



# Redundant ControlNet to FOUNDATION Fieldbus Linking Device

Catalog Number 1788-CN2FFR

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## About the Linking Device

The 1788-CN2FFR linking device bridges a ControlNet connection to a single FOUNDATION Fieldbus H1 segment. The segment can support 16 Fieldbus devices. The High-Speed Ethernet (HSE) layer is not supported.

The H1 segment is split between two hardware ports. Each port can provide 500 mA.

The linking device can support numerous redundant and simple topologies. Power conditioning is built-in, and therefore, no external power conditioners are required.

## Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

| Resource   | Description  |
|--|--|
| EtherNet/IP and ControlNet to FOUNDATION Fieldbus Linking Device User Manual, publication <a href="#">1788-UM057</a> | Provides details on how to install and operate the 1788-EN2FFR EtherNet/IP to FOUNDATION Fieldbus and 1788-CN2FFR ControlNet to FOUNDATION Fieldbus linking devices. |
| Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>                          | Provides general guidelines for installing a Rockwell Automation industrial system.  |

You can view or download publications at <http://www.rockwellautomation.com/literature/>. To order paper copies of technical documentation, contact your local Allen-Bradley® distributor or Rockwell Automation® sales representative.

## Installation Requirements

The following software and hardware tools are required to successfully install and configure the 1788-CN2FFR linking device.

### Software Requirements

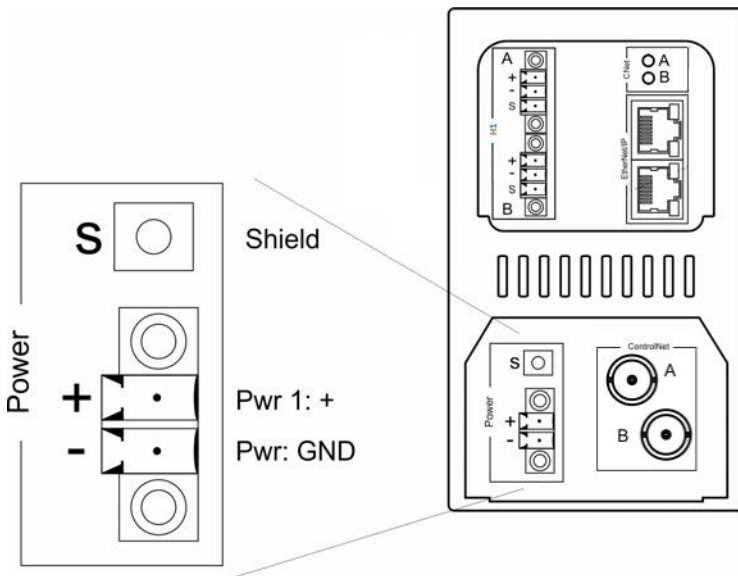
The following software is required to configure the 1788-CN2FFR linking device:

- The RSLogix™ 5000 Add-on Profile (AOP) is required to configure and perform diagnostics on the 1788-CN2FFR linking device.
- The Device Type Manager (catalog number 1788-CN2FFR DTM) is required for Asset Management connectivity with field devices.

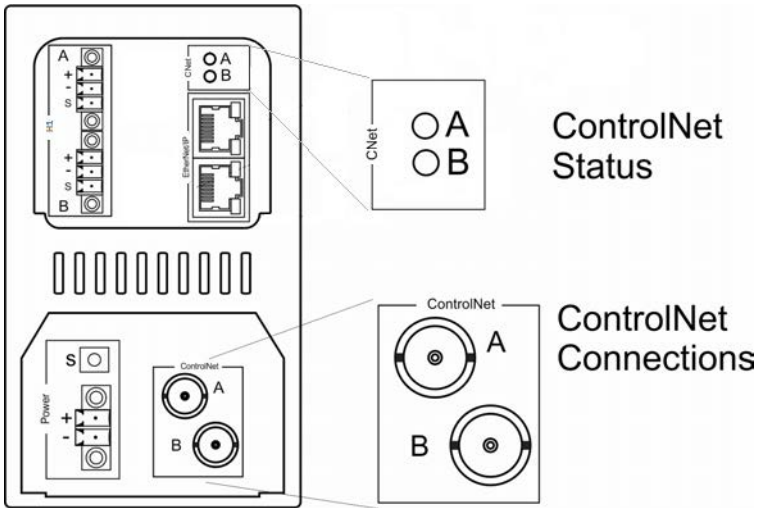
### Hardware Requirements

The following hardware is required to install and configure the 1788-CN2FFR linking device:

