

ADLINK Technical Document

Abstract	How to Receive Data Via TCP Socket		
OS	Windows		
Keyword	Windows, TCP socket		
Related Products	MCM-204		
Date	2021-11-12	No.	202110001

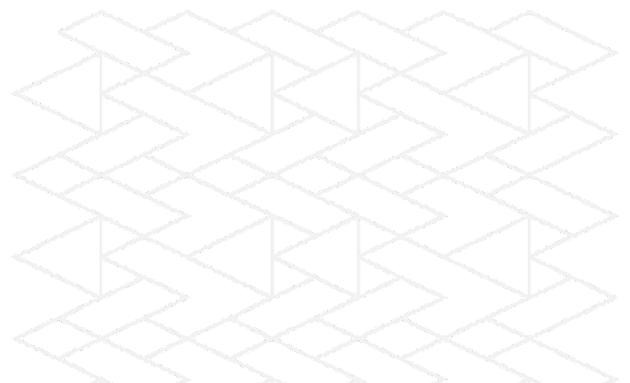
- Issue Details:

The MCM-204 supports TCP socket communication. This document outlines the setup to receive data via TCP socket.

- Prerequisites:

Visual Studio community and .NET Framework

- Solution:



Step 1: Download Sample Code

Download the TCP Socket C# Sample Code and extract the downloaded file.

Direct link (login required):

<https://www.adlinktech.com/Products/DownloadSoftware?lang=&pdNo=1829&kind=AS>

Software Download :

MCM-204 Associated Software

RESTful Sample Code ▼

TCP Socket Sample Code ▼

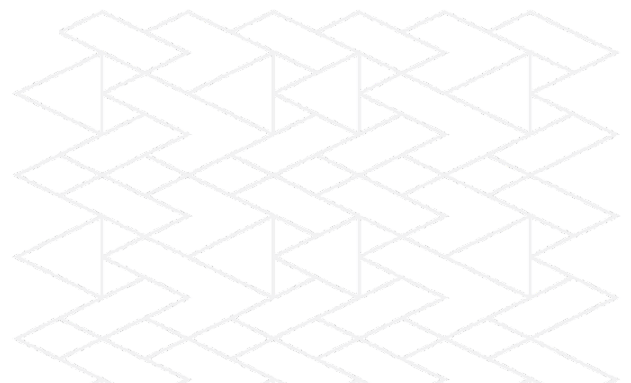


C#
(10.89MB)




Python
(0.00MB)

Windows 7\10 (64bit) ▼



Step 2: Get IP Address

Connect the MCM-204 to a host PC, then type “ipconfig” on the command line to get the IPv4 address.



