ASCO PowerQuest® Power Monitoring and Control Systems
The Power to Know

It’s all about the need to know...

*Your* need to know what’s happening with your facility’s on-site power and distribution system. That includes automatic transfer switches, generator paralleling control switchgear, gensets, circuit breakers, paralleling bus, protective relays and other gear.

It’s not only to know, but to understand. To act. To solve issues when seconds count.

Your need to know about equipment condition, operation and status is more critical than ever. Essentially, to make sure that all equipment and components are healthy and “playing nice.” That’s especially important as system complexity and sophistication increase.

Knowing can help ensure power reliability for critical operations, and thus continuity of those operations. To make sure when questions are asked, you have answers.

Now there’s a way to get exactly the amount of communication, monitoring and control capabilities you want for your utility source and on-site power system.
ASCO PowerQuest® Power Monitoring and Control Systems

It’s the new ASCO PowerQuest® Power Monitoring and Control family.

The PowerQuest® family is the most comprehensive communication, monitoring and control solution ever offered by Emerson Network Power. It empowers you. It fulfills your need to test, manage loads, optimize the bus bar, remotely monitor and otherwise be aware of the status of your facility’s utility source and on-site power. You have both the Power to Know and the Power to Do.

Whether you require standard monitoring and control, or a comprehensive Critical Power Management System, PowerQuest can satisfy your needs.

Hardware. Software. Installation and testing. Service. And upgrades and technology refreshes. A truly complete solution for all your communication, monitoring and control needs.

This brochure can help you determine—easily—the type of PowerQuest system you need for your ASCO power switching and controls, and third-party equipment.

FULFILL YOUR NEED

Drill down for a closer look—Each transfer switch, generator, breaker and any other power equipment has its own dedicated screens.

PowerQuest provides monitoring, alarming and control of Critical Power Management Systems, which comprise transfer switches, paralleling control switchgear, gensets, circuit breakers, distribution and other gear. It also integrates with building management systems.

BE EMPOWERED

PowerQuest can enable you to:

- Monitor and control power transfer switches, paralleling control switchgear, gensets, breakers, bus bars and other equipment
- Monitor normal and emergency voltages and frequency and their settings
- Know transfer switch position and source availability
- Transfer and re-transfer loads for system testing
- View and adjust transfer switch time-delay settings
- Know each transfer switch’s rating and identification
- Receive automatic alerts on system operation via e-mail, pager, or selected system alarms
- View current, power and power factor
- View transfer switch event log and know the transfer switch test schedule
## Monitoring and Control Continuum

Selecting the system that provides your level of need-to-know information and control...

<table>
<thead>
<tr>
<th>You Need...</th>
<th>Your Application Is...</th>
<th>Desired Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic monitoring, remote alarming and control, or, if you simply want to know transfer switch status or perform monthly transfer testing</td>
<td>Residential, light commercial and retail establishments</td>
<td>Local or remote, floor-level monitoring and control, or as part of a larger, facility-wide monitoring and control system</td>
</tr>
<tr>
<td><strong>PowerQuest</strong>&lt;br&gt;Standard Capabilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A ‘specify-your-own’ Critical Power Management System (CPMS) that includes gensets, circuit breakers, and reports on energy, trending, power demand, bypass status, diagnostics, alarming, and component-level monitoring and control.</td>
<td>Commercial, retail, telecom, agriculture, municipal, such as waste water treatment, light industrial plants, educational campuses and healthcare facilities requiring distributed power and load management</td>
<td>Local, floor-level, or facility-level monitoring and control; 5700 systems can be configured in three capability levels:&lt;br&gt;• Essential (single building)&lt;br&gt;• Professional (multiple buildings, single campus)&lt;br&gt;• Enterprise (multiple campuses)</td>
</tr>
<tr>
<td><strong>PowerQuest</strong>&lt;br&gt;Configurable Flexibility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Critical Power Management System providing system-wide monitoring, alarming and control of transfer switches, paralleling control switchgear, gensets and distribution, both on and off site; also integrates PLCs, building management systems and on-site, simulator training. Power quality and a range of other information is provided.</td>
<td>Regional and global networks of data centers, financial institutions, Web hosting companies and healthcare campuses that operate expansive and sophisticated on-site power systems that are essential for providing 24/7 power reliability</td>
<td>Local floor-level monitoring and control, and remote system-wide monitoring and control seamlessly integrated with building management systems; communication paths can be Ethernet, Web-based PC’s and monitors; simulator training that mimics the live system allows conducting ‘what if’ scenarios, without risking system operation.</td>
</tr>
<tr>
<td><strong>PowerQuest</strong>&lt;br&gt;Ultimate Customization</td>
<td></td>
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</tbody>
</table>
Identifies the ASCO products and components required to provide the functionality you need.

