

Technical FAQs

How to configure the VPN on a Factorycast Gateway module.

Goals and Symptoms

How to configure the VPN connection on a Factorycast Gateway module.

Facts and Changes

TSXETG3021 and TSXETG3022

Causes and Fixes

The following steps can be used to configure a 'VPN' connection on a Factorycast Gateway module (i.e., 'TSXETG3022').

Open a web page to the 'TSXETG3022'.

Click on 'Setup'.

Click on IP configuration.

Configure the IP address parameters for the module.

Apply the changes.

Reboot the 'TSXETG3022'.

ETG 3022 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://192.168.1.251/index.htm

Details Getting Started Latest Headlines

ETG 3022

Schneider Electric

FactoryCast™ TSX ETG 3022

Home Documentation URL

Monitoring Control Diagnostics Maintenance Setup

Setup

Security

Modbus

IP Configuration

IP Filtering

UnitID Routing

Modem

Configuration

PPP Security

Phone list

NAT

Stand-by

DNS

NTP

SNMP

IP & FDR AGENT CONFIGURATION

Ethernet parameters

Ethernet frame format Ethernet II

Link speed and duplex 100-FD-Auto

IP parameters

Served from MAC address

Served from device name

Local

IP address 192 168 1 251

Subnet mask 255 255 255 0

Default gateway 0 0 0 0

FDR parameters

Device name ETG3022Default

Replication period (mn) 5

Apply Undo

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http://192.168.1.251/secure/system/config.htm?Language=English

Open a web browser and navigate to the 'http://dyn.com/dns/dyn-standard-dns/' website. This website allows the creation

of two (2) free dyndns.org hostnames.

Create an account and sign in.

Click on 'Dyn Standard Trial'

Create a DynDNS hostname and password. (This hostname and password will be used for the VPN configuration on the TSXETG3022.)

Open a web page to the 'TSXETG3022'.

Click on 'Setup'.

Click on 'Configuration' under the Modem topic.

Configure the modem settings (i.e., see example below.)

Apply the changes.

ETG 3022 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://192.168.1.251/index.htm

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MODEM CONFIGURATION

Modem

Internal External

Server: local PPP Address

Fixed TCP/IP address

Internal Modem

PIN code

SMS service center

Callback

Callback on ring Enable

Number of rings

Time before calling back (sec)

Phone list index

Line Management

Idle time before hanging up

Max time before hanging up

Hang-up after email

GPRS

GPRS Enable

Connection

Access Point Name (APN)

Username

Password

IP publication

DynDNS Hostname

DynDNS Username

DynDNS Password

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http://192.168.1.251/secure/system/modem.htm?Language=English

Click on 'Modem' from the 'Setup' web page.

Click on 'PPP Security'.

Click on the check box named 'VPN enable'.

Configure the 'Remote address' parameters (see example shown below).

The screenshot shows the web interface for the Schneider Electric FactoryCast™ TSX ETG 3022. The browser window is titled 'ETG 3022 - Mozilla Firefox' and the address bar shows 'http://192.168.1.251/index.htm'. The page has a green header with the Schneider Electric logo and the product name. A navigation menu includes 'Monitoring', 'Control', 'Diagnostics', 'Maintenance', and 'Setup'. The 'Setup' section is expanded to show 'PPP SECURITY'. Under 'PPP SECURITY', there is a checkbox for 'IP control enable' which is unchecked. Below this is a table for 'IP Range authorized' with columns for 'From IP address' and 'To IP address'. The first row shows '139.158.8.1' and '139.158.8.250'. There are also checkboxes for 'Modem Configuration', 'PPP Security', 'Phone list', 'NAT', and 'Stand-by'. The 'Modem Configuration' section is expanded to show 'VPN enable' which is checked. Below this is a table for 'VPN Connections' with columns: 'Remote address', 'Pre shared key', 'Mode', 'Remote LAN', 'Subnet mask', and 'ETG client encryption'. The first row shows '166.136.141.146', '****', 'Tunnel', '10.10.0.10', and empty cells for 'Subnet mask' and 'ETG client encryption'. At the bottom of the configuration area are 'Apply' and 'Undo' buttons. The footer of the page reads '© 2000-2006 Schneider Electric. All Rights Reserved.' The browser's address bar at the bottom shows 'http://192.168.1.251/secure/system/wansecure.htm?Language=English'.

