status and 10 Digital, 10 Analog, and 10 Serial signals. These signals can be viewed from the dealer administration page found at <http://admin.mycrestron.com>.

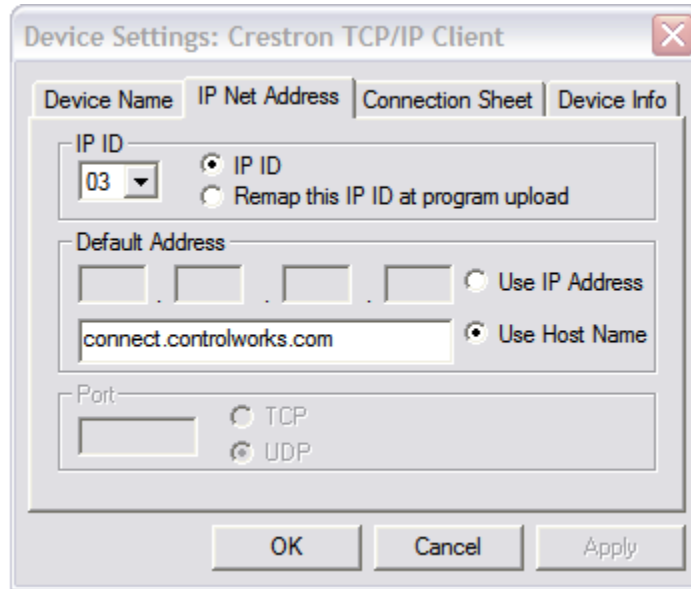
## Supported Processors

Any 2-series processor with Ethernet

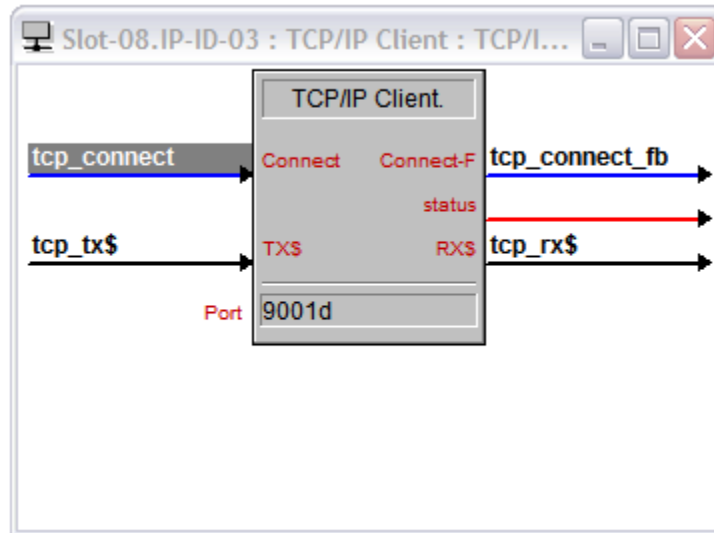
Compatibility			Processor Requirements	
 2-Series Compatible	 NOT CNMSX Compatible	 NOT System Builder Compatible	 Ethernet REQUIRED	 Compact Flash NOT NEEDED

## Ethernet Configuration Information

Under **System Views** drop a **TCP/IP Client** onto your Ethernet Slot. Now double click on the Client and select the **IP Net Address** tab. Enter the **Host Name** `connect.controlworks.com` so your Client is setup like this:



Return to the **Program View** and open the **Client** you just inserted. To keep implementation simple, please use the same signal names used in our demonstration program. Your Client with signal names should look like this:



## Module Application

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To use this module you will need a ControlWorks CONNECT! account for each system it is to be used on. Please visit our Subscriptions Services page at <http://admin.controlworks.com> to setup your account or call 440-449-1100 for more information.

It is strongly suggested that you load the supplied demonstration program and touchpanel to gain an understanding of the application of the module before you attempt to implement the module in your own program.