<table>
<thead>
<tr>
<th>Products</th>
<th>Required Components</th>
<th>Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCO Series 185 and Series 300 Automatic Transfer Switches</td>
<td>Connectivity Modules and Annunciators</td>
<td>Locally monitor switch position, source availability and the status of on-site power system devices via customized Web page. Initiate tests and push-button remote transfer. Aural, visual alarms.</td>
</tr>
<tr>
<td>ASCO 7000 Series Automatic Transfer Switches, including Bypass-Isolation and 7000 Series Generator Paralleling Control Switchgear.</td>
<td>Standard and Configurable components, plus higher performance Power Control System and Data Management Screens, and an on-site Simulator Training System</td>
<td>Interact fully with incoming utility service boards, mission critical paralleling gear, transfer switches, UPSs, STSs and PDUs...and interface with Building Management Systems. Capture, store and analyze quantities of data to optimize on-site power operation. Use your display devices and/or ASCO 42” LCD screen. Highly customize your GUI with sophisticated HMI/SCADA software.</td>
</tr>
</tbody>
</table>
## Power Monitoring and Control Compatibility Matrix

### PowerQuest Specified Components

<table>
<thead>
<tr>
<th>Power Quest Product Number</th>
<th>ASCO Transfer Switches</th>
<th>ASCO Power Control Systems</th>
<th>Other Power Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>300  4000  7000</td>
<td>300  4000  7000</td>
<td>Generators, Breakers, Uninterrupted Power Supplies, Load Banks and more</td>
</tr>
<tr>
<td>5150</td>
<td>✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓</td>
<td>✓</td>
</tr>
<tr>
<td>5160</td>
<td>✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓</td>
<td>✓</td>
</tr>
<tr>
<td>5210</td>
<td>✓ ✓ ✓ ✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>5220</td>
<td>✓ ✓ ✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>5221</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>5400</td>
<td>✓ ✓ ✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

### PowerQuest Specified Packaged Approach

<table>
<thead>
<tr>
<th>Power Quest</th>
<th>Standard Capabilities</th>
<th>Configurable Flexibility</th>
<th>Ultimate Customization</th>
</tr>
</thead>
<tbody>
<tr>
<td>5310</td>
<td>✓ ✓ ✓ ✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>5350</td>
<td>✓ ✓ ✓ ✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>5710</td>
<td>✓ ✓ ✓ ✓</td>
<td>✓ 5221 PMU Required</td>
<td>✓</td>
</tr>
<tr>
<td>5750</td>
<td>✓ ✓ ✓ ✓</td>
<td>✓ 5221 PMU Required</td>
<td>✓</td>
</tr>
<tr>
<td>5790</td>
<td>✓ ✓ ✓ ✓</td>
<td>✓ 5221 PMU Required</td>
<td>✓</td>
</tr>
<tr>
<td>5900</td>
<td>✓ ✓ ✓ ✓</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>
PowerQuest 5700 CPMS: Configurable Flexibility

- Unlimited Number of On-Site Power Devices
- Power Monitoring Made Easy

PowerQuest 5900 CPMS Offers Unlimited Customization

- The schematic on the right illustrates the PowerQuest 5900, including:
  - Power/Energy
  - Remote Control
  - Status
  - Notification
- Functionalities include:
  - Resolution Independence
  - Browser Independence
- FEATURES:
  - 5900 Simulator
  - 5950 Power Control System Management Terminal
  - Power/Energy
  - Remote Access

- PowerQuest 5300 Standard Capabilities

- PowerQuest 5300 provides standard monitoring and control capabilities—status, warning and visual alarm, and local and remote control.