'Greenbow VPN Client' configuration.

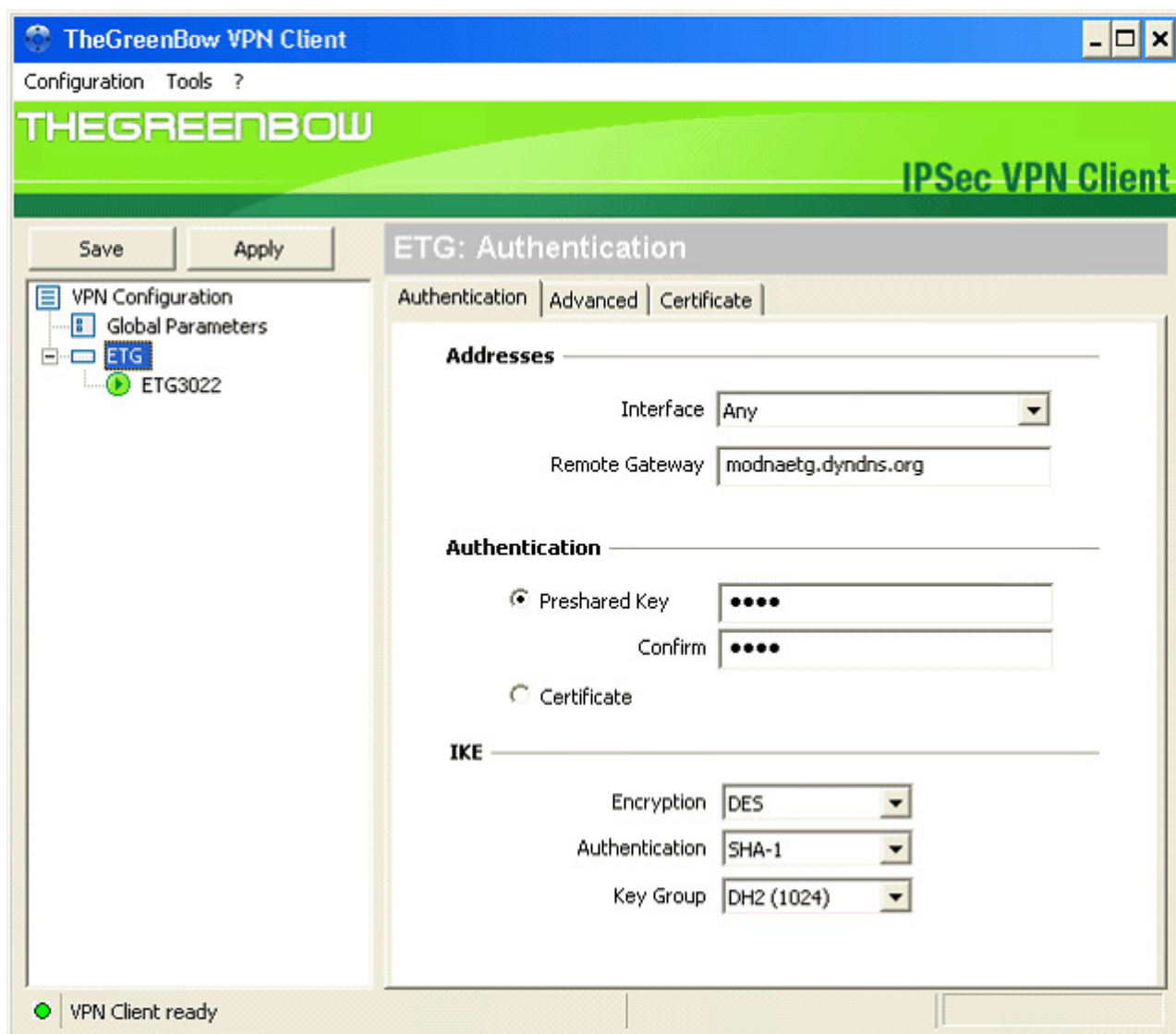
Download the 'Greenbow VPN Client' software from '<http://www.thegreenbow.com/vpn.html>'.

