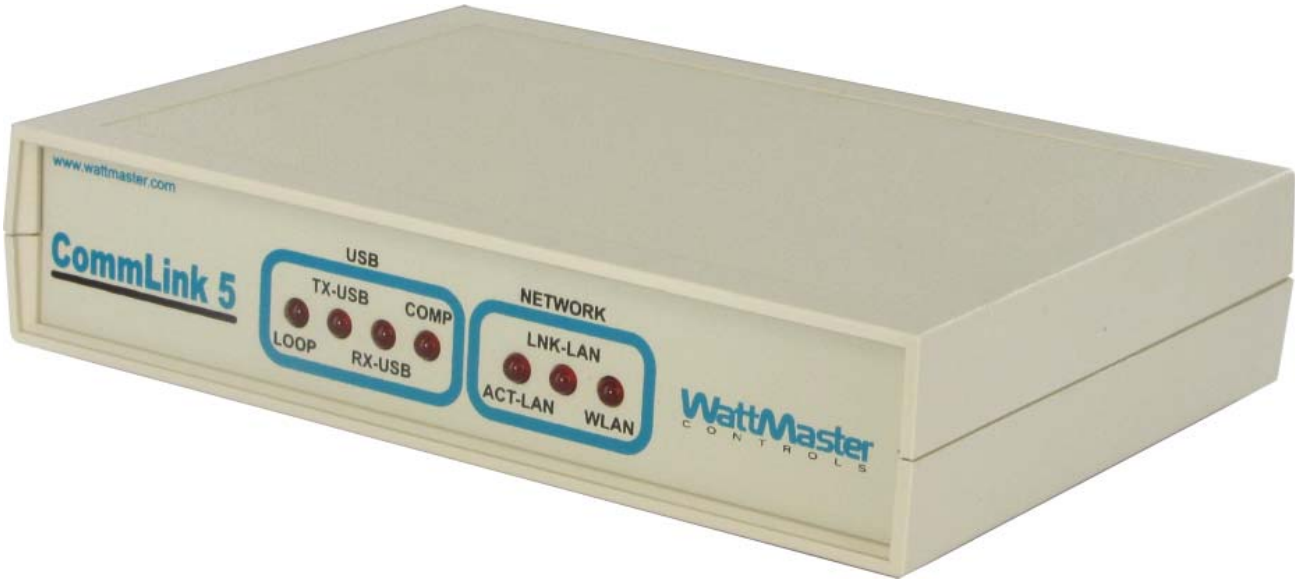
WattMaster
CONTROLS

CommLink 5
Technical Guide



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CommLink 5 Overview

The OE361-13-G CommLink 5 is used to transfer communications between controllers or local loops on your control system. It can also be used as an interface for connection of a computer to your system.

The CommLink 5 provides communication with the control system through any computer that is running PrismD software. For remote communications, an IP Module Kit can be installed for LAN and Internet connections.

NOTE: The DDC Controller has an on-board CommLink that provides for stand-alone programming and monitoring via a direct USB connection to a computer running PrismD software. An external CommLink is only needed if you need to access a controller remotely using PrismD software or the the System Manager Touch Screen II-G.

Optional IP Module Kit

The OE415-02-G IP Module Kit, when installed and configured in the CommLink 5 communication interface, provides TCP IP Internet and/or intranet connection for Ethernet networked computer systems, allowing them to communicate with your control system. The OE415-02-G IP Module Kit consists of the IP Module and a 10 ft. long CAT5 Ethernet crossover cable.

Using standard TCP/IP Protocol, with WattMaster's PrismD software, you are able to monitor and configure your controllers without a modem or a direct connection from a PC. Utilizing existing routers, proxies, or firewalls allows a PC running PrismD to connect to a controller in a remote accessible location or building. Several IP connection profiles can be created to facilitate monitoring several CommLink 5's with IP Module Kits installed on individual sites.

Installing CommLink 5 ONLY

When you are using the CommLink 5 in an application without a computer, IP Module, or System Manager Touch Screen, follow **Steps 1 through 3** in the Quick Guide on **page 4**.

System Requirements

To program the CommLink 5 to work with PrismD, you will need:

Standard Items (Required)

- CommLink 5 with USB cable and power adapter
- A PC with an Ethernet communications port or USB port (supplied by others)
- USB drivers (included on Daikin CD and downloadable from www.daikin.wattmaster.com)
- Microsoft Windows® 2000, Vista, 7, 8, or 10 (must be installed on the computer you are going to use)
- PrismD software (included on Daikin CD and downloadable from www.daikin.wattmaster.com)

Optional Items

- IP Module Kit that comes with Ethernet RJ-45 Crossover CAT 5, 10 ft. long cable for LAN, and Internet remote communications
- MinkLink 5

Quick Start Guide

Follow the five steps below to get your CommLink up and running in no time.