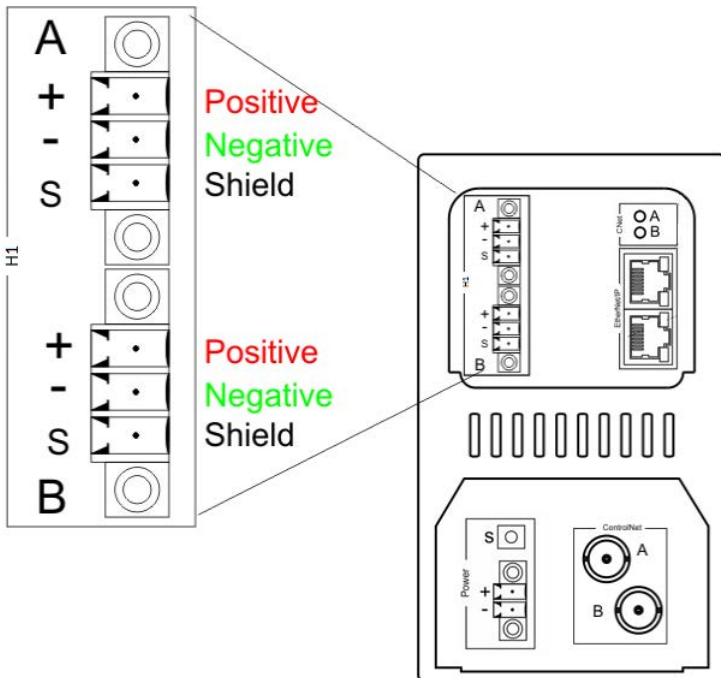
- A 24...32V DC power supply



- A ControlNet connection via BNC connectors



- An H1 network using IEC 61158-2 cable color coding



## Configuration

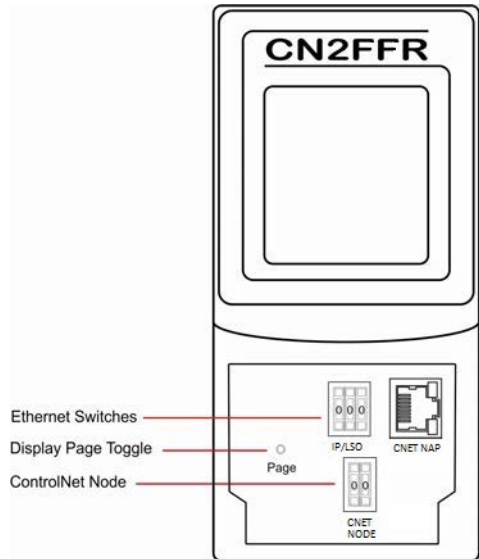
Complete the following instructions to configure the 1788-CN2FFR linking device.

### Configure the ControlNet Node Address

Use the switches found under the front cover on the module to set the ControlNet node address for the 1788-CN2FFR linking device.

### Configure an Ethernet Address

The module has BOOTP enabled when shipped. You can set an address via a BOOTP server or set the hardware switches to a specific IP address. See [Use BOOTP to Set the IP Address](#) on page 4, or [Use Switches to Set the IP Address](#) on page 4 for details. The switches can be found under the front cover of the module.



### Use BOOTP to Set the IP Address

1. Set the Ethernet switches to 888 (factory default).
2. Apply power to the linking device.
3. Set the IP address by using any BOOTP server.
4. Once the new IP address has been set, power down the linking device.
5. Return the switches to 000.
6. Apply power to the linking device.

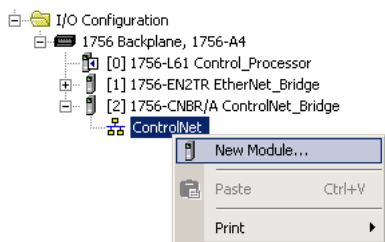
### Use Switches to Set the IP Address

To set the IP address of the linking device to the 192.168.1.xxx sub net, set the switches to the required last three digits.

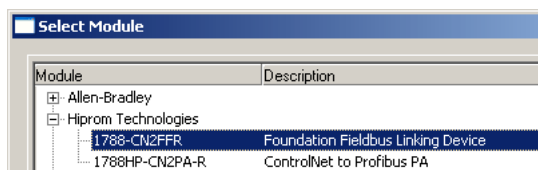
## Add a 1788-CN2FFR Module in RSLogix 5000 Software

The module must be added to the RSLogix 5000 I/O tree by selecting the 1788-CN2FFR module (under a Rockwell Automation ControlNet bridge, for example CNBR).