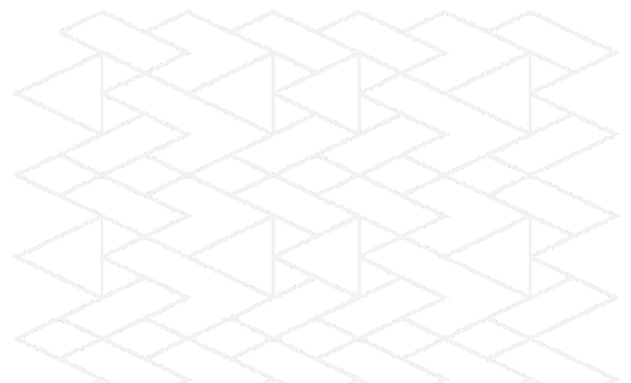
```
命令提示字元
Microsoft Windows [版本 10.0.19042.1165]
(c) Microsoft Corporation. 著作權所有，並保留一切權利。
C:\Users\test>ipconfig

Windows IP 設定

以太网网卡 以太网 2:
    媒體狀態 . . . . . : 媒體已中斷連線
    連線特定 DNS 尾碼 . . . . . :

以太网网卡 以太网 3:
    連線特定 DNS 尾碼 . . . . . :
    連結 本機 IPv6 位址 . . . . . : fe80::182h:cd06:99f8:377f%17
    自動設定 IPv4 位址 . . . . . : 169.254.55.127
    子網路遮罩 . . . . . : 255.255.0.0
    預設閘道 . . . . . :

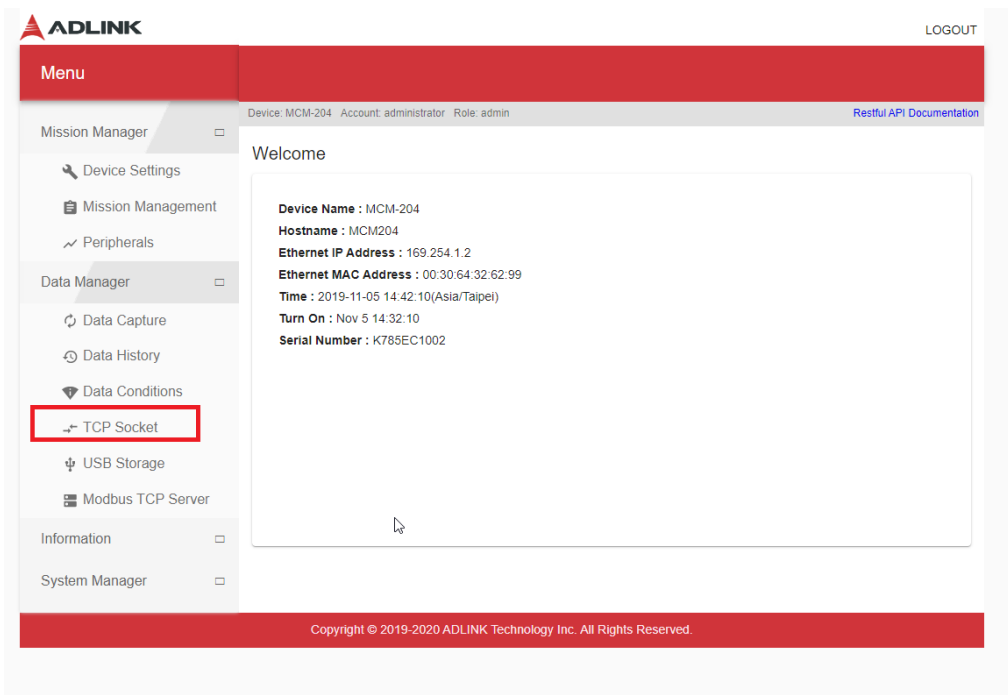
C:\Users\test>
```



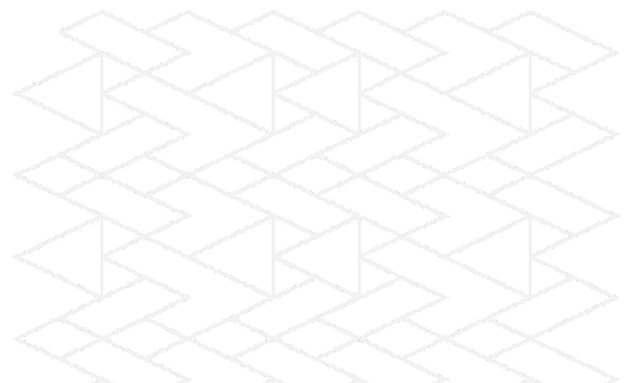
Step 3: Add Socket Server Connection

Add the socket server connection as follows.

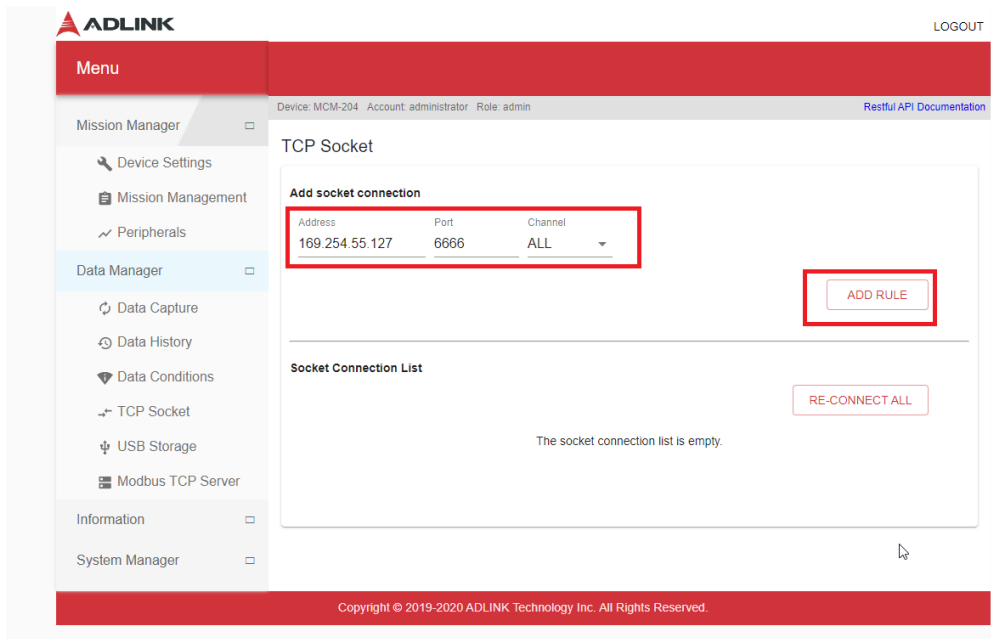
- Login to the web console (use IPv4 address from the previous step)
- In the menu, click **TCP Socket**.



