

# PowerLogic EGX100

Entry-level, Ethernet-to-serial-line gateway



# Why an Ethernet-based network?

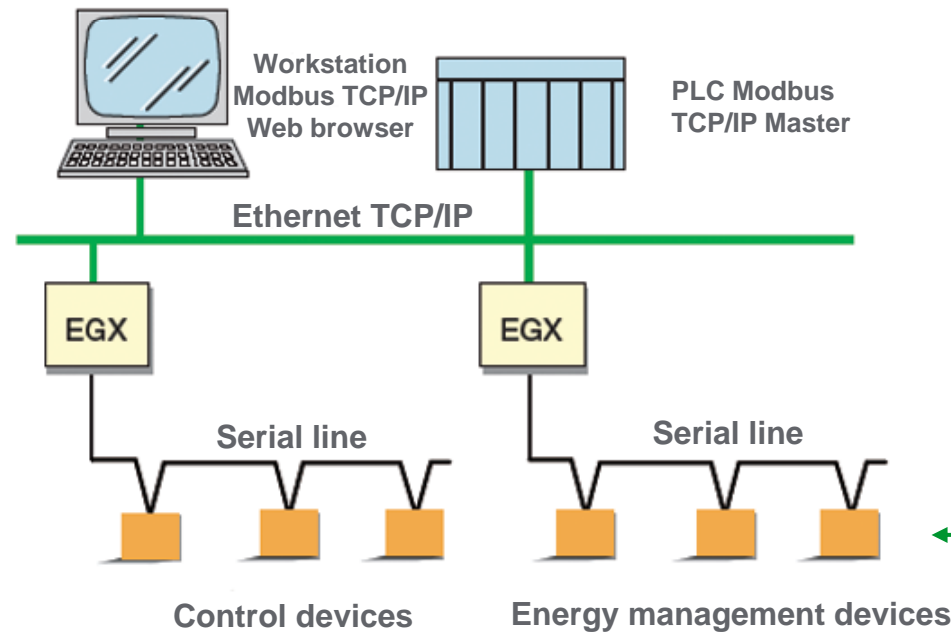
- Ethernet networks are commonly used for power monitoring for the following reasons:
  - High performance and reliable communication
  - Does not require high-level knowledge of Ethernet and communication
  - Wide use of Intranet and Internet
  - Easy system expansion: On-the-fly device additions
  - Compliant with Industry Standards (UL, CSA, FCC, CE)

# PowerLogic EGX100

- The EGX100 is an intelligent Ethernet gateway that provides fast, reliable Ethernet-to-serial line connectivity between intelligent meters, sensors, and other remote instruments

Ethernet provides high-speed access to critical information.

Use the existing LAN to greatly reduce comms, wiring, and network management costs.



Connect up to 32 Modbus or Powerlogic serial devices per gateway — more with repeaters.

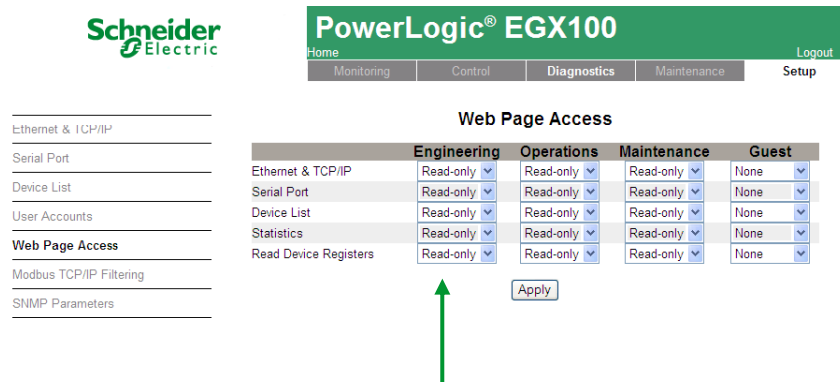
# PowerLogic EGX100 benefits

- **Easy to install** — Power over Ethernet eliminates the need for control power transformers, disconnects and AC/DC power supplies reducing installation time/cost
- **Easy to set up** — Configure the gateway using web pages viewed in Internet Explorer. Simply enter an IP address, set the serial port baud rate, and the gateway is ready to go!
- **Easy to maintain** — Field upgradeable firmware lets you add new features in a flash, minimizing costly downtime
  - Detailed diagnostics for Ethernet and serial ports viewable via web pages
  - Support for future option modules (protocols, I/O, etc.)
- **Robust** — An extended operating temperature range of -25 to 70° C enables operation in harsh environments