- The Power Monitoring and Control Compatibility Matrix (left) shows components that can be configured for a range of ASCO Automatic Transfer Switches and Generator Paralleling/Control Switchgear. These components can also monitor third-party devices, such as gensets, paralleling, box circuit breakers, and other breakers.
- PowerQuest 5900 and 5900 systems.

- Consider including remote monitoring/management capabilities. Remote capabilities can minimize the need for personnel to be near the equipment and perhaps avoid setting up in an exposed protective gear.

- The Power Monitoring and Control Compatibility Matrix (left) shows components that can be configured for a range of ASCO Automatic Transfer Switches and Generator Paralleling/Control Switchgear. These components can also monitor third-party devices, such as gensets, paralleling, box circuit breakers, and other breakers.

- For example, if you want browser independence (IE, Safari, Firefox, Chrome, Opera), multi-browser support, Modbus and BACNet IP, device time synchronization and test reports for complying with JCAHO requirements, consider PowerQuest 5700 or 5900 systems.

- One connectivity module is required to connect each transfer switch to monitoring servers.

- Annunciators monitor one, or up to eight transfer switches. Multiple annunciators can accommodate larger numbers of transfer switches.

- And These Monitors can include:
  - Power Transfer Switches
  - Engine/Gensets
  - Battery Monitors
  - Electric Meters
  - Air Condition Monitors
  - Temperature Monitors
  - Load Bank
  - APS Series
  - ASCO ATS
  - ASCO ASCII


- PowerQuest 5700 is a feature-rich system.
- It offers unsurpassed flexibility for configuring a range of functionalities tailored specifically to your monitoring, control and reporting requirements.
- Once configured, it is exceptionally easy to set up and operate day-to-day.
- Functions include:
  - Alarm/Events
  - Notification
  - Status
  - Remote Control
  - Power/Energy

- FEATURES:
  - Logic Security
  - 12-Level Security Access
  - AES 128-bit Encryption
  - Peer-to-Peer Network Security
  - Auto Log Out

- Mission-critical data centers rely on comprehensive power monitoring and control of on-site power systems to help operate, test and diagnose equipment, thus helping ensure long-term power reliability.

- If you want the ultimate in monitoring and control customization, redundancy and scalability, consider the PowerQuest 5900 Critical Power Management System.

- The schematics on the right illustrate the PowerQuest 5900, including:
  - 5900 Simulator
  - 5950 Power Control System Management Terminal
  - Power/Energy
  - Remote Access

- The PowerQuest 5900 can provide all the power to know and power to need for even the most demanding on-site power systems with multiple, paralleled gensets, AES’s and a range of power distribution equipment.

- PowerQuest 5900 offers:
  - Unlimited Customization
  - Unlimited Number of On-Site Power Devices
  - Power Monitoring Made Easy

- The schematic on the right illustrates the PowerQuest 5900, including:
  - Power/Energy
  - Remote Control
  - Status
  - Notification
### PowerQuest CPMS Offers Unlimited Customization

If you want the ultimate in monitoring and control customization, redundancy and scalability, consider the ASCO PowerQuest 5900 Critical Power Management System.

It’s ideal for complex on-site power systems that support ultra-critical applications such as data centers, large hospitals, financial centers and other operations where the stakes are high. Where 24/7 power reliability is absolutely essential. When you must know what’s happening all the time, especially when system operations are outside of established monitoring and control systems.

The PowerQuest 5900 can be tailor-made to your on-site power system. It includes an online simulator that allows confident staff training and testing, and the ability to test “what if” scenarios that can prepare staff for practically any eventuality.

#### Features

- **Resolution Independence** (Win, Mac, Linux)
- **Windows® Support**
- **App Mac OS® Support**
- **Auto Log Out**
- **Browser Independence**
- **Trending**
- **Reporting**
- **Time Synchronization**
- **Diagnostics**
- **Test Scheduling**
- **Settings/Set Points**
- **Log Security**
- **3-Level Security Access**
- **AES 128-bit Encryption**
- **Fronius Network Security**
- **Auto Log Out**

### PowerQuest 5300 Standard Capabilities

PowerQuest 5300 monitors and controls ASCO Power Transfer Switches in all amperage and these configurations:
- Manual or Automatic
- Closed Transition
- Delayed Transition
- By-Pass
- In-Parallel
- Stand-Alone
- Service Entrance-Rated

PowerQuest 5300 provides standard monitoring and control capabilities—status, availability and visual alarm, and local and remote control.

