

PowerLogic® Web-Enabled Network Components

Access valuable energy and power information from your system

**Transparent
Ready®**
Web-enabled Power & Control



a brand of
**Schneider
Electric**

 **SQUARE D**



Square D / Schneider Electric offers PowerLogic® web-enabled network components that are built on open Modbus® standards. Leveraging existing infrastructures, each supports Ethernet connectivity and web technologies designed to allow system scalability. Featuring an embedded web server, these network components organize valuable equipment information and provide easy access from any PC on your network, using a standard web browser.

PowerLogic® NETWORK SOLUTIONS



- Easy Installation into New Equipment or Retrofit
- Scalable Connectivity Supporting Modbus® Devices
- Web-Enabled Information to Authorized Users
- Monitoring Power Equipment and Piped Utilities
- Remote Alarm Notification of System Events
- Definitive Conclusions
- Savings with Quick Return on Investment



Integrated Approach for Total Solution

PowerLogic® web-enabled network components support a myriad of intelligent communicating devices and provide connectivity to system software. This support includes the complete range of Square D/Schneider Electric Transparent Ready® power equipment, PowerLogic monitoring devices as well as compatible Modbus® communicating devices. That means, in addition to providing real time and historical information, the PowerLogic network communications will support incorporation of control components into the PowerLogic system. These are typically integrated to monitor piped utilities such as water, air, gas and steam, as well as, provide status and control for peak shaving, load shedding, automatic transfer schemes and other energy reduction and reliability solutions.



Web Technologies Facilitate Knowledge That Result in Savings

Designed to be an “Out-of-the-box” application, PowerLogic network components give unprecedented web-enabled access. With this level of access, from any computer on your network, you and other authorized users will never be out of touch with your equipment and piped utilities. The system information is presented in a manner that allows you to draw definitive conclusions so you will have the tools to help you facilitate information sharing and reduce utility costs. Save time and money knowing where spare capacity exists and improve system reliability by proactively identifying potential problems before they cause downtime. In short, you will be empowered to achieve savings and make informed decisions.



Scalable System Approach Grows With Your Organization

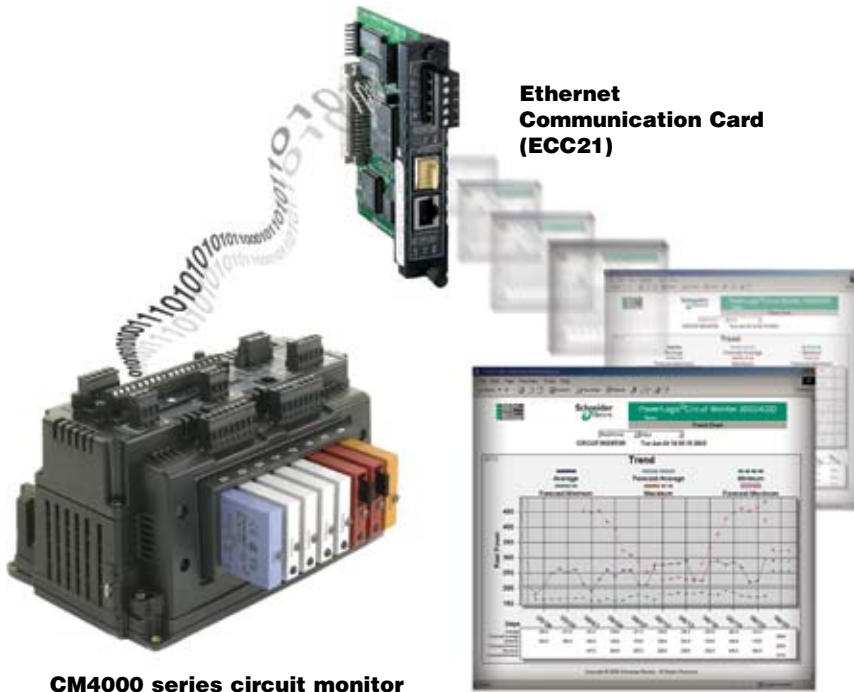
PowerLogic web-enabled network components are flexible and let you take a building block approach. Start at any level, and when you're ready to grow, our system is designed to grow with you. Every level can stand alone, or be combined to provide a solution that is right for you. From simple metering to advanced corporate wide operations, PowerLogic systems give you the information that you need, no matter where you are.



