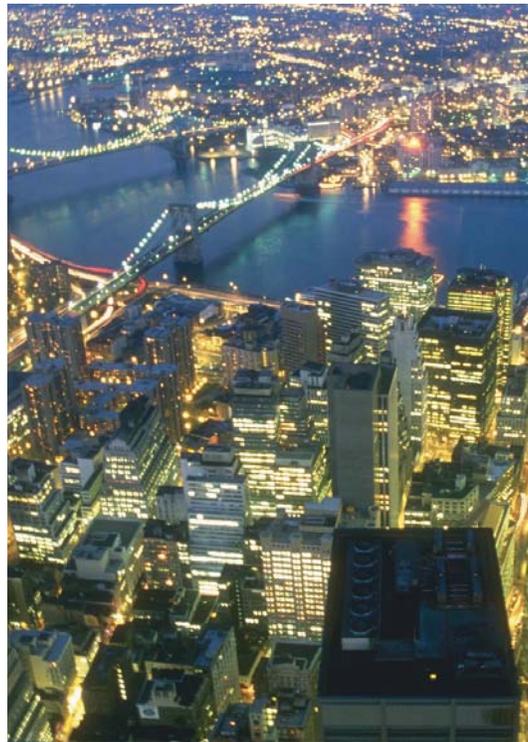


ASCO SERIES 300 Power Transfer Switches



ASCO®


EMERSON™
Network Power



24-hour protection no matter
when trouble strikes

ASCO SERIES 300 Power Transfer Switches for Power Outage Protection

Where would you be without a constant flow of electrical power? We often take for granted that power will always be around when we need it. In reality, power failures are very common. And when the power goes out, your business suffers. Power failures are unpredictable. They can occur at any time and for any number of reasons—a bolt of lightning, a power surge, a blackout, an accident or even equipment failure. They come without warning and often at the most inconvenient times.

It's for this reason that many businesses and other entities have invested in emergency power backup systems. Typically, the system consists of an engine

generator and an automatic transfer switch (ATS) which transfers the load from the utility to the generator.

An ATS with built-in control logic monitors your normal power supply and senses any interruptions. When the utility power fails, the ATS automatically starts the engine and transfers the load after the generator has reached proper voltage and frequency. This happens in a matter of seconds after the power failure occurs. When the utility power has been restored, the ATS will automatically switch the load back, and after a time delay, it will shut down the engine. With an Automatic Transfer Switch, you are protected 24 hours a day, seven days a week.





Typical Applications

Telecom

In the telecommunications industry, providing a high level of service and dependability is crucial. Lost power means an interruption in service for your customers and lost business for your company. For instance, with cell sites scattered across a wide geographical region and in many remote areas, the chances of an interruption in power are increased, making Automatic Transfer Switches a valuable resource at each location. To maintain dependable service, each cell site must be monitored 24 hours a day. This can be very difficult without some type of remote monitoring and testing capability. The SERIES 300 Transfer Switch, combined with ASCO's monitoring and control management system, is a cost-effective, packaged solution which can help meet both of these challenging objectives without a major investment at each cell site. With ASCO's connectivity solutions you can remotely monitor and control numerous sites from around the corner or around the world.

Agriculture

Maintaining electrical power is vital to an agriculture operation. If the flow of power is interrupted, your operation could be at risk unless the backup generator is quickly activated. A prolonged power outage can affect numerous aspects of the operation, from housing and feeding livestock to processing and producing the end product. With an ASCO SERIES 300 Transfer Switch, power will automatically be transferred over to your backup generator, eliminating the need to manually switch from utility to generator. When power is restored, the ASCO SERIES 300 Transfer Switch will, after an adjustable time delay to allow for utility stabilization, automatically switch the load back to the utility service.

Commercial / Retail, Light Industrial

The retail industry is very competitive. An electrical power failure can have a dramatic impact on a retailer's bottom line. If power is interrupted during peak shopping times, the effect could be extremely damaging to present and future business. A power interruption will not only suspend shopping, it can also create safety problems, result in lost transaction data, lost account information and damage to data collection equipment. In addition, retailers who rely on controlled climates to protect valuable inventory could suffer even greater losses, especially if the power failure occurs at a time when no one is available to rectify the situation. To avoid any of these power outage problems, simply install a backup generator with an ASCO SERIES 300 Transfer Switch and power outage concerns will be a thing of the past.

Municipal

The ASCO SERIES 300 Transfer Switch can be a critical component of a municipal government's emergency power backup system. Residents of townships, cities and counties rely on police, fire, ambulance/first aid and other critical public sector services. An interruption in power would affect the ability of emergency services to effectively respond to the needs of the community. When time is a critical factor, such as when responding to a fire alarm or an emergency call, an ASCO SERIES 300 Transfer Switch can be a lifesaver, switching power to the backup generator. While not all municipal services are a matter of life and death, they are always expected to be there.

Maximum Reliability & Excellent Value

With a SERIES 300 Transfer Switch, you get a product backed by ASCO Power Technologies, the industry leader responsible for virtually every major technological advance in the Transfer Switch industry.

The ASCO SERIES 300 was designed for one purpose—to automatically transfer critical loads in the event of a power outage. Each and every standard component was designed by ASCO engineers for this purpose.

The rugged construction and proven performance of the ASCO SERIES 300 assure the user of many years of complete reliability. The SERIES 300 is even designed to handle the extraordinary demands placed on the switch when starting or restarting stalled motors and switching high inrush loads.

ASCO's SERIES 300 modular, compact design makes it easy to install, inspect and maintain. All parts are accessible from the front so switch contacts can be easily inspected.

Features

- The SERIES 300 is listed to UL 1008 standard for Transfer Switch Equipment and CSA standard C22.2 for automatic transfer switches.
- Meets NFPA 110 for Emergency and Standby Power Systems and the National Electrical Code (NEC) Articles 700, 701 and 702.
- 30 through 3000 amps in a compact design.
- Available to 600 VAC, single or three phase.
- True double-throw operation: The single solenoid design is inherently inter-locked and prevents contacts from stopping between sources or from being in contact with both sources at the same time.