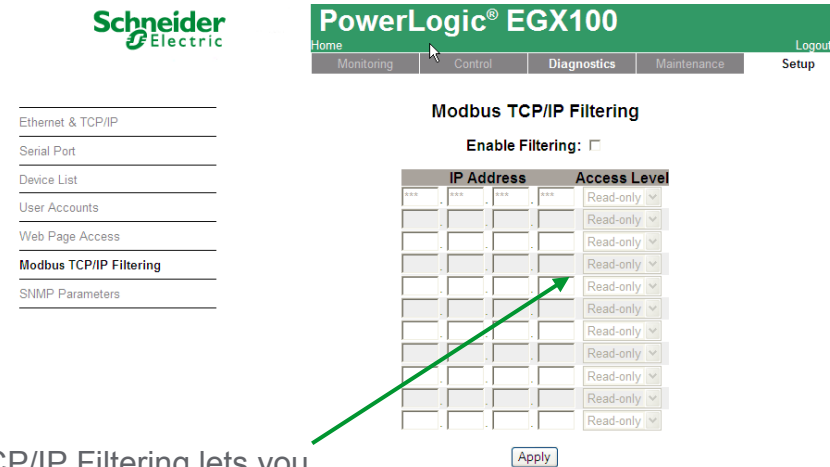
# Benefits

- Secure

- Windows-style username and password login
- TCP/IP filtering to control access to serial devices
  - Only the specified master devices can connect
  - Each master can be assigned Read-only, Full- or No-access