Square D also offers pre-defined Transparent Ready power equipment levels (TRE), based on the same PowerLogic component platforms contained in this brochure. For more information about Square D Transparent Ready Equipment (TRE) see Document Number 1700BR0601.

BASIC

Ethernet Communication Card (ECC21)



CM4000 series circuit monitor

Ethernet Communication Card (PM8ECC)



PM800 series power meter

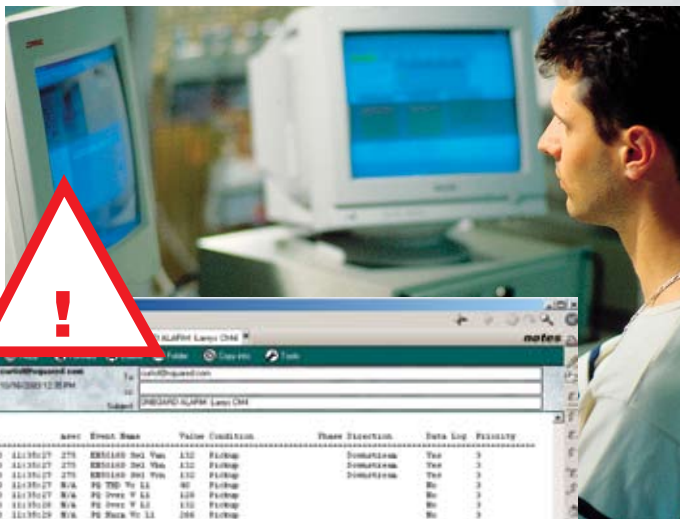
Ethernet Communication Card (ECC)

The PowerLogic Ethernet Communication Cards deliver alarm notification, status and real-time viewing of energy and power quality data via onboard web pages plus support Ethernet communications for 32 simultaneously connected devices.

As a total network solution for your power monitoring needs, the Ethernet Communication Card ECC21 expands the capability of the PowerLogic CM3000 or CM4000 series circuit monitors as does the PM8ECC for the PM800 series power meters. Based on plug and play technology, the ECC, with Modbus[®] TCP protocol support, plugs into an expansion slot on meter providing direct connection to the Ethernet network using either Cat5 Ethernet shielded or unshielded twisted pair or fiber cabling (ECC21). An RS-485 Modbus[®] master port on the ECC supports a daisy chain of up to 31 additional devices without a repeater, allowing the circuit monitors with ECC to act as an Ethernet gateway for downstream devices.

Real time web viewing — In addition to providing direct, high speed Ethernet connectivity, the ECC includes embedded HTML pages. This web access allows real-time power system information from the circuit monitors through a standard web browser. The Web Page Generator (WPG) software shipped with the ECC, allows you to transfer standard pages, including summary views, for devices daisy-chained to the ECC's onboard RS-485 port. Custom pages are also supported for a total of 10 web pages that can be viewed over the network. You can even view this information from home or a remote location through your company's virtual private network connection.

Email on alarm — CM3000/CM4000 Series Circuit Monitors and 800 Series Power Meters equipped with an Ethernet Communication Card (ECC) can send emails on alarm occurrence for up to 15 different users, each with their own daily/weekly schedule. When conditions are outside normal parameters, a circuit monitor sends an email on alarm notification containing pass/fail power quality, disturbance direction, and other circuit information in the language selected to be used for the circuit monitor's remote display. It bundles up to 34 events in a single email. Emails are then received at a PC, PDA, mobile phone, etc., just like any other email. Using email is an effective means for notification of geographically dispersed personnel. Email also avoids firewall restrictions imposed by other data transfer methods.