UL Listed Withstand & Close-On Ratings

Switch Ratings Amps	Available Symmetrical Amperes RMS		
	When Used With Current Limiting Fuses	Maximum Voltage	When Used With Specific Circuit Breakers
30	100,000	480v/60Hz	10,000
70 - 200	200,000	480v/60Hz	22,000
230	100,000	480v/60Hz	22,000
260, 400	200,000	480v/60Hz	42,000
600	200,000	600v/60Hz	42,000
600	200,000	480v/60Hz	50,000
600	200,000	240v/60Hz	65,000
800,1000,1200	200,000	600v/60Hz	65,000
1600, 2000	200,000	600v/60Hz	85,000
2600, 3000	200,000	600v/60Hz	100,000

Notes: 1. Current – limiting fuse should be Class J type through 400 amps: use Class L type above 400 - amp fuse rating
2. Refer to publication 1128 for specific manufacturer's breakers



Fig. 1: ASCO Power Transfer Switch rated 200 amperes shown in Type 3R enclosure

- There's no danger of the SERIES 300 ATS transferring loads to a dead source because the unique ASCO single-solenoid operator derives power to operate from the source to which the load is being transferred.
- Easy-to-read flush-mounted control and display panel provides LED indicators for switch position and source availability. It also includes test and time-delay bypass switches as standard features.
- Standard engine exerciser for weekly automatic testing of engine generator set with or without load.
- Adjustable time-delay feature prevents switch from being activated due to momentary utility power outages and generator dips.
- Supplied with solid neutral termination.
- Optional switched neutral pole available.
- Accessory kits available.
- Available for immediate delivery.
- Now available for service entrance applications. Contact ASCO for assistance.

ASCO[®] SERIES 300 Power Transfer Switches

Designed to Fit Anywhere

The ASCO SERIES 300 product line represents the most compact design of automatic power transfer switches in the industry. With space in electrical closets being at a premium, the use of wall or floor-mounted ASCO Power Transfer Switches assures designers optimum utilization of space.

All transfer switches through 2000 amps are designed to be completely front accessible. This permits the enclosures to be installed flush to the wall and still allows installation of all power cabling and connections from the front of the switch. Cable entrance plates are also standard on the 1600 and 2000 amp units to install optional side-mounted pull boxes for additional cable bending space.