An administrator can control access to individual web pages by user group

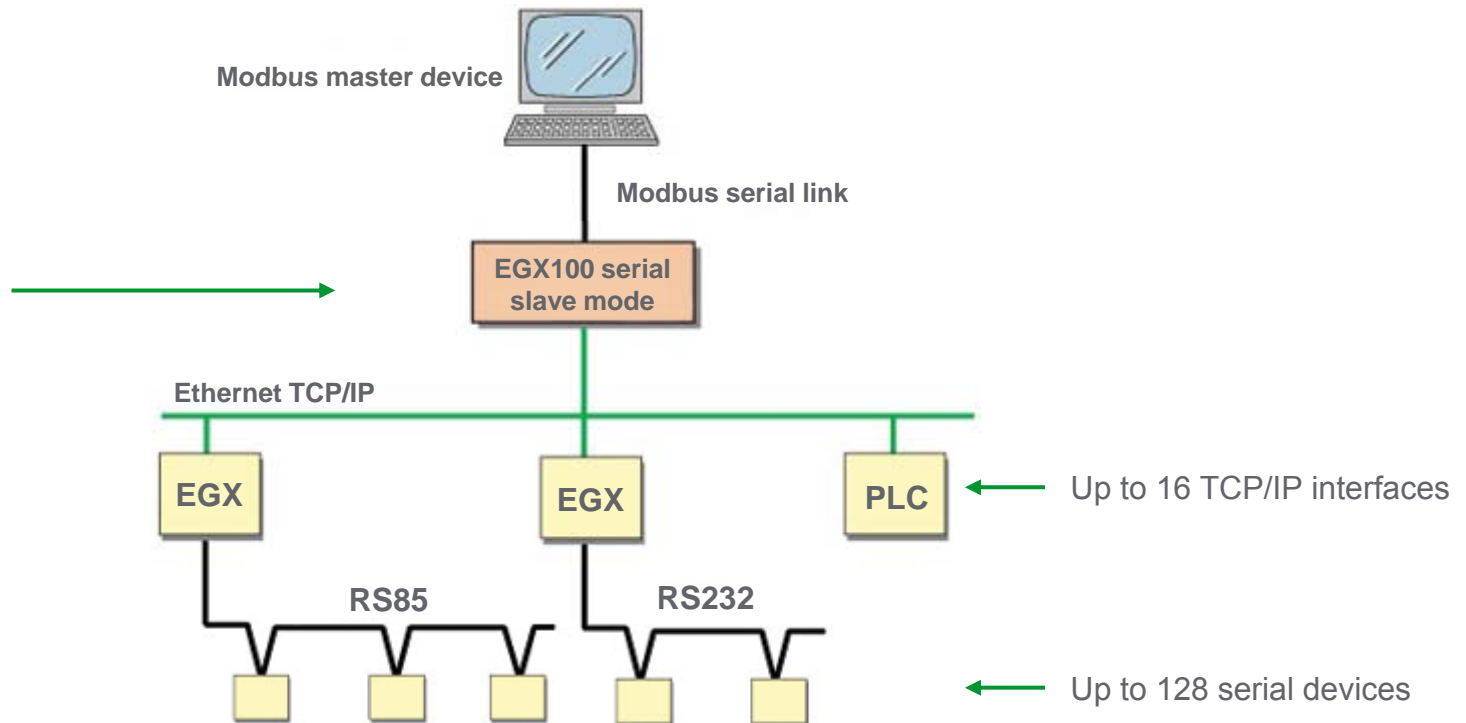


TCP/IP Filtering lets you specify an access level for up to ten Modbus TCP/IP masters