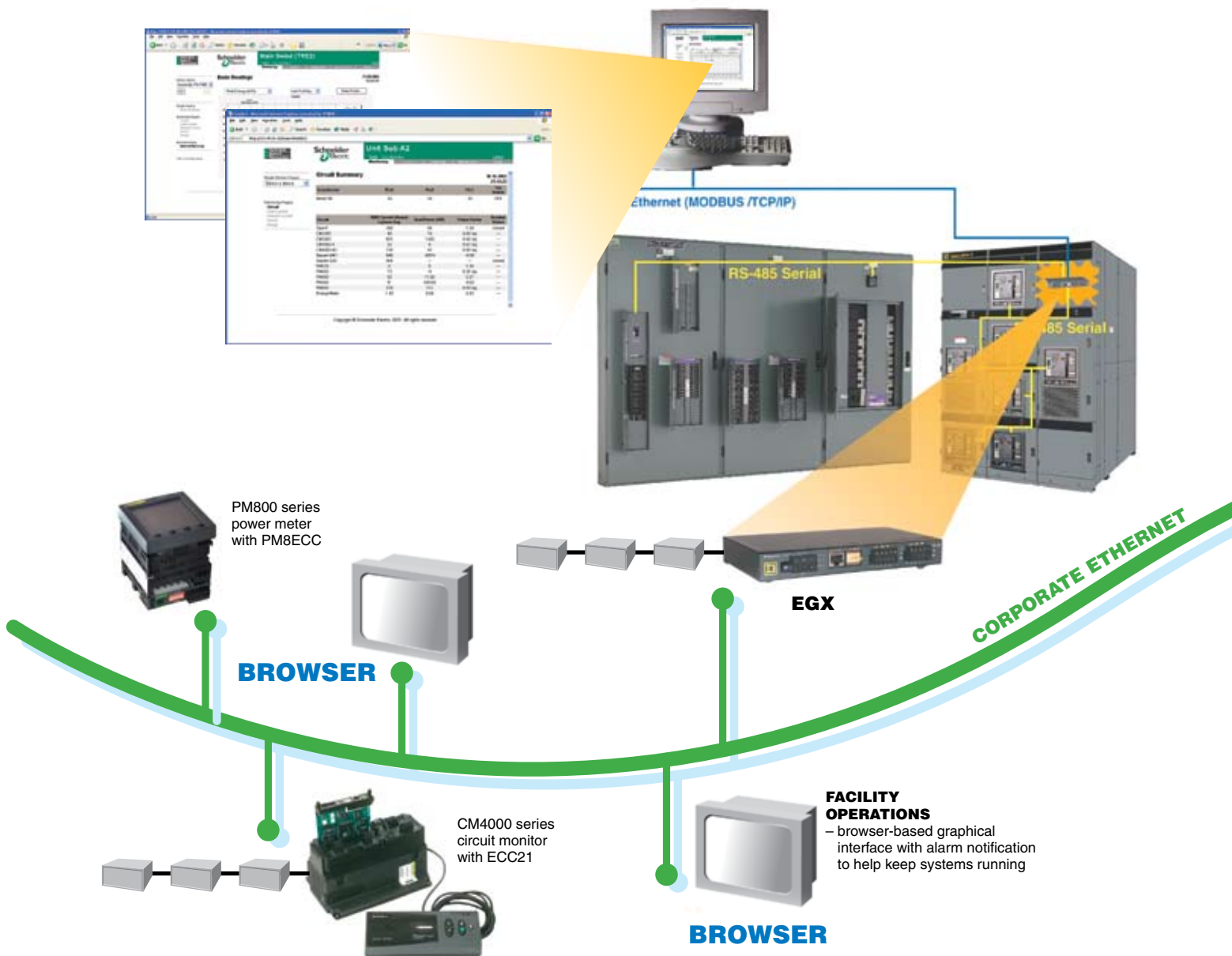


Date/Time	Event Name	Value	Condition	Phase Direction	Data Log	Priority
6/20/2004 16:16:59	EN50160 Swl Van	132	Pickup	Downstream	Yes	3
6/20/2004 16:16:59	EN50160 Swl Vbn	132	Pickup	Downstream	Yes	3
6/20/2004 16:16:59	EN50160 Swl Vcn	132	Pickup	Downstream	Yes	3
6/20/2004 16:16:59	PQ THD Vc L1	40	Pickup		No	3
6/20/2004 16:16:59	PQ Over V L1	126	Pickup		No	3
6/20/2004 16:16:59	PQ Over V L2	132	Pickup		No	3
6/20/2004 16:16:59	PQ Harm Vc L1	266	Pickup		No	3
6/20/2004 16:16:59	PQ Harm Vb L1	264	Pickup		No	3
6/20/2004 16:16:59	PQ Harm Va L1	265	Pickup		No	3

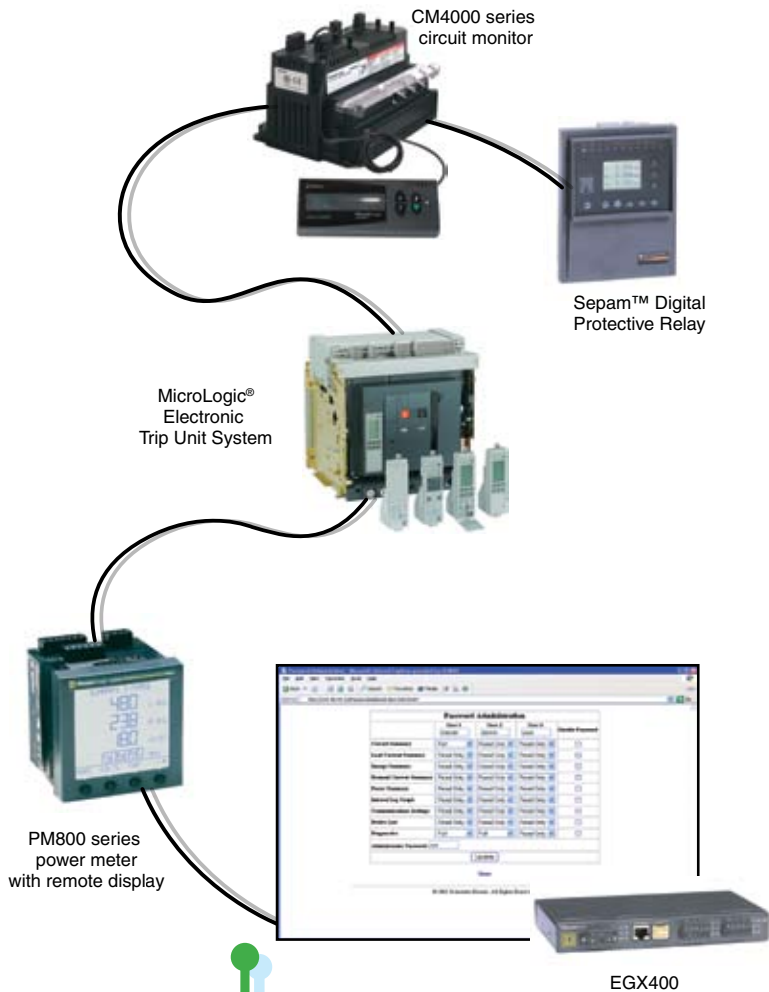
INTERMEDIATE

Web Page Displays and Storage — The integral web server inside the EGX400 alleviates the need for special end user software. Remote configuration and data can be viewed using a standard Internet browser. This includes access to usage consumption from piped utilities, and power equipment data from circuit monitors, circuit breaker trip units, programmable controllers, drives and protective relays. There are also standard pages for device resets, diagnostics and web server setup. In addition, there is 16 Mb of internal memory providing storage for standard and user-defined web pages for real time status, instruction manuals, equipment drawings, etc.