The screenshot displays the ADLINK web console interface. The top navigation bar includes the ADLINK logo on the left and a 'LOGOUT' link on the right. Below the navigation bar, the user's session information is shown: 'Device: MCM-204 Account: administrator Role: admin' and a link to 'Restful API Documentation'. The main content area is divided into a left sidebar menu and a central display area. The sidebar menu is organized into sections: 'Mission Manager' (containing Device Settings, Mission Management, and Peripherals), 'Data Manager' (containing Data Capture, Data History, Data Conditions, and TCP Socket), 'USB Storage', and 'Modbus TCP Server'. The 'TCP Socket' option is highlighted with a red rectangular box. The central display area shows a 'Welcome' message and a list of system details: Device Name: MCM-204, Hostname: MCM204, Ethernet IP Address: 169.254.1.2, Ethernet MAC Address: 00:30:64:32:62:99, Time: 2019-11-05 14:42:10(Asia/Taipei), Turn On: Nov 5 14:32:10, and Serial Number: K785EC1002. A footer at the bottom of the page contains the copyright notice: 'Copyright © 2019-2020 ADLINK Technology Inc. All Rights Reserved.'



c. Click the **ADD RULE** button.



ADLINK LOGOUT

Menu

Device: MCM-204 Account: administrator Role: admin Restful API Documentation

Mission Manager

- Device Settings
- Mission Management
- Peripherals

Data Manager

- Data Capture
- Data History
- Data Conditions
- TCP Socket
- USB Storage
- Modbus TCP Server

Information

System Manager

TCP Socket

Add socket connection

Address	Port	Channel
169.254.55.127	6666	ALL

ADD RULE

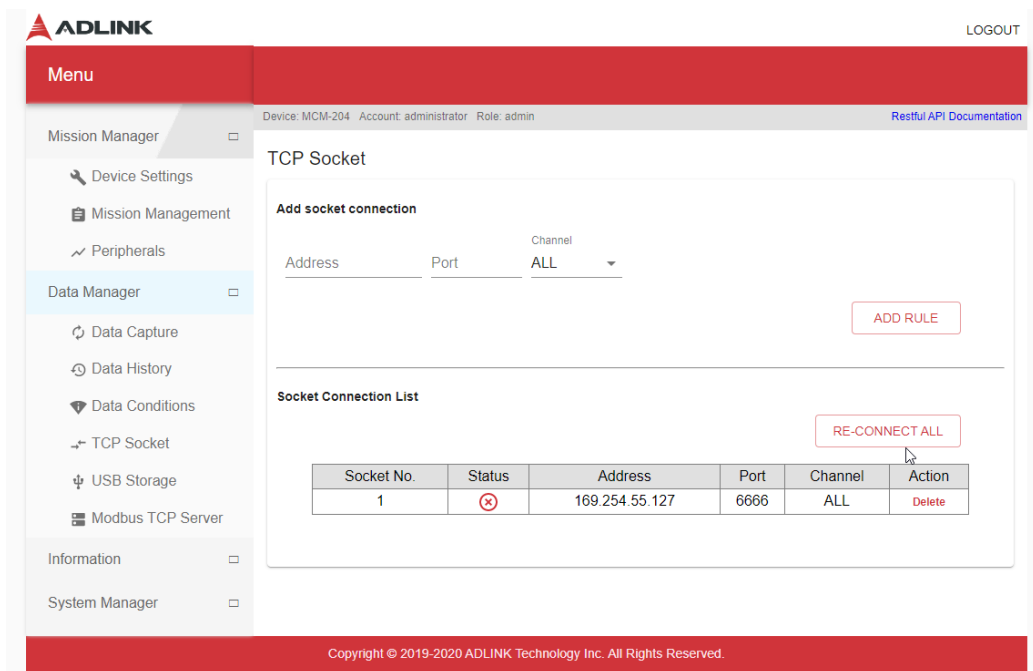
Socket Connection List

The socket connection list is empty.

