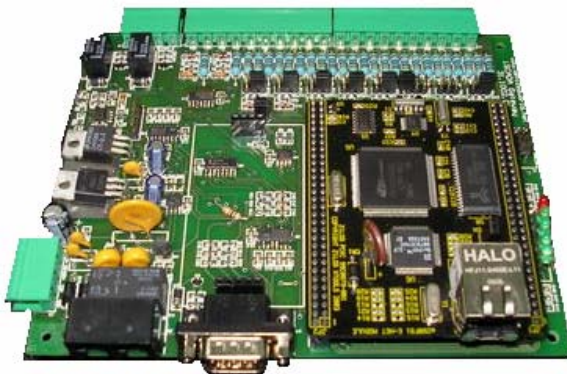
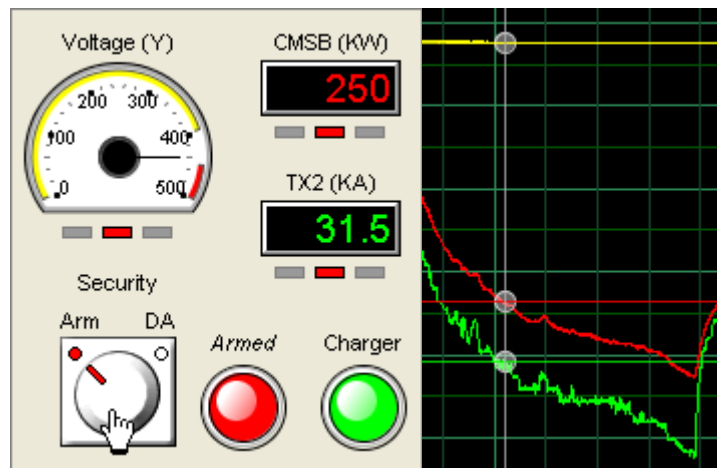


iSCADA®



User Manual

2nnn.1002 Series



1.0 Setting up your PC to communicate with your iSCADA Gateway

You have to configure the iSCADA Gateway device so that it can communicate with the iSCADA server over the Internet from the site's Local Area Network (LAN).