Fig. 2: ASCO Power Transfer Switch rated 200 amperes



Fig. 3: ASCO Power Transfer Switch rated 400 amperes



Fig. 4: ASCO Power Transfer Switch rated 600 Amperes



Fig. 5: ASCO Power Transfer Switch rated 1000 amperes



Fig. 6: ASCO Power Transfer Switch rated 2000 amperes shown in Type 3R enclosure



Fig. 7: ASCO Power Transfer Switch rated 3000 amperes

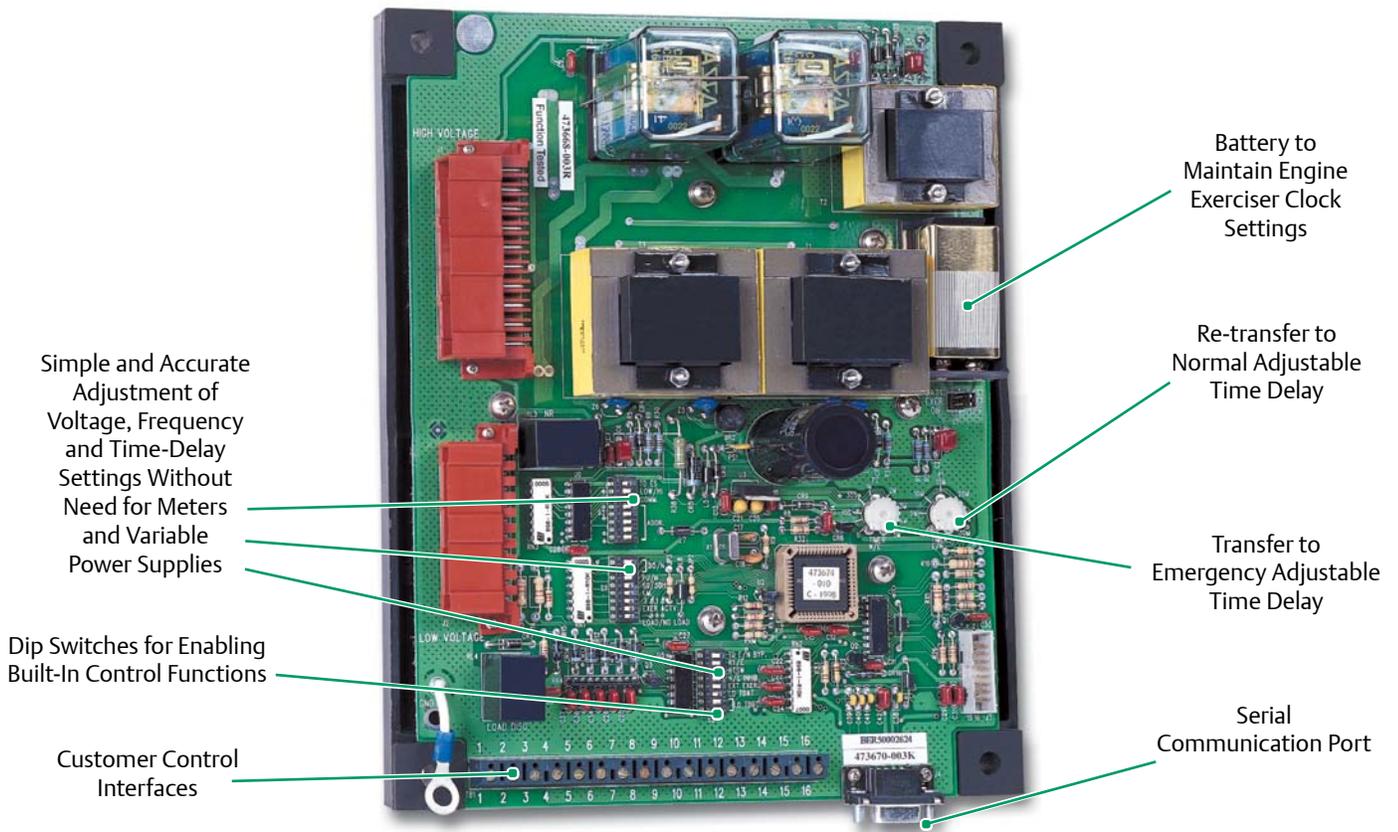


Fig. 10: Microprocessor Controller

Performance Features

- 600 volt spacing per UL and CSA standards.
 - Interfacing relays are industrial grade, plug-in type with dust covers.
 - Meets or exceeds the requirements for Electromagnetic Compatibility (EMC).
- | | |
|---|---|
| <ul style="list-style-type: none"> ● ANSI C37.90A/IEEE472 Voltage Surge Test ● NEMA ICS-109.21 Impulse Withstand Test ● Digital circuitry isolated from line voltages ● IEC 801-2 Electrostatic discharge (ESD) immunity ● ENV50140 and IEC 803-1: Radiated electromagnetic field immunity | <ul style="list-style-type: none"> ● IEC 801-4 Electrical fast transient (EFT) immunity ● ENV50142 Surge transient immunity ● ENV50141: Conducted radio-frequency field immunity ● EN55011: Group 1, Class A conducted and radiated emissions ● Optically isolated RS-485 Serial Port ● EN61000- 4-11 voltage dips and interruptions immunity |
|---|---|

Accessory 11BG

A programmable engine exerciser that provides for weekly or bi-weekly operation, includes one form C contact for source availability of normal and one contact for availability of emergency (contact rating 2 amps @ 30 Vdc, 0.5 amp @ 125 Vac resistive). The programmable engine exerciser incorporates a 7 day or 14 day time base with a digital readout display. Includes “with or without” load control selection for exerciser period.

Accessory 14AA/14BA

Auxiliary contacts to indicate position of main contacts. Two (2) for normal and two (2) for emergency position (one set is standard).

Accessory 44A

Strip Heater with thermostat for extremely cold areas to prevent condensation and freezing of this condensation. External 120 volt power source required.

Accessory 44G

Strip Heater with thermostat, wired to load terminals: 208-240, 360-380, 460-480, 550-600 volts. Contains wiring harnesses for all transfer switch sizes.

Accessory 72A/72E

*See “Connectivity Products”, Page 18

Accessory 123

A protective window that includes a poly-carbonate frame and weather gasket to provide secure access to the membrane interface for the type 1 enclosures. This lockable cover is an alternative to providing 3R secure enclosures.



Fig. 11: Programmable Engine Exerciser with Source Availability Contacts (Accessory 11BG)



Fig. 12: Strip Heater Kit (Accessory 44G)

Field Conversion Kits for SERIES 300 Transfer Switches

Kit No.	Description
K629830	Engine Exerciser and source availability contacts (Acc. 11BG)
K613127-001	Strip Heater Kit (125 watt) 120 volt (Acc. 44A)
K613127-002	Strip Heater Kit (125 watt) 208-480 volt (Acc. 44G)
K609027	Cable Pull Box (1600-2000 amp)
K473872-001	6 FT Extension Harness ¹
K755257-001	Serial Module with or without power manager (Acc. 72A)
K754603-001	Connectivity Module with or without power manager (Acc. 72E)
K778330-001	Window Kit (Acc. 123)

1. For 30-200 Amp switches only, not available for 300SE, or 300L



Fig. 13: Window Kit (Accessory 123)

User-Initiated Control

ASCO 386 non-automatic transfer switches are generally used in applications where operating personnel are available and the load is not an emergency type requiring automatic transfer of power. The power-switching mechanism and controller is the same hardware used on the highly reliable ASCO SERIES 300 transfer switches. ASCO 386s are furnished as standard with a momentary-type selector switch to initiate transfer and re-transfer. They can also be arranged for remote control via ASCO's connectivity products.



Fig. 14: ASCO 386 400 Amp Type 1 Enclosure w/Optional Accessories 9C, 9D Source Availability Lights

Electrical Features:

- Listed under UL 1008, CSA certified:
 - UL listed through 480 VAC.
 - CSA certified through 600 VAC.
- Door-mounted selector switch for local, manually initiated electrical control.
- Sizes from 30 through 3000 amps. Available to 600 VAC, 50 or 60 Hz.
- Rated for all classes of load transfer. 100% tungsten load ratings through 400 amps.
- Designed for emergency and standby applications.
- Same withstand and close-on rating as SERIES 300.

Standard Selectable Control Features:

- Inphase monitor to transfer motor loads between live sources, without any intentional off time, to prevent inrush currents from exceeding normal starting levels.
- Selective load disconnect, double-throw contact to operate at an adjustable 0 to 20 second time delay prior to transfer and reset 0 to 20 seconds after transfer.
- High/Low nominal voltage setting. Allows user to adjust for source low reduced voltage conditions in remote areas.
- 60 Hz or 50 Hz selectable switch.
- Single/Three-phase selectable switch.

Control Features:

- Switch position indicating signal lights.
- One auxiliary contact closed when transfer switch is connected to normal and one closed on emergency, standard feature 14A/14B.

Optional Accessories:

- 6Q Key-operated, momentary source selector switch furnished instead of the standard selector switch.
- 9C, 9D Source availability lights to provide operator with a local indication of power source availability.
- Accessory 14AA/14BA auxiliary contacts to indicate position of main contacts. Two (2) for normal position and two (2) for emergency position (one set is standard).
- 72A Serial module (5110) is used to allow local or remote communications with ASCO POWERQUEST[®] connectivity products.
- Special Enclosures (Specify by appropriate code in catalog number):
 - Type 3R: Rain-tight
 - Type 4: Weatherproof
 - Type 12: Oil Tight
- 72E Connectivity Module 5150 is used to bring several different serial devices that communicate at different baud rates and with different protocols to a common Ethernet media.