1. Right-click the ControlNet bridge and choose New Module.



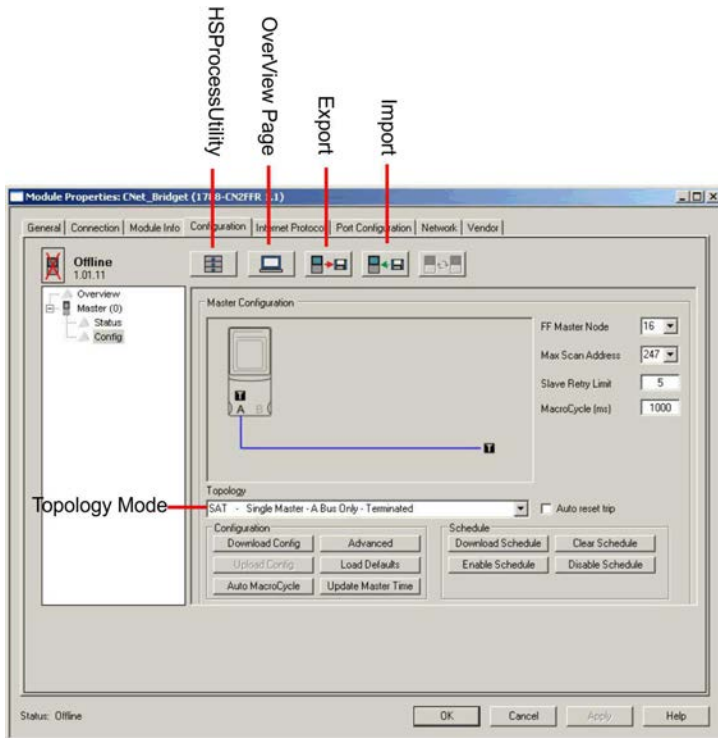
2. Expand the Hiprom Technologies option and select 1788-CN2FFR.



The Module Properties dialog box appears.

3. Type the module's Name, Description, IP Address, and RPI.
4. Click OK.
5. Open RSNetWorx™ software for ControlNet and add the module to the schedule.

6. Open the 1788-CN2FFR linking device's Module Properties dialog box and click the Configuration Tab.



7. Configure the linking device by setting the required Topology mode, Max Scan Address, and MacroCycle time.
8. Download the configuration to your controller.
9. Go online with the controller to see all attached field devices, which will appear in the Configuration tree on the left side below the Master.  
Field devices can now be configured.

## Operation

The following features can be used to view the data and status of the field devices connected to the 1788-CN2FFR linking device.

## RSLogix 5000 Software

The data and status for each field device can be found in FieldDevice tags of the profile as shown here.

|                                       |       |       |
|---------------------------------------|-------|-------|
| -CN2FFR:IA.FieldDevice00.Data.PVReal1 | 50.0  | Float |
| -CN2FFR:IA.FieldDevice00.Data.PVReal2 | 123.4 | Float |
| -CN2FFR:IA.FieldDevice00.Data.PVReal3 | 0.0   | Float |
| -CN2FFR:IA.FieldDevice00.Data.PVReal4 | 0.0   | Float |
| -CN2FFR:IA.FieldDevice00.Data.PVReal5 | 0.0   | Float |
| -CN2FFR:IA.FieldDevice00.Data.PVReal6 | 0.0   | Float |
| -CN2FFR:IA.FieldDevice00.Data.PVReal7 | 0.0   | Float |
| -CN2FFR:IA.FieldDevice00.Data.PVReal8 | 0.0   | Float |

## Status Indicators

The LCD displays the status of the Master and each field device. More detail can be seen by pressing the Page button under the front cover on the device.

|                         |     |
|-------------------------|-----|
| H1 Bus A: 24.4V B:24.7V |     |
| IP: 192.168.1.203       |     |
| CNet MAC: 12            |     |
| -----                   |     |
| STS: Ok                 |     |
| 00 →                    | >   |
| 01 →                    | >>> |
| 02 →                    | >>  |
| 03 →                    | XXX |
| 04 →                    | ??? |
| 05 →                    | OOS |
| 06 →                    | Off |
| 07 →                    | Err |

| Display | Communication Quality                           |
|---------|---|
| >>>     | 95+   |
| >>      | 80+   |
| >       | 60+   |
| XXX     | Below 60  |
| ???     | Unknown   |
| OOS     | Allocated, Online, not compelling data          |
| Off     | Allocated, Offline                              |
| Err     | Allocated, Online, not producing compelled data |

# Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products.

At <http://www.rockwellautomation.com/support>, you can find technical manuals, technical and application notes, sample code and links to software service packs, and a MySupport feature that you can customize to make the best use of these tools. You can also visit our Knowledgebase at <http://www.rockwellautomation.com/knowledgebase> for FAQs, technical information, support chat and forums, software updates, and to sign up for product notification updates.

For an additional level of technical phone support for installation, configuration and troubleshooting, we offer TechConnect<sup>SM</sup> support programs. For more information, contact your local distributor or Rockwell Automation representative, or visit <http://www.rockwellautomation.com/support/>.

## Installation Assistance

If you experience a problem within the first 24 hours of installation, please review the information that's contained in this manual. You can also contact a special Customer Support number for initial help in getting your product up and running.

|                                 |  |
|---------------------------------|--|
| United States or Canada         | 1.440.646.3434   |
| Outside United States or Canada | Use the <a href="#">Worldwide Locator</a> at <a href="http://www.rockwellautomation.com/support/americas/phone_en.html">http://www.rockwellautomation.com/support/americas/phone_en.html</a> , or contact your local Rockwell Automation representative. |

## New Product Satisfaction Return

Rockwell Automation tests all of its products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

|                       |   |
|-----------------------|---|
| United States         | Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process. |
| Outside United States | Please contact your local Rockwell Automation representative for the return procedure.  |

## Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete this form, publication [RA-DU002](#), available at <http://www.rockwellautomation.com/literature/>.

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