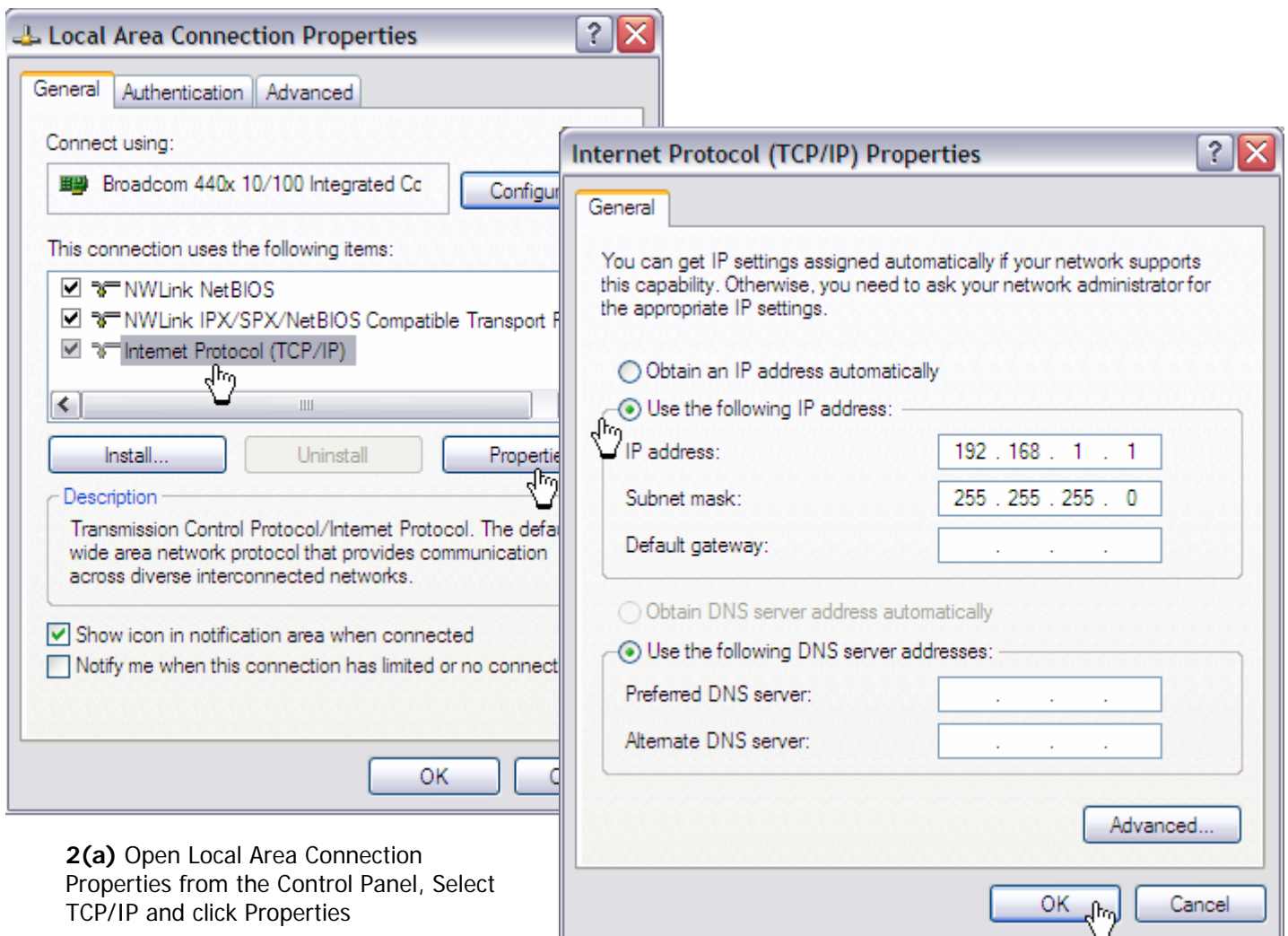
Step 1:

Disconnect your PC from any existing LAN. Connect your PC to the device using the cross-link cable provided.

Step 2:

Change the TCP/IP settings of your computer as shown in the following screen shots.

Note: You may want to note down the existing settings of your PC before changing so that you can easily revert to the original setting after completing the device configuration task.