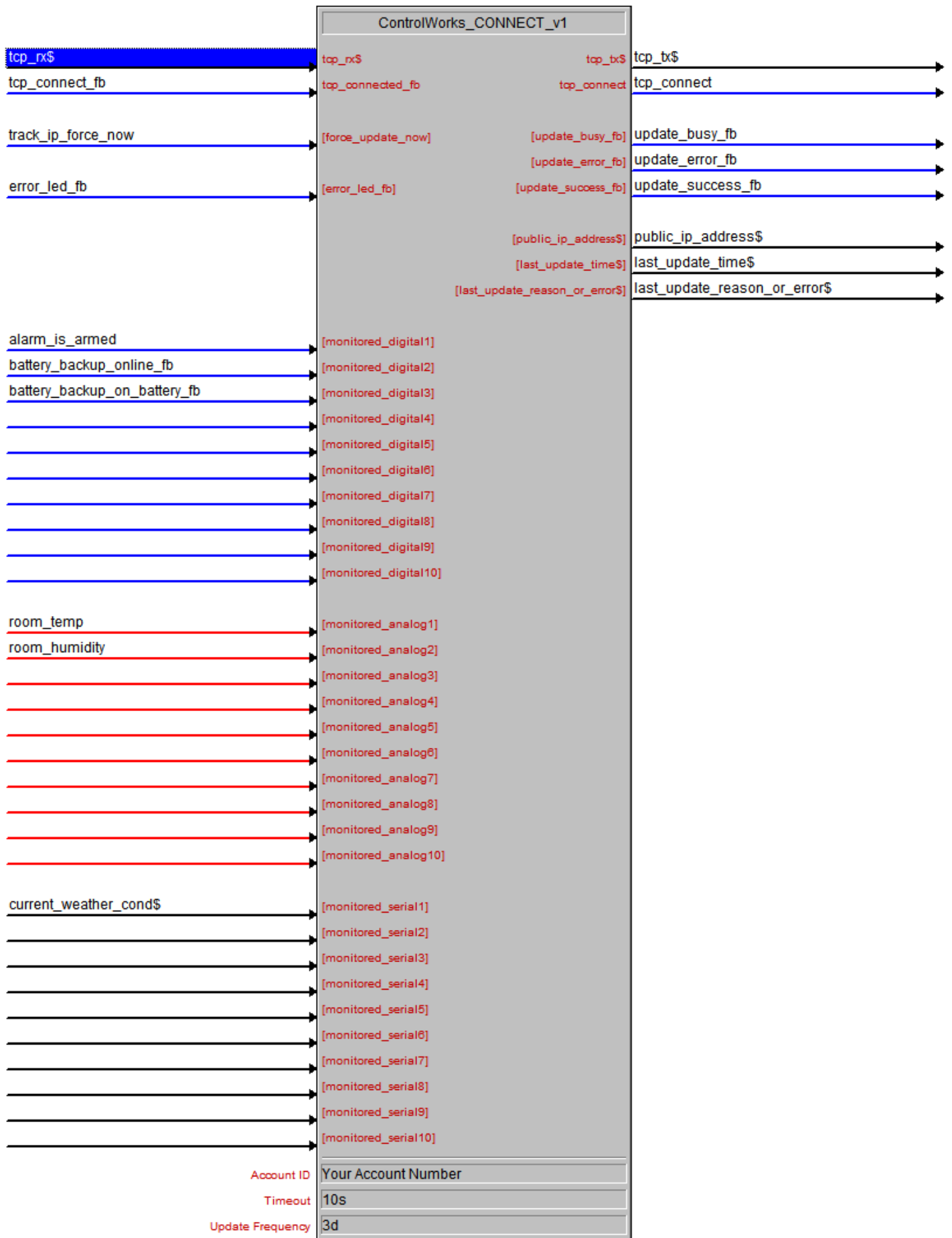
Launch a second instance of SIMPL Windows and open the program ControlWorks\_CONNECT\_v1\_Demo.smw. If the program you are writing is in the same directory as the demo program, you can simply copy and paste the module with all of its signal names from the demo program into your program. Otherwise, you will need to copy the module and all of its SIMPL+ modules into your project directory first.

You will now need to set up your ControlWorks CONNECT! account details. Enter your account ID into the parameter field. You can also adjust the update frequency (how often the processor updates the system). This would also be a good time to add the digital, analog, and/or serial signals you wish to monitor.

In order for the module to function, your Control System IP info must have the DNS servers declared. To set up the DNS servers:

1. Use the console command **ADDDns**.  
- OR -
2. In Viewport, choose Functions -> Set Up Control System IP Information -> Advanced  
- OR -
3. In Toolbox, choose Functions -> DNS Management

For best results, use the DNS servers provided by the ISP of the connection you are trying to monitor. (Type IPCONFIG /ALL at the command prompt of a computer which is connected to the Internet using the same connection) If these are unavailable, you can use 216.175.203.18 and 216.175.203.27, which were used in the test and debug process of this module.



# Signal And Parameter Descriptions

Bracketed signals such as "[signal\_name]" are optional signals

## DIGITAL INPUTS

tcp\_connected\_fb ..... tie this to the Connect-F of the TCP/IP Client  
[force\_update\_now] ..... force an update by pulsing this signal  
[error\_led\_fb] ..... tie this to the Err\_LED output of the Front Panel Status device extender  
[monitored\_digital1-10] ..... tie these to any digital signals you wish to monitor

## ANALOG INPUTS

[monitored\_analog1-10] ..... tie these to any analog signals you wish to monitor

## SERIAL INPUTS

tcp\_rx\$ ..... tie to rx\$ of TCP/IP Client  
[monitored\_serial1-10] ..... tie these to any serial signals you wish to monitor

## DIGITAL OUTPUTS

[update\_busy\_fb] ..... high when system is updating  
[update\_error\_fb] ..... high when there has been an error while trying to update  
[update\_success\_fb] ..... high when there has been a successful update

## ANALOG OUTPUTS

This module does not utilize any analog outputs.