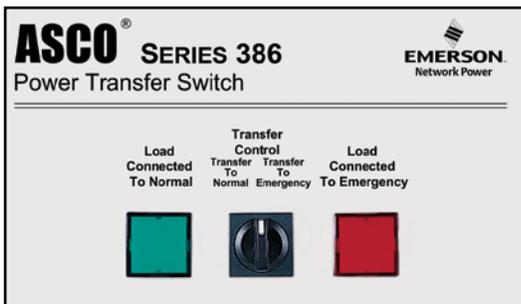


Fig. 15: Control and Display Panel



SERIES 300 & 386 Transfer Switch Ordering Information

To order an ASCO SERIES 300 Power Transfer Switch, complete the following catalog number:

300 + B + 3 + 600 + N + 1 + X + C + 11CD + 480V 60Hz																
Product	Neutral Code	Poles	Amperes	Voltage Code		Controller	Options	Enclosure		Optional Accessories	Specific Volt & Freq					
				A ³	B ³			Blank	Open Type							
300	Blank Solid Neutral B ¹ Switched Neutral	2 poles, 1Ø	Continuous rating	A ³	115	1	Insert "X" If optional accessories are required	C	Type 1 (Standard)	11BG Programmable Engine Exerciser 14AA/14BA Auxiliary Contacts (2 sets) 44A, 44G Strip Heater w/ Thermostat 72A Serial Module 72E Connectivity Module 123 Window Kit	This information is necessary to allow correct control settings prior to shipment					
				B ³	120			F	Type 3R							
				C	208			G	Type 4 ²							
				D	220			H	Type 4X							
				E	230			L	Type 12 ²							
				F	240			M	Type 3R Secure							
				H	380			N	Type 4 Secure							
				J	400			P	Type 4X ⁶ Secure Double Door SS							
				K	415			R	Type 3RX ^{6,7} Secure Double Door SS							
		L	440													
		M	460													
		N	480													
		Q	575													
		R	600													
				3 poles, 3Ø	30, 70, 104, 150, 200 ⁴ , 230 ⁴ , 260, 400, 600, 800, 1000, 1200, 1600, 2000 2600 ⁵ , 3000 ⁵											

To order an ASCO SERIES 386 Transfer Switch, complete the following catalog number:

386 + B + 3 + 600 + N + 1 + X + C + 9C/9D + 480V 60Hz																
Product	Neutral Code	Phase Poles	Amperes	Voltage Code		Controller	Options	Enclosure		Optional Accessories	Specific Volt & Freq					
				A ³	B ³			Blank	Open Type							
386	A Solid Neutral B ¹ Switched Neutral	2 poles, 1Ø	Continuous rating	A ³	115	1	Insert "X" If optional accessories are required	C	Type 1 (Standard)	6Q Key-Operated Control 9C/9D Source Availability Lights 14AA/14BA Auxiliary Contacts 72A Serial Module All Accessories 72E Connectivity Module	This information is necessary to allow correct control settings prior to shipment					
				B ³	120			F	Type 3R							
				C	208			G	Type 4 ²							
				D	220			H	Type 4X							
				E	230			L	Type 12 ²							
				F	240			M	Type 3R Secure							
				H	380			N	Type 4 Secure							
				J	400			P	Type 4X ⁶ Secure Double Door SS							
				K	415			R	Type 3RX ^{6,7} Secure Double Door SS							
		L	440													
		M	460													
		N	480													
		Q	575													
		R	600													
				3 poles, 3Ø	30, 70, 100, 150, 200 ⁴ , 230 ⁴ , 260, 400, 600, 800, 1000, 1200, 1600, 2000, 2600, 3000 ⁵											

- Notes:**
1. Specify neutral code "C" for 260 and 400 amperes only.
 2. Available 30-1000, and 1600 amps. Use Type 3R for 1200, 2000, 2600 and 3000 amp applications.
 3. 115-120 volt available 30-400 amps only. For other voltages contact ASCO.
 4. 200 and 230 amp rated switches for use with copper cable only.
 5. Secure 3R type provided as standard for 2600-3000 amp when outdoor enclosure is required.
 6. Type 304 Stainless Steel is standard. Suitable for indoor or outdoor use where there may be caustic or alkali chemicals in use. To provide an improved reduction in corrosion of salt and some chemicals, optional type 316 Stainless Steel is recommended. This is a preferred choice for marine environments.
 7. Available on switches rated 1200, 2000, 2600, and 3000 Amps.

Extended Warranties for SERIES 300 Transfer Switches

Catalog No.	Description
2EXW300	Two-Year Extended Warranty (Parts & Labor)
3EXW300	Three-Year Extended Warranty (Parts & Labor)
4EXW300	Four-Year Extended Warranty (Parts & Labor)
5EXW300	Five-Year Extended Warranty (Parts & Labor)



SERIES 300 & 386 Transfer Switch Dimensions and Shipping Weights

UL Type 1 Enclosure⁴

Switch Rating Amps	Phase Poles	Neutral Code	Dimensions, In. (mm)			Approx. Shipping Weight Lb. (kg)
			Width	Height	Depth	
30, 70, 100*, 104 150, 200 *SERIES 386 only	2	A	17 1/2 (445)	31 (787)	11 5/8 (295)	69 (32)
	2	B	17 1/2 (445)	31 (787)	11 5/8 (295)	73 (33)
	3	A	17 1/2 (445)	31 (787)	11 5/8 (295)	73 (33)
	3	B	17 1/2 (445)	31 (787)	11 5/8 (295)	75 (34)
230 ³ , 260, 400	2	A	18 (457)	48 (1219)	13 (330)	100 (45)
	2	B ³ or C	18 (457)	48 (1219)	13 (330)	110 (50)
	3	A	18 (457)	48 (1219)	13 (330)	100 (45)
	3	B ³ or C	18 (457)	48 (1219)	13 (330)	120 (55)
600	2	A	24 (610)	63 (1600)	17 (432)	263 (119)
	2	B	24 (610)	63 (1600)	17 (432)	270 (122)
	3	A	24 (610)	63 (1600)	17 (432)	270 (122)
	3	B	24 (610)	63 (1600)	17 (432)	277 (126)
800, 1000	2	A	34 (864)	72 (1829)	20 (508)	450 (204)
	2	B	34 (864)	72 (1829)	20 (508)	475 (217)
	3	A	34 (864)	72 (1829)	20 (508)	475 (217)
	3	B	34 (864)	72 (1829)	20 (508)	500 (228)
1200	2	A	38 (965)	87 (2210)	24 (610)	685 (312)
	2	B	38 (965)	87 (2210)	24 (610)	705 (321)
	3	A	38 (965)	87 (2210)	24 (610)	705 (321)
	3	B	38 (965)	87 (2210)	24 (610)	725 (328)
1600, 2000 ¹	3	A	38 (965)	87 (2210)	24 (610)	925 (419)
	3	B	38 (965)	87 (2210)	24 (610)	975 (441)
2600, 3000 ²	3	A	38 (965)	91 (2311)	60 (1524)	1700 (771)
	3	B	38 (965)	91 (2311)	60 (1524)	2135 (969)