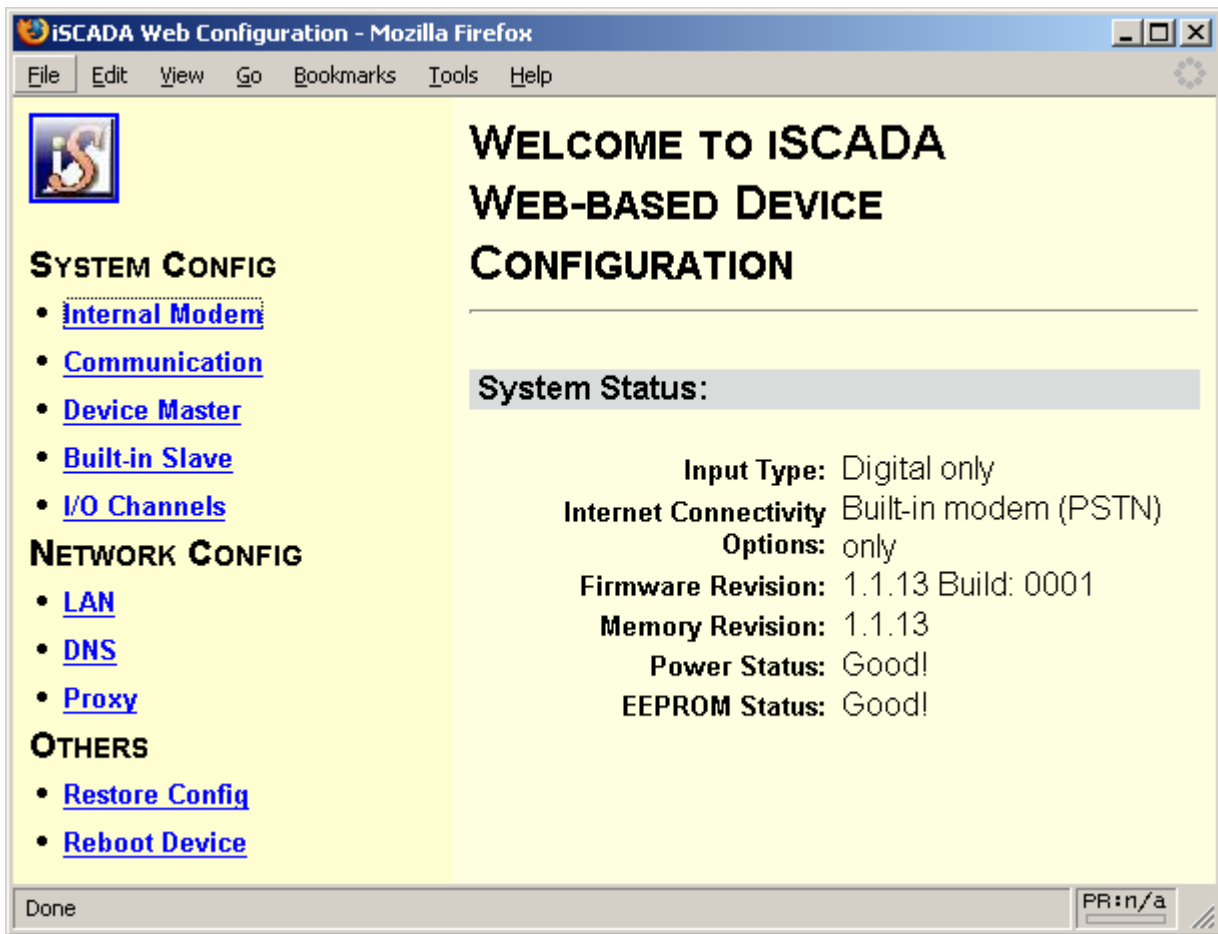
2(a) Open Local Area Connection Properties from the Control Panel, Select TCP/IP and click Properties

2(b) Enter the IP address as shown above, and then click OK

Step 3:

Power up the device, wait a few moments for it to initialize. LED#5 on the device should be ON, and all other LEDs OFF. Open your browser and point it to **192.168.1.180** (this is the factory default IP setting for all iSCADA Gateway devices) to begin the device configuration.

2.0 Configuring your iSCADA Gateway device



The screenshot shows a web browser window titled "iSCADA Web Configuration - Mozilla Firefox". The browser's menu bar includes "File", "Edit", "View", "Go", "Bookmarks", "Tools", and "Help". The main content area has a yellow background and is divided into two columns. The left column contains a navigation menu with the following sections and links:

- SYSTEM CONFIG**
 - [Internal Modem](#)
 - [Communication](#)
 - [Device Master](#)
 - [Built-in Slave](#)
 - [I/O Channels](#)
- NETWORK CONFIG**
 - [LAN](#)
 - [DNS](#)
 - [Proxy](#)
- OTHERS**
 - [Restore Config](#)
 - [Reboot Device](#)

The right column features a large heading: "WELCOME TO ISCADA WEB-BASED DEVICE CONFIGURATION". Below this heading is a horizontal line, followed by a grey header box labeled "System Status:". The status information is displayed as follows:

- Input Type:** Digital only
- Internet Connectivity:** Built-in modem (PSTN)
- Options:** only
- Firmware Revision:** 1.1.13 Build: 0001
- Memory Revision:** 1.1.13
- Power Status:** Good!
- EEPROM Status:** Good!