Collects and Trends — With reliable high-speed communications, the EGX provides fast system response, direct access to system data, and 38 days of 15-minute interval historical data logging with zoom. Up to 6 parameters can be logged for each connected device. This is particularly useful for capturing interval data for devices not capable of onboard logging. The EGX400 interval logs are also fully compatible with web query in Microsoft® Excel. Once the data is in the spreadsheet, you can analyze it by using the tools and features in Excel. Your imagination is the limit – allocate costs per shift or per manufacturing line, calculate demand, aggregate multiple circuits or facilities for total consumption, monitor energy consumption during peak periods, verify equipment is being shutdown properly during non-production hours, etc.



INTERMEDIATE



Ethernet Gateway (EGX)

The PowerLogic® Ethernet Gateway (EGX) transfers power system, equipment status and other critical information to your Ethernet network and into your web browser, while its compact dimensions make it ideal for retrofit applications.

PowerLogic Ethernet Gateways Available in Two Models

EGX100

The power-over-Ethernet enabled EGX100 provides low-cost, reliable, Ethernet to serial-line connectivity in a compact, DIN-rail mounted package. Features unique to the EGX100 include 'TCP/IP Filtering' security that lets you specify the level of access each Master device shall have to connected serial devices; and 'serial master support' that lets a serial Modbus® master device connected to the gateway's serial port access devices across a TCP/IP network.

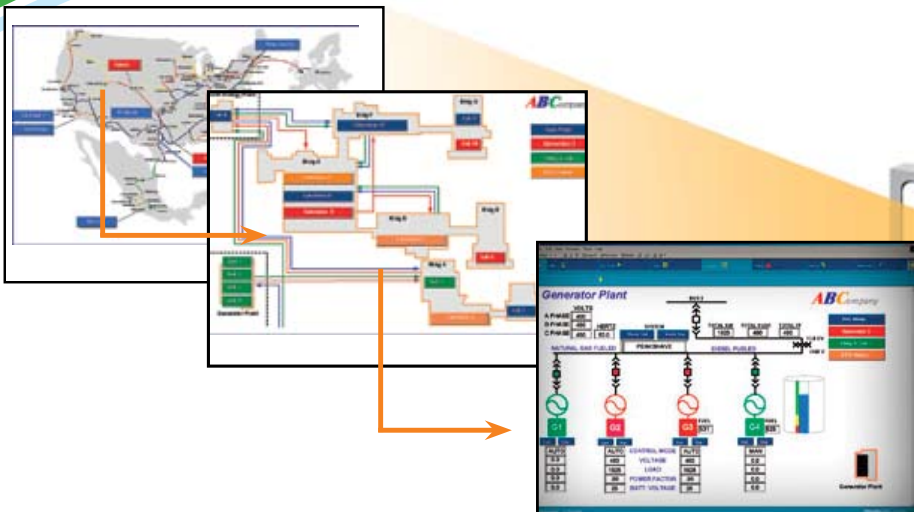
EGX400

The EGX400 has two serial ports providing Ethernet access to 64 serial devices (more with repeaters), historical data logging and trending, browser-based access to real-time and historical data, ability to e-mail historical data, and more.

BROWSER

ENGINEERING

- browser based detailed electrical and mechanical info for design decisions and capacity planning studies
- waveform and power quality analysis



ADVANCED

System Management and Analysis for Plant and Enterprise Wide Operations
The PowerLogic® system software collects and stores system wide information for more in-depth monitoring and analysis. This advanced capability is well suited for a single plant, campus operation and aggregating information from multiple sites typically using the existing intranet with connected Ethernet Communication Cards or Ethernet Gateways for communications to monitoring devices.

