



WebFlex Series Process Monitor Instruction Manual



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1.0 INTRODUCTION

WebFlex is the first stand alone remote monitoring device that can web enable your installed equipment without having to replace or upgrade it. Your key system parameters (analogue and digital input signals) can now be monitored from any computer – anywhere in the world - with a standard web browser.

With proprietary on-demand connectivity, the WebFlex is only online when you need it...making it the world's first practical and secure industrial monitoring Internet solution.

WebFlex pulls your older equipment into the Internet age with online monitoring, data logging, auto reporting and auto alarming. User defined alarms can be received by email or page. The solid state alarm relay notifies on-site personnel.

Data logs can be delivered by email as a spreadsheet attachment. You decide where and when you need the information and WebFlex makes it happen. Since WebFlex supports simultaneous multi-user access and Ethernet, all of its remote monitoring features are also available on local area networks (LAN). For larger installations, which require more than six analogue and six digital inputs, WebFlexes can be networked together with Ethernet.

In addition, settings and data may be manipulated using a computer connected directly via USB, Ethernet or modem to modem without requiring an Internet connection.

2.0 SPECIFICATIONS

2.1 Measurement Performance

4-20 mA Inputs

Range	3.75-20.25 mA
Resolution	0.03 mA
Calibration	± 1 mA

2.2 Electrical

Inputs

Input power 100 –240 VAC ±10%, 1.0A, 50/60 Hz

Input signals

Analogue Inputs (six)	4-20 mA, 2-wire or 3 -wire, internally powered by 24 VDC, 110 ohm input resistance, 1000 ohm maximum load.
Digital Inputs (six)	
Flow Meter: (DI 1-4 only)	Isolated dry contact (relay, reed switch or Hall Effect) 0-400 Hz ,1.5 msec minimum width
Switch: (DI 1-6)	Isolated dry contact (relay, reed switch or Hall Effect) 0-10 Hz, 50 msec minimum width

Outputs

Solid State Relay:	Dry Contact, 0 to 40 VDC, NO AC VOLTAGE, 150 mA maximum load
Digital:	USB Ethernet, 10 Base T

Approvals

CE Safety	EN 61010-1 (2001)
CE EMC	EN 61326 : 1998 Annex A*
UL	ANSI/UL 61010-1:2004, 2 nd Edition
CAN/CSA	C22.2 No.61010-1 :2004, 2nd Edition

Note: For EN61000-6, -3 the WebFlex met performance criteria B.

*Class A Equipment: Equipment suitable for use in establishments other than domestic, and those directly connected to a low voltage (100-240VAC) power supply network which supplies buildings used for domestic purposes.

2.3 Mechanical

Enclosure

Material:	Polycarbonate
Environmental Rating:	Environmental (IP 66)
Dimensions:	32.4 cm x 24.4 cm x 8.3 cm Operating Ambient
Temp:	0 to 60° C (32 to 140°F)
Storage Temp:	-29 to 80°C (-20 to 176 °F)
Weight	2.0 kg. (4.5 lbs)

2.4 Variables and their Limits

All menus shown may not be available. The menus that appear on your process monitor will vary with options installed and programmed.

Other 4-20 mA Input Menu

4 mA =	-999,999,999 to 999,999,999 (units of measure defined by user)
20 mA =	-999,999,999 to 999,999,999 (units of measure defined by user)
Low Alarm Limit	-999,999,999 to 999,999,999 (units of measure defined by user)
High Alarm Limit	-999,999,999 to 999,999,999 (units of measure defined by user)

Level (4-20 mA) Input Menu

mA when Tank Empty	0 to 20 mA
mA when Tank Full	0 to 20 mA
Full Tank Volume	0 to 999,999,999 (units defined by user)
Low Alarm Limit	0.001 to 999,999,999 (units defined by user)

Flow Meter 4-20 mA Input Menu

4 mA =	0 to 999,999,999 (units of flow rate defined by user)
20 mA =	0 to 999,999,999 (units of flow rate defined by user)
Low Alarm Limit	0 to 999,999,999 (units of flow rate defined by user)
High Alarm Limit	0 to 999,999,999 (units of flow rate defined by user)
Total Limit	0 to 999,999,999 (units of total volume defined by user)

Digital Input Menu

K Factor	0.001 to 20,000 (Pulses per Unit)
Total Alarm Limit	0 to 999,999,999 (units defined by user)
Rate Low Alarm	0 to 999,999,999 (units defined by user)
Rate High Alarm	0 to 999,999,999 (units defined by user)

Alarm Output Menu

Remote Alarm Delay Time	1 to 1440 minutes
Output Time Limit	0 to 1440 minutes (0 = infinity)
Alarm Hand Time Limit	1 to 1440 minutes

3.3 Installation

The WebFlex receives digital and analogue input signals, and sends a digital output signal. The maximum distances for these cables, using 24 AWG shielded twisted pair cable, is 1200 meters (4000 feet) for the 4-20 mA input signals and 300 meters (1000 feet) for the digital input and output signals. It is highly recommended that these cables be routed separately from any AC voltage wires, and that the cable shield drain wire is connected to earth ground at the process monitor end only.

Note: Using the WebFlex process monitor in any manner other than that specified in this manual could compromise the safety of persons or property.

3.4 Icon Definitions

Symbol	Publication	Description
	IEC 417, No.5019	Protective Conductor Terminal
	IEC 417, No. 5007	On (Supply)
	IEC 417, No. 5008	Off (Supply)
	ISO 3864, No. B.3.6	Caution, risk of electric shock
	ISO 3864, No. B.3.1	Caution

3.5 Electrical Installation

The WebFlex series process monitors require the following voltages:
100 –240 VAC \pm 10%, 50/60 Hz, 1.0 amperes maximum.

Your unit is supplied ready to be hardwired. In addition, you will be required to hardwire some or all of the input/output devices. Please refer to Figures 2 through 5 for wiring diagrams.

Note: Proper grounding of this product is required. Any attempt to bypass the grounding will compromise the safety of persons and property.



CAUTION! There are live circuits beneath the power supply cover! The process monitor must not be operated without this cover properly installed!



CAUTION! The electrical installation of the process monitor must be done by trained personnel only and conform to all applicable National and Local codes!

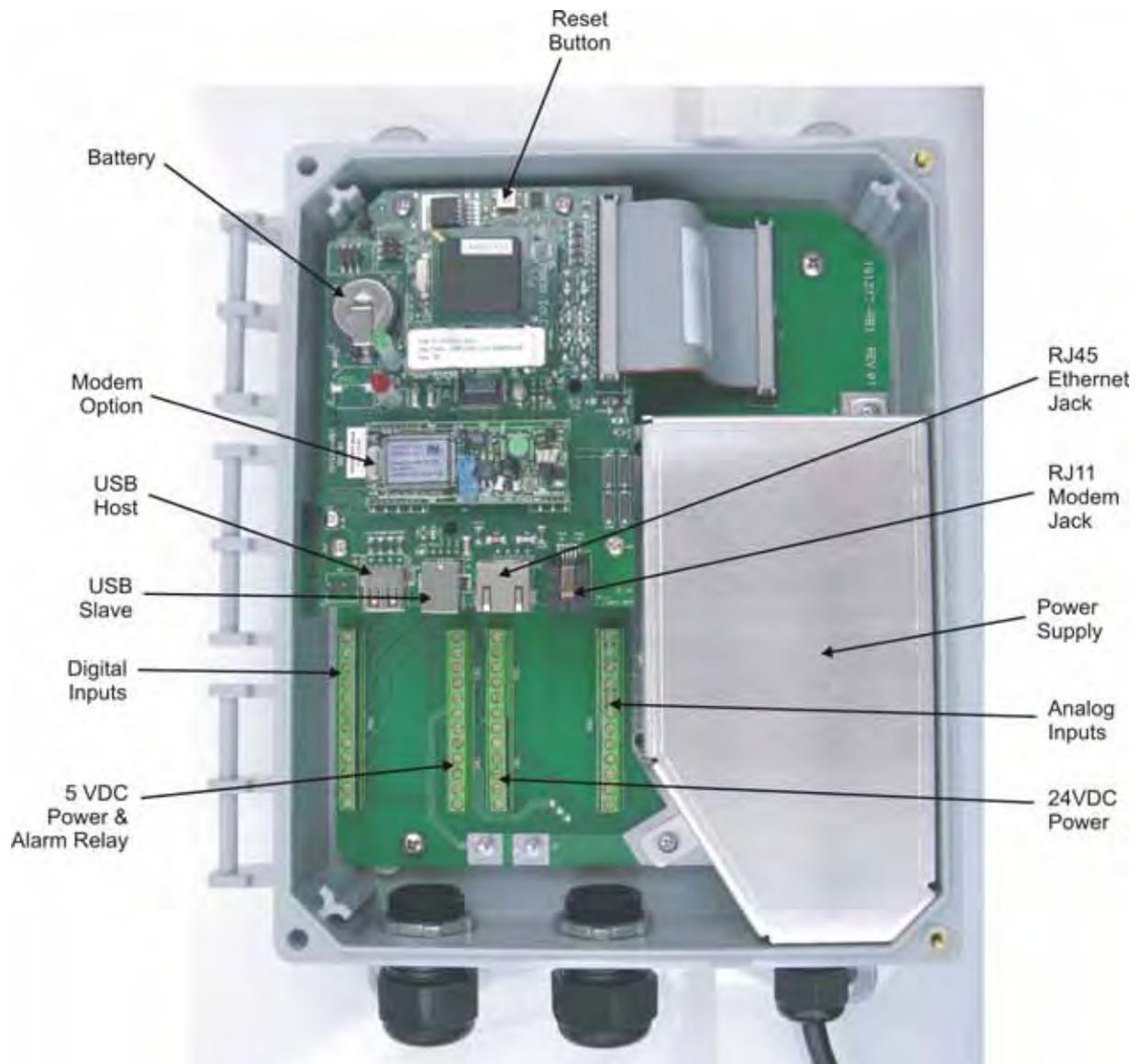


Figure 1 Identification of Parts



⚠ CAUTION!
Do not apply power to the process monitor unless the power supply cover is installed!