NOTE: If you are using the CommLink 5 without utilizing PrismD or the System Manager TS II-G, you need only perform **Steps 1 through 3**.

Step 1: Set your CommLink's Loop switch to Multiple or Single. See **Figure 1** on **page 5**.

Step 2: Set your CommLink's Baud rate switch to High. See **Figure 2** on **page 6**.

Step 3: Wire your CommLink to the appropriate controller on your system, and plug the CommLink into a power supply. See **Figure 3** on **page 7.**

Step 4: Install the USB drivers located on the included Daikin CD or downloaded from www.daikin.wattmaster.com. Follow the instructions on the website. Then attach one end of the USB cable to the back of your CommLink and the other end into your computer's USB port.

Step 5: Install PrismD software located on the included Daikin CD or downloaded from on your computer which can be downloaded from www.daikin.wattmaster.com. Follow the instructions on the website.

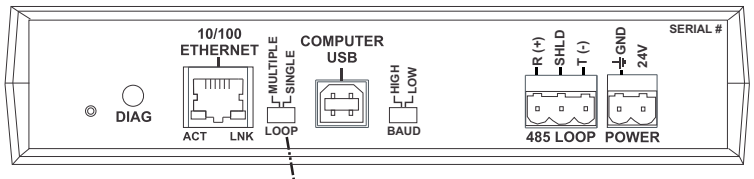
NOTE: For remote communication, follow the instructions included in the *IP Module Technical Guide*.

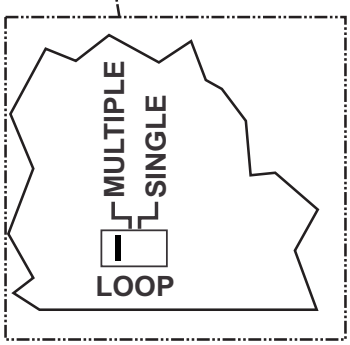
IMPORTANT NOTES:

- First install the USB drivers, then follow the included CommLink 5 connection and wiring instructions sheet (**Figure 3** on **page 7**) to connect and configure the CommLink 5.
- Familiarize yourself with all system components and review all documentation. Pay special attention to "Cautions," "Notes," and "Warnings" since these may keep you from experiencing unnecessary problems.
- If you encounter any problems, please refer to the Troubleshooting section of this guide first. If you can't resolve the problem, please call WattMaster Technical Support at our toll free number—1-866-918-1100.

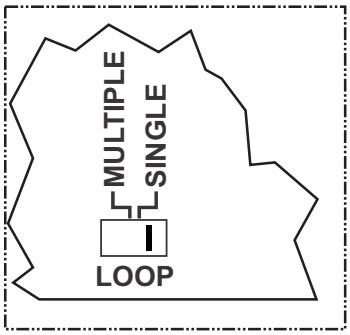
Setting the CommLink 5 Communications Setting

Back of CommLink 5





Switch Set To Multiple
Loop Communications



Switch Set To Single
Loop Communications

CommLink 5 Communications Setting

The Loop Switch Located On The Back Of The CommLink 5 Housing Must Be Set Correctly For Your Specific Application In Order For The CommLink 5 To Function Properly. The CommLink 5 Is Factory Set For Single Loop Applications.

The Loop Switch Setting Should Be Set To "Multiple" In The Following Situation:

You Have A Single CommLink With MiniLink(s) Installed On Your System.

The Loop Switch Setting Should Be Set To "Single" In The Following Situations:

You Have A Single CommLink Without Any MiniLinks Installed On Your System.

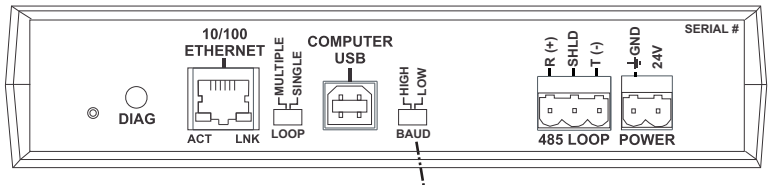
CommLink 5 Communications Setting When Using The System Manager Touch Screen II-G

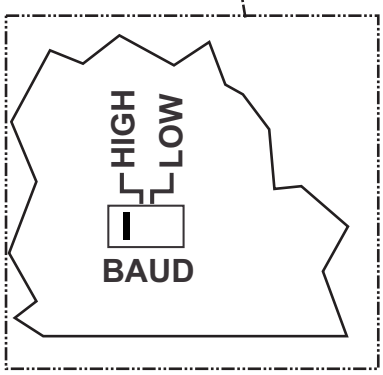
The Loop Switch Setting Should Always Be Set To "Single."