At the bottom of the browser window, the status bar shows "Done" on the left and "PR:n/a" on the right.

You will see a summary of your device status as shown below. (Note: Details may vary depending on the model of your device).

2.1 SYSTEM CONFIG menu

2.1.1 Internal Modem sub menu (Not available for models without built-in modems)

INTERNAL MODEM CONFIG:

ISP1:

Phone Number: ISP1 Phone Number
User Name: ISP1 User Name
Password: ISP1 Password
Change

ISP2:

Phone Number: ISP2 Phone Number
User Name: ISP2 User Name
Password: ISP2 Password
Change

You may store two sets of ISP dial up account information in your gateway. By default, it will connect to your ISP using ISP1 account, failing which it will attempt to connect using your backup ISP account ISP2.

If you have only one set of ISP account, ensure that you enter the same information in ISP2.

2.1.2 Communication sub menu

These settings are used by the device to communicate with the iSCADA server.

Using the default settings shown, the device will obtain the IP address of the iSCADA located at www.devicesworld.net server from the DNS, failing which it will attempt to bypass the DNS and connect directly to the server's IP address at 203.115.229.162.

Do not change any of these settings unless instructed by Devices World's support staff.

COMMUNICATION CONFIG:

Communication:

Get Server IP From: DNS & Server IP Field
Server URL: www.devicesworld.net
Server IP: 203.115.229.162
Server Port: 80
Device Port: 4449
Device Password: 255 255 255
Change

2.1.3 Device Master sub menu

Auto Connect Interval

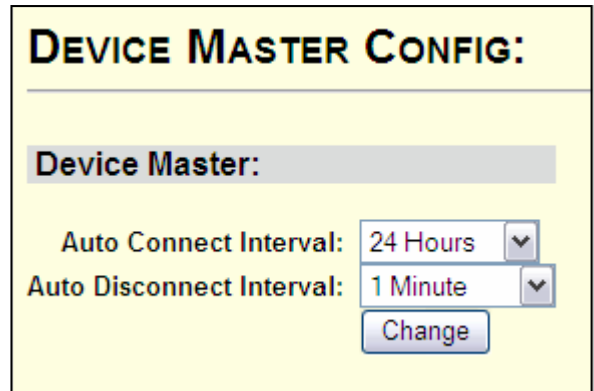
In the absence of any activity, the Gateway will make a System Check report to the server every 24 hrs to confirm that the system is working fine end-to-end. If the server does not receive a report from the Gateway after 24 hours of inactivity, it will send a "System Check Fail" alert to the user. The Auto Connect Interval can be changed from this web page or from the iSCADA client-side program.

Auto Disconnect Interval

In the absence of any activity for 1 minute, the Gateway will go from "Active" mode to "Standby Mode". The Auto Disconnect Interval can be changed from this web page or from the iSCADA client-side program.

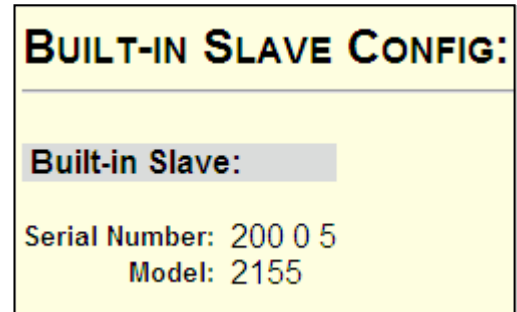
During the "Active" mode, the device will poll the server once every 2 seconds

During the "Standby" mode, the device will poll the server once every 5 seconds.



2.1.4 Built-in Slave sub menu

This page displays the device serial number and model number, which cannot be changed.



2.1.5 I/O Channels sub menu

By default, all channels are disabled. Use the combo box to select the type of input signal that will be connected to each channel.