Hot (L1)
Neutral (L2)
Earth Ground

Figure 2 – Wiring Diagram for AC Power Input

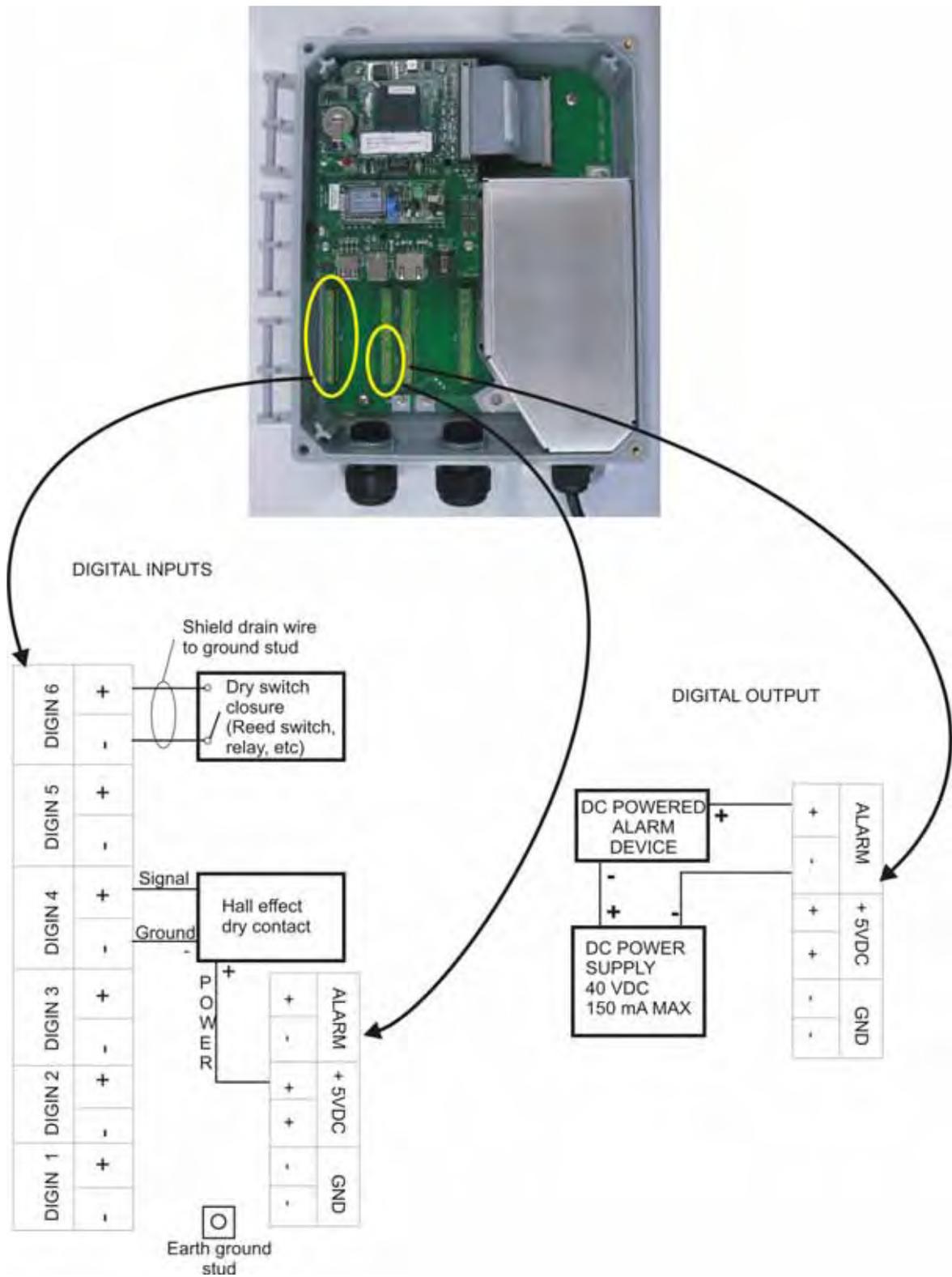


Figure 3 - Wiring Diagram for Digital Inputs and Outputs

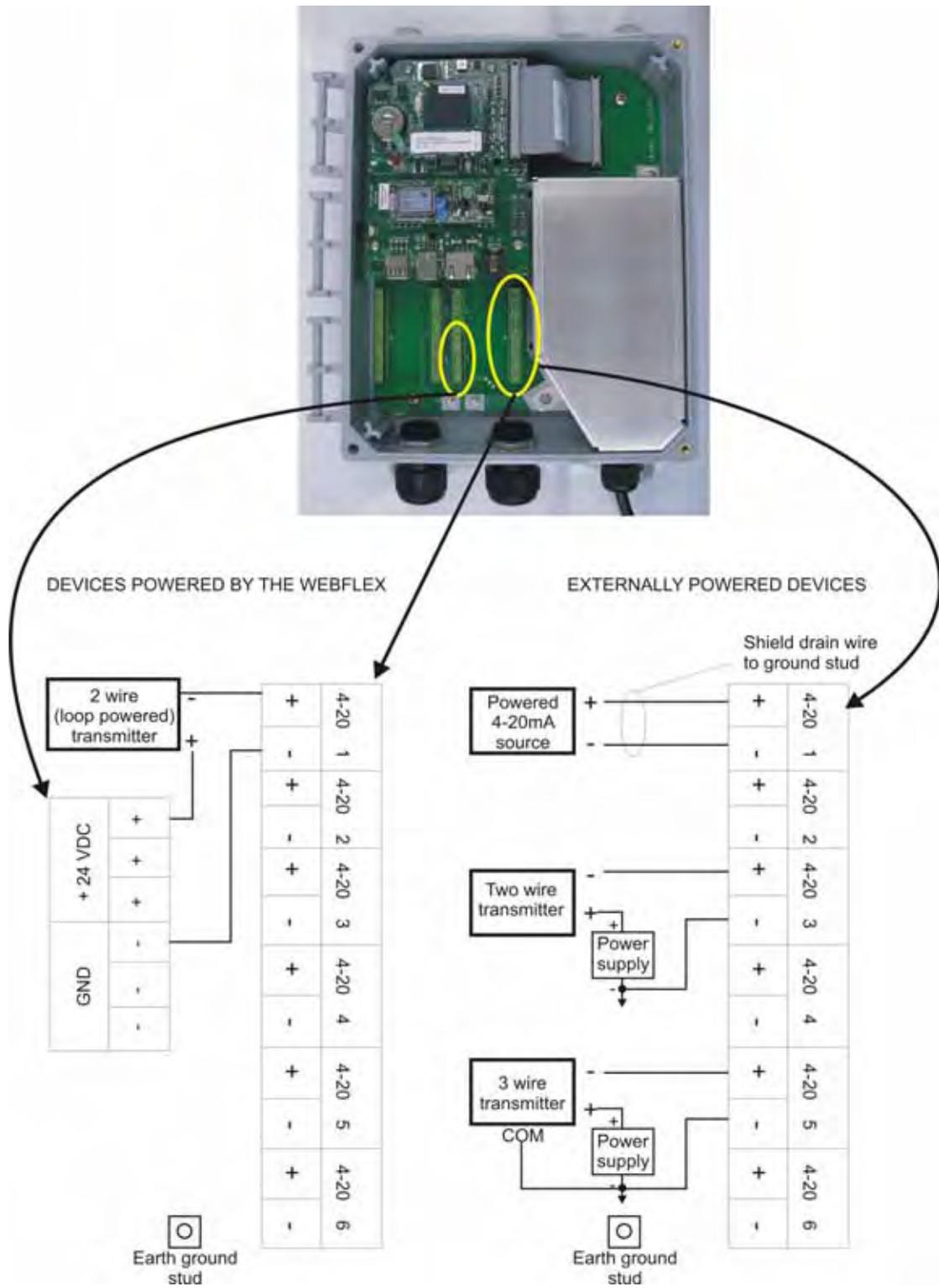
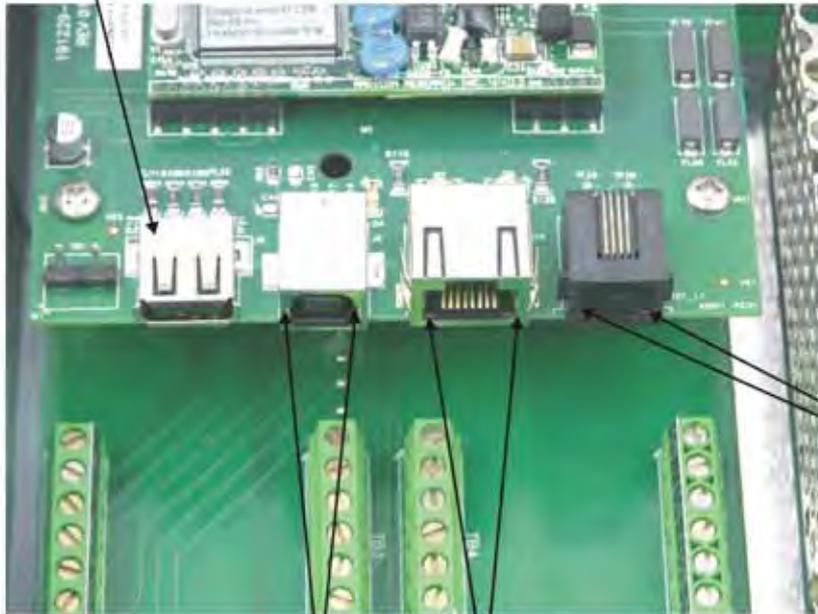


Figure 4 - Wiring Diagram for Analogue Inputs

USB Host for
Flash Disk Device
(software upgrade
or data download)