Figure 1: Setting Loop Communications

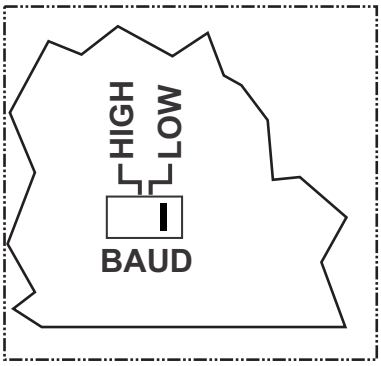
Setting the CommLink 5 Baud Rate

Back of CommLink 5





Switch Set To High Baud Rate (115,200)



Switch Set To Low Baud Rate (Anything Less Than 115,200)

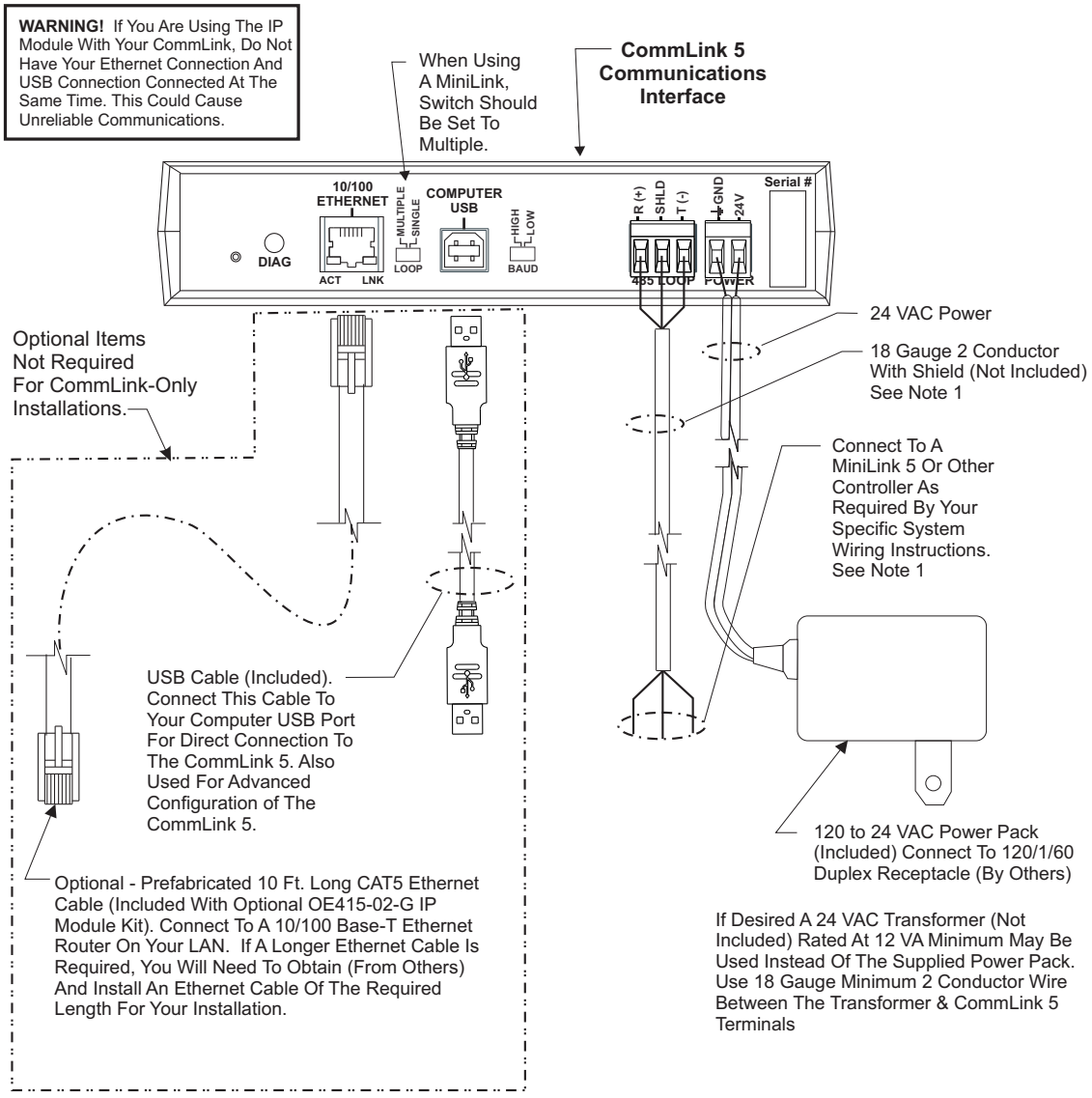
CommLink 5 Baud Rate Setting

The Baud Rate Switch Located On The Back Of The CommLink 5 Housing Is Factory Set For High Baud Rate Applications.

This Setting Must Be Set To “High” In Order For The CommLink 5 To Function At Maximum Efficiency.

Figure 2: Setting the Baud Rate

CommLink 5 Connections & Wiring



NOTES:

1) Use 18 Gauge Minimum 2 Conductor Twisted Pair With Shield Cable Belden #82760 Or Equivalent (Not Included) To Connect The CommLink 5 To A MiniLink 5.

2) For Direct Connection Via USB, Your Computer Must Have An Unused USB Port Available. Drivers For Your USB Port Are Provided On WattMaster's Goodman Technical Support website. Please Follow The Directions On The Website To Install And Configure The USB Drivers.

3) The CommLink 5 Cannot Communicate With The Control System Through Its Ethernet Port And USB Port At The Same Time.

4) All Wiring Must Conform To Applicable Federal, State & Local Electrical Wiring Codes.

Figure 3: CommLink 5 Connection & Wiring

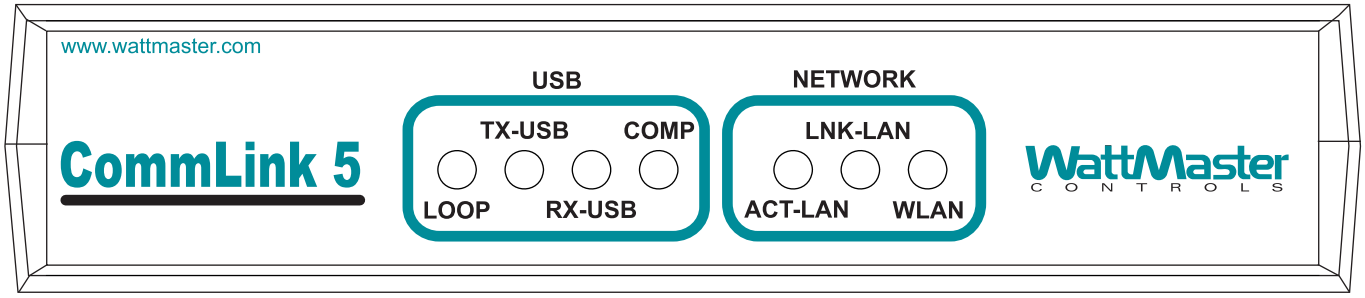


Figure 4: CommLink 5 LED Display

CommLink 5 LED Descriptions

USB LEDs

LOOP - Indicates communication activity on local controller network. This LED flickers when data is exchanged with the controller network.