### Power Monitoring Made Easy

The Power Monitoring and Control Compatibility Matrix (left) shows components that can be configured for a range of ASCO Automatic Transfer Switches and Transfer Switchgear. Some components also can monitor third-party devices, such as gensets, paralleling, bypassing, circuit breakers and other geographic islands.

Consider including remote monitoring capability. Remote components can minimize the need for personnel to be near the equipment and perhaps avoid sitting up in a dark protective gear. The following pages illustrate the components and monitoring servers for PowerQuest 5300, 5700 or 5900 systems, based on the equipment at your facility and the monitoring and control capabilities you want.

For example, if you want browser independence (IE, Safari, Firefox, Chrome, Opera), multilingual support, Windows® and Macintosh® support, JCAHO compliance and test reports for complying with L2C2 standards, consider PowerQuest 5700 or 5900 systems.

---

**Table: Unlimited Number of On-Site Power Devices**

<table>
<thead>
<tr>
<th>Power Transfer Switch</th>
<th>Low Voltage Paralleling Control Switchgear</th>
<th>Medium Voltage Paralleling Control Switchgear</th>
<th>Power Distribution Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bypass-Isolation</td>
<td>Circuit Breaker</td>
<td>Power Transfer Switch</td>
<td>Power Distribution Unit</td>
</tr>
<tr>
<td>ATS Annunciator</td>
<td>Static Transfer Switch</td>
<td>Engine-Generators</td>
<td>Power Distribution Unit</td>
</tr>
<tr>
<td>ATS Annunciator</td>
<td>ATS Annunciator</td>
<td>ATS Annunciator</td>
<td>Power Distribution Unit</td>
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<td>ATS Annunciator</td>
<td>Power Distribution Unit</td>
</tr>
</tbody>
</table>

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**Figure: Power Monitor and Control System Compatibility Matrix**

- **Series 185**
- **ASCO 5310 Connectivity Module**
- **ASCO 5310 ATS Annunciator**

---

**Text: 3 Critical Power Management Systems (CPMS) Optimize Flexibility, Set Up/Operation, Performance, and Scalability.**

PowerQuest 5700 is a feature-rich system.

It often surpasses flexibility for configuring a range of functionalities tailored specifically to your monitoring, control and reporting requirements.

Once configured, it is exceptionally easy to set up and operate day-to-day.

Functionalities include:
- Alarms/Events
- Notification
- Status
- Remote Control
- Power/Energy
- Statistics
- Setting/Points
- Test Schedule
- Diagnostics
- Time Synchronization
- Reporting
- Trending
- Browser Independence

Mission-critical data centers rely on comprehensive power monitoring and control of on-site power systems to help ensure uptime and disaster-recovery, thus helping ensure maximum long-term reliability.

---

**Text: Unlimited Number of On-Site Power Devices.**

If you want to monitor and control an unlimited number of these types of on-site power devices...

And you want these 
'Power to Know' 
Capabilities...

Specify this connectivity module is required to connect each transfer switch to monitoring servers.

---

**Text: Hot Snap-able Hard Drives.**

Hot swappable hard drives.
Which 5700 package is right for you?

The 5700 line offers versatile options with a range of capabilities starting with the Essential package and building up through the Professional and Enterprise packages.

The Essential package offers a value solution for your monitoring needs. Control up to 32 devices, with basic ‘Power to Know’ capabilities such as energy summary, notification and site statistic, along with standard power monitoring and 15-inch monitoring servers.

The Professional package offers richer features to your monitoring needs. Control up to 64 devices, with even more ‘Power to Know’ capabilities such as reports, trending and diagnostics, along with standard power monitoring devices, remote annunciators and 15-inch monitoring servers.

The Enterprise package offers full redundancy features with control of up to 128 devices, all ‘Power to Know’ capabilities, standard power monitoring devices, remote annunciators and additional 42-inch monitoring servers.