Notes:

- Unit is designed for top cable entry of emergency & load and bottom entry of normal. A cable pull box is also available for all top or bottom cable access when required (optional accessory kit #K609027). Not required for type 3R, 4X & 12 enclosures where available.
- Enclosures for 2600, 3000 amps are free-standing with removable top, sides & back.
- Neutral Code "B" for 230 amperes only.
- Dimensional data is approximate and subject to change. Certified dimensions available upon request.

UL Type 3R, 4 or 12 Enclosure^{1,4,5,6}

Switch Rating Amps	Phase Poles	Neutral Code	Dimensions, In. (mm)			Approx. Shipping Weight Lb. (kg)
			Width	Height	Depth	
30, 70, 100*, 104 150, 200 *SERIES 386 only	2	A	17 1/2 (445)	35 (886)	11 5/8 (295)	84 (38)
	2	B	17 1/2 (445)	35 (886)	11 5/8 (295)	87 (40)
	3	A	17 1/2 (445)	35 (886)	11 5/8 (295)	87 (40)
	3	B	17 1/2 (445)	35 (886)	11 5/8 (295)	90 (41)
230 ³ , 260, 400	2	A	18 (458)	50 1/2 (1284)	14 1/3 (364)	132 (60)
	2	B ³ or C	18 (458)	50 1/2 (1284)	14 1/3 (364)	140 (63)
	3	A	18 (458)	50 1/2 (1284)	14 1/3 (364)	140 (63)
	3	B ³ or C	18 (458)	50 1/2 (1284)	14 1/3 (364)	148 (67)
600	2	A	24 (610)	63 (1602)	18.50 (470)	664 (300)
	2	B	24 (610)	63 (1602)	18.50 (470)	672 (303)
	3	A	24 (610)	63 (1602)	18.50 (470)	672 (303)
	3	B	24 (610)	63 (1602)	18.50 (470)	680 (307)
800, 1000	2	A	34 (864)	75 (1907)	20 (508)	664 (300)
	2	B	34 (864)	75 (1907)	20 (508)	672 (303)
	3	A	34 (864)	75 (1907)	20 (508)	672 (303)
	3	B	34 (864)	75 (1907)	20 (508)	680 (307)
1200 ⁶	2	A	41 (1043)	94 1/2 (2403)	33 1/2 (852)	1131 (513)
	2	B	41 (1043)	94 1/2 (2403)	33 1/2 (852)	1160 (526)
	3	A	41 (1043)	94 1/2 (2403)	33 1/2 (852)	1160 (526)
	3	B	41 (1043)	94 1/2 (2403)	33 1/2 (852)	1189 (539)
1600, 2000 ²	3	A	41 (1043)	95 1/2 (2428)	62 (1577)	1810 (817)
	3	B	41 (1043)	95 1/2 (2428)	62 (1577)	1860 (843)
2600, 3000	3	A	41 (1043)	95 1/3 (2424)	74 (1882)	2005 (905)
	3	B	41 (1043)	95 1/3 (2424)	74 (1882)	2070 (938)

Notes:

- 30-1000 amps non-secure enclosure. 1200-3000 amps secure enclosure
- When climate conditions at installation site present condensation risk, special precautions should be taken, such as the inclusion of space heaters, to prevent interior condensation and freezing of this condensation.
- Neutral code "B" for 230 amperes only.
- Dimensions for switch sizes 30 - 1000 amperes suitable for Type 3R, 4, or 12 non secure enclosure, 1200 - 3000 amperes only suitable for type 3R.
- For 1200 ampere type 4, or 12 use 1600 amperes secure enclosure dimensions.
- Dimensional data is approximate and subject to change. Certified dimensions available upon request.



SERIES 300 & 386 External Power Connections

Sizes UL-Listed Solderless Screw-Type Terminals

Switch Rating (Amps)	Ranges of AL-CU Wire Sizes (Unless Specified Copper Only)
30 - 230 ²	One #14 to 4/0 AWG
260, 400	Two 1/0 AWG to 250 MCM or One #4 AWG to 600 MCM
600	Two 2/0 AWG to 600 MCM
800, 1000, 1200	Four 1/0 to 600 MCM
1600, 2000	Six 1/0 to 600 MCM
2600, 3000	Twelve 3/0 to 600 MCM

Notes:

- All SERIES 300 switches are furnished with a solid neutral plate (unless switched neutral configuration is specified) and terminal lugs. Specify "A" in catalog number to order a neutral plate on the series 386 switches.
- 200 and 230 amp rated switches for use with copper cable only. Refer to paragraph 310.15 of the NEC for additional information.
- Use wire rated 75°C minimum for all power connections.

ASCO[®] SERIES 300SE Power Transfer Switch

The ASCO Service Entrance Power Transfer Switch combines automatic power switching with the necessary disconnecting, grounding, and bonding required for use as service entrance equipment. The power transfer switch meets all National Electrical Code requirements for service entrance use. Transfer switches generally are installed at facilities that have a single utility feed and a single emergency power source.

ASCO SERIES 300SE products use two types of construction.

Products 400 amperes or less, utilize a single enclosure including a service (utility source) disconnect circuit breaker, as well as the power transfer switch, grounding and bonding provisions.