USB A to B Cable
to PC for programming

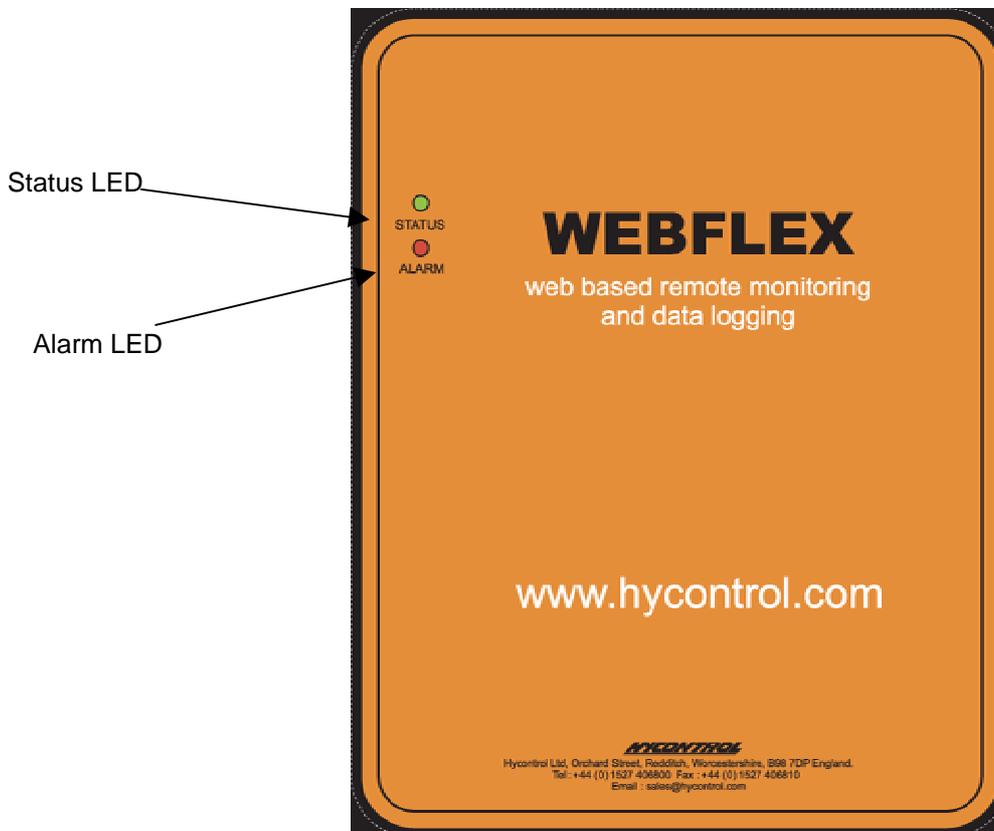
RJ45 to Ethernet
Hub (100 meter max)

RJ11 to
phone line
for modem

Figure 5 – Wiring Diagram for USB Devices and Communications

4.0 FUNCTION OVERVIEW

4.1 Front Panel



4.2 Initial Startup

Turn the power on. Be patient, the start up sequence will take about the same time as it takes a computer to boot up, approximately 2 minutes. The Status LED will flash, and when boot up is complete the WebFlex will beep 3 times. Under normal conditions, the Status LED will flash on and off every second.

The WebFlex Series process monitors have a wide range of capabilities, so the steps required preparing the site for installation would be different depending upon the capability you will be using.

If you want to program the WebFlex using a laptop computer connected to the USB or Ethernet port, first go to the section called "Direct Connection to the USB Port" or "Direct Ethernet (for a Webflex not connected to a LAN)".

If you have a unit that is equipped with a modem, then you can take full advantage of the WebFlex. The unit is like a web server. Once you set up an Internet Service Provider (ISP) account for the unit, you can "surf" to it from any web connected computer to access data or reconfigure the settings. The unit can also contact you, by email, cell phone text message or pager, in case of trouble. In this case, a dedicated analogue phone line that does not go through a company switchboard for the process monitor must be provided. For details, go to the section below called "Remote Modem Access: Webcall."

(The ISP information must be entered into the WebFlex via direct connection to the USB port, the Ethernet or the Direct Modem method before attempting a Webcall connection.)

If you have not yet set up an ISP account and wish to program the WebFlex from a remote location, or if you just prefer the “old fashioned method” of direct modem-to-modem communication, go to the section called “Direct Modem Access.”

If you can use the Ethernet connection installed, then the WebFlex becomes like another device on a network. You can use your web browser software, enter the unit’s address (assigned by your network administrator) and access data or reconfigure the unit. You will need to have a network node nearby (within 100 meters/330 feet) to connect your WebFlex process monitor. See the section called “Ethernet Connection to LAN”.

You may also use the Ethernet card in your laptop to communicate with the Ethernet connection in the WebFlex. This requires a patch cable and the laptop network settings must be configured to work with the WebFlex. Refer to the section called “Direct Ethernet (for a WebFlex not connected to the LAN).”

Uploading Configuration Files

You can save all of the set points from a previously programmed unit, and then import the same set points into another unit. If you have already exported a configuration file from a previously programmed unit, you can import that file to this unit in order to make all the set points the same. If you want to save the set points of this unit for use in future units, or want to program this unit using a stored configuration file, refer to section 5.14 for specific instructions.

See the appropriate section, depending upon how you plan on exporting the configuration file; via a laptop connected to the front panel, via modem, or via Ethernet connection.

4.3 Communicating with the WebFlex

4.3.1 Direct Connection to the USB Port



A direct USB connection to the WebFlex can be made in two ways. A temporary connection or a permanent connection can be made between a PC and the USB connector inside the unit. The cable length is limited to 5 meters (15 feet).

Equipment Required

- An A to B USB cable.
- An Internet-ready computer with the following capabilities: 100 MHz minimum processor speed, 40 MB minimum RAM, Windows 2000 or newer operating system, and Windows Internet Explorer version 5.0 or higher web browser software.

Features Required in the WebFlex

- Any WebFlex process monitor is capable of an USB connection.

Utilities you need to set up on your computer

- An USB driver must be installed on your computer. Refer to the separate detailed instructions for this procedure.
- A Local Area Connection must be configured in order to establish a communication between the process monitor and your PC. See below for this procedure.

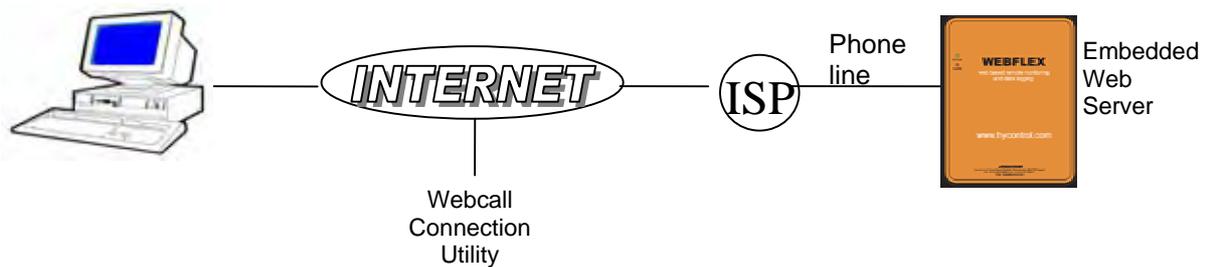
Parameters that need to be programmed into the WebFlex

- The WebFlex is capable of this type of communication without any programming by the user prior to attempting the communication.

Steps Required to Establish a Connection

- Connect the USB cable between the WebFlex and your computer. A New Hardware Found wizard will launch.
- Install the driver on your PC by inserting the disc supplied and following the instructions. This needs to be done only once for each USB port on the PC that will be used to communicate with a WebFlex process monitor.
- Go to Control Panel, Network Connections, and locate the new Local Area Connection 2 that has been created. Click on the Properties button. Highlight Internet Protocol (TCP/IP) then click Properties. Click Use the following IP address and enter 199.199.199.1. Click OK to exit.
- Open Internet Explorer and type in the address 199.199.199.2.
- The sign-on screen of the WebFlex will come up. Type the User Name and (Access Code) in the text boxes and click the Submit button. The default user name is "webflex" and the default passwords are "2001" for full access, "2002" for calibration only, and "2003" for read only. These defaults can and should be changed in the Access Code page.

4.3.2a Remote Modem Access: Webcall – PSTN (Wired)



Equipment Required

- An Internet-ready computer with the following capabilities: 100 MHz minimum processor speed, 40 MB minimum RAM, Windows operating system, and Windows Internet Explorer version 5.0 or higher web browser software.
- An active analogue phone line, direct to the process monitor (**without a PBX system in between**) must be connected to the modem of the WebFlex.
- A dialup account must be established for the WebFlex with an Internet Service Provider (ISP). The connection will only be as reliable as the ISP. You should avoid small free ISPs unless you know that they can provide reliable connection to the Internet. Contact Hycontrol for recommendations.

Features Required in the WebFlex

- The WebFlex must have the modem option installed in order to communicate via Webcall.

Utilities you need to set up on your computer

- There are no special drivers, adapters or other software components required on the PC.

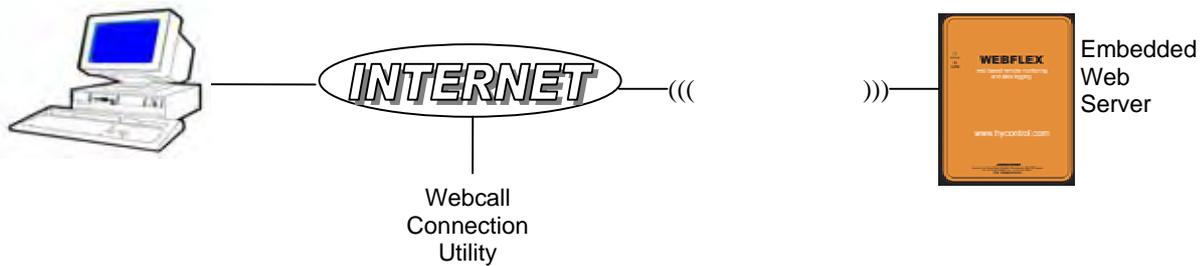
Parameters that need to be programmed into the WebFlex

- Prior to attempting a Webcall connection, the following information needs to be entered into the Communications page of the WebFlex, via a direct USB connection or direct modem connection. Some of this information needs to be provided to you by the Internet Service Provider (ISP).
- The unit's phone number.
- The local access phone number for the ISP. More than one access number may be entered.
- The ISP Username that the unit will use to connect to the ISP.
- The ISP Password that the unit will use to connect to the ISP.

Steps Required to Establish a Connection

- Connect your PC to the Internet.
- Enter the address <http://146.115.4.194/Hycontrol/frontdoor.asp> or use the link provided @ <http://www.hycontrol.com>.
- Enter the Connection Utility Username and Password and click the Submit button.
- Enter the phone number of the unit, minus the leading zero, and click the Connect button. After a little while (70 secs to 180 secs), the sign-on screen for the WebFlex will come up.
- Type the User Name and Password (Access Code) in the text boxes and click the Submit button. The default user name is "webflex" and the default passwords are "2001" for full access, "2002" for calibration only, and "2003" for read only. These defaults can and should be changed in the Access Code page.