### PowerQuest 5710 CPMS Essential
**A Value of Standard Features**

<table>
<thead>
<tr>
<th>Components</th>
<th>Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCO 5221 Power Manager Unit</td>
<td>500 Series</td>
</tr>
<tr>
<td>ASCO 5210 Power Meter</td>
<td>7000 Series</td>
</tr>
<tr>
<td>ASCO 5150 ATS Annunciator</td>
<td>7000 Series</td>
</tr>
<tr>
<td>ASCO 5150 Connectivity Module</td>
<td>4000 Series</td>
</tr>
</tbody>
</table>

If You Want to Monitor and Control Up to 32 of These Types of On-Site Power Equipment...

- And You Want These Power to Know Capabilities...
- Specify These Connectivity and Power Monitoring Components...
- And These Monitoring Servers.

### PowerQuest 5750 CPMS Professional
**Feature Rich with Comprehensive and Diagnostic Reporting**

<table>
<thead>
<tr>
<th>Components</th>
<th>Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCO 5221 Power Manager Unit</td>
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<tr>
<td>ASCO 5210 Power Meter</td>
<td>7000 Series</td>
</tr>
<tr>
<td>ASCO 5150 ATS Annunciator</td>
<td>7000 Series</td>
</tr>
<tr>
<td>ASCO 5150 Connectivity Module</td>
<td>4000 Series</td>
</tr>
</tbody>
</table>

If You Want to Monitor and Control Up to 64 of These Types of On-Site Power Equipment...

- And You Want These ‘Power to Know’ Capabilities...
- Specify These Connectivity and Power Monitoring Components...
- And These Monitoring Servers.

### PowerQuest 5790 CPMS Enterprise
**Full Redundancy and Scalability**

<table>
<thead>
<tr>
<th>Components</th>
<th>Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCO 5221 Power Manager Unit</td>
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</tr>
<tr>
<td>ASCO 5210 Power Meter</td>
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</tr>
<tr>
<td>ASCO 5150 ATS Annunciator</td>
<td>7000 Series</td>
</tr>
<tr>
<td>ASCO 5150 Connectivity Module</td>
<td>4000 Series</td>
</tr>
</tbody>
</table>

If You Want to Monitor and Control Up to 128 of These Types of On-Site Power Equipment...

- And You Want These ‘Power to Know’ Capabilities...
- Specify These Connectivity and Power Monitoring Components...
- And These Monitoring Servers.
Which 5700 package is right for you?

- The 5700 line offers versatile options with a range of capabilities starting with the Essential package and building up through the Professional and Enterprise packages.

- The Essential package offers a value solution for your monitoring needs. It controls up to 32 devices, with basic ‘Power to Know’ capabilities such as energy summary, notification and site statistics, along with standard power monitoring devices, remote annunciators and 17 inch monitoring servers.

- The Professional package offers richer features to your monitoring needs. Control up to 64 devices, with even more ‘Power to Know’ capabilities such as reports, trending and diagnostics, along with standard power monitoring devices, remote annunciators and 15 inch monitoring servers.

- The Enterprise package offers full redundancy with control up to 128 devices, all ‘Power to Know’ capabilities, standard power monitoring devices, remote annunciators and additional 42 inch monitoring servers.

PowerQuest 5710 CPMS Essential
A Value of Standard Features

- If You Want to Monitor and Control Up to 32 of These Types of On-Site Power Equipment...
- And You Want These ‘Power to Know’ Capabilities...
- Specify These Connectivity and Power Monitoring Components...
- And These Monitoring Servers.

- If You Want to Monitor and Control Up to 64 of These Types of On-Site Power Equipment...
- And You Want These ‘Power to Know’ Capabilities...
- Specify These Connectivity and Power Monitoring Components...
- And These Monitoring Servers.

PowerQuest 5750 CPMS Professional
Feature Rich with Comprehensive and Diagnostic Reporting

- Feature Rich with Comprehensive and Diagnostic Reporting...
- And You Want These ‘Power to Know’ Capabilities...
- Specify These Connectivity and Power Monitoring Components...
- And These Monitoring Servers.

PowerQuest 5790 CPMS Enterprise
Full Redundancy and Scalability

- Full Redundancy and Scalability...
- And You Want These ‘Power to Know’ Capabilities...
- Specify These Connectivity and Power Monitoring Components...
- And These Monitoring Servers.
Which 5700 package is right for you?

The 5700 line offers versat-
ile options with a range of
capabilities starting with the
Essential package and
building up through the
Professional and Enterprise
packages.