Install the 'Greenbow VPN Client' software.

Open the 'Greenbow VPN Client' software.

Configure the 'TSXETG3022' authentication (see example shown below) using the respective address and authentication information for your application.

Configure the IKE settings for the 'TSXETG3022' as shown below for 'Greenbow VPN Client version 5.1'.

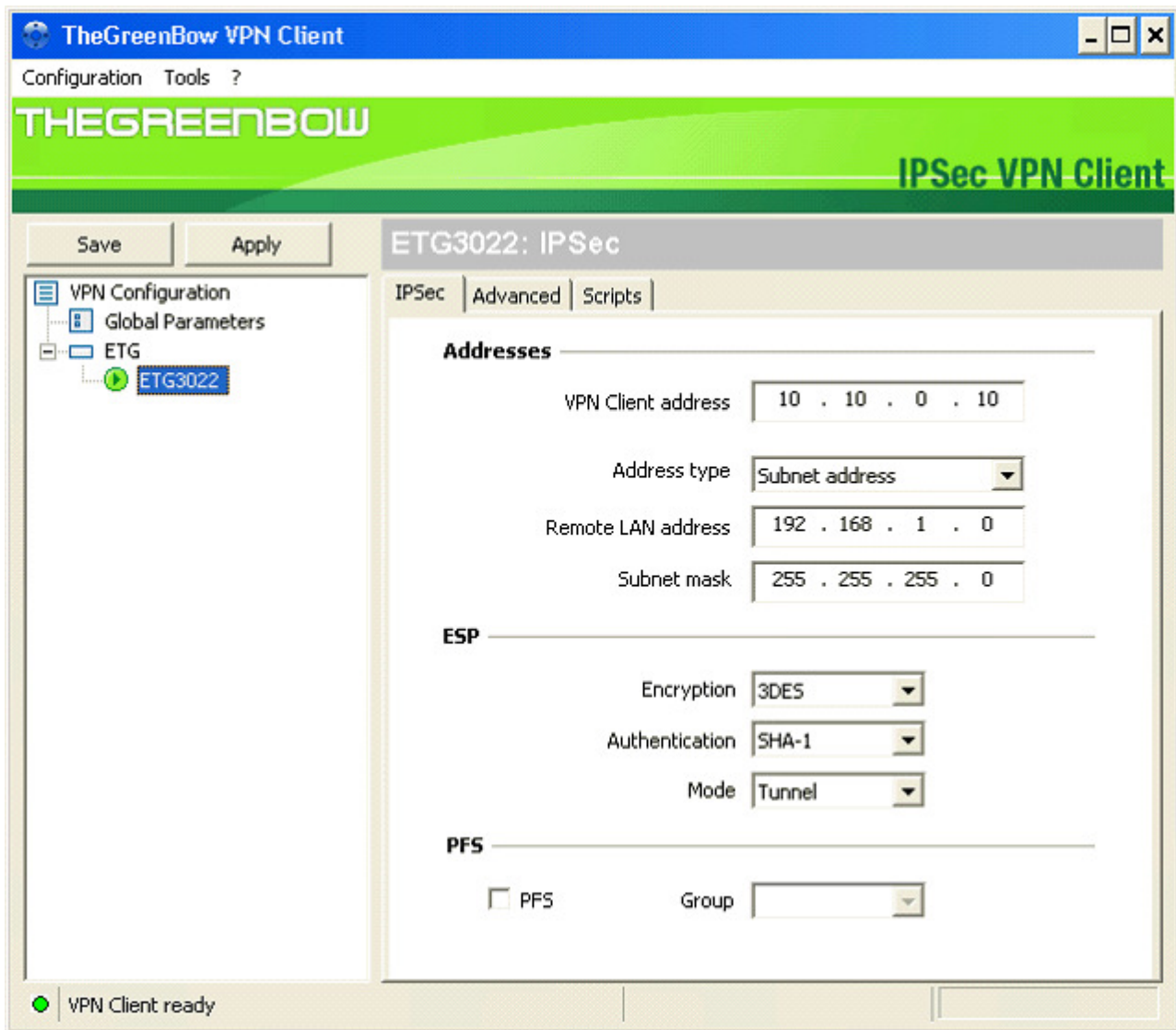


Configure the IPSEC address parameters for the 'TSXETG3022'.

Configure the ESP settings for the 'TSXETG3022' as shown below for 'Greenbow VPN Client version 5.1'.

Apply the changes.

Start the 'Greenbow VPN client'.



Verifying the VPN establishment of the connection.

Use the 'Greenbow console' for showing the status of the VPN connection as it is getting established.

The screenshot shows a window titled "VPN Console ACTIVE" with a blue header and standard window controls. Below the header are four buttons: "Save", "Stop", "Clear", and "Reset IKE". The main area contains a log of network events. The log shows two successful IKE phase 1 negotiations followed by two successful phase 2 negotiations. The first negotiation starts at 10:17:35 and ends at 10:17:42. The second negotiation starts at 10:36:43 and ends at 10:36:50. The log entries include timestamps, log levels (Default), peer identifiers (SA ETG-P1), and the specific phase and mode of the negotiation. At the bottom right of the console, it indicates "Current line: 25" and "Max. lines: 10000".

```
[VPNCONF] TGBIKE_STARTED received
2011-08-22 10:17:35 Default (SA ETG-P1) SEND phase 1 Main Mode [SA] [VID] [VID] [VID] [VID] [VID]
2011-08-22 10:17:38 Default (SA ETG-P1) RECV phase 1 Main Mode [SA]
2011-08-22 10:17:38 Default (SA ETG-P1) SEND phase 1 Main Mode [KEY_EXCH] [NONCE]