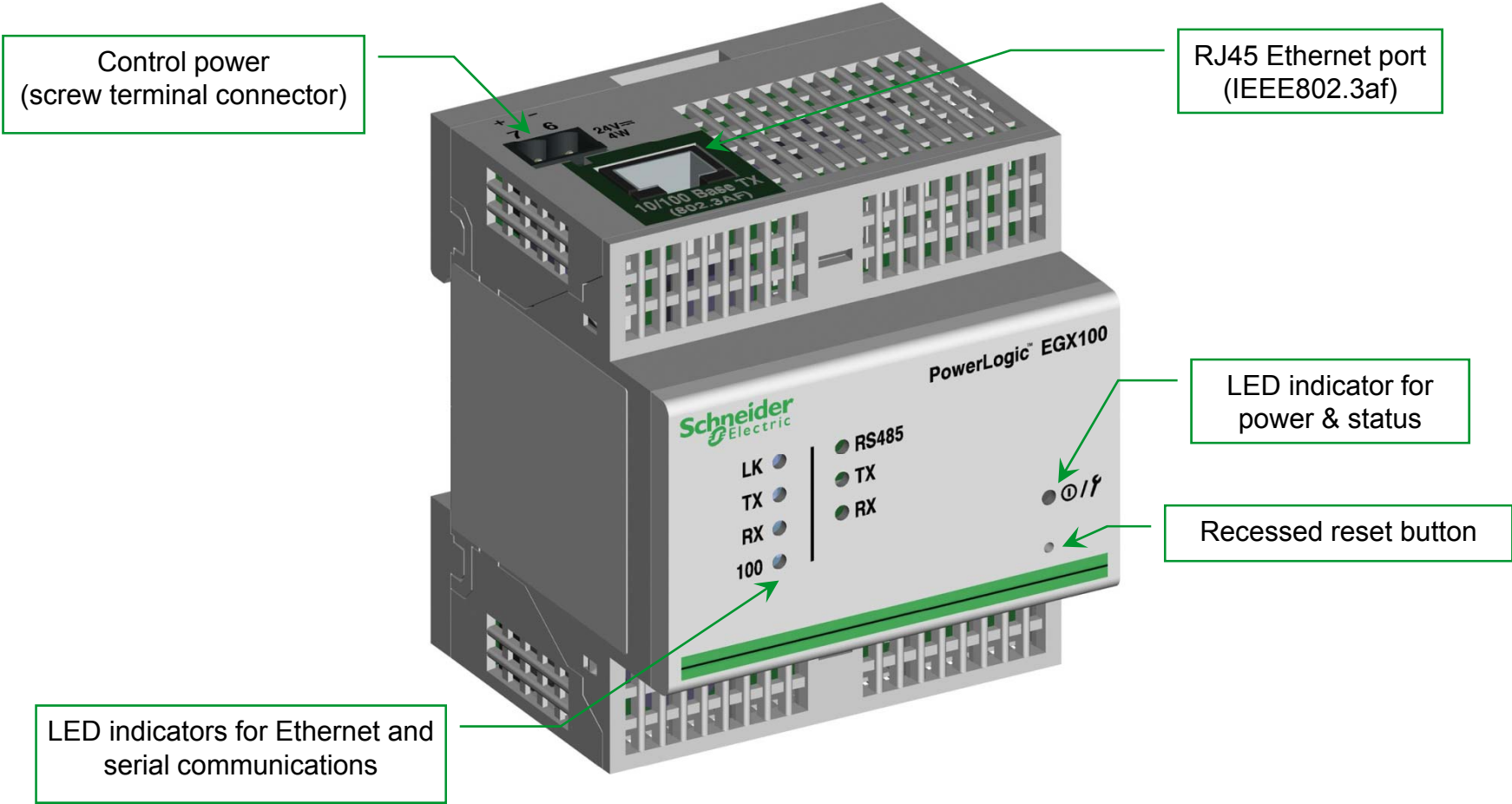
# Benefits

- **Serial Master Support (Subnet initiated communications)** — Allows a serial Modbus RTU or Modbus ASCII master device to access devices across the Ethernet network
  - Provides connectivity to sixteen (16) Modbus TCP/IP interfaces supporting up to 128 serial slave devices

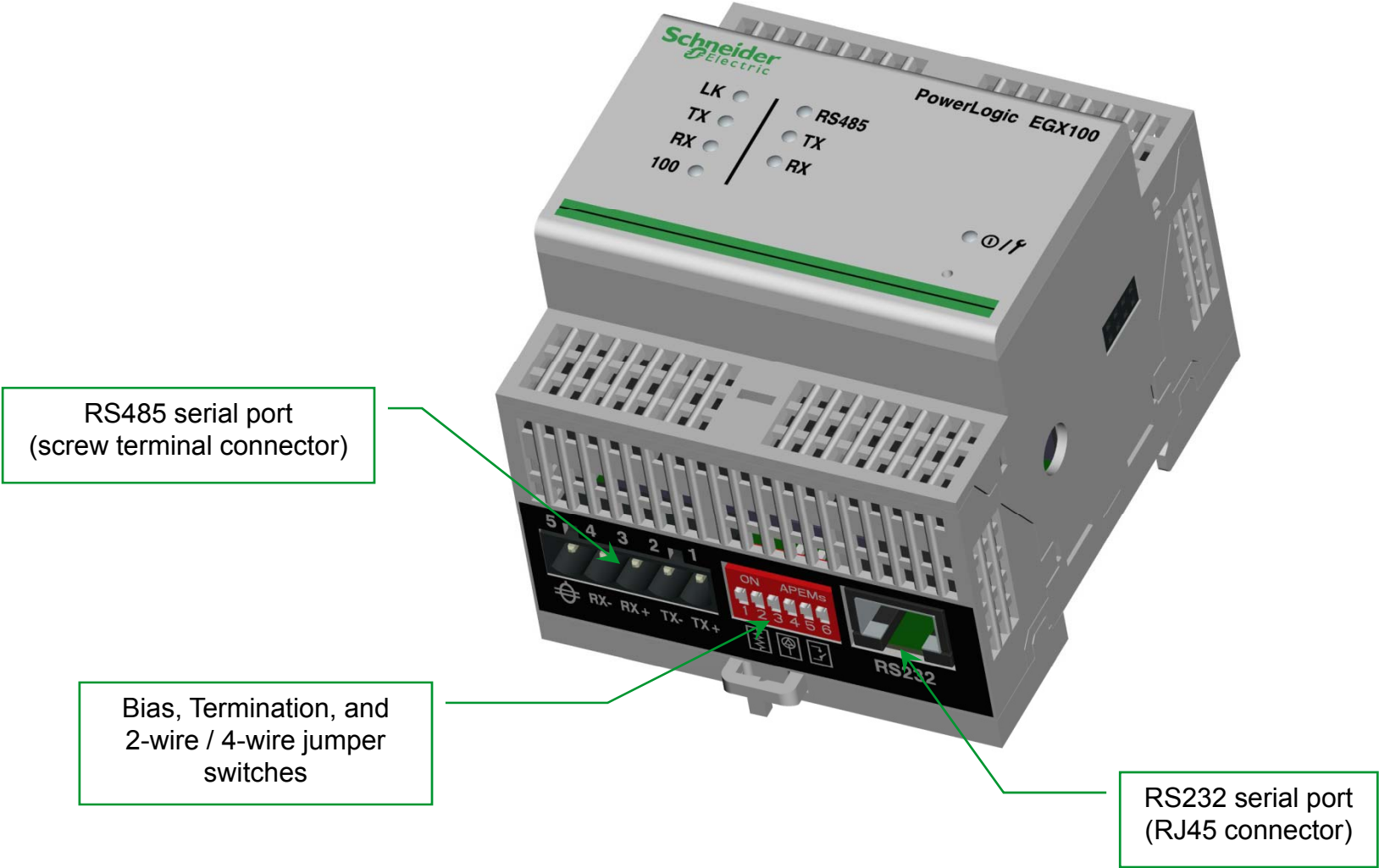
The PowerLogic EGX100 configured for Serial Master Support is ideal for converting legacy serial-based systems to Ethernet