The Essential package
offers a value solution
for your monitoring needs.
Control up to 32 devices,
with basic ‘Power to Know’
capabilities such as energy
summary, notification and
site statistic, along with standard power moni-
toring devices, remote annunciators and 15 inch monitor-
ing servers.

The Professional package offers richer
‘Power to Know’ capabilities, up to 64
devices, with even more ‘Power to Know’ capa-
bilities such as reports, trending and diagno-
tics, along with standard power monitoring devices, remote annunciators and additional 19 inch monitor-
ing servers.

The Enterprise package offers full redundancy
features with control of up to 128 devices, all ‘Power
to Know’ capabilities, standard power monitoring
devices, remote annu-

ating servers.

PowerQuest 5710 CPMS Essential
A Value of Standard Features

If You Want to Monitor and Control Up to 32 of These Types of On-Site Power Equipment... If You Want These ‘Power to Know’ Capabilities... Specify These Connectivity and Power Monitoring Components... And These Monitoring Servers.

PowerQuest 5750 CPMS Professional
Feature Rich with Comprehensive and Diagnostic Reporting

If You Want to Monitor and Control Up to 64 of These Types of On-Site Power Equipment... If You Want These ‘Power to Know’ Capabilities... Specify These Connectivity and Power Monitoring Components... And These Monitoring Servers.

PowerQuest 5790 CPMS Enterprise
Full Redundancy and Scalability

If You Want to Monitor and Control Up to 128 of These Types of On-Site Power Equipment... If You Want These ‘Power to Know’ Capabilities... Specify These Connectivity and Power Monitoring Components... And These Monitoring Servers.
PowerQuest 5900 CPMS Offers Unlimited Customization

If you want the ultimate in monitoring and control customization, redundancy, and scalability, consider the PowerQuest 5900 Critical Power Management System. It’s ideal for complex on-site power systems that support ultra-critical applications such as data centers, large hospitals, financial centers and other operations where the stakes are high. Where 24/7 reliability is absolutely essential. When you must know what’s happening all the time, especially when system operations are outside of established monitoring and control parameters.

The PowerQuest 5900 can be tailor-made to your on-site power system. It includes or adds modules that allow convenient staff training and re-training, and the ability to test “what if” scenarios that can prepare staff for practically any eventuality.

PowerQuest 5900 CPMS Features

- Revolution Independence (Web 400 x 200 to 1080)
- Web Server Support
- Apple Max OS X Support
- Resolution Independence

Support performance as well as backup equipment using a range of power distribution systems with multiple, paralleled gensets, ATS’s and a paralleling bus, circuit breaker, Protective Breakers, and other gear.

Asco Power Transfer Switches

- Indoor or Outdoor
- Bypass-Isolation
- Delayed Transition
- Open Transition
- Closed Transition
- Manual or Automatic

For example, if you want to monitor one, or up to eight transfer switches. Multiple annunciators can accommodate larger numbers of transfer switches.

PowerQuest 5900 Standard Capabilities

PowerQuest 5900 monitors and controls ACGU. Power Transfer Switches in all amperages and those configurations:

- Manual or Automatic
- Closed Transition
- Open Transition
- Delayed Transition
- Simultaneous Transition
- Parallel-Isolation
- Sequential-Isolation
- Motor or Outdoor
- Service Entrance Rated

One connectivity module is required to connect each transfer switch to monitoring servers.

Power Monitoring Made Easy

The Power Monitoring and Control Compatibility Matrix (left) shows components that can be configured for a range of ACGU Automatic Transfer Switches and Generator Paralleling Control Switchgear. Some components also can monitor third-party devices, such as gen sets, paralleling box, circuit breakers and other gear.

Consider including remote monitoring capability. Remote capabilities can minimize the need for personnel to be near equipment and perhaps avoid setting up an Ethernet protective gear. The following pages illustrate the components and monitoring servers for PowerQuest 5900, 5300 or 5900 systems, based on the equipment at your facility and the monitoring and control capabilities you want.

For example, if you want browser independence (IE, Safari, Firefox, Chrome, Open), multilingual support, Modbus and DeviceNet BMS support, NTP device time synchronization and test reports for complying with JCAHO requirements, consider PowerQuest 5700 or 5900 systems.
And You Want These ‘Power to Know’ Capabilities...