TX-USB - Indicates transmitted data status of USB connection. This LED only flashes when your CommLink 5 is connected to a computer and data is sent to Prism from the CommLink 5 via USB.

RX-USB - Indicates received data status of USB connection. This LED only flashes when your CommLink 5 is connected to a computer and data is sent from Prism to the CommLink 5 via USB.

COMP- Indicates connection to your computer. This LED will turn on solid once you plug the USB cable into your computer as long as the connection is not lost.

NETWORK LEDs

ACT-LAN - Indicates activity on the local area network. This LED flashes on when LAN is transmitting and receiving data and is only operational with an Ethernet connection.

LNK-LAN - Indicates local area network is connected. This LED is on when connected to LAN and is only operational with an Ethernet connection.

WLAN - Indicates wireless connection to the local area network. This LED flashes on when LAN is transmitting and receiving data and is only operational with an Ethernet connection.

Proxy and Firewall Compatibility

Proxy and Firewall configurations may become necessary when the CommLink 5 is connected to a LAN/WAN that is protected by a commercially available Firewall, Proxy, or NAT enabled router. Examples of these would include Cisco, NetGear, LinkSys, or WatchGuard Technologies. Also, some ISPs provide IP Address ranges that are already fire-walled at the NOC or ISP Head-End. Make sure that your IT Department or ISP can create a mapped TCP port 39288 on your firewall/proxy to TCP port 39288 on the assigned IP Address of the CommLink 5.