Products 600 amperes and above, utilize a multi-section switchboard construction including a service equipment section containing the service (utility source) disconnect circuit breaker, grounding, and bonding provisions. A second section contains the power transfer switch.

Product Features:

- Suitable for use as service entrance equipment. Listed to UL 891 (standard for switchboards) for 600 - 3000 amps, sizes and UL 1008 (standard for panel-boards) for 70 - 400 amps.
- Automatic Transfer Switch is listed to UL 1008 for total system loads
- Sizes available from 70 - 3000 amps, 600 VAC, 50 or 60 Hz, single or three phase
- Silver plated copper ground and neutral bus solderless screw type terminals
- Ground fault trip protection provided on sizes 1000 amps and above
- Available with solid or switched neutral

600 - 3000 Amp Construction

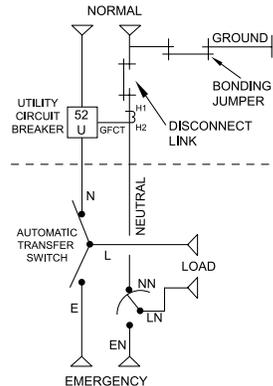


Fig. 16: ASCO SERIES 300 SE Rated 800 amperes Type 1 enclosure with Service Entrance Equipment

70 - 400 Amp Construction

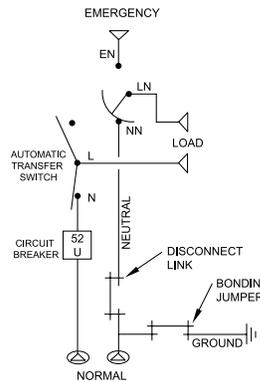


Fig. 17: ASCO SERIES 300 SE rated 200 amperes in Type 1 enclosure with single source breakers

ASCO[®] SERIES 300SE Transfer Switch Ordering Information

To order an ASCO SERIES 300SE Power Transfer Switch, complete the following catalog number:

3AUS + B + 3 + 400 + N + 1 + X + C + 11CD + 240V/60

Product	Neutral Code	Phase Poles	Amperes Continuous Rating	Voltage Code		Controller	Options	Enclosure		Optional Accessories	Specific Volt & Freq
				A ³	B ³			Blank	Open Type		
3AUS	B ¹ Switched Neutral	2 poles, 1Ø 3 poles, 3Ø	70, 100, 150, 200 ⁶ , 225 ⁶ , 250, 400, 600, 800, 1000, 1200, 1600, 2000 2500, 3000	A ³	115	1	Insert "X" If optional accessories are required	C	Type 1 (Standard)	11BG Programmable Engine Exerciser	This information is necessary to allow correct control settings prior to shipment
				C	208			F	Type 3R	14AA/14BA Auxiliary Contacts (2 sets)	
				D	220			G	Type 4 ²	44G Strip Heater w/Thermostat	
				E	230			H	Type 4X	72A Serial Module	
				F	240			L	Type 12 ²	72E Connectivity Module	
				H	380			M	Type 3R Secure	73A Surge Suppressor	
				J	400			N	Type 4 Secure		
				K	415			P	Type 4X ⁶ Secure Double Door SS		
				L	440			R	Type 3RX ^{7,8} Secure Double Door SS		
				M	460						
				N	480						
				Q	575						
				R	600						

- Notes:**
1. Specify neutral code "C" for 250 and 400 amperes only.
 2. Available 70-1000 ampacity. Use Type 3R for 1200-3000 amp applications.
 3. 115-120 volt available 150-400 amps only.
 4. A solid neutral is standard on 3AUS.
 5. For switch sizes 70 - 225 amperes only.
 6. 200, 225 amp rated switch suitable for use with copper cable only.
 7. Type 316 Stainless Steel is standard. It provides an improved reduction in corrosion of salt and some chemicals. It is the preferred choice for marine environments.
 8. Available only on switches rated 1200, 2000, 2600, and 3000 Amps.

ASCO® SERIES 300SE Transfer Switch Dimensions and Shipping Weights

UL Type 1 Enclosure⁴

Switch Rating Amps	Phase Poles	Neutral Code	Dimensions, In. (mm)			Approx. Shipping Weight Lb. (kg)
			Width	Height	Depth	
70, 100, 150, 200, 225	2	STD	36.5 (927)	48.5 (1232)	13.25 (337)	400 (185)
	2	B	36.5 (927)	48.5 (1232)	13.25 (337)	408 (188)
	3	STD	36.5 (927)	48.5 (1232)	13.25 (337)	408 (188)
	3	B	36.5 (927)	48.5 (1232)	13.25 (337)	416 (192)
250, 400	2	STD	36.5 (927)	48.5 (1232)	13.25 (337)	400 (185)
	2	C	36.5 (927)	48.5 (1232)	13.25 (337)	408 (188)
	3	STD	36.5 (927)	48.5 (1232)	13.25 (337)	408 (188)
	3	C	36.5 (927)	48.5 (1232)	13.25 (337)	416 (192)
600 ¹ , 800 ¹	2	STD	38 (965)	91 (2311)	28 (711)	800 (370)
	2	B	38 (965)	91 (2311)	28 (711)	820 (378)
	3	STD	38 (965)	91 (2311)	28 (711)	820 (378)
	3	B	38 (965)	91 (2311)	28 (711)	846 (390)
1000 ¹ , 1200 ¹	2	STD	38 (965)	91 (2311)	48 (1218)	1085 (501)
	2	B	38 (965)	91 (2311)	48 (1218)	1105 (510)
	3	STD	38 (965)	91 (2311)	48 (1218)	1105 (510)
	3	B	38 (965)	91 (2311)	48 (1218)	1134 (523)
1600 ¹ , 2000 ¹	3	STD	38 (965)	91 (2311)	48 (1218)	2590 (1198)
	3	B	38 (965)	91 (2311)	48 (1218)	2640 (1218)
2500 ¹ , 3000 ¹	3	STD	38 (965)	91 (2311)	72 (1829)	4590 (2118)
	3	B	38 (965)	91 (2311)	72 (1829)	4655 (2148)