Specify These Connectivity and Power Monitoring Components...

And These Monitoring Servers.
PowerQuest Facilitates Effective Connectivity With Multiple Communications Modalities

SELECT ETHERNET, MODBUS OR FIBER OPTIC CABLE. ASCO SUGGESTS ETHERNET FOR NEW CONSTRUCTION.

Designing a communications pathway between a PowerQuest system and on-site power equipment is straightforward.

ASCO 5150 and 5160 connectivity devices and ASCO 5210 and 5220 Power Managers connect directly to equipment via Modbus, Ethernet or fiber optic cable.

Modules and power managers typically are installed on or near the equipment to which they are connected.

The modules and power managers connect to ASCO Monitoring Servers and building management systems via Ethernet or fiber optic cable.

Monitoring servers can be installed near the equipment or remotely. Remote locations range from nearby engineering offices to sites around a single campus, multiple campuses in a region, or buildings spread nationally, or even globally.

The distances between modules and power managers and the monitoring servers they connect to are important considerations in designing a power communication, monitoring and control system.

For example, to maintain good communication, the distance for an ethernet over category 6 cable connection should be no longer than 300 ft. For fiber optic cable, it’s 6,500 ft.

When distances for those ASCO 5160 RCUs (Remote Connectivity Units) exceed their respective limits, ASCO Remote Connectivity Units effectively extend the distance.

An example: A facility manager wants to connect PowerQuest to on-site power equipment using the facility’s legacy Ethernet communications network. But, the distances between modules and power managers and monitoring servers is 900 ft. Remote connectivity units daisy-chained at the 300 ft. and 600 ft. marks will permit the use of the legacy Ethernet network.

Remote connectivity units effectively extend the distances for fiber optic cable networks as well.

Web-based communication satisfies connectivity requirements regionally, nationally and globally.

Sample schematics show typical connectivity configurations.

Only PowerQuest Employs AES 128-bit Encryption to Protect On-site Power Systems Against Unauthorized Data Access and Control

Securing and protecting your on-site power system from unauthorized monitoring and control is paramount.

PowerQuest Power Monitoring and Control systems employ Advanced Encryption Standard (AES 128-bit Encryption) It’s the same advanced encryption standard used by the National Security Agency to protect top secret information. In fact, AES 128-bit Encryption is the encryption standard adopted by the entire Federal government.

PowerQuest is the only on-site power monitoring and control system outfitted with AES 128-bit Encryption. The standard is based on a cryptographic algorithm that securely protects electronic data. Its encryption and decryption process is fast in both hardware and software.

Trust PowerQuest to secure and protect your on-site power equipment from unauthorized access.
### Typical Remote Annunciator Configuration

- Equipment within 300 Feet of a central location can be connected together via an ASCO 5160 Remote Connectivity Unit (RCU) using Ethernet over Category 6 cable.

### Typical Ethernet Cat 6 Connection

- Equipment within 300 Feet of a central location can be connected together via an ASCO 5160 using Ethernet over Category 6 cable.

### Typical Ethernet Fiber Connection

- Equipment within 300 Feet of a central location can be connected together using Ethernet over Category 6 cable (300 Feet Max) or Ethernet over Fiber Optic cable (6500 Feet Max).
Building-block components can be configured easily to provide exactly the degree of monitoring, control and communication you want for your on-site power system.