4.3.2b Remote Modem Access: Webcall – GPRS (Wireless)



Equipment Required

- An Internet-ready computer with the following capabilities: 100 MHz minimum processor speed, 40 MB minimum RAM, Windows operating system, and Windows Internet Explorer version 5.0 or higher web browser software.
- An active data enabled SIM card must be installed in the GPRS modem.
- A GPRS account must be set up with SIM card provider to allow access to the internet.

Features Required in the WebFlex

- The WebFlex must have the modem option installed in order to communicate via Webcall.

Utilities you need to set up on your computer

- There are no special drivers, adapters or other software components required on the PC.

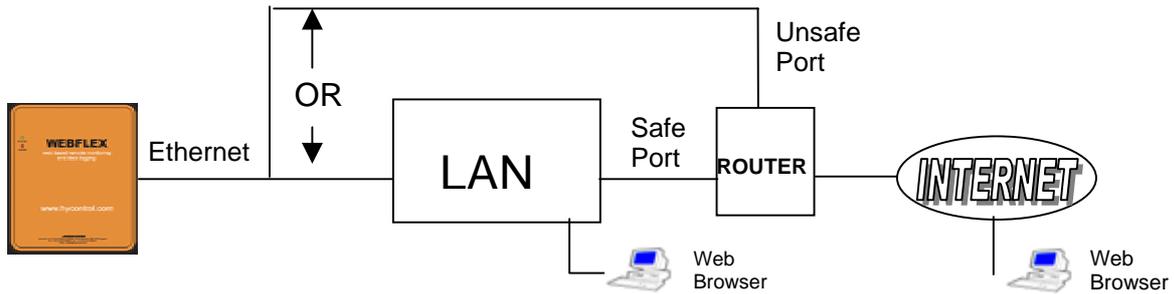
Parameters that need to be programmed into the WebFlex

- Prior to attempting a Webcall connection, the following information needs to be entered into the Communications page of the WebFlex, via a direct USB connection. Some of this information needs to be provided to you by the Internet Service Provider (ISP).
- The unit's phone number.
- The local access phone number for the ISP. More than one access number may be entered.
- The ISP Username that the unit will use to connect to the ISP.
- The ISP Password that the unit will use to connect to the ISP.
- Additional entries are required to allow use of the email facility.

Steps Required to Establish a Connection

- Connect your PC to the Internet.
- Enter the address <http://146.115.4.195/Hycontrol/frontdoor.asp> or use the link provided @ <http://www.hycontrol.com>.
- Enter the Connection Utility Username and Password and click the Submit button.
- Enter the phone number of the unit minus the leading zero, and click the Connect button. After a little while (5 secs to 30 secs), the sign-on screen for the WebFlex will come up.
- Type the User Name and Password (Access Code) in the text boxes and click the Submit button. The default user name is "webflex" and the default passwords are "2001" for full access, "2002" for calibration only, and "2003" for read only. These defaults can and should be changed in the Access Code page.

4.3.3 Ethernet Connection to LAN



Equipment Required

- An Internet-ready computer with the following capabilities: 100 MHz minimum processor speed, 40 MB minimum RAM, Windows operating system, and Windows Internet Explorer version 5.0 or higher web browser software.
- A connection between the PC and the local area network (LAN).
- An Ethernet connection between the WebFlex and the LAN.

Features Required in the WebFlex

- All WebFlex process monitors are capable of Ethernet communications.

Utilities you need to set up on your computer

- There are no special drivers, adapters or other software components required on the PC.

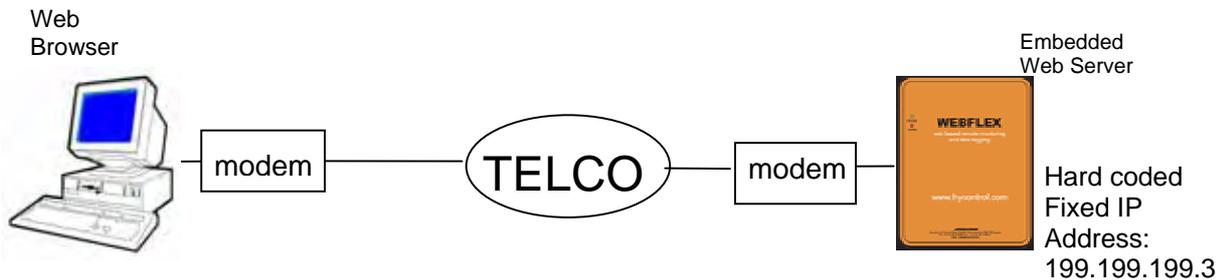
Parameters that need to be programmed into the WebFlex

- Prior to attempting an Ethernet connection, the following information needs to be entered into the Communication page of the WebFlex, either via a USB connection or via the Direct Modem option. This information must be provided by the IT Administrator of the LAN.
- The Ethernet IP address of the WebFlex. If the unit will only be accessed by computers on the LAN then this may be a fake IP address. If the unit needs to be accessible by computers not on the LAN then this must be a real IP address.
- The Subnet Mask.
- The Gateway IP address.

Steps Required to Establish a Connection

- Open Internet Explorer.
- Type in the Ethernet IP address that has been assigned by the IT Administrator.
- The sign-on screen of the WebFlex will come up. Type the User Name and Password (Access Code) in the text boxes and click the Submit button. The default user name is "webflex" and the default passwords are "2001" for full access, "2002" for calibration only, and "2003" for read only. These defaults can and should be changed in the Access Code page.

4.3.4 Direct Modem Access: Direct Modem



Equipment Required

- An Internet-ready computer with the following capabilities: 100 MHz minimum processor speed, 40 MB minimum RAM, Windows operating system, modem and Windows Internet Explorer version 5.0 or higher web browser software.
- An active analogue phone line, direct to the process monitor (without a PBX system in between) must be connected to the modem of the WebFlex.

Features Required in the WebFlex

- The WebFlex must have the modem option installed in order to communicate via Direct Modem.

Utilities you need to set up on your computer

- A Windows dialup networking adapter must be created. This dialup networking adapter is similar to but not identical to the one used in a USB connection. Refer to the separate detailed instructions for this procedure.

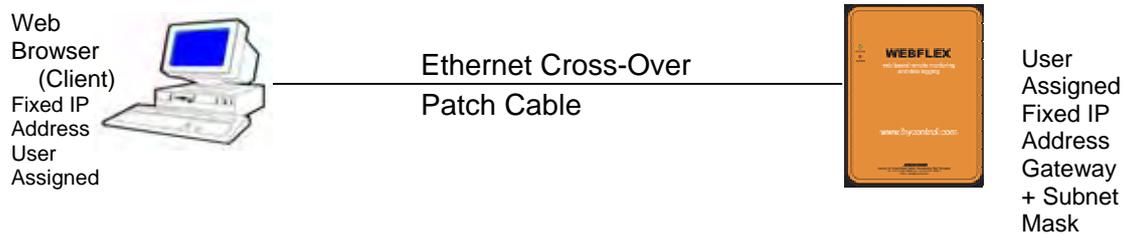
Parameters that need to be programmed into the WebFlex

- The WebFlex is capable of this type of communication without any programming by the user prior to attempting the communication.

Steps Required to Establish a Connection

- Create the dialup networking adapter on your PC. This needs to be done only once for each PC that will be used to communicate with a WebFlex process monitor.
- Use the dialup networking adapter to connect the PC to the WebFlex.
- Open Internet Explorer.
- Type in the address 199.199.199.3. The sign-on screen for the WebFlex will come up.
- Type the User Name and Password (Access Code) in the text boxes and click the Submit button. The default user name is "webflex" and the default passwords are "2001" for full access, "2002" for calibration only, and "2003" for read only. These defaults can and should be changed in the Access Code page.

4.3.5 Direct Ethernet (for a WebFlex not connected to a LAN)



Equipment Required

- An Internet-ready computer with the following capabilities: 100 MHz minimum processor speed, 40 MB minimum RAM, Ethernet card, Windows operating system, and Windows Internet Explorer version 5.0 or higher web browser software.
- An Ethernet patch connection between the PC and WebFlex.

Features Required in the WebFlex

- All WebFlex process monitors are capable of Ethernet communications.

Utilities you need to set up on your computer

- There are no special drivers, adapters or other software components required on the PC. However if your laptop is used on a LAN it is likely that you will have to change your network TCP/IP properties to use a specific IP address for your PC instead of obtain an IP address automatically. You will have to specify the IP address, as well as the Subnet Mask and Gateway IP address.
- To set the PC to work with default WebFlex settings, the IP address is 10.0.100.30, subnet mask is 255.255.254.0, and the gateway is 10.0.100.30.

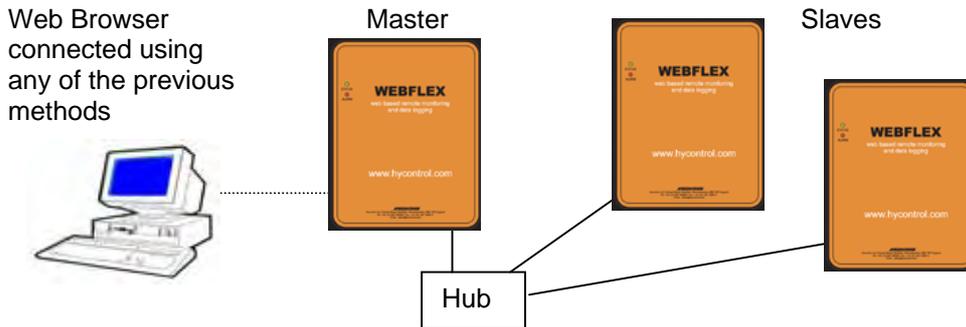
Parameters that need to be programmed into the WebFlex

- Prior to attempting an Ethernet connection, the following information needs to be entered into the Communication page of the WebFlex, either via an USB connection or via the Direct Modem option.
- The Ethernet IP address of the WebFlex.
- The Subnet Mask.
- The Gateway IP address.

Steps Required to Establish a Connection

- Open Internet Explorer.
- Type in the Ethernet IP address that has been assigned to the WebFlex.
- The sign-on screen of the WebFlex will come up. Type the User Name and Password (Access Code) in the text boxes and click the Submit button. The default user name is "webflex" and the default passwords are "2001" for full access, "2002" for calibration only, and "2003" for read only. These defaults can and should be changed in the Access Code page.