For models 21nn

Channels 1-8 can be configured to take any of the following signal type:-

Digital Signal: 0V=Low State, 5V=High State

Volt-free Contact: Open=Low State, Close=High State

Analogue Signal: 0-5V DC or 4-20mA

Channels 9&10 can be configured to take any of the following signal type:-

Digital Signal: 0V=Low State, 5V=High State

Volt-free Contact: Open=Low State, Close=High State

For models 20nn

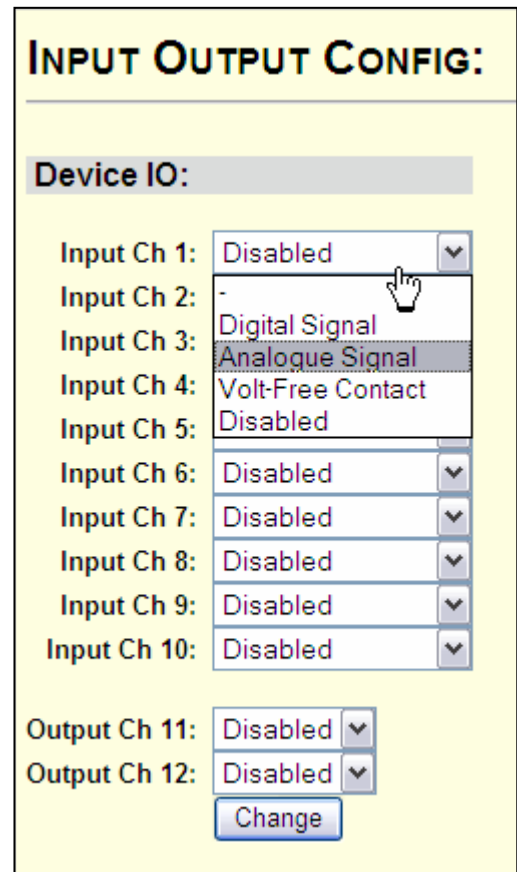
Channels 1-10 can be configured to take any of the following signal type:-

Digital Signal: 0V=Low State, 5V=High State

Volt-free Contact: Open=Low State, Close=High State

Note: See I/O jumper settings in section 3.3 below.

Output channels 11&12 are N.O. relay contacts.



Any input channel configured as an Analogue channel will have the Analogue settings and Analogue calibration values displayed at the bottom of the page.

Analogue Settings:																		
Ch	Auto/Manual	Start Val	Sch	M	T	W	T	F	S	S	Sampling	Val	Stop Val	Lo	Th	Hi	Th	Delta
1	Manual	T>V 4095	0:0	0	0	0	0	0	0	0	Period	15s	T<V	0	1365	2730	41	
2	Manual	T>V 4095	0:0	0	0	0	0	0	0	0	Period	15s	T<V	0	1365	2730	41	

Analogue Channel Calibrations:				
Ch	Count (High)	Count (Low)	Eng. Value (High)	Eng. Value (Low)
1	4095	0	100.0	0.0
2	4095	0	100.0	0.0

These settings can only be changed from the client-side iSCADA program.

2.2 NETWORK CONFIG menu

2.2.1 LAN CONFIG sub menu

These settings enable the device to communicate within the Local Area Network (LAN). Please check with your Network Administrator how network devices (including PCs) are managed on the network to which this device will be attached.

By default, your device is configured with a fixed local IP address **192.168.1.180**. Change this to the designated IP address assigned by the Network Administrator. Enter the site's Internet Gateway IP address and Subnet Mask in the respective fields.

If the network to which this device will be attached has a DHCP server, enable the DHCP configuration using the combo box and click "change". The device will be assigned a local IP address by the site's DHCP server.