UL Type 3R Enclosure⁴

Switch Rating Amps	Phase Poles	Neutral Code	Dimensions, In. (mm)			Approx. Shipping Weight Lb. (kg)
			Width	Height	Depth	
70, 100, 150, 200, 225 must specify	2	STD	36(914)	48(1219)	16 (406)	180 (83)
	2	B	36(914)	48(1219)	16 (406)	188 (87)
	3	STD	36(914)	48(1219)	16 (406)	188 (87)
	3	B	36(914)	48(1219)	16 (406)	196 (90)
250, 400	2	STD	36(914)	48(1219)	16 (406)	440 (203)
	2	C	36(914)	48(1219)	16 (406)	448 (207)
	3	STD	36(914)	48(1219)	16 (406)	448 (207)
	3	C	36(914)	48(1219)	16 (406)	485 (225)
600 ¹ , 800 ¹	2	STD	41(1041)	95.5(2426)	34(864)	990 (458)
	2	B	41(1041)	95.5(2426)	34(864)	1010 (467)
	3	STD	41(1041)	95.5(2426)	34(864)	1010 (467)
	3	B	41(1041)	95.5(2426)	34(864)	1036 (479)
1000 ¹ , 1200 ¹	2	STD	41(1041)	95.5(2426)	62(1575)	1305 (604)
	2	B	41(1041)	95.5(2426)	62(1575)	1325 (613)
	3	STD	41(1041)	95.5(2426)	62(1575)	1325 (613)
	3	B	41(1041)	95.5(2426)	62(1575)	1354 (626)
1600 ¹ , 2000 ¹	3	STD	41(1041)	95.5(2426)	62(1575)	2890 (1337)
	3	B	41(1041)	95.5(2426)	62(1575)	2940 (1360)
2500 ¹ , 3000 ¹	3	STD	41(1041)	96(2438)	85(2159)	5350 (2474)
	3	B	41(1041)	96(2438)	85(2159)	5415 (2504)

- Notes:**
- Unit is designed for top and bottom cable entry for all services and load.
 - Enclosures for 600 – 3000 amps are freestanding.
 - When temperatures below 32° F can be experienced, special precautions should be taken, such as the inclusion of strip heaters, to prevent condensation and freezing of this condensation. This is

- particularly important when environmental enclosures (Type 3R, 4 & 12) are ordered for installation outdoors. See Optional Accessories page for space heater options (acc. 44G).
- Dimensional data is approximate and subject to change. Certified dimensions available upon request.

Extended Warranties for SERIES 300SE Transfer Switches

Catalog No.	Description
2EXW300SE	Two-Year Extended Warranty (Parts & Labor)
3EXW300SE	Three-Year Extended Warranty (Parts & Labor)
4EXW300SE	Four-Year Extended Warranty (Parts & Labor)
5EXW300SE	Five-Year Extended Warranty (Parts & Labor)

SERIES 300SE AIC Rating

Switch Rating	AIC Rating	Voltage
70, 100, 150, 200, 225	25,000	480
250, 400	35,000	480
600	50,000	480
800, 1000, 1200, 1600, 2000	65,000	480
2500, 3000	100,000	480

SERIES 300SE External Power Connections Sizes UL-Listed Solderless Screw-Type Terminals

Switch Rating	Ranges of AL-CU Wire Sizes (Unless Specified Copper Only)
70, 100, 150, 200 [*] , 225 [*]	One #14 to 4/0 AWG
250, 400	Two 1/0 AWG to 250 MCM or One #4 AWG to 600 MCM
600	Two 1/0 AWG to 600 MCM
800, 1000, 1200	Four 1/0 to 600 MCM
1600, 2000	Six 1/0 to 600 MCM
2500	Twelve 3/0 to 600 MCM
3000	Twelve 3/0 to 600 MCM

- Note:** All SERIES 300SE switches are furnished with a solid neutral plate (unless switched neutral configuration is specified) and terminal lugs.
^{*} 200 and 225 amp rated switch for use with copper cable only.

ASCO® SERIES 300L Power Transfer Load Center

- Conventional double throw transfer switch configuration
- Automatic Transfer Switch is listed to UL1008, the standard for Transfer Switch Equipment, and meets NFPA 110 for Emergency and Standby Power Systems and the National Electrical Code (NEC) Articles 700, 701, and 702. Also certified to CSA 22.2 No. 178
- Rated up to 240VAC, 200, or 400 amps
- Available in Type 1 indoor, or Type 3R secure aluminum outdoor enclosure
- Reliable and field proven single solenoid operating mechanism
- Programmable microprocessor controller with flush mounted control and display panel
- LED indicators for switch position and source availability
- Engine exerciser for weekly automatic testing of engine generator set with or without load
- Two auxiliary contacts, one contact closed when switch is in normal position and one contact closed when switch is in emergency position
- Suitable as service entrance equipment, includes main circuit breaker overcurrent protection on the normal source, and circuit breaker disconnect device on emergency
- Includes a UL 67 Listed 42 position Square - D panelboard load center
- Local/remote communications capability for interfacing with ASCO POWERQUEST® communication products



ASCO 300L Automatic Power Transfer Load Center shown with optional quick connect Cam - Loc assembly and bottom Telco cabinet section (in type 3R secure aluminum enclosure)

Short Circuit Ratings

200A Mains: 22kA at 240vac (Main circuit breaker (Normal & Emergency) Square D circuit breakers rated 2/3 pole, 200A)

Note: If a generator input receptacle is supplied for a portable generator then the ratings are as follows:

Normal Source – 22kA at 240 vac
(Utility Main Disconnect circuit breaker)

Emergency Source #2 (Permanent Generator
Input circuit breaker) – 10kA at 240vac

Emergency Source -#1 (Portable Generator
Input circuit breaker) – 5kA at 240vac

400A Mains: 42kA at 240vac. (Main circuit breaker (Normal & Emergency) Square D circuit breakers rated 2/3 pole, 400A)

Panelboard: Square D 225/400A series rated 42 circuit panelboard single/three phase with 100% rated neutral, accepts bolt – on or plug – in branch devices.