4.3.6 Networking WebFlex Process monitors via Ethernet



Equipment Required

- An Internet-ready computer with the following capabilities: 100 MHz minimum processor speed, 40 MB minimum RAM, Ethernet card, Windows operating system, and Windows Internet Explorer version 5.0 or higher web browser software.
- An Ethernet cable connection between each WebFlex using a hub or connection to LAN.

Features Required in the WebFlex

- All WebFlex process monitors are capable of Ethernet communications.

Utilities you need to set up on your computer

- There are no special drivers, adapters or other software components required on the PC to support networking. Refer to the previous sections for connecting to the master process monitor via USB, Ethernet, or modem.

Parameters that need to be programmed into the WebFlex

- Prior to attempting an Ethernet connection, the following information needs to be entered into the Communication page of each WebFlex on the network, either via an USB connection or via the optional modem.
- The Ethernet IP address of the WebFlex.
- The Subnet Mask.
- The Gateway IP address.
- The master must be selected as the master, and the slaves selected as slaves.
- Power must be cycled off and back on in order for the Ethernet changes to take affect, and for the master to detect the slaves.

Steps Required to Establish a Connection

- Connect to the master process monitor using one of the methods described in sections 4.3.1 through 4.3.5.
- The sign-on screen of the WebFlex will come up. Type the User Name and Password (Access Code) in the text boxes and click the Submit button. The default user name is "webflex" and the default passwords are "2001" for full access, "2002" for calibration only, and "2003" for read only. These defaults can and should be changed in the Access Code page.
- Once connected to the master, you may connect to the slaves by clicking on the link under the heading of "Sub-Network".
- You must log onto each slave using its user name and password.

4.4 Startup

Once the WebFlex has been set up for your application, start up is a simple process. Simply turn on the power, and it will begin monitoring the process.

4.5 Shut Down

To shut down the process monitor, simply turn off the power. All set points will be retained in memory.

5.0 OPERATION

When you first access the process monitor, the System Summary page will be displayed in the main frame of the browser, and the Name of the unit and Alarm Status will be displayed in the top frame. Links to each main menu page are located down the left side of the screen.

The menu pages are grouped by inputs, outputs, and utilities. Each input has fields for defining the type of input, selecting units of measure, etc. as required. The alarm output has menus for selecting the types of errors that will trigger the relay, pager, cell phone text message or email notification. The utilities allow you to set up the data logging, auto-reporting, access codes, communications, etc.

5.1 Menu Selection Links

Down the left side of your PC monitor will be links to the various menu pages. Below is a list of all possible Menu selections, followed by their content.

Startup

System Summary

Analogue Inputs

4-20 mA Inputs

4-20 mA Calibration

Digital Inputs

Digital Inputs

Outputs

Alarm

Utilities

Data Logging

Auto Reporting

Graphing/Trending

Communications

Advanced Comms

Software Upgrade (only appears if the WebFlex has an Internet connection and there is a more recent version of software available for download)

Configuration File

Notepad

Access Codes

Hycontrol Home Page

5.2 Startup

Select the option that you want for each of the sections on the page. When you click on the "Submit" button at the bottom of the page, your changes will take effect. **If you move to another page without clicking "Submit" first, your changes will be lost!**

Custom Name

Type the name that you want to use to identify the unit, up to 32 characters, in the text box. For example, "XYZ Company, West Suburbia".

Time & Date

Update the date and time by typing in the desired values and clicking the arrow on the AM/PM pull-down list and selecting the correct value.

Site Location

Type the location of the process monitor in the text box. (Unlimited text).

Date Format

Click on the radio button that corresponds to the desired date format. The choices are Month/Day/Year, Day/Month/Year or Year/Month/Day.

Digital Input Assignment

Click on the radio button that best describes the devices that you have connected to the digital inputs for each input labeled 1 through 6. Make sure that you select the type of device that is actually wired to that terminal of the card!

Not Used should be selected if nothing is attached to that input.

Flow meter should be selected if a high frequency (greater than 10 Hz) Hall Effect paddlewheel flow meter is connected to that input. This option will give you the ability to specify a K Factor to convert contact closures into a flow rate.

Switch should be selected if the digital input state (open or closed) will indicate an alarm condition or if the input state needs to be logged. The WebFlex allows you to specify a custom message to be delivered if the contact is open or closed.

4-20 mA Input Assignment

Click on the radio button which best describes the devices you have attached to the 4-20 mA inputs, for each input labeled 1 through 6. Make sure that you select the type of device that is actually wired to that terminal of the card!

Not Used should be selected if nothing is connected to that input.

Level should be selected if a continuous level transmitter is attached to that output. Later when you get to the 4-20 mA Input Page, you will be able to name the input, define the Units of Measure, and also set alarm limits. Ullage will be calculated and displayed on the System Summary page.

Flow Meter should be selected if flow transmitter is connected to that input. Later when you get to the 4-20 mA Input Page, you will be able to name the input, scale it,

define the Units of Measure), and also set alarm limits. It will display rate and total. Any other transmitter where it is desired to track rate and total can also be configured as a Flow Meter type.

Other should be selected if the 4-20 mA transmitter connected to that input is anything other than the previously mentioned ones. Later when you get to the 4-20 mA Input Page, you will be able to name the input (for example, Temperature or Pressure), scale it, define the Units of Measure (like degrees C or Bars), and also set alarm limits.

5.3 System Summary Menu

There are no programmable parameters in the System Summary Menu page. Several tables will be displayed, with information on 4-20 mA inputs values, alarm relay state, digital input state, active alarm messages, etc.

5.4 4-20 mA Inputs

This page is used to configure the 4-20 mA inputs. If you have set the type of input in the Startup page, this page will already be showing the correct fields to set up each input type. If you have not already set the input types, you can do that here, then click the Submit button. When the page refreshes the correct fields will appear.

Select the options that you want for each of the sections on the page. When you click on the "Submit" button at the bottom of the page, your changes will take effect. **If you move to another page without clicking "Submit" first, your changes will be lost!**

4-20 mA Input Assignment

Click on the radio button which best describes the devices you have attached to the 4-20 mA inputs, for each input labeled 1 through 6. Make sure that you select the type of device that is actually wired to that terminal of the card!

See section 5.2 for a description of each input type.

Level (4-20 mA) Input Menu

(only appears if a 4-20 mA input is assigned to be a Level type)

Input

Displays which 4-20 mA inputs are defined as level inputs.

Custom Name

You may give the level input a custom name by typing it in the text box.

Present Value

This displays the current level information.

Present mA

This displays the mA output of the level transmitter, before it is converted into a volume, distance or other engineering units. This is helpful for troubleshooting.

Status

This displays current status of the input. Possible status messages for level transmitters are; Normal (everything is OK), Sensor Error (the sensor signal is not valid), Over Range (between 20 and 21 mA), Under Range (between 3.9 and 4.0 mA), Low Alarm or High Alarm.

4 mA =

Type into the text box the engineering unit value that corresponds to a 4 mA signal.

20 mA = (Max. Capacity)

Type into the text box the engineering unit value that corresponds to a 20 mA signal.

Units

Type into the text box the units of measurement.

Low Alarm Limit

Type into the text box the Level at which you want a low alarm to occur. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email or call a pager.

High Alarm Limit

Type into the text box the Level at which you want a high alarm to occur. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email or call a pager.

Other 4-20 mA Input

This type of analogue input is programmed exactly like the Level type. The main difference is that the Level type will calculate the Ullage, while the Other type will not.

Flow meter 4-20 mA Input**Input**

Displays which 4-20 mA inputs have been selected as "Flow meter" type.

Custom Name

You may give the input a custom name by typing it into the text box.

Rate

This displays the current reading of the flow meter, using the mA signal from the device, the span of the 4-20 mA signal defined in "4 mA =" and "20 mA =" below, and the units of measure defined below.

Present mA

This displays the present raw mA signal from the flow meter. This is helpful in troubleshooting.

Status

This displays whether the present value is "Normal", or in a "Low Alarm" or "High Alarm" condition. Possible status messages are; Normal (everything is OK), Sensor Error (the sensor signal is not valid), Over Range (between 20 and 21 mA), Under Range (between 3.9 and 4.0 mA), High Alarm, Low Alarm or Total Limit.

4 mA =

Type into the text box the value that corresponds to a 4 mA output signal from the device. For example, if the flow transmitter sends out 4 mA at 0.00 gpm, type in 0.00. Any value between -100,000 and 100,000 is acceptable.

20 mA =

Type into the text box the value that corresponds to a 20 mA output signal from the device. For example, if the flow transmitter sends out 20 mA at 100 gpm, type in 100. Any value between -100,000 and 100,000 is acceptable.

Units

Type into the text box the units of measure that you want to use for the device connected to that input. For example, you could use "gal", etc.

Rate Low Alarm

Type into the text box the value for that input below which you want a low alarm to occur. Any value between -100,000 and 100,000 is acceptable. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email or call a pager.

Rate High Alarm

Type into the text box the value for that input above which you want a high alarm to occur. Any value between -100,000 and 100,000 is acceptable. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email or call a pager.

Total

This field displays the total flow accumulated since the last time it was reset.

Reset Total

Click on this button to reset the total.

Last Reset Date

This field displays the date and time of the last time the total was reset.

Total Alarm Limit

Type into the text box the total volume of flow above which the alarm will activate.

5.5 4-20 mA Calibration

This page is used to calibrate the 4-20 mA inputs of the WebFlex.

Following the instructions of your 4-20 mA transmitter, supply the WebFlex with a 4 mA signal for each input. Verify that the transmitter is accurate by measuring it with an ammeter. The column in the WebFlex table will show the **Present mA Reading**. If this does not read exactly 4.00 mA, then click the button labelled **Set 4 mA** and you will be prompted to perform the calibration. If you click Yes, the WebFlex will adjust the Present mA Reading to 4.00 mA. If the value is more than 2 mA from 4 mA, then a Range Error message will appear and the calibration will not be changed.

Repeat this process for each transmitter, except provide a 20 mA signal to the WebFlex. If the Present mA Reading does not read exactly 20 mA, click the button labelled **Set 20 mA** and you will be prompted to perform the calibration. If you click Yes, the WebFlex will adjust the Present mA Reading to 20.00 mA. If the value is more than 2 mA from 20 mA, then a Range Error message will appear and the calibration will not be changed.

5.6 Digital Inputs

This page is used to configure the digital inputs. If you have set the type of input in the Startup page, this page will already be showing the correct fields to set up each input type. If you have not already set the input types, you can do that here, then click the Submit button. When the page refreshes the correct fields will appear.