LAN CONFIG:

LAN:

MAC Address: 00:90:23:00:10:04

IP Address:

Gateway:

Subnet Mask:

DHCP: ▼

Important Notes:

1. If you need to enable the DHCP, this task should be done LAST, because after you click "Change", the device will no longer have a fixed IP and will no longer be able to communicate with your PC, either via cross-link cable or through the LAN.
2. If you need to communicate with the device after enabling DHCP (or you have forgotten the fixed IP address of any device), you can reset its network settings by pressing and holding down the Reset button on the device (see section 3.2) until all the LEDs begin to blink. This will reset the device's LAN configuration to the default IP address of **192.168.1.180** with DHCP disabled. This action will only reset the network settings and will NOT affect all other settings in the device.
3. If the network to which this device is to be attached uses fixed local IP addresses (ie DHCP disabled), and if the the default IP address 192.168.1.180 is available for the device, you may attach this device to the network with its factory default LAN settings. However, if you are attaching more than one device to the same network, make sure you assign a different IP address to each device to prevent same IP adress conflicts.

2.2.2 DNS CONFIG sub menu

Enter the primary and secondary DNS server IP address here. This information is needed when the device is configured to connect to the iSCADA server using DNS instead of fixed IP (see Part A, Communication sub menu).

DNS CONFIG:

DNS:

DNS 1:

DNS 2:

2.2.3 PROXY CONFIG sub menu

If the LAN to which this device is attached has a proxy server, enable the proxy configuration and enter the proxy settings here.

PROXY CONFIG:

Proxy:

Use Proxy:

Proxy IP:

Proxy Port:

2.3 Other Tasks menu

2.3.1 Restore Configuration Settings

All your configuration and device data (like events, analogue data, etc) will be lost, and device will be restored to factory default settings.

RESTORE CONFIG:

Warning: This will RESTORE all the settings to factory default & REBOOT the device!

2.3.2 Reboot Device

Device will restart, with no loss of configuration or data.

REBOOT DEVICE:

Warning: This will REBOOT the device!

3.0 Understanding your iSCADA Gateway Hardware

3.1 Identifying Connectors

Connector A:

Supply & Gnd terminals: 12-24VDC input power
 RS485 terminals: Shielded Twisted Pair cable to external slave devices

Connector B:

Signal Input terminals: 10 sets (see wiring guide for details)
 Output Control terminals: 2 sets Normally Open Relay Contacts

Connector C:

RJ11 terminals: Incoming telephone line for internal PSTN modem &
 Outgoing connection for external phone sharing same line

Connector D:

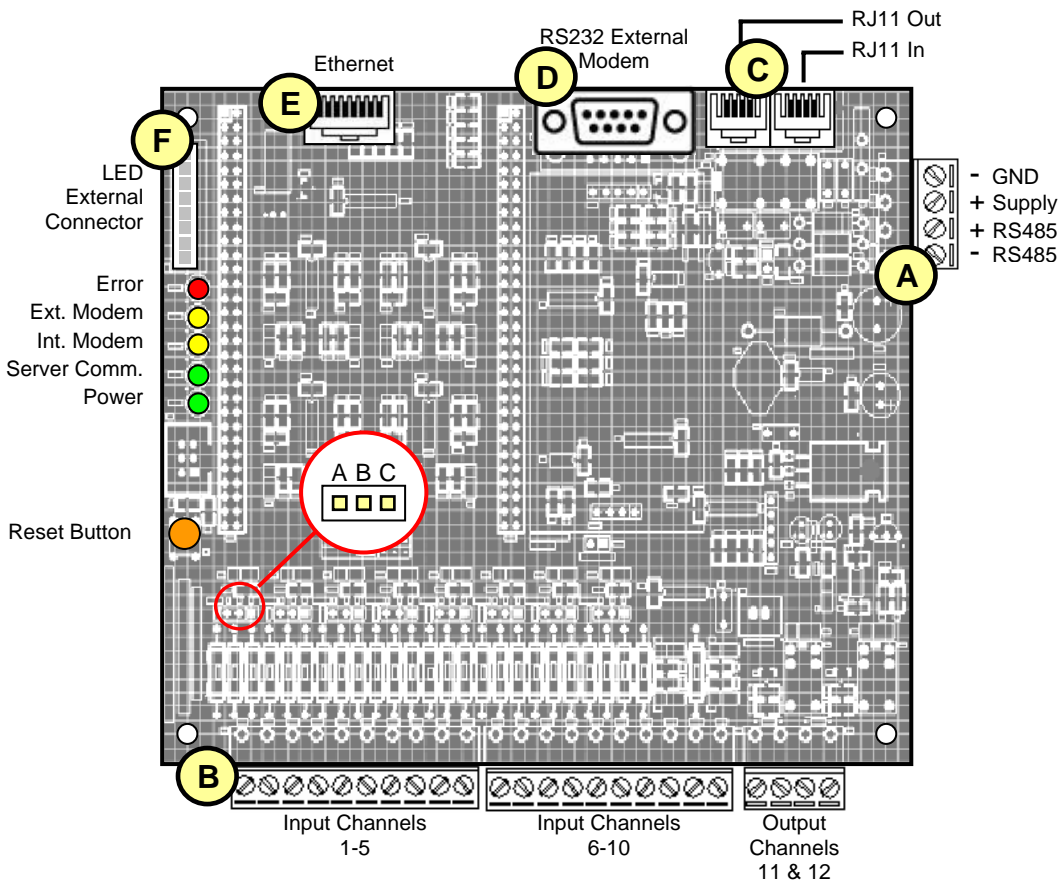
RS232 DB9 connector: Connection to external modem (GSM, PSTN, UHF, etc)