RE-CONNECT ALL

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d. The socket server appears in the list with the status **disconnected**.



ADLINK LOGOUT

Menu

Device: MCM-204 Account: administrator Role: admin Restful API Documentation

Mission Manager

- Device Settings
- Mission Management
- Peripherals

Data Manager

- Data Capture
- Data History
- Data Conditions
- TCP Socket
- USB Storage
- Modbus TCP Server

Information

System Manager

TCP Socket

Add socket connection

Address	Port	Channel
		ALL

ADD RULE

Socket Connection List

RE-CONNECT ALL

Socket No.	Status	Address	Port	Channel	Action
1	⊗	169.254.55.127	6666	ALL	Delete

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Step 4: Enable Analog Data Channels

Configure the parameters of the MCM-204 to receive four-channel analog input data over the TCP Socket Server of the host PC correctly.

- Set up device configuration

Device Settings

Analog Input Analog Output

AI Mission Profile Management

Save Profile Load Default Select Mission Profile

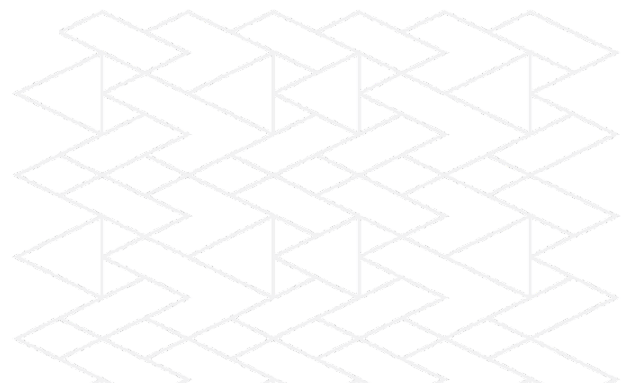
SAVE PROFILE LOAD DEFAULT 選擇檔案 未選擇任何檔案

LOAD SETTING

AI Device Configuration

Input Type	Trigger Source	Trigger Direction	Trigger Value	
PseudoDifferential	NoWait	Rising	1	
Trigger Mode		Trigger StartPos		
POST		1		
Repeat Interval	Repeat Times	Sample Rate	Data Count	Tachometer
3000	0	128000	10240	Disable