# Exterior features



# Exterior features





# Technical highlights

- Ethernet

- 10/100BaseTX
- Concurrent ModbusTCP/IP connections: 32

- Serial

- All lines optically isolated
- Protocols: ModbusRTU, ModbusASCII, Powerlogic, Jbus

- Environmental

- Operating temperature: -25 to 70°C
- Enclosure: Din-rail mount, Multi-9 (72mm)
- IP rating: IP30

# Accessory: Configuration kit (TCSEAK0100)

- Allows configuration via RS232 serial or Ethernet port
- Kit contents:
  - RJ45 to DB9F adapter
  - CAT5 Crossover cable, 3-meters (10-feet), orange
  - Instruction sheet



# Accessory: PoE Injector (TCSEAV0100)

- Typically, the largest cost associated with installing a gateway into an existing installation is the cost to provide control power
- The Power Over Ethernet (PoE) standard (IEEE 802.3af) defines how control power can be provided to an end device through a standard CAT5 Ethernet cable
- PoE eliminates the need for CPTs, disconnects, and AC-DC power supplies while greatly reducing installation time
- Kit contents:
  - PoE midspan injector
  - Universal power cord, 2 meters
  - Plug adapters for Australia, Europe, UK, USA
  - CAT 5 Ethernet patch cable, 2 meters
  - Instructions



# PowerLogic EGX100 user interface



**PowerLogic® EGX100**

Home Logout

Monitoring	Control	<b>Diagnostics</b>	Maintenance	<b>Setup</b>
------------	---------	--------------------	-------------	--------------



The home page provides access to Diagnostics and Setup functions.

# PowerLogic EGX100 user interface



**PowerLogic® EGX100**

Home      Logout

Monitoring   Control   **Diagnostics**   Maintenance   Setup

### Ethernet & TCP/IP

**Ethernet**

MAC Address - 00:80:67:80:35:97

Frame Format: Ethernet II

Media Type: 10T/100Tx Auto

**IP Parameters**

IP Address:	157	198	184	73
Subnet Mask:	255	255	255	0
Default Gateway:	157	198	184	10

Apply

Firmware Version: 2.700      © 2005-2008 Schneider Electric. All Rights Reserved.      User: Administrator

The 'Ethernet & TCP/IP' page lets you configure the Ethernet connection and address.

# PowerLogic EGX100 user interface



## PowerLogic® EGX100

Home      Logout  
Monitoring   Control   **Diagnostics**   Maintenance   Setup

Ethernet & TCP/IP

**Serial Port**

Device List

User Accounts

Web Page Access

Modbus TCP/IP Filtering

SNMP Parameters

### Serial Port

Mode	Master	▼
Physical Interface:	RS232	▼
Transmission Mode:	Automatic	▼
Baud Rate:	38400	▼
Parity:	Even	▼
Response Timeout:	3	▼
(Seconds)		

Apply

The EGX100's flexible serial port can be configured as a master (for connection to serial slave devices) or a slave (for connection to a serial master).

Firmware Version: 2.700

© 2005-2008 Schneider Electric. All Rights Reserved.