Select the options that you want for each of the sections on the page. When you click on the "Submit" button at the bottom of the page, your changes will take effect. **If you move to another page without clicking "Submit" first, your changes will be lost!**

Flow meter

Custom Name

You may give the input a custom name by typing it in the text box.

Total

The total water flow since the last time the total was reset will be displayed here. The Reset Total button allows you to set the total back to 0.

Last Total Reset

The date and time of the last time the total was reset will be displayed here.

Rate

The current flow rate will be displayed here. The units of measure used is defined below.

Status

This menu reports the status of the input. Possible messages are Normal, High Alarm, Low Alarm, or Total Limit.

Units

Select the units of flow that you want to use. The choices are Gallons, Liters or Cubic Meters per minute.

K Factor

The instructions for the flow meter, or the flow meter itself should have the K Factor (pulses per unit volume) that is necessary to calculate the flow rate. Type this into the text box.

Total Alarm Limit

You may specify a total amount of volume accumulated above which an alarm message will occur. Type this in the text box. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email or call a pager.

Rate High Alarm

You may specify a flow rate above which an alarm message will occur. Type this in the text box. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email or call a pager.

Rate Low Alarm

You may specify a flow rate below which an alarm message will occur. Type this in the text box. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email or call a pager.

Switch Input**Custom Name**

You may give the input a custom name by typing it in the text box.

Custom Message for Open Contact

You may specify a custom message to be displayed in the System Summary when the digital input contact is open. Type it in the text box.

Custom Message for Closed Contact

You may specify a custom message to be displayed in the System Summary when the digital input contact is closed. Type it in the text box.

Alarm Active when Contact is

Select the state of the digital input that corresponds to an alarm condition. If Open or Closed is selected, then when the switch is in that state the critical alarm action specified in the Alarm page will occur. If Neither is selected, then neither contact state will initiate the critical alarm action.

Digital Input Assignment

Click on the radio button that best describes the devices that you have connected to the digital inputs for each input labeled 1 through 6. Make sure that you select the type of device that is actually wired to that terminal of the card!

Not Used should be selected if nothing is attached to that input.

Flow meter should be selected if a high frequency (greater than 10 Hz) Hall Effect paddlewheel flow meter is connected to that input. This option will give you the ability to specify a K Factor to convert contact closures into a flow rate.

Switch should be selected if the digital input state (open or closed) will indicate an alarm condition or if the input state needs to be logged. The WebFlex allows you to specify a custom message to be delivered if the contact is open or closed.

5.7 Alarm

This page is used to configure the Alarm Output. Select the options that you want for each of the sections on the page. When you click on the "Submit" button at the bottom of the page, your changes will take effect. If you move to another page without clicking "Submit" first, your changes will be lost!

Alarm Condition

In the left hand column, a list of all possible alarm conditions will be displayed. Only the alarm conditions that are possible given how your process monitor is configured will appear. To the right of each type of alarm condition there will be a column labeled Critical Alarm with a choice of "Yes" or "No". Click on the "No" radio button if you do not want that type of alarm to be considered critical.

If an alarm condition is selected as a critical alarm, then you have the option of being notified that the alarm condition exists, by triggering the alarm relay, sending an email, or calling a pager.

The WebFlex will attempt to send the alarm message email five times at 5 minute intervals and will then stop trying, even if unsuccessful.

Status

This menu is for information only, and tells you if the alarm relay is currently on or off, and if it is on, for how much time. Possible status messages are Off, Off | Manual, On - Time counting up (indicating how long the alarm relay has been active) and On - Time counting down | Hand (for manual output activation).

Custom Name

You may give the relay a custom name by typing it in the text box.

Critical Alarm Action

Click on the check box to the left of the action or actions that you want to occur if a critical alarm condition exists. The process monitor can close or open the alarm relay, send an email or dial a pager, or any combination of the above.

Remote Alarm Delay Time

In order to avoid being notified of an alarm condition that quickly corrects itself, you may set a delay time for the alarm action. If the alarm condition still exists at the end of the delay time, then the alarm action will occur. If the alarm condition no longer exists at the end of the delay time, no notification will occur. Any value between 0 and 1440 minutes is acceptable.

Active When Relay Is

Click on the radio button that describes how you want the alarm relay to act. The normal method is to close the relay when an alarm condition exists, but you can also open the relay.

Output Time Limit

Type in the text box the maximum time for the alarm relay to be active. Setting the time to zero will allow the alarm to be active indefinitely.

Output Mode

Click on the radio buttons to manually control the alarm relay. The normal selection will be *Auto*, where the WebFlex uses the various set points to open and close the relay. You can force the relay open regardless of the presence of an alarm condition by selecting *Off*, or force the relay closed regardless of the presence of an alarm condition by selecting *Hand*.

If you select *Off*, the alarm relay will not be triggered again until either *Hand* or *Auto* is selected, or unless power to the unit is cycled off and on! If you select *Hand*, the relay will be closed until either *Auto* or *Off* is selected, or until the *Hand Time Limit* (programmed in the next menu) expires.

The *Off* mode is handy to use as an alarm silence. The *Hand* mode is handy to be able to test the relay, wiring, etc without needing to force an alarm condition.

Hand Time Limit

Type in the text box the maximum number of minutes that the alarm output can be activated in the *Hand* mode. Any value between 0 and 1440 is acceptable. A value of 0 means the output can be left on indefinitely.

Alarm Action Log

Click the link to [View Log File](#). The Alarm Action Log will tell you the status of any alarm emails that may have been sent. It will show you the date and time of the alarm, the method of alarm notification, whether it was successful at sending the message or not, and the type of alarm.

A window will open to ask if you would like to open the file or save it to disc. Select the method you would like to use. The file is a basic text file with a .log extension that may be opened in any word processing program (Word, Notepad, etc.).

Relay Log

Click the link to [View Log File](#). It will display the date and time of the relay changing states and displays the elapsed time.

5.8 Data Logging

This page is used to configure the data log. Select the options that you want for each of the sections on the page. When you click on the "Submit" button at the bottom of the page, your changes will take effect. If you move to another page without clicking "Submit" first, your changes will be lost!

Manual Data logging

You may either download data files automatically, or manually. To download automatically, click the *Disable* radio button, and set up the schedule in the *Auto Reporting* page (See Section 5.9). To download manually, click the *Enable* radio button, then go to the bottom of the page and click the *Submit Datalog Details* button.

Note that if you have an automatic data log building, and you click the *Enable* radio button to download data manually, **the filtered set of data previously gathered will be lost!**

You will now see additional menus, which allow you to set the start date and end date of the manual log, as well as the frequency of logging data points. Type the desired values in the text boxes.

You will also get a link on the bottom of the page, Manual Download, which will initiate the downloading process of this file. You will be presented with the standard Windows dialog box, asking you what the file should be named and where you want the file to be saved.

Select the Measurements to Include in the Data Log File

You will be presented with a list of all of the parameters that can be logged, including 4-20 mA input values, flow meter totals and rates, level transmitter readings, and digital input or output state. The contents of the list will vary depending on what options you have installed or programmed. Click the “Yes” radio buttons of the parameters that you want to log, and the “No” radio buttons of the parameters that you do not want to log.

To download the active data log, click the “Active Log Download” link and another window will open. The WebFlex stores all parameters (used or not) every 20 minutes for 32 days, and this log contains everything. You will be presented with the standard Windows dialog box, asking you what the file should be named and where you want the file to go.

NOTE to Windows XP Service Pack 2 Users:

To download any logs, RIGHT click the link, select SAVE. Once the file is saved, open Excel and then open the file in Excel.

5.9 Auto Reporting

This page is used to configure the automatic reports. Select the options that you want for each of the sections on the page. When you click on the “Submit” button at the bottom of the page, your changes will take effect. If you move to another page without clicking “Submit” first, your changes will be lost!

There are two types of reports that may be sent to you automatically. One is a system summary report, which will contain all of the information that is found on the System Summary page. This includes 4-20 mA inputs with a 24 hour minimum, maximum and average calculated, level, Ullage, alarm relay status, switch input status, digital input state, flow meter totals and rates, and any active alarms. This report will be sent by email.

The other type of automatic report is a data log report. This report will email a data log file of any parameters that you selected in the Data Logging page. This file may be opened in a spreadsheet for graphing or other data manipulation. This report may be sent on a cyclical schedule or over a specific date range.

System Status Reporting

Click the appropriate radio button to enable or disable the system status report feature.

Data Log Reporting

Click the appropriate radio button to enable or disable the data log report feature.

Log File

Click on the link called Log to manually download the Report log. This log details the date and time of the report, which type of report was sent, how the report was sent (email via modem, or email via Ethernet), if the report was sent successfully or not, and if not, what the problem was. You will be presented with the standard Windows dialog box asking if you want to open the file or save it. If it's to be saved, it asks you what the file should be named and where you want the file to go.

System Status Reporting, Status

This menu is informational only, telling you when the next report is due to be sent.

System Status Reporting, Reporting Mode

Click the appropriate radio button to select an Hourly, Daily, Weekly, Biweekly, or Monthly report frequency. Type the time of day for receiving the report in the text boxes, and use the pull down menus to select the desired day, and to select AM or PM.

Important: If this unit is part of a network of process monitors, you must stagger the reports from each process monitor in the network to occur at least an hour apart. Failure to do so could result in lost reports!

Report Testing

Click the Send a Test Report Now button to see if the report will be sent correctly. The email address entered in the Communications page will be used. If you haven't already entered this information, go the Communications page and do so before trying a test report. The unit must have an email address, an SMTP IP address, and access to the Internet before a test report may be sent successfully. See section 5.11.

Data Log Auto Reporting, Reporting Mode

Click the appropriate radio button to select either a Cyclical report schedule or a Calendar report schedule. A cyclical report is more convenient since it will automatically be sent every week, month, etc. The calendar report will be sent for a certain date range, and then once that date has gone by, the next date range needs to be specified or another report will never be sent!

Data Log Auto Reporting, Logging Frequency

Type the frequency of the data points into the text box.

Data Log Auto Reporting, Log Duration

If you have selected a cyclical schedule, select a Daily, Weekly, Biweekly, or Monthly report frequency. Type the time of day for receiving the report in the text boxes, and use the pull down menus to select the desired day, and to select AM or PM.

If you have selected a calendar report, select the start date and time, and the end date and time.