Connector E:

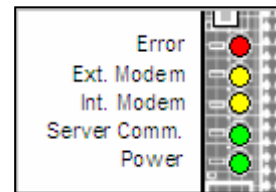
RJ45 terminal: Connection to Ethernet 10baseT (LAN)

Connector F:

LED status terminal: For bringing 5 device status LEDs off board.



3.2 Understanding Status indicator LEDs



Power: **ON** when device power is healthy
Slow Flashing when power is low (when running on backup battery supply).

Server Comm: **Flashes** once every 2 seconds when device is active online with iSCADA server and once every 5 seconds when device is online with server in standby mode.

Internal Modem: **Fast blinking** when dialing to Internet
ON when online

External Modem: **Fast blinking** when dialing to Internet
ON when online

Error: **ON** when internal error is detected or when power supply level is low.

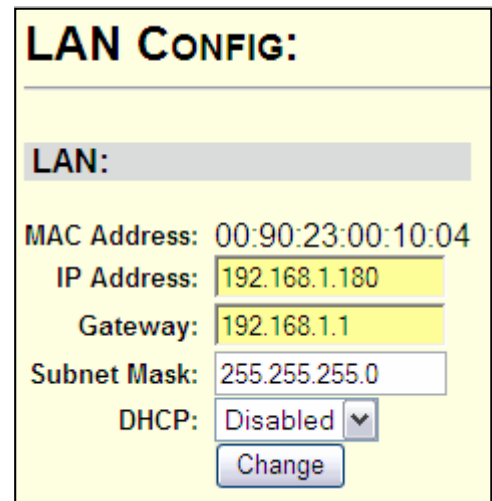
3.2 Resetting your device

3.2.1 Reset LAN configuration

Press and hold the Reset button until all 5 LEDs start to blink simultaneously. Release and wait a few moments for the device to reset to default LAN setting as shown. (See section 2.2.1)