User: Administrator

# PowerLogic EGX100 user interface



**PowerLogic® EGX100**  
Home Logout

Monitoring | Control | **Diagnostics** | Maintenance | Setup

- \_\_\_\_\_ Ethernet & TCP/IP
- \_\_\_\_\_ Serial Port
- \_\_\_\_\_ **Device List**
- \_\_\_\_\_ User Accounts
- \_\_\_\_\_ Web Page Access
- \_\_\_\_\_ Modbus TCP/IP Filtering
- \_\_\_\_\_ SNMP Parameters

**Device List**

Number of Viewable Devices:

Local ID	Protocol
11	Modbus
15	Modbus
21	Modbus
22	Modbus
23	Modbus
24	Modbus
25	Modbus
26	Modbus
27	Modbus
28	Modbus
	Modbus
	Modbus
	Modbus
	Modbus
	Modbus
	Modbus
	Modbus

When the serial port is in 'master' mode, the EGX100 supports mixed-mode daisy chains in which devices of different protocols share the same serial line.

Apply

# PowerLogic EGX100 user interface



- \_\_\_\_\_ Ethernet & TCP/IP
- \_\_\_\_\_ **Serial Port**
- \_\_\_\_\_ Device List
- \_\_\_\_\_ User Accounts
- \_\_\_\_\_ Web Page Access
- \_\_\_\_\_ Modbus TCP/IP Filtering
- \_\_\_\_\_ SNMP Parameters

**PowerLogic® EGX100**
Home Logout

Monitoring
Control
Diagnostics
Maintenance
Setup

### Serial Port

Mode:	Slave <input type="button" value="v"/>
Physical Interface:	RS485 4-wire <input type="button" value="v"/>
Transmission Mode:	Modbus RTU <input type="button" value="v"/>
Baud Rate:	19200 <input type="button" value="v"/>
Parity:	Even <input type="button" value="v"/>
Response Timeout:	3 (Seconds) <input type="button" value="v"/>

### Remote Modbus TCP/IP Connections

1.	157	. 198	. 184	. 81
2.	157	. 198	. 184	. 109
3.	.	.	.	.
4.	.	.	.	.
5.	.	.	.	.
6.	.	.	.	.
7.	.	.	.	.
8.	.	.	.	.
9.	.	.	.	.
10.	.	.	.	.
11.	.	.	.	.

Firmware Version: 2.700 © 2005-2008 Schneider Electric. All Rights Reserved. User: Administrator

When configured for serial master support (serial port in 'slave' mode), the EGX100 provides connectivity to sixteen Modbus TCP/IP interfaces.



# PowerLogic EGX100 user interface



- \_\_\_\_\_ Ethernet & TCP/IP
- \_\_\_\_\_ Serial Port
- \_\_\_\_\_ **Device List**
- \_\_\_\_\_ User Accounts
- \_\_\_\_\_ Web Page Access
- \_\_\_\_\_ Modbus TCP/IP Filtering
- \_\_\_\_\_ SNMP Parameters

**PowerLogic® EGX100**
Home Logout

Monitoring
Control
Diagnostics
Maintenance
Setup

### Device List

Number of Viewable Devices: 16 ▼

Local ID	Remote ID	Connection
11	1	157.198.184.72 ▼
15	5	157.198.184.72 ▼
21	1	157.198.184.72 ▼
22	2	157.198.184.72 ▼
23	3	157.198.184.72 ▼
24	4	157.198.184.72 ▼
25	5	157.198.184.72 ▼
26	6	157.198.184.72 ▼
27	7	157.198.184.72 ▼
28	8	157.198.184.72 ▼
		Undefined ▼
		Undefined ▼
		Undefined ▼
		Undefined ▼
		Undefined ▼
		Undefined ▼

Apply

Firmware Version: 2.700
© 2005-2008 Schneider Electric. All Rights Reserved.
User: Administrator

When configured for serial master support (serial port in 'slave' mode), the EGX100 can route to 128 serial slave devices.

# PowerLogic EGX100 user interface



- \_\_\_\_\_ Ethernet & TCP/IP
- \_\_\_\_\_ Serial Port
- \_\_\_\_\_ Device List
- \_\_\_\_\_ **User Accounts**
- \_\_\_\_\_ Web Page Access
- \_\_\_\_\_ Modbus TCP/IP Filtering
- \_\_\_\_\_ SNMP Parameters

**PowerLogic® EGX100**
Home Logout

Monitoring
Control
Diagnostics
Maintenance
Setup

### User Accounts

**Groups**

Administrators
Engineering
Operations
Maintenance

**Users**

Name	Password	Group	Language
Administrator	••••••	Administrators	English
		Maintenance	English
		Maintenance	English
		Maintenance	English
		Maintenance	English
		Maintenance	English
		Maintenance	English
		Maintenance	English
		Maintenance	English
		Maintenance	English
		Maintenance	English
		Maintenance	English
		Maintenance	English
		Maintenance	English
Guest	•••••	Guest	English

Firmware Version: 2.700
© 2005-2008 Schneider Electric. All Rights Reserved.
User: Administrator

Windows-style user and group security provides customizable, password-protected access to configuration screens.