2011-08-22 10:17:40 Default (SA ETG-P1) RECV phase 1 Main Mode [KEY_EXCH] [NONCE]
2011-08-22 10:17:40 Default (SA ETG-P1) SEND phase 1 Main Mode [HASH] [ID] [NOTIFY]
2011-08-22 10:17:42 Default (SA ETG-P1) RECV phase 1 Main Mode [HASH] [ID]
2011-08-22 10:17:42 Default phase 1 done: initiator id 166.136.141.146, responder id 166.136.141.96
2011-08-22 10:17:42 Default (SA ETG-ETG3022-P2) SEND phase 2 Quick Mode [HASH] [SA] [NONCE] [ID] [ID]
2011-08-22 10:17:43 Default (SA ETG-ETG3022-P2) RECV phase 2 Quick Mode [HASH] [SA] [NONCE] [ID] [ID]
2011-08-22 10:17:43 Default (SA ETG-ETG3022-P2) SEND phase 2 Quick Mode [HASH]
2011-08-22 10:36:43 Default (SA ETG-P1) SEND Informational [HASH] [DELETE]
2011-08-22 10:36:43 Default <ETG-ETG3022-P2> deleted
2011-08-22 10:36:43 Default (SA ETG-P1) SEND Informational [HASH] [DELETE]
2011-08-22 10:36:43 Default <ETG-P1> deleted
2011-08-22 10:36:46 Default (SA ETG-P1) SEND phase 1 Main Mode [SA] [VID] [VID] [VID] [VID] [VID]
2011-08-22 10:36:47 Default (SA ETG-P1) RECV phase 1 Main Mode [SA]
2011-08-22 10:36:47 Default (SA ETG-P1) SEND phase 1 Main Mode [KEY_EXCH] [NONCE]
2011-08-22 10:36:49 Default (SA ETG-P1) RECV phase 1 Main Mode [KEY_EXCH] [NONCE]
2011-08-22 10:36:49 Default (SA ETG-P1) SEND phase 1 Main Mode [HASH] [ID]
2011-08-22 10:36:50 Default (SA ETG-P1) RECV phase 1 Main Mode [HASH] [ID]
2011-08-22 10:36:50 Default phase 1 done: initiator id 166.136.141.146, responder id 166.136.141.96
2011-08-22 10:36:50 Default (SA ETG-ETG3022-P2) SEND phase 2 Quick Mode [HASH] [SA] [NONCE] [ID] [ID]
2011-08-22 10:36:51 Default (SA ETG-ETG3022-P2) RECV phase 2 Quick Mode [HASH] [SA] [NONCE] [ID] [ID]
2011-08-22 10:36:51 Default (SA ETG-ETG3022-P2) SEND phase 2 Quick Mode [HASH]
```