### The Component Approach: Built on Proven Technology

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5150, 5160 Connectivity Modules</strong></td>
<td>An ASCO 5150 Connectivity Module (left) provides 100 Mbps Ethernet Connectivity for ASCO Transfer Switches and Power Meters and includes AES 128-bit Encryption, as per NIST, for enhanced security. The ASCO 5160 Remote Connectivity Unit (RCU) (right) provides 10 Ethernet and Dual-Fiber Optic connections in a NEMA 3R enclosure.</td>
</tr>
<tr>
<td><strong>5210, 5220 Power Manager</strong></td>
<td>ASCO 5210 (left) and 5220 (right) Power Meters measure, displays and provides single- or 3-phase Energy and Power information with Ethernet via the ASCO 5150 Communication Module.</td>
</tr>
<tr>
<td><strong>ASCO 5221 Power Manager Unit</strong></td>
<td>ASCO 5221 Power Manager Unit (PMU) is used to enable power measurement, discrete inputs for status and output relays for control of generators, breakers and other power equipment via 5700 Series CPMS solutions.</td>
</tr>
<tr>
<td><strong>5310, 5350 Annunciators</strong></td>
<td>ASCO 5310(left) and 5350(right) ATS Remote Annunciators provide distributed monitoring of transfer switch position and source availability as well as transfer test and re-transfer control.</td>
</tr>
<tr>
<td><strong>5400 Power Quality Meter</strong></td>
<td>ASCO 5400 Power Quality Meters provide intelligent power analysis, energy measurement and event recording for critical and sensitive loads. Its unique continuous waveform and harmonic recording capabilities ensure all events are captured, improves response time, and helps identify corrective action to power quality related issues.</td>
</tr>
<tr>
<td><strong>5710, 5750, 5790 Display Terminals</strong></td>
<td>ASCO 5710(center), 5750(left) and 5790(right) Critical Power Management System provides various levels of monitoring, control and management capability of power equipment. It seamlessly monitors ASCO transfer switches as well as generators, breakers, paralleling buss, panel boards and other power equipment via a 5221 PMU. It consists of servers and touch screen interfaces.</td>
</tr>
<tr>
<td><strong>5900 Custom Terminals</strong></td>
<td>The ASCO 5900 Series provides a Customized Critical Power Management System with support of just paralleling switchgear to the most advanced critical power system with a wide-array of critical power components, such as, UPSs, STSs, Load Banks, Panel Boards, etc.</td>
</tr>
<tr>
<td><strong>5990 Training Simulator</strong></td>
<td>An ASCO 5990 Simulator allows convenient, on-site staff training and testing of ‘what if’ scenarios. It is not connected to live power monitoring and control devices.</td>
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</tbody>
</table>

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*5310, 5220 Power Manager*

ASCO 5221 Power Manager Unit (PMU) is used to enable power measurement, discrete inputs for status and output relays for control of generators, breakers and other power equipment via 5700 Series CPMS solutions.

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*5310, 5350 Annunciators*

ASCO 5310(left) and 5350(right) ATS Remote Annunciators provide distributed monitoring of transfer switch position and source availability as well as transfer test and re-transfer control.

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*5400 Power Quality Meter*

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*5710, 5750, 5790 Display Terminals*

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*5990 Training Simulator*

An ASCO 5990 Simulator allows convenient, on-site staff training and testing of ‘what if’ scenarios. It is not connected to live power monitoring and control devices.
Configure ASCO Test Reports To Your On-Site Power System

ASCO Test Reports is available with PowerQuest Power Monitoring and Control Systems.

Test Reports create accurate, precise reports formatted according to NFPA monthly exercising logs, which facilitates compliance with NFPA 99 and 110.

It can trigger event logging, respond to spontaneous events and produce a complete report. It also initiates tests through automatic transfer switches and gets data directly from generators and transfer switches.

JCAHO/Outage Reports summarize generator loading and electrical parameters during tests.

Alarms Reports graph alarm statistics for all configured transfer switches and other equipment via Power Manager Units.

Energy Reports provides Normal, Emergency and Total Energy consumption.

Setting Reports provides all communications settings, equipment setpoints and statistics.

Historical Log Reports provide time-stamped event logs for a variety of events by devices and severity level.

ASCO Services technicians can produce diagnostic reports on equipment during service calls.

Now’s the Time To Know

Your need to know critical information about your facility’s on-site power system can mean the difference between ensuring power reliability...and not.

With the stakes so high, be sure you have the communication, monitoring and control capabilities you need to optimize power reliability for your facility’s critical operations.

Have the peace of mind knowing the information you want will be there when you need it.

Call 1-800-800-ASCO (2726) or email ASCO at customercare@asco.com.

For more information about ASCO PowerQuest Power Monitoring and Control capabilities, visit EmersonNetworkPower.com/ASCO, or ascoapu.com.

Healthcare facilities can more easily comply with JCAHO* and NFPA** reporting requirements with a PowerQuest power monitoring and control system and ASCO Test Reports.

* Joint Commission on the Accreditation of Healthcare Organizations
  ** National Fire Protection Association