# PowerLogic EGX100 user interface



**PowerLogic® EGX100**  
 Home  
 Monitoring Control Diagnostics Maintenance

An Administrator can assign access to web pages by user group.

- \_\_\_\_\_ Ethernet & TCP/IP
- \_\_\_\_\_ Serial Port
- \_\_\_\_\_ Device List
- \_\_\_\_\_ User Accounts
- Web Page Access**
- \_\_\_\_\_ Modbus TCP/IP Filtering
- \_\_\_\_\_ SNMP Parameters

### Web Page Access

	Engineering	Operations	Maintenance	Guest
Ethernet & TCP/IP	Read-only ▾	Read-only ▾	Read-only ▾	None ▾
Serial Port	Read-only ▾	Read-only ▾	Read-only ▾	None ▾
Device List	Read-only ▾	Read-only ▾	Read-only ▾	None ▾
Statistics	Read-only ▾	Read-only ▾	Read-only ▾	None ▾
Read Device Registers	Read-only ▾	Read-only ▾	Read-only ▾	None ▾

Apply

# PowerLogic EGX100 user interface



**PowerLogic® EGX100**

Home Logout

Monitoring **Control** Diagnostics Maintenance Setup

- \_\_\_\_\_ Ethernet & TCP/IP
- \_\_\_\_\_ Serial Port
- \_\_\_\_\_ Device List
- \_\_\_\_\_ User Accounts
- \_\_\_\_\_ Web Page Access
- \_\_\_\_\_ **Modbus TCP/IP Filtering**
- \_\_\_\_\_ SNMP Parameters

## Modbus TCP/IP Filtering

Enable Filtering:

IP Address				Access Level
***	***	***	***	Read-only ▾
				Read-only ▾
				Read-only ▾
				Read-only ▾
				Read-only ▾
				Read-only ▾
				Read-only ▾
				Read-only ▾
				Read-only ▾
				Read-only ▾
				Read-only ▾

Apply

TCP/IP filtering lets an administrator control which TCP/IP master devices can access serial devices through the gateway. Each master device can be assigned Read-only, Full- or No-access.

# PowerLogic EGX100 user interface



**PowerLogic® EGX100**

Home Logout

Monitoring Control **Diagnostics** Maintenance Setup

- \_\_\_\_\_ Ethernet & TCP/IP
- \_\_\_\_\_ Serial Port
- \_\_\_\_\_ Device List
- \_\_\_\_\_ User Accounts
- \_\_\_\_\_ Web Page Access
- \_\_\_\_\_ Modbus TCP/IP Filtering
- \_\_\_\_\_ **SNMP Parameters**

### SNMP Parameters

Enable SNMP:	<input checked="" type="checkbox"/>
System Contact:	PowerLogic system
System Name:	EGX100
System Location:	Substation A
Read-only Community Name:	public
Read-write Community Name:	private

Simple Network Management Protocol MIB2 provides IT managers information about the EGX.

# PowerLogic EGX100 user interface



**PowerLogic® EGX100**

Home Logout

Monitoring   Control   **Diagnostics**   Maintenance   Setup

**Statistics**

---

Read Device Registers

---

**Statistics**

Ethernet	
Link Status:	100BaseTx-FD
Frames Transmitted OK:	214
Collisions:	0
Excessive Collisions:	0
Frames Received OK:	327
CRC Errors:	0
Alignment Errors:	0
Frames Too Long:	0
Frames Too Short:	0

Modbus TCP/IP	
Frames Sent:	0
Frames Received:	0
Protocol Errors:	0
Outbound Read Messages:	0
Outbound Write Messages:	0
Inbound Reply Messages:	0

Serial Port	
Frames Sent:	0
Frames Received:	0
CRC Errors:	0
Protocol Errors:	0
Inbound Read Messages:	0
Inbound Write Messages:	0

Gateway Information	
Firmware Version:	2.700
System Idle Time:	98%
MAC Address:	00:80:67:80:35:97
Serial Number:	30000062
Model Number:	EGX100MG
Hardware Version:	
Manufacture Date:	2005-Jan-01

Detailed statistics can help troubleshoot network problems.