· Open the 'TSXETG3022' Diagnostic web page.

Click on 'Diagnostics'.

Click on 'VPN' under 'PPP Modem'.

An established connection will be shown as opened in the 'VPN Connections' table..

VPN DIAGNOSTICS

VPN Connections						
	Remote address	Mode	ETG client encryption	State	Frames received	Frames sent
1	166.136.141.146	TUNNEL	ESP	OPEN	463	379
2						
3						
4						
5						
6						
7						
8						

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To view the modem statistics,
 Click on 'Statistics' under the topic 'PPP Modem' in the 'Diagnostics' web page.

The screenshot shows the 'MODEM DIAGNOSTICS' page of the Schneider Electric FactoryCast™ TSX ETG 3022. The browser window is Mozilla Firefox, displaying the URL http://192.168.1.251/index.htm. The page features a green header with the Schneider Electric logo and the product name. Below the header, there are navigation tabs for Monitoring, Control, Diagnostics (selected), Maintenance, and Setup. The main content area is divided into several sections:

- Diagnosics**: A sidebar menu with options like Gateway Statistics, Ethernet Statistics, Modbus Statistics, PPP/Modem, FDR Statistics, NTP, MIB Upload, and Device Explorer.
- MODEM DIAGNOSTICS**: The main content area, which includes:
 - Status**: Modem (INTERNAL), Connection (CLIENT), Phone number (GPRS).
 - IP address**: Local PPP address (166.136.141.96), Remote PPP address (GPRS Network).
 - Received**: Frames received (438).
 - GSM**: SIM card (INSERTED), Pin code (OK), Operator (AT&T), and a Signal level (0..100%) bar.
 - Server**: Connections accepted (0).
 - Client**: Connections opened OK (1), Connections opened error (0), Connections closed OK (0), Connections closed error (0).
 - Transmitted**: Frames transmitted (359).

At the bottom of the page, there is a copyright notice: © 2000-2006 Schneider Electric. All Rights Reserved.

To configure the VPN tunnel using the 'dyndns.org' hostname as the remote address, use the following example for the 'PPP Security' web page settings.

FactoryCast™ TSX ETG 3022

Home Documentation URL

Monitoring Control Diagnostics Maintenance **Setup**

PPP SECURITY

IP control enable

IP Range authorized	
From IP address	To IP address
139.158.8.1	139.158.8.250

VPN enable

VPN Connections					
Remote address	Pre shared key	Mode	Remote LAN	Subnet mask	ETG client encrypt
13naetgtestpc.dyndn****		Tunnel	10.10.0.10		

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