Important: If this unit is part of a network of process monitors, you must stagger the reports from each process monitor in the network to occur at least an hour apart. **Failure to do so could result in lost reports!**

5.10 Graphing/Trending

Recent data may be viewed in a graphic format on-line without downloading it to a computer first, and without opening it in a spreadsheet.

At the top of the page, a selection of boxes will be displayed. Check the box of the parameter that you would like to see graphed. The choices will be any direct sensor input and any 4-20mA input that is being used. Then select the Time Span of the data by selecting it from the pull-down. The choices are Last Hour, Day, 7 Days, 14 Days and 32 Days.

Click the Submit button for the changes to take effect.

The graphs selected will be presented below.

5.11 Communications

Internet Dial Up Account

Controller ISP User Name

When the process monitor needs to dial out and connect to the Internet Service Provider, it needs to identify itself with a user name, so that the ISP knows that it has an account. Type in the text box the user name that the process monitor will use.

Controller ISP Password

Similarly, the process monitor needs to identify itself with a password in order to connect with the ISP. Type in the text box the password that the process monitor will use. The password can also be changed here.

Primary ISP Phone No.

Type in the text box the first phone number for the process monitors Internet Service Provider. This will be the phone number that it attempts to dial first.

Secondary ISP Phone No.

Type in the text box the second phone number for the process monitors Internet Service Provider. This will be the phone number that it attempts to dial second, if the first number doesn't respond.

Process monitor Phone No

When you need to communicate with the process monitor, you go to the Hycontrol web site, link to the WebFlex access page, and a call is made from our server to the process monitor to wake it up. Type in the text box the phone number (omitting the leading zero) of the WebFlex you want to connect to. Use the pull down menu to select the country where the process monitor is located.

Email

Email 1st Address

When the WebFlex needs to send an email for notification of an alarm condition, or to send out a scheduled report, this is the first email address that it will use. Type in the text box the address to which you want the process monitor to send emails.

Email 2nd Address

If the emails need to be sent to more than one address, enter the second address in this text box.

Email 3rd Address

If the emails need to be sent to more than one address, enter the third address in this text box.

Email 4th address

If the emails need to be sent to more than one address, enter the fourth address in this text box.

Cell Phone Text Message

The email message above is in html format and will not be displayed correctly on a cell phone. The cell phone text message email will be truncated. Data log and summary reports are not sent to these addresses, only alarm emails.

1st Address – 4th Address

Type in the text box the addresses for a text message to be sent. Up to four addresses are available.

Email & Cell Phone Settings**SMTP IP Address**

In order for the process monitor to send an email, the email must first be routed to the SMTP IP address that the Internet Service Provider specifies. Obtain this address from your ISP and type it into the text box.

Controller email Address

The process monitor needs to be given an email address, which your ISP uses to identify the process monitor as having an account, so that the ISP will accept the email that the process monitor is sending, and route it to the intended recipient. Type in the text box the process monitor's email address.

Send Email Via

If you have both a modem card and an Ethernet card installed, click on the radio button you want to use to send an email notification of an alarm condition, or an automatic report.

Pager**Primary Pager No.**

If there is a pager that you want to be called in case of an alarm condition, type the telephone number in this text box.

Primary Pager PIN

Enter the primary pager's PIN number in this text box.

Secondary Pager No.

If there is another pager that should be used in an alarm condition, type the telephone number in this text box.

Secondary Pager PIN

Enter the PIN number for the secondary pager in this text box.

PIN Delay

Some pagers make you wait for a message to finish before prompting you to dial the PIN number. If the pager requires a pause before dialing the PIN number, type the number of seconds to wait between the answering service picking up and the PIN number being dialed. Any value between 1 and 60 seconds is acceptable.

Controller ID

When the process monitor calls a pager, it will leave a numeric message that is its phone number. You can have the process monitor dial some numbers attached to the end of the phone number to let you know that this is a process monitor calling and not some long-lost friend. Type in some code, for example *999, that will remind you that it is a process monitor calling.

Ethernet (LAN)

Network Mode

If you have purchased the software to allow networking of process monitors via Ethernet, use the pull down arrow to select the role that this process monitor will serve on the network. If it is not part of a network of WebFlex process monitors, select "Independent". If it is the Master, select "Master". If it is the Slave, select "Slave". Once the network mode has been selected, the power to the process monitor must be cycled in order for the change to take effect.

Network Detection

Click on the Detect Network button of the Master process monitor and it will look at all of the devices that are connected to it, determine which devices are its slaves, and refresh the Sub-Network frame in the lower left corner of your browser with all of the slaves detected.

Ethernet IP Address

When a process monitor is attached to a network, your IT Administrator needs to assign it an Ethernet IP address. When you want to communicate with the process monitor from your PC on the network, you go to your Browser and type in the process monitor's address. Type that address into the text box.

Ethernet IP Netmask

When a process monitor is attached to a network, your IT Administrator must also assign the IP Netmask. Type the number assigned in the text box.

Ethernet Gateway

When a process monitor is attached to a network, your IT Administrator must also assign the Gateway. Type the number assigned in the text box.

USB Connection

USB Connection IP Address

In order to communicate with the process monitor via a laptop or nearby PC connected to the USB port on the front panel, you need to start your Browser software, and type in this address. 199.199.199.2

USB Connection Lifetime

If the USB connection is lost, the process monitor will shut the connection down after 2 minutes.

Direct Modem Connection (Point to Point)

Direct Modem IP Address

This menu is information only and tells you the hard coded IP address for the process monitor when communicating to it via the direct modem to modem method. 199.199.199.3

Webcall Internet Connection

Dialup Connection Status

This menu is informational only, and tells you what is happening with the dialup connection. Possible status messages include:

Message

- Off Line
- Dialing xxx-xxxx
- No Dial Tone
- No phone number
- Connecting to ISP
- On Line
- Checking for Upgrade
- Connection Timeout in xxxxx sec

Explanation

The process monitor is not connected.
The process monitor is dialing out to the ISP.
The process monitor can not dial out due to phone line or modem problems.
There is nothing entered in the ISP Phone No. field.
The process monitor is successfully negotiating a connection with the ISP.
The process monitor is now on the Internet.
The process monitor is communicating with Our server to see if a software upgrade is available.
Once the Internet connection process is complete.
The number of seconds displayed depends upon the value entered in the Dialup Connection Lifetime text box described below.

Dialup Dynamic IP Address

This menu is informational only, and tells you the IP address of the last person to contact the process monitor.

Last Dialup Date and Time

This menu is informational only, and tells you when the process monitor was contacted last.

Click on the "Submit" button to save the changes.

Dialup Connection Lifetime

This menu allows you to set a time limit on the Internet connection if no changes have been made. This will help control the cost of operating the process monitor if you forget to log off. Type in the text box the number of minutes that you want to pass by before disconnecting the Internet connection.

Entering a connection lifetime of "0" means the connection will never timeout.

Manual Internet Dialup

Click on the Connect button to manually test the WebFlex's ability to successfully dial out and connect with your ISP. This is convenient on installation, or to troubleshoot Internet connection problems. The Dialup Connection Status field will display what is happening as described above. Once you see that the Dialup Connection Status is "On-line", you may disconnect the process monitor from the Internet by clicking the Disconnect button.

Modem Access Log

Click on the link to view the modem access log file. You will be prompted to either open the file (.csv format, normally opened in a spreadsheet) from its current location or to save the file to disk. Make your selection. The file will display the date and time of all modem connections, the type of connection (Webcall or Direct Modem) if the attempt was a success or a failure, and if it failed, what the failure mode was.

5.12 Advanced Comms

Internet Dialup Account

Wait for dial tone before dialing

Click to place a check in the box if you want the modem to wait for a dial tone before calling out. In some countries the dial tone may not be recognized. If the modem will not recognize the dial tone, uncheck the box.

Modem Baud Rate

Click on the arrow of the pull-down to select different modem baud rates. The WebFlex modem is 38400. Normally there will be no reason to change the baud rate. The baud rate may be reduced if the process monitor is having problems at the higher speed due to poor phone line conditions. In the future, external modems may be supported that may not have the same baud rate.

Controller Telco Location

Click on the arrow of the pull-down to select the country where the process monitor is located.

Use SMTP for Email

Click to place a check in the box if your ISP requires authenticated simple mail transfer protocol for its email.

Common Network Settings

DNS IP Address

This text box contains the address of a valid Domain Name Server, which allows the WebFlex to send the emails using the name of the email server rather than the numeric SMTP IP address. This DNS IP address should never need to be changed, unless the server is experiencing problems.

Subnet Key

It is possible to convert a stand-alone unit to a Master by entering the correct subnet key. Please contact your distributor for details. You will need to purchase the key, enter it in this field, click the Submit button, and then cycle power to the unit. It will now be capable of being the Master in a network.

Sub-Network Settings

Mapped Internet IP Address

If you are accessing the master process monitor by using NAT to translate a real IP address to a fake IP address, then type the real IP address into this field of the master process monitor.

Webcall Internet Connection

Dialup Connection Status

This menu is informational only, and tells you what is happening with the dialup connection. Possible status messages include:

Message

- Off Line
- Dialing xxx-xxxx
- No Dial Tone
- No phone number
- Connecting to ISP
- On Line
- Checking for Upgrade
- Connection Timeout in xxxxx sec
displayed depends upon the

Explanation

The process monitor is not connected.
The process monitor is dialing out to the ISP.
The process monitor cannot dial out due to phone line or modem problems.
There is nothing entered in the ISP Phone No. field.
The process monitor is successfully negotiating a connection with the ISP.
The process monitor is now on the Internet.
The process monitor is communicating with our server to see if a software upgrade is available.
Once the Internet connection process is complete. The number of seconds value entered in the Dialup Connection Lifetime text box described below.

Wireless Modem Antenna Setup

Antenna Setup

Before attempting to run the antenna setup, make sure that the dialup status is "Off Line." Click the Start Setup button. It will prompt you to verify that you really want to start the setup. Click Yes and the setup will begin. Click on End Setup when you have finished. The dialup status should return to "Off Line."

Signal Strength

This field will display the actual modem response string from the wireless modem.

Suggestion

This field will tell you whether the signal strength is Good, or if its Bad and you should try to relocate the antenna.