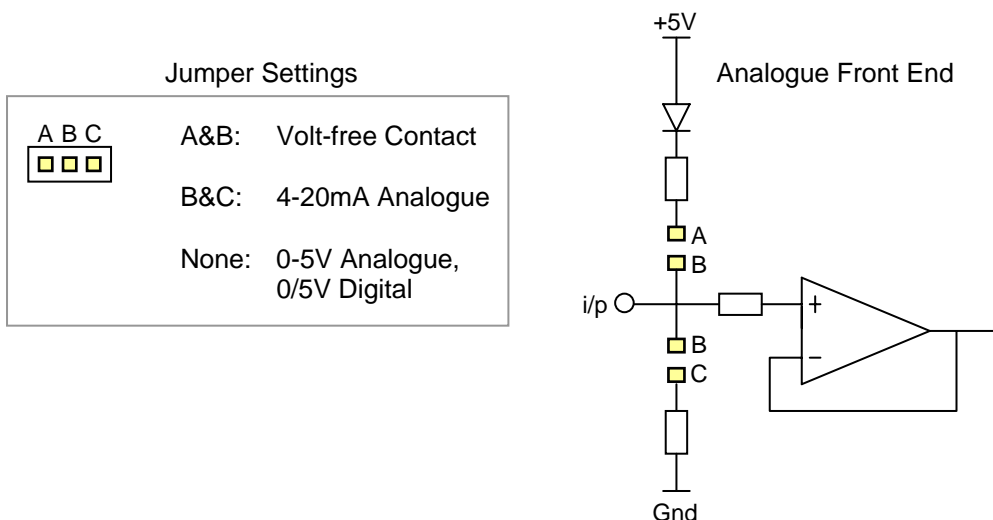
3.2.1 Resetting device to default configuration

The Reset button can also be used to restore your device to its original factory settings. Power off the device, press and hold down this button and turn on the power while holding down the button. Release it when all 5 LEDs start to blink. See section 2.0 to reconfigure your device.



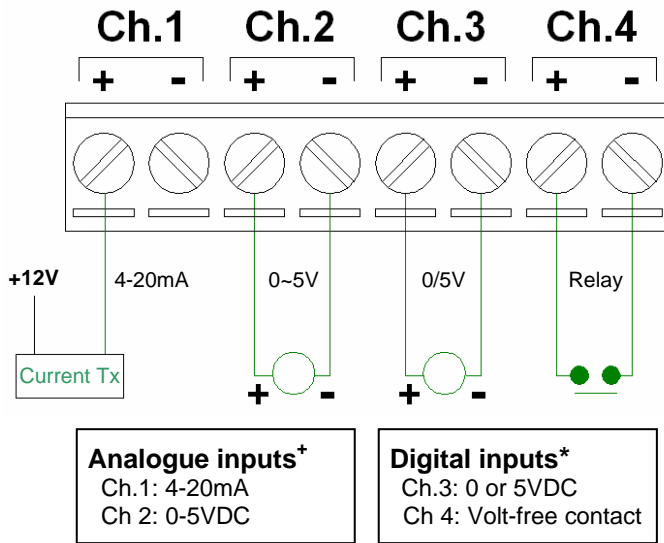
3.3 Selecting input signal type using jumper settings

Your iSCADA Gateway device (Models 21nn) comes with fully programmable input channels that can be individually configured to accept different types of input signals. Use the I/O Channels Configuration tools (section 2.1.4) and the jumper settings below to configure channels 1-8. Channels 9 & 10 do not require jumper settings, and accept digital inputs only.

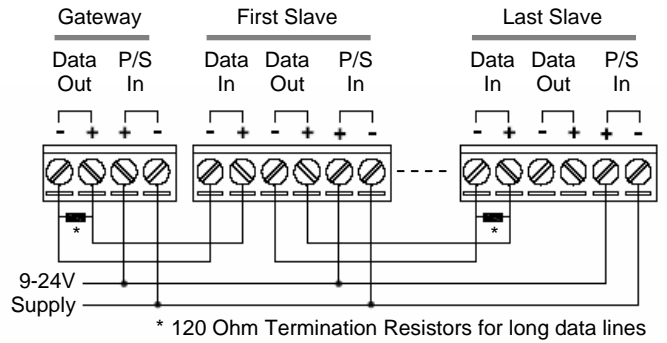


4.0 Wiring Guide

Input Channel connectors



Power Supply and RS485 connectors



Optional Accessories

- DC Power Supply
- Charger
- SLA Battery
- Interface boards
- Enclosure for multiple devices
- Sensors & Transducers