ⓘ Data Count Boundary



b. Enable analog data channels AI0–AI3

Channel Config

AI0 Config ^

Enable the Channel

Coupling: AC Input Range: ± 10

AI1 Config ^

Enable the Channel

Coupling: AC Input Range: ± 10

AI2 Config ^

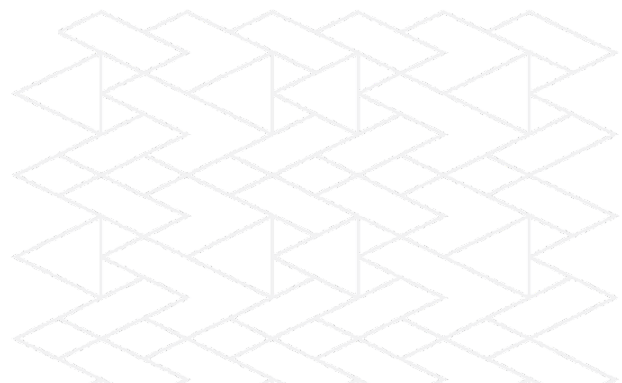
Enable the Channel

Coupling: AC Input Range: ± 10

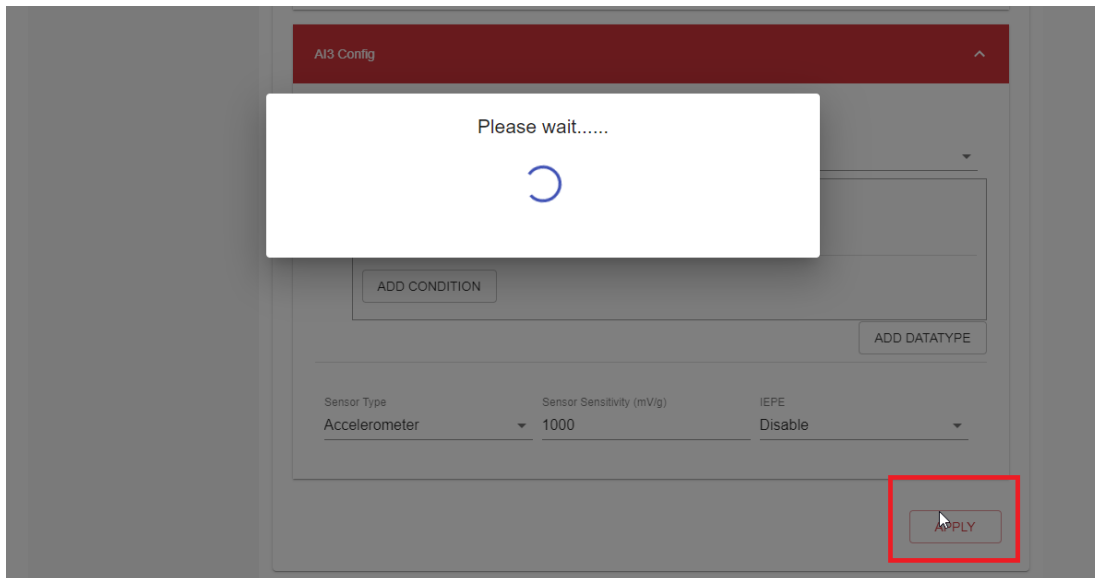
AI3 Config ^

Enable the Channel

Coupling: AC Input Range: ± 10

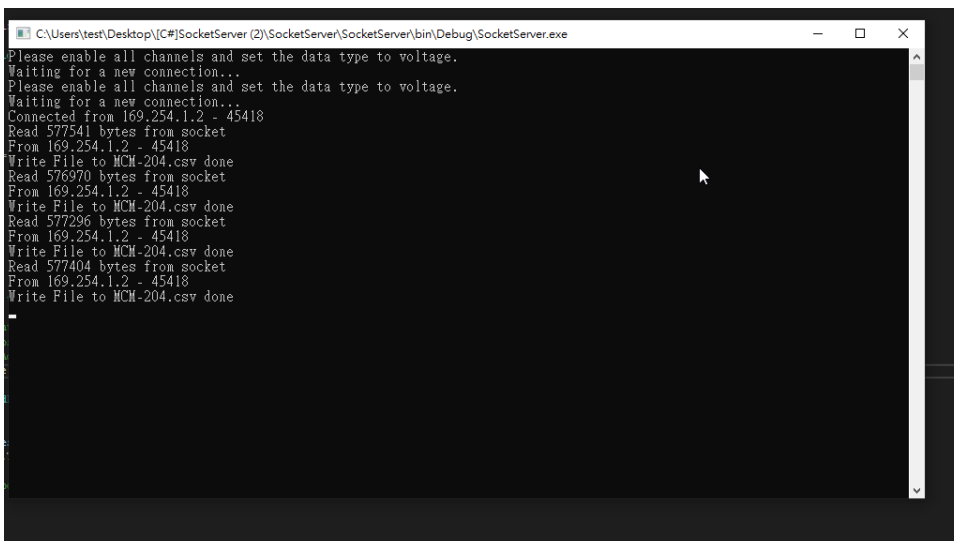


- c. Click **APPLY** to complete the setup.