## SERIAL OUTPUTS

tcp\_tx\$ ..... tie to tx\$ of TCP/IP client  
[public\_ip\_address\$] ..... contains your current IP address for local display or other uses within the Crestron program  
[last\_update\_time\$] ..... contains the last successful update time for local display or other uses within the Crestron program  
[last\_update\_reason\_or\_error\$] ..... contains the last update reason or error for local display or other uses within the Crestron program

## PARAMETERS

Account ID ..... your mycrestron.com account ID  
Timeout ..... timeout time (in seconds)  
Update Frequency ..... select a frequency from the dropdown menu (3, 6, 12, 24 hours, or manual updates only)

# Support

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This module is supported by ControlWorks Consulting, LLC. Should you need support for this module please email [support@controlworks.com](mailto:support@controlworks.com) or call us at 440-449-1100. ControlWorks normal office hours are 9 AM to 5 PM Eastern, Monday through Friday, excluding holidays.

Before calling for support, please ensure that you have loaded and tested operation using the included demonstration program and touchpanel(s) to ensure that you understand the correct operation of the module. It may be difficult for ControlWorks to provide support until the demonstration program is loaded.

Updates, when available, are automatically distributed via Email notification to the address entered when the module was purchased. In addition, updates may be obtained using your username and password at <http://www.thecontrolworks.com/customerlogin.aspx>.

## Distribution Package Contents

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The distribution package for this module should include:

ControlWorks_CONNECT_v2.pdf .....	this help file
ControlWorks_CONNECT_v2.umc .....	Crestron user module to insert in program
ControlWorks_CONNECT_engine_v2.usp .....	SIMPL+ module that is inside the UMC
ControlWorks_CONNECT_engine_v2.ush .....	SIMPL+ module header file
Base64 Encode Engine v1.usp .....	SIMPL+ module that is inside the UMC
Base64 Encode Engine v1.ush .....	SIMPL+ module header file
ControlWorks_CONNECT_v2_Demo.smw .....	example program (PRO2)
ControlWorks_CONNECT_v2_Demo.vtp .....	example touchpanel (X-Panel)

## Revision History

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V1 lincoln@controlworks.com 2007.08.13  
Initial release

V2 lincoln@controlworks.com 2008.08.26  
Minor revisions.

## Development Environment

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Version 2 of this module was developed on the following hardware and software. Different versions of hardware or software may or may not operate properly. If you have questions, please contact us.

### Hardware

Crestron PRO2 Processor	v3.155.1241
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### Software

Crestron SIMPL Windows	Version 2.08.38
Crestron Database Version	18.7.8
Crestron Symbol Library	Version 472
Crestron Device Library	Version 472

# ControlWorks Consulting, LLC Software License Agreement

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## Definitions:

*ControlWorks*, *We*, and *Us* refer to ControlWorks Consulting, LLC, with headquarters located at 701 Beta Drive, Suite 22 Mayfield Village, Ohio 44143-2330. *You* and *Dealer* refer to the entity purchasing the module. *Client* and *End User* refer to the person or entity for whom the Crestron hardware is being installed and/or will utilize the installed system. *System* refers to all components described herein as well as other components, services, or utilities required to achieve the functionality described herein. *Module* refers to files required to implement the functionality provided by the module and may include source files with extensions such as UMC, USP, SMW and VTP. *Demo Program* refers to a group of files used to demonstrate the capabilities of the Module, for example a SIMPL Windows program and VisionTools Touchpanel file(s) illustrating the use of the Module but not including the Module. *Software* refers to the Module and the Demo Program.

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## Provision of Support

We provide limited levels of technical support only for the most recent version of the Module as determined by Us. We do not provide support for previous version of the module, modifications to the module not made by Us, to persons who have not purchased the module from Us. In addition, we may decline to provide support if the Demo Program has not been utilized. We may withdraw a module from sale and discontinue providing support at any time and for any reason, including, for example, if the equipment for which the Module is written is discontinued or substantially modified. The remainder of your rights and obligations pursuant to this license will not be affected should ControlWorks discontinue support for a module.

## Modification of Software

You may not decrypt (if encrypted), reverse engineer, modify, translate, disassemble, or de-compile the Module in whole or part. You may modify the Demo Program. In no event will ControlWorks Consulting, LLC be liable for direct, indirect, incidental or consequential damages resulting from You modifying the Software in any manner.

## Indemnification/Hold Harmless

ControlWorks, in its sole and absolute discretion may refuse to provide support for the application of the Module in such a manner that We feel has the potential for property damage, or physical injury to any person. Dealer shall indemnify and hold harmless ControlWorks Consulting LLC, its employees, agents, and owners from any and all liability, including direct, indirect, and consequential damages, including but not limited to personal injury, property damage, or lost profits which may result from the operation of a program containing a ControlWorks Consulting, LLC Module or any component thereof.

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