SYSTEM MANAGER SOFTWARE

- automatic data upload
- piped utilities
- WAGES cost info
- usage trends
- browser based reports
- power quality analysis
- real time/graphical data
- alarming



MANAGEMENT

- browser based secure access to high level reports
- cost allocation, capital equipment and building improvement

BROWSER

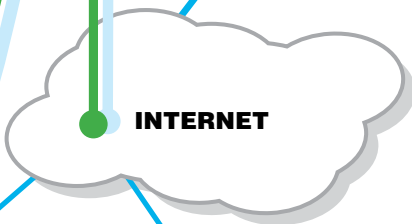


PAGER

Time of day scheduling options for emailed alarms offers flexibility and early notification



INTERNET

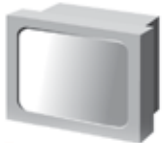


CORPORATE ETHERNET

BROWSER via VPN

- security through virtual private network only to authorized users
- connect to PowerLogic web-enabled components to obtain information

BROWSER



Fully Instrumented System Networked to PowerLogic® System Manager

This diagram depicts an example Ethernet-based PowerLogic® System. The intranet clients are ordinary PCs equipped with Microsoft® Internet Explorer. PowerLogic® and Modbus® compatible devices are supported by PowerLogic network communication components and software that offer an integrated, system-level coordination for monitoring, controlling and managing your power equipment and piped utility assets.

Robust Capabilities for Large Systems

PowerLogic® web-enabled product family capabilities include:

- Complete view of entire power system, with virtually unlimited number of devices
- Powerful department billing, cost allocation and power quality reporting capabilities
- Dynamic one-line diagrams and customized facility drawings
- Disturbance monitoring, alarm/event recording
- Ability – to analyze power quality by viewing waveforms, harmonics, and RMS plots
- Access to real-time data tables and trends
- Sequence of events information to pinpoint the root cause of power problems
- Email and paging capability to notify you of an impending problem

Enterprise Energy Management

PowerLogic® ION® EEM enterprise energy management software is an enterprise-level, energy focused business intelligence solution that offers financial modeling, measurement/verification, performance tracking and much more. ION EEM software can access PowerLogic Ethernet Gateways and aggregate information from multiple data sources and sites, while its web-based digital dashboards depict everyday business information and overall energy consumption as relevant business metrics and key performance indicators.

SYSTEM COMPONENTS GIVE DEFINITIVE CONCLUSIONS



Instant access to utility, status, power and control information provides definitive conclusions

- Embedded web server technology provides information viewing with Internet Explorer browser
- Browser-based user interface to access all power and control information, reduces training virtually to zero
- Provides standard summary pages for downstream connected devices
- Drop-In sample web pages provide system performance summaries that are based on historical trend analysis – Power Quality Index, Alarm Summary, EN50160 Pass/Fail, and more
- Supports user-defined pages

Industry Standard Open Modbus® Protocol

- Leverage existing network infrastructure and expertise
- Supports Modbus® RTU, Modbus® ASCII, JBUS, SY/MAX® protocol for 2-wire and 4-wire daisy chains, mixed-mode daisy chains containing any combination of devices using above protocols
- Modbus® TCP/IP Ethernet enables integrated approach for total solution scalability
- Features embedded web server
- Supports wide use of Intranet and Internet technology
- Compatible with building and energy management systems

Industrial rated

- Compliant with Industry Standards (UL, CSA, FCC, CE)
- High performance and reliable communication
- Designed to withstand the rigors of electrical and industrial environments

Out-of-the-box application:

- Energy trends to Web query aid utility cost reduction
- Access to system diagrams, instruction manuals, alarm diagnostics for better equipment management
- Power Quality information based on EN50160 & IEEE 1159 standards give pertinent information for improving system reliability
- Email alarms for early notification aid downtime reaction
Includes time of day support for up to 15 different users

Easy system expansion

- Does not require high-level knowledge of Ethernet and communication
- On-the-fly device additions for system connectivity
- Downloadable firmware for easy future upgrades via the network from anywhere in the world

Remote Accessibility

- In the same manner that you can get your company email when at home or at another remote location, you can also connect to any PowerLogic® gateway, or software web server to get system information over a secure VPN (virtual private network) or telephone line
- Security with data available only to authorized users
- With web technologies, you're connected 24/7

**Transparent
Ready.**
Web-enabled Power & Control

For more information about Transparent Ready, call your local field office representative, or log on to www.us.SquareD.com/TR to see a demo and download handouts, catalogs, and instruction materials. Integrated approach for Total Solution.



SQUARE D