

## WebBiter™ Embedded Web Server, Alarm Interface and Data Logger

WebBiter™ is an embedded web-server, alarm interface and data logger for Modbus devices. It supports fully the Syxthsense HRP and LRP controllers. The device is designed with open MODBUS protocol support and it can be used with any MODBUS controllers and devices.

WebBiter is connected to the Ethernet (Intranet/Internet) network through its RJ12 Ethernet connection point. It is designed to serve information from the HRP, LRP, HLS34 controllers, FLTA wireless interfaces, Modbus IO-modules and other Modbus devices to a standard web-browser. Using a web-browser users can review and change plant settings.

Single WebBiter device can support up to 32 Modbus Slaves (32x16 HRP/LRP controllers, or 32 HLS34 controllers).

WebBiter can be configured to monitor plant information for alarm conditions. When an alarm occurs, the device will send an email or SMS message to the dedicated destination address. The WebBiter is also capable for real-time and historical trending, and for cross-referencing Modbus variables over the network.



### FEATURES

- Built-in HTTP server to provide web-browser interface to plant information and for accessing device data
- Dynamic event-based data transfer to the web-browser
- Supports MODBUS protocol most Modbus devices
- Alarm engine for monitoring the plant for exception conditions
- Data Logging of the plant parameters with graph presentation
- Compact and easy-to-install, 10/100 Mbit/s Ethernet
- Acts as a Modbus RS485 to Modbus TCP/IP Bridge
- Password restricted access control
- WS200 Model has built-in GSM/GPRS Modem
- NetBiter.Net Central Portal Support (no need for static IP SIM cards when connected via GPRS)

Model Types	Model	Description
	<b>WEB-BITER</b>	WebBiter Embedded Web-Server for HRP/LRP and Third Party Modbus Devices
	<b>WEB-BITER-WS200</b>	WebBiter Embedded Web-Server, Alarm Interface and Historical Trend Logging Interface, Built-In GSM/GPRS Modem
	<b>NET-CONF</b>	NET-CONF Configuration Software CD for the WebBiter with Ethernet Cross-Over Cable
	<b>NET-CAB485</b>	NET-CAB485 Connection Cable from WebBiter to HRP/LRP (RJ11 to RS-485 three-wire) for WEB-BITER
<b>Technical Data</b>	Power Supply	WEB-BITER: 9-24 VAC/DC WEB-BITER-WS200: 9-24 VDC Only
	Power Consumption	WEB-BITER: 2W WEB-BITER-WS200: 3W
	Digital Inputs	2 Digital Inputs – Opto-Isolated Logical High = 10..24Vdc Logical Low = 0..2Vdc
	Ethernet Interface	Supports 10/100Mbps, RJ45 connector
	Communication Ports	Port 1: RS-232 D-type ; configurable for Modbus (LRP4/HRP) Port 2: RS-485/RS-232; configurable for Modbus (HRP22/HLS34)
	Protocol Support	Modbus RTU, ASCII, TCP/IP
	Indicators	LED 1: Module status LED 2: Serial Link Status

	LED 3: Ethernet Activity/Collision
	LED 4: Ethernet Network Detected
Protection Class	IP20
Mounting	DIN-rail mounting
Operating Temperature	-30°C .. +60°C; 20% .. 80% rH non-condensing
Storage Temperature	-35°C .. +85°C
Dimensions	70W x 90H x 58D mm (4 DIN Modules)
Weight	0.25 kg
<b>Software Details</b>	
Max No. of Points Per Screen	40
Max No. of Supported Screens	30
Max No. of Alarm Points	64
Max No. of User Names	25
Max. No Data Logging Points	64
Scheduling Support	Built-in 7-day Scheduler for HLS34 controllers and other Modbus clients Scheduling object for HRP/LRP Controllers
Alarm Transmission	Alarm Email Text Message to Mobile Phones
Netblter.Net	Support for Netbiter.Net Management Portal

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## Application Examples

The network diagrams below illustrate the typical configurations with the WebBiter Embedded Web-Server for the HRP/LRP controllers. Figure 1 illustrates a system where multiple WebBiters have been used to interface to multiple sites/plant rooms. Using the TCP/IP Network one or multiple users can access devices on the multiple sites. The WebBiter devices have access protection that allows only the authorised users to access relevant plant information.

**Error! Reference source not found.** illustrates configuration where single WebBiter has been configured access information from multiple local networks and multiple type of devices. In this configuration WebBiter is Modbus master to multiple Modbus slave devices.