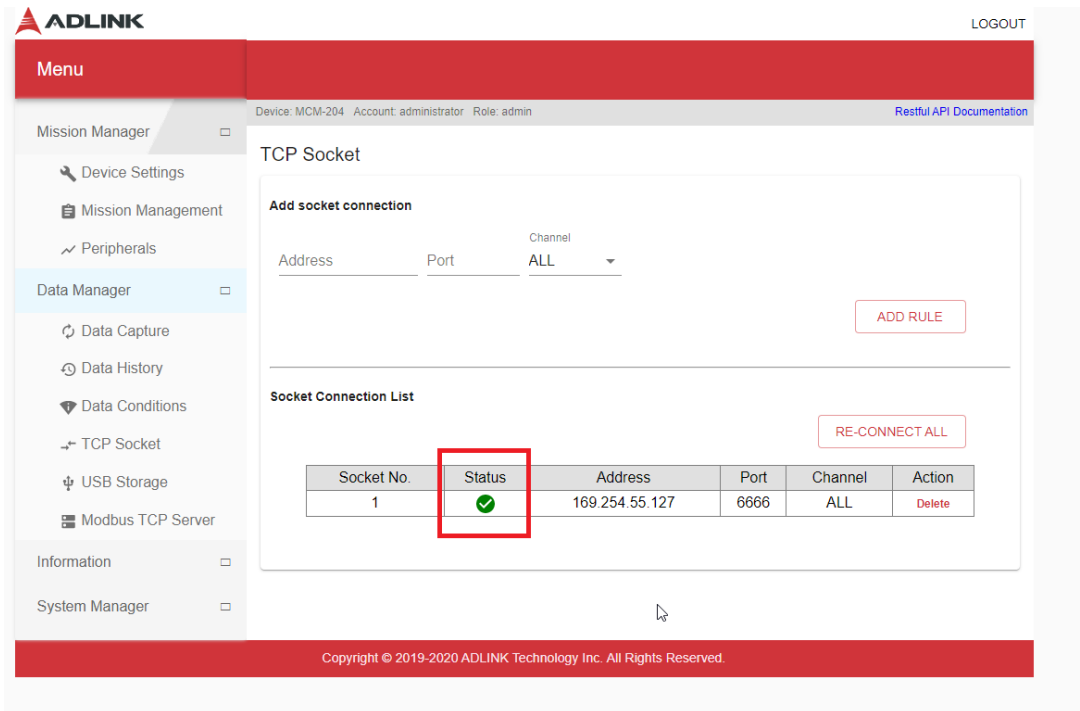
Step 5: Test Socket Connection

- a. Open the C# sample socket server program downloaded in Step 1 and wait for a successful socket connection.
- b. MCM-204 sends data to the server, and this sample program saves the data to a CSV file.



```
C:\Users\test\Desktop\[C#]SocketServer (2)\SocketServer(SocketServer\bin\Debug)\SocketServer.exe
Please enable all channels and set the data type to voltage.
Waiting for a new connection...
Please enable all channels and set the data type to voltage.
Waiting for a new connection...
Connected from 169.254.1.2 - 45418
Read 577541 bytes from socket
From 169.254.1.2 - 45418
Write File to MCM-204.csv done
Read 576970 bytes from socket
From 169.254.1.2 - 45418
Write File to MCM-204.csv done
Read 577296 bytes from socket
From 169.254.1.2 - 45418
Write File to MCM-204.csv done
Read 577404 bytes from socket
From 169.254.1.2 - 45418
Write File to MCM-204.csv done
-
```

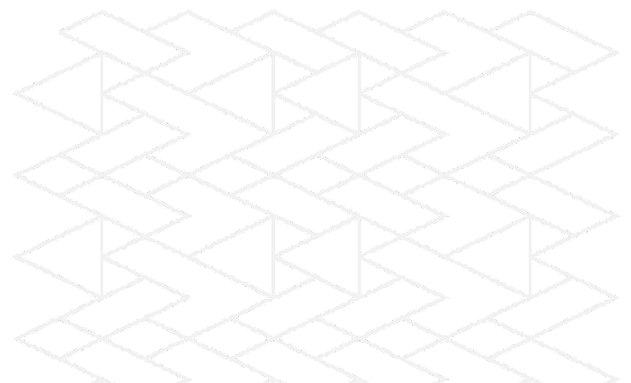

- c. After successful connection, the web console socket status displays a green checkmark.



The screenshot shows the ADLINK web console interface. On the left is a navigation menu with categories: Mission Manager, Data Manager, Information, and System Manager. The main content area is titled 'TCP Socket' and includes an 'Add socket connection' form with fields for Address, Port, and Channel (set to ALL), and an 'ADD RULE' button. Below this is a 'Socket Connection List' table with a 'RE-CONNECT ALL' button. The table contains one entry with a green checkmark in the Status column, indicating a successful connection.

Socket No.	Status	Address	Port	Channel	Action
1	✓	169.254.55.127	6666	ALL	Delete

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Step 6: Check CSV Data

Open the CSV file to check the data.