Only with proper configuration of the Firewall/Proxy are connections to the CommLink 5 from outside of the local area network going to be possible. Check that the Firewall/Proxy TCP port 39288 is not set to time out or reset after a specified amount of time when there is no traffic from the remote PC.

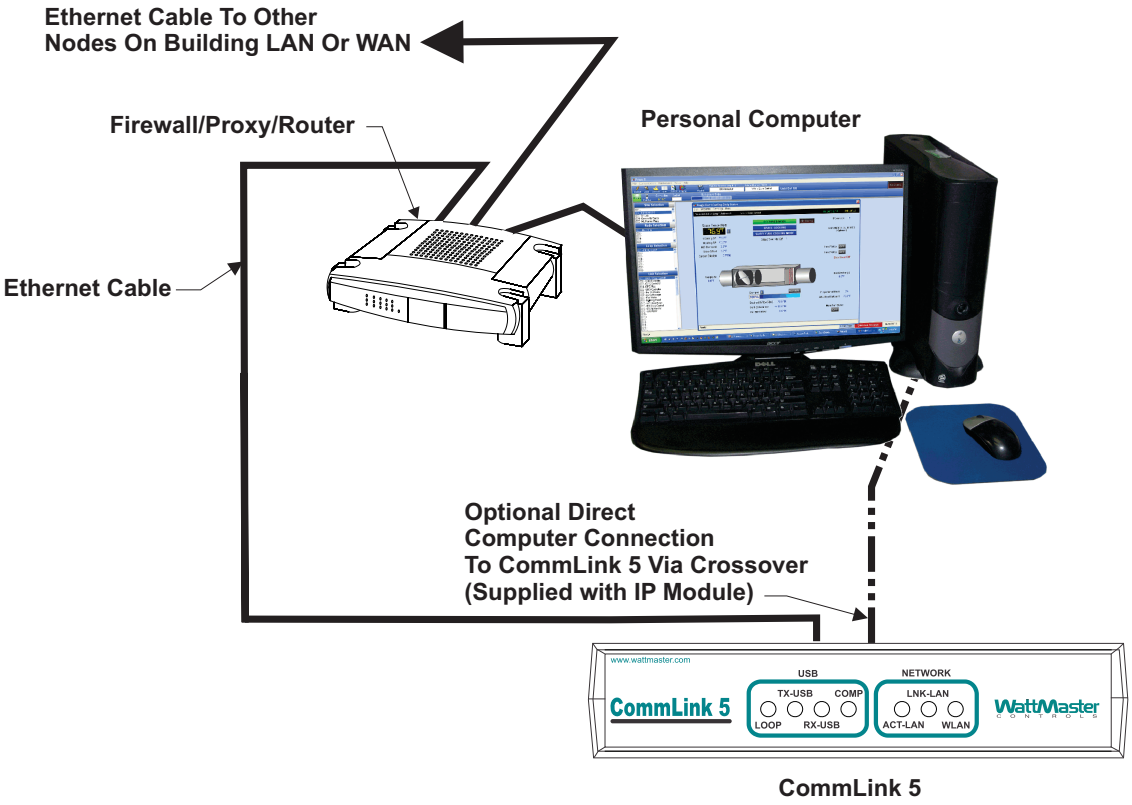


Figure 5: Example Network Diagram of a Firewall or Proxy Configuration

Troubleshooting the USB Drivers

Troubleshooting Tips

Problems with PrismD Software

- Verify that the correct COM port, created by the USB connection, is selected in the *Job-Sites Window*. Verify COM port number by *clicking* <Control Panel>, <System>, <Hardware>, <Device Managers>, <Ports>.

Problems with USB Connection

- Verify that the TX-USB and RX-USB are blinking when you perform a Search for Units or try to open a status screen in PrismD.
- If the USB LEDs fail to blink, disconnect and reconnect the USB connection.
- If the problem persists, verify that the USB drivers have been installed properly.

Problems Viewing Multiple Controllers on a Network

- Make sure that the CommLink's communication switch is set to Multiple.
- In PrismD, make sure that Multiple Loop Configuration is selected for Network Configuration in the *Job-Sites Window*.

NOTE: WattMaster Controls Technical Support cannot troubleshoot internal PC and/or Windows-based operating system problems.

NOTE: WattMaster Controls Technical Support cannot troubleshoot firewalls, routers and/or problems on a customer's internal or external network. An IT professional may need to be consulted.

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