Figure 2 illustrates connection via a GSM modem. When a GSM modem or an analogue modem is used with the WebBiter, the user can connect to the WebBiter using standard Windows dial-up (like connecting to the Internet Service Provider using dial-up). Once the connection has been established the WebBiter can be interrogated using a standard web-browser such as Internet Explorer. With GSM modem the WebBiter is capable of sending alarm text messages to the users. Each user has an allocated phone number and depending on the alarm priority configuration the alarms are sent as text messages to a single or multiple users.

Figure 3 illustrates the multi-site connection via Internet. The system operation is as in Figure 1 over a local network; the only difference is that the messages are routed via internet. In this configuration the remote sites have permanent internet connection; in smaller installation a broadband connection (ADSL) and in larger installations the connection is provided through the overall IT infrastructure.

Figure 3 also illustrates how meter readings can be retrieved using a WebBiter and HRP22 controllers. HRP22-M offers communicating meter bus (M-bus) connection. Using M-bus the energy consumption information read from the meters is accurate. M-bus also offers access to additional data such as flow rates, flow temperatures, heating power making the system ideal for comprehensive energy management.

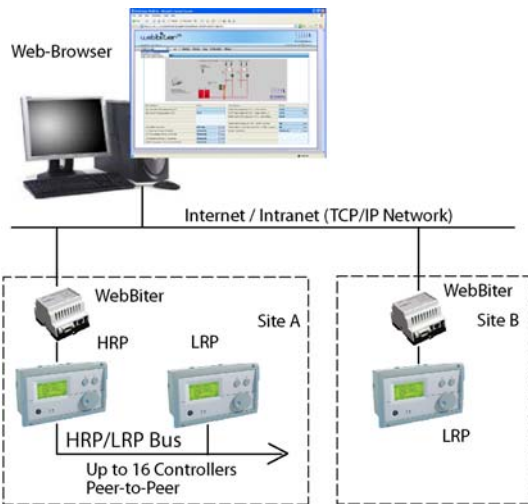


Figure 1. Multi-Site Configuration.