5.13 Software Upgrade

(Only appears if the WebFlex has an Internet connection and there is a more recent version of software available for download)

Whenever you connect to the WebFlex via an Internet connection, it will check to see if any software upgrades are available. If there are, then the Software Upgrade page

link will appear. Note that this can only occur if the WebFlex is connected to the Internet, either through the modem or Ethernet.

If there is a newer version of software that you would like to load into your unit, then you can upgrade to the latest revision.

Click on the link “More Info on Software Upgrade” to see what features have been added.

Click on the link “Start Software Upgrade” in order to download the new version to the unit.

Note: Process monitoring is suspended during a software upgrade. If the unit being updated is a slave on a network of WebFlexes, both the master unit and the slave being updated will have process monitoring suspended during the upgrade process. Depending upon the extent of the changes and Internet traffic, the upgrade can take anywhere from 15 minutes to 2 hours to complete.

5.14 Configuration File

If many of your process monitoring applications are nearly identical, you can save a lot of time in the set up by downloading a typical configuration file to your hard drive, and later uploading the configuration file to another process monitor.

Export UCF

In order to transfer the User Configuration File (UCF) from the WebFlex to your computer, click the Export UCF link. You will be presented with the standard Windows dialog box to download a file. Click the radio button to Save this file to Disk, then click OK. Select the location where you want the file to be saved, change the name of the file if desired, then click Save. The file is only around 14KB, so it should be transferred relatively quickly. Click Close to close the dialog box.

The exact sequence of events and wording within the dialog box will vary depending upon the operating system (Windows 95, 98, NT, 2000, XP etc.) on your PC.

Browse

In order to transfer a previously saved UCF from your computer to this WebFlex, first click the Browse button to locate the file on your computer. A “Choose File” dialog box will open. Click on the correct file, then click Open.

Import UCF

Once the file name is displayed in the Browse text box, click the Import UCF button to transfer the file to the WebFlex.

5.15 Notepad

The configuration Notepad gives you a place to make notes regarding any changes that you have made to the set points, to document calibrations, system upsets or anything else that you want to note. Simply type your message into the text box.

5.16 Access Codes

There are three levels of access code protection. If the *Master* password is used in the WebFlex Authentication page, then any set point can be changed. If the *Calibration Level* password is used in the Authentication page, then sensor

calibrations will be allowed, but other changes will not. If the *Read Only* password is used the user will be able to look at any page, but will not be allowed to make any changes.

In order to change the access code for each level of access, type the present password into the text box, then type the new password in the text box below. Type the new password again in the lowest text box to verify that the new password has been correctly entered.

The default user name is "webflex" and the default passwords are "2001" for full access, "2002" for calibration only and "2003" for read only. These defaults can and should be changed to assure security.

Change User Log-in Name

You may also change the user name for logging into the WebFlex. Type the new user name into the text box.

Download Access Log

Click the link to View Log File. The Modem Access Log will tell you when the WebFlex was accessed. It will show you the date and time of access, the method of access, the user name used, the IP address of the computer used for access, and the level of access code used (or that the attempt failed).

A window will open to ask if you would like to open the file or save it to disc. Select the method you would like to use. The file is a basic text file with a .log extension that may be opened in any word processing program (Word, Notepad, etc.).”

5.17 Hycontrol Web Page

Click on this link to go directly to the Hycontrol web site, where you can find the latest instruction manuals, technical data sheets, email help, or to surf to another WebFlex.

5.18 Sub-Network

Once you have created a network of two or more WebFlex process monitors, purchased the Master Capability software for the master process monitor, defined the master unit as the master and slave units as slaves (see section 5.11) in the Communications page, and given each process monitor unique Ethernet IP addresses in the Communications page, the links under Sub-Network will be active.

To navigate between process monitors on the sub-network, start by logging onto the master process monitor. This may be via USB, Ethernet or modem. Once connected to the master, click on a link to the slave. The link will be given the custom name of the process monitor from the Startup page. The first time you connect to the slave in a given session, you will need to log on with that process monitor's user name and password. After that, you will be able to bounce from one process monitor to another without logging on again.

If the links available do not accurately match the process monitors on the network, go to the Communications page and click the "Detect Network" button. If the sub-network frame is still inaccurate, right click in the frame and click 'Refresh.' If still inaccurate, try rebooting the process monitor.

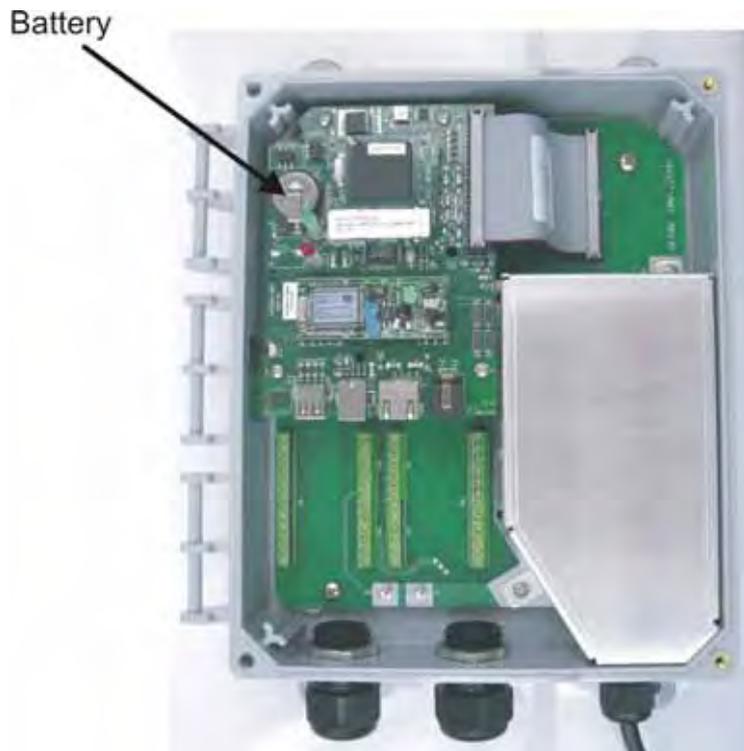
6.0 MAINTENANCE

The WebFlex process monitor requires very little routine maintenance. The electronic enclosure only needs to be wiped down with a damp cloth to keep it clean.



CAUTION! The WebFlex power supply cover is secured with Phillips (#1) screws, which require a tool to open. No user adjustments are inside. This panel should only be opened by trained maintenance personnel.

6.1 Replacing the Battery



Using a small flat screwdriver, gently lift the battery up and out of its clip. Replace the battery with a part number 191245, + side facing UP.

The normal life of the battery is 10 years.

7.0 TROUBLESHOOTING

4-20 mA Input Sensor Error

This error message is caused by a 4-20 mA input signal that is less than 3.9 mA or greater than 21 mA.

Possible Causes

Faulty transmitter.

Faulty wiring between transmitter and analogue input.

Faulty analogue input option circuit board.

Corrective Actions

Make sure that the transmitter is functioning by measuring the output using an ammeter. If the output directly from the transmitter is less than 4 mA, the transmitter is the problem.

Repeat the measurement of the transmitter output at the 4-20 mA input option board terminal strip. If this is less than 4 mA, then the wiring is faulty.

Also make sure that the wires are attached to the correct terminals as defined in the 4-20 mA Input Page.

Replace the 4-20 mA input option

Switch Open/Closed Alarm (one for each used)

This error message appears if a switch connected to a digital input is putting out a signal that indicates an alarm condition incorrectly.

Possible Causes

Faulty switch or wiring.

Incorrect setting of "Alarm when that the switch is open/closed" menu.

Faulty digital input.

Corrective Actions

Test the input by removing the wires to the switch, then jumping + to - repeatedly. If the unit is able to register the changes in state, then the switch or wiring is faulty.

Go to the Digital Input Page and verify "Alarm when switch is" menu is set for the proper selection. You can check the operation of the switch by measuring between the two wires with an ohmmeter.

If the switch is functioning, and it is wired correctly, and the settings are correct, replace the board.

Digital Input High Rate

This error message appears if a Flow meter digital input type receives contact closures incorrectly at a rate faster than the limit programmed in the Rate High Alarm field.

Possible Causes

Incorrect setting of the Rate High Alarm.
the setting.

False contacts at a high rate.
shielded cable.

Corrective Actions

Go to the Digital Input page and check

Separate cable from AC voltage. Use

Digital Input Low Rate

This error message appears if a Flow meter digital input type receives contact closures incorrectly at a rate slower than the limit programmed in the Rate Low Alarm field.

Possible Causes

Incorrect setting of the Rate Low Alarm.

Faulty switch or wiring.

Faulty digital input.

Corrective Actions

Go to the Digital Input page and check
the setting.

Test the input by removing the wires to
the switch, then jumping + to -
repeatedly. If the unit is able
to register the changes in state, then the
switch or wiring is faulty.

If the switch is functioning, and it is wired
correctly, and the settings are correct,
replace the board.

Digital Input Total Limit

This error message appears if a Flow meter digital input type receives a total number of contact closures higher than the limit programmed in the Total Alarm Limit field.

Possible Causes

Normal operation, total has been reached

False contacts at a high rate.

Corrective Actions

None

Separate cable from AC voltage.
Use shielded cable.

Modem Failure

This error message is caused by a failure of the process monitor to recognize that the option circuit board is connected.

Possible Causes

Poor connection of the option board to
core interface board.

Faulty modem board.

Corrective Actions

Remove the option board and inspect
both mating connectors for corrosion
or damage. Reinstall the option board.

Replace the board.

Ethernet Failure

This error message is caused by a failure of the process monitor to communicate with the Ethernet chip.

Possible Causes

Faulty Ethernet chip.

Corrective Actions

Replace the core interface board.

Non Responding Slave

This error message is caused by a failure of a previously detected slave to respond to the master. The master will check on the slaves every 10 minutes.

Possible Causes

Slave powered off

Slave disconnected from the network

Slave reprogrammed

Faulty Ethernet circuit in slave

Network problem

Corrective Actions

Restore power to the slave

Reconnect

Check IP address, subnet mask, gateway, and network mode.

Test with direct Ethernet connection to laptop.

Have IT administrator evaluate network

8.0 SERVICE POLICY

The WebFlex Series process monitors have a 2-year warranty on electronic components and a 1-year warranty on mechanical parts.

We stock replacement parts for immediate exchange after we have isolated the cause of a problem.

Factory authorized repairs that are received via next-day service will be returned within 24 hours. Normal turnaround time for returns is two weeks.

Out of warranty repairs are done on a flat fee basis.