Reset

# PowerLogic EGX100 user interface



**PowerLogic® EGX100**

Home Logout

Monitoring   Control   **Diagnostics**   Maintenance   Setup

**Statistics**

Read Device Registers

**Active Connections**

10.175.220.68

**Ethernet**

Link Status: 100BaseTx-FD  
Transmitted OK: 214  
Collisions: 0

**Serial Port**

Frames Sent: 0  
Messages Received: 0  
CRC Errors: 0  
Protocol Errors: 0  
Read Messages: 0  
Write Messages: 0

**Device Information**

Firmware Version: 2.700  
System Idle Time: 98%  
MAC Address: 00:80:67:80:35:97  
Serial Number: 30000062  
Model Number: EGX100MG  
Firmware Version:  
Manufacture Date: 2005-Jan-01

Firmware Version: 2.700   © 2005-2008 Schneider Electric. All Rights Reserved.   User: Administrator

When the serial port is in "master" mode, a pop-up window shows the active ModbusTCP/IP connections.

# PowerLogic EGX100 user interface



**PowerLogic® EGX100**

Home Logout

Monitoring   Control   **Diagnostics**   Maintenance   Setup

Statistics

**Read Device Registers**

## Read Device Registers

Device ID:	Starting Register:	Number Of Registers:
<input type="text" value="1"/>	<input type="text" value="1000"/>	<input type="text" value="10"/>
Register	Value	
1000	0	<input type="button" value="Read Holding Registers"/>
1001	0	<input type="button" value="Read Input Registers"/>
1002	0	<input checked="" type="radio"/> Decimal
1003	0	<input type="radio"/> Hexadecimal
1004	0	<input type="radio"/> Binary
1005	0	<input type="radio"/> ASCII
1006	0	
1007	0	
1008	0	
1009	0	

The Read Register feature lets you read the register contents of connected serial devices.



# Technical specifications

- Transparent Ready Classification: B15
- Ethernet
  - 10/100BaseTx
  - Media Type:
    - 10T/100Tx Auto
    - 10BaseT-HD
    - 10BaseT-FD
    - 100BaseTx-HD
    - 100BaseTx-FD
  - Framing: Ethernet II & 802.3 (SNAP)
  - IP Parameters: Address, Subnet Mask, & Default Gateway
  - Protocols: HTTP, ModbusTCP/IP, FTP, SNMP (MIB2), TCP, UDP, ARP, ICMP
  - Connector: RJ45; Industry standard pinout
  - Concurrent ModbusTCP/IP connections: 32
  - Duplicate IP address detection (FDR basic)

# Technical specifications

- Serial line

- Isolation: All lines optically isolated
- Physical interface: RS485 4-wire, RS485 2-wire, RS232
- Protocols: Modbus RTU, Powerlogic (SY/MAX), Modbus ASCII, Jbus
- Baud: 2400–38400bps (RS485); 2400-57600bps (RS232)
- Parity: None & Even
- Response timeout: 0.1 to 10-seconds (default = 3-seconds)
- Connector: RS485 – 5-position plugable screw-terminal  
RS232 – RJ45; industry standard pinout

# Technical specifications

- **Diagnostics available through web interface:**
  - Specific counters for Ethernet, ModbusTCP/IP, and Serial Line
  - On-board READ register viewer
- **Environmental**
  - Operating temperature: -25 to 70°C
  - Enclosure: Multi-9 (72mm)
  - IP rating: IP30
  - Emissions: EN55022; EN55011; EN61000-3-2, 3  
FCC Part15 Class A
  - Immunity: EN61000-6-2; EN61000-4-2, 3, 4, 5, 6, 8
  - Safety: EN60950 CB Scheme
  - Agency: UL, cUL, CE
  - Control power: PoE (IEEE802.3af) or 24Vdc, 4w

# For more information ...

- Please visit [www.PowerLogic.com](http://www.PowerLogic.com)