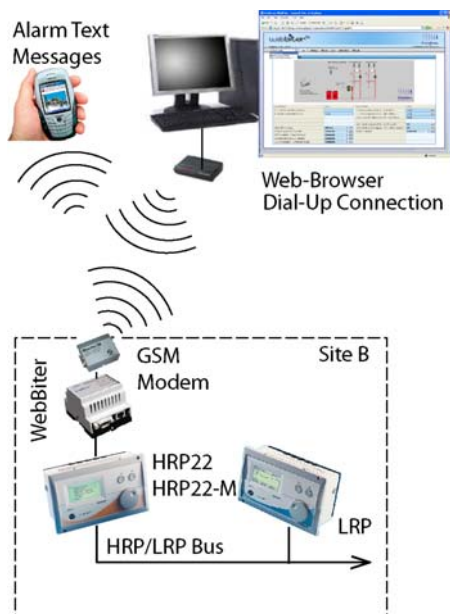


Figure 2. GSM Connection Example for WEB-BITER

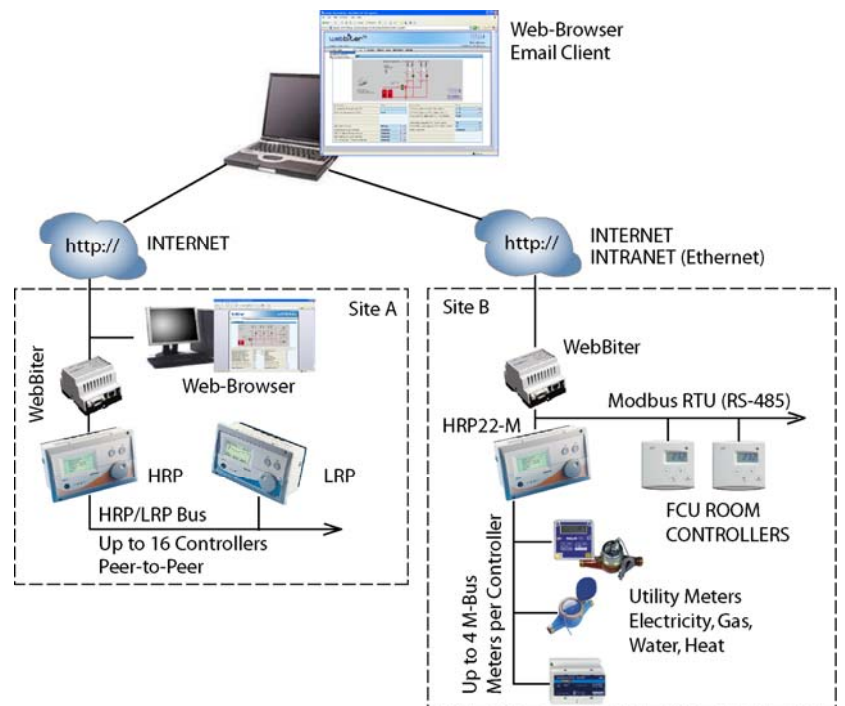


Figure 3. Internet Connection Example

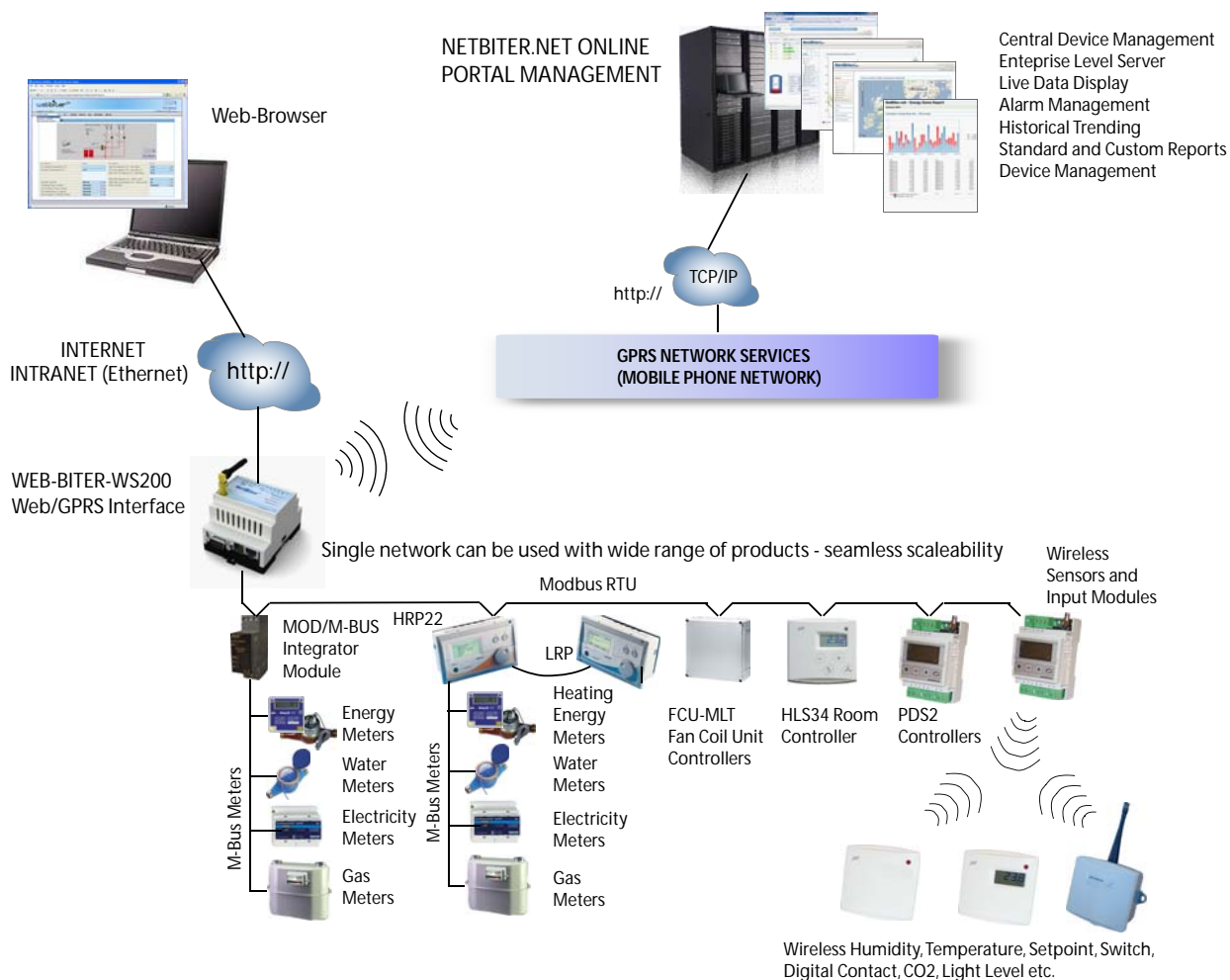
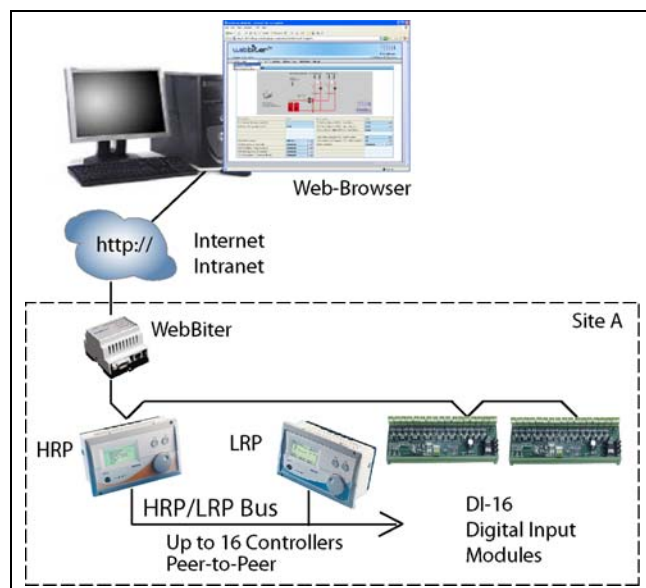


Figure 4. WS200 Connection Example to NetBiter.Net Platform and Internet

**Alarm Management**

The WebBiter has a built-in sophisticated alarm handling module. The alarm handler can monitor points for the exception conditions. The alarms can be categorised to ten classes. When an alarm occurs, an alarm message is routed to all users that have been configured to receive alarm messages in the corresponding alarm class. The alarm messages are transmitted either as an email message and/or as a text message. Text messaging capability is available by connecting a GSM modem to the RS232 port on the WebBiter or WS200 has built-in GSM/GPRS alarm modem. The GSM connection and the Ethernet connection can be present at the same time.

Alarms can also be automatically sent to Netbiter.Net platform from where multiple sites can be effectively managed.



**Wiring Instructions (WEB-BITER)**



**The electrical installation, device connection and commissioning can only be carried out by qualified professionals and according to the local wiring regulations!**

The WebBiter has screw terminals for the 24Vac/dc power supply and for the digital inputs, screw terminals for RS-485, DSUB connector for RS232 and RJ-45 connector for Ethernet.

**Screw Terminals (WEB-BITER ONLY)**

The screw terminals are required to be configured as follows.

Pin Number	Function
24	Vin+ 9-24Vac/dc Supply (WEB-BITER only)
23	Vin- (Ground connection)
22	Digital Input 2 (+)
21	Digital Input 1 (+)
20	Digital Input Common
19	NO Relay Contact
18	Relay Common
17	RS232 Receive Input
16	RS232 Transmit Output
15	Common
14	RS485 (A)
13	RS485 (B)

**RS485 Connection**

RS485 connections are typically used to connect to Modbus slaves such as HRP22 controller. The wiring is polarity sensitive and depends on the design of the particular Modbus slave. The below table gives guidance to typical devices.

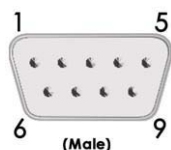
WebBiter Pin Number	Function	Device Terminal Connection
14	RS485 (A)	HRP22 Controller Terminal 32
13	RS485 (B)	HRP22 Controller Terminal 31

**RS232 DSUB (9-Pin Serial Connector)**

9-Pin DSUB connector is used for serial interface using RS232 standard. The WebBiter can be configured to communicate with Modbus devices through the RS232 port.

**Note:** Modbus can be configured to use either RS232 or RS485 port, not both.

Pin Number	Function
1	Not in use
2	Rx (Receive)
3	Tx (Transmit)
4	Not in use
5	GND
6	Not in use
7	Not in use
8	Not in use
9	Not in use



**Indicators**

Pin Number	Colour	Function
Module Status	OFF	No power
	Green	Module is running in normal mode
	Orange	During boot-up
Serial Link Status	Flashing Green	Serial packet receive
	Flashing Red	Serial packet transmit
	Orange	During boot-up
Ethernet Activity/Collision	Flashing Green	Ethernet packet received
	Flashing Red	Ethernet collision detected
Link	OFF	No Ethernet Link detected
	Green	Ethernet network detected, 10Mbps
	Orange	Ethernet network detected, 100Mbps