300L Power Transfer Switch Ordering Information

300 + L4 + 2 + 200 + F + 5 + X + C + 73TL1 + 240V 60Hz											
Product	Load Center	Poles	Amperes Continuous Rating	Voltage Code		Controller	Options	Enclosure		Optional Accessories	Specific Voltage & Freq
300	4 = 42 Space	2 poles, 1Ø 3 poles, 3Ø	200 400	C	208	1	Insert "X" if optional accessories are required	C	Type 1 (Standard)	118G - Programmable Engine Exerciser 14AA/14BA - Auxiliary Contacts (2 Sets) ¹ 37P - Generator Receptacle ² 44A - Strip Heater w/Thermostat 72A - Serial Module 72E - Connectivity Module 73 - Surge Suppression (TVSS) 85L - Power Manager 117IB - Interlock Breaker for Portable Generator 128TB - Telco Cabinet 130MG - Cam Loc ²	This Information is necessary to allow correct settings prior to shipment
				F	240			M	Type 3R Secure (Outdoor)		

1. Available on 300L, Power Transfer Load Center only. (two sets are standard) for 7000L SERIES.

2. Available for Type 3R enclosure only, rated 200 Amps. Not available for 400 Amp.

Sizes UL-Listed Solderless Screw-Type Terminals

Switch Rating (Amps)	Max # of Conductors per Terminal	Ranges of AL-CU Wire Sizes (Unless Specified Copper Only)
200	One	# 4 AWG to 250 MCM
400	One	# 1 AWG to 600 MCM
	Two	# 1 AWG to 250 MCM

Dimensions for UL Type 1 and 3R Secured Enclosure

Switch Rating Amps	Phase Poles	Dimensions, In. (mm)			Approx. Shipping Weight Lb. (kg)
		Width	Height	Depth	
Enclosed UL Type1					
200	2,3	30(762)	78(1981)	6(152)	250(115)
400	2,3	38(965)	80(2032)	7-1/4(184)	300(138)
Enclosed UL Type3R Aluminum Secure					
200 ¹	2,3	36(914)	53(1346)	11(279)	305(141)
400	2,3	38(965)	84(2134)	11-1/4(286)	325(149)

Note: 1. Add 20 inches to the height of the type 3R enclosure if accessory 128TB, Telco cabinet is required.

Extended Warranties for SERIES 300L Power Transfer Center Switches

Catalog No.	Description
2EXW300L	Two-Year Extended Warranty (Parts & Labor) Total 2 years
3EXW300L	Three-Year Extended Warranty (Parts & Labor) Total 3 years
4EXW300L	Four-Year Extended Warranty (Parts & Labor) Total 4 years
5EXW300L	Five-Year Extended Warranty (Parts & Labor) Total 5 years

Field Conversion Kits for SERIES 300L Transfer Switches

Kit No.	Description
K733433-001	Single Phase Surge Suppression 240v/120v (Acc. 73V*1)
K733433-003	Three Phase Surge Suppression 209v/120v (Acc. 73V*3)

Note: 1. Consult ASCO for Type 3R secure enclosures

ASCO® PowerQuest® Power Monitoring and Control Systems

Power	KW	KVA	KVAR	PF
System	613	713	-383	0.86
Line A	204	238	-121	0.86
Line B	204	238	-121	0.86
Line C	204	238	-121	0.86

Current	Ia 1980	Ib 1980	Ic 1980	Unbal %
Ia	3	Iag 1980		33

Voltage	V _{ph} 208	V _{bc} 208	V _{ca} 208	Unbal L-L%
V _{ph} 120	V _{bn} 120	V _{cn} 120	Unbal L-N%	74
V _{ph} L-L 208	V _{ph} L-N 120			51

FULFILL YOUR NEED

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

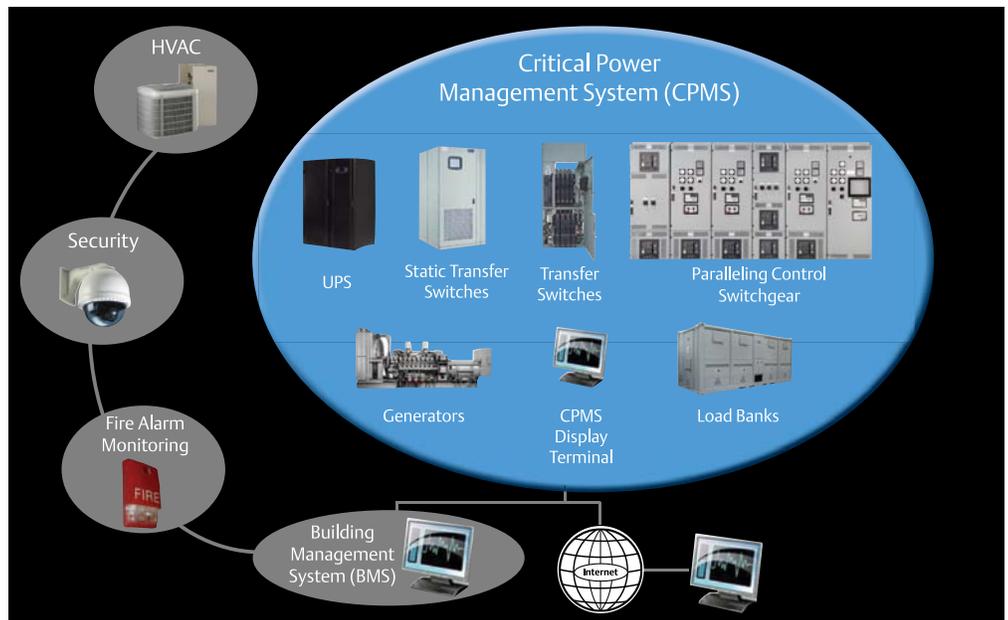
It's the new ASCO PowerQuest® Power Monitoring and Control family.

The PowerQuest® family is the most comprehensive communication, monitoring and control solution ever offered by ASCO. 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.

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



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

ASCO® PowerQuest® Monitoring & Control Components

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.

5150, 5160
Connectivity
Modules



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.

5210, 5220
Power
Meters



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.

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.

5010 Remote
Display Unit,(left)
5490 Critical
Power Quality
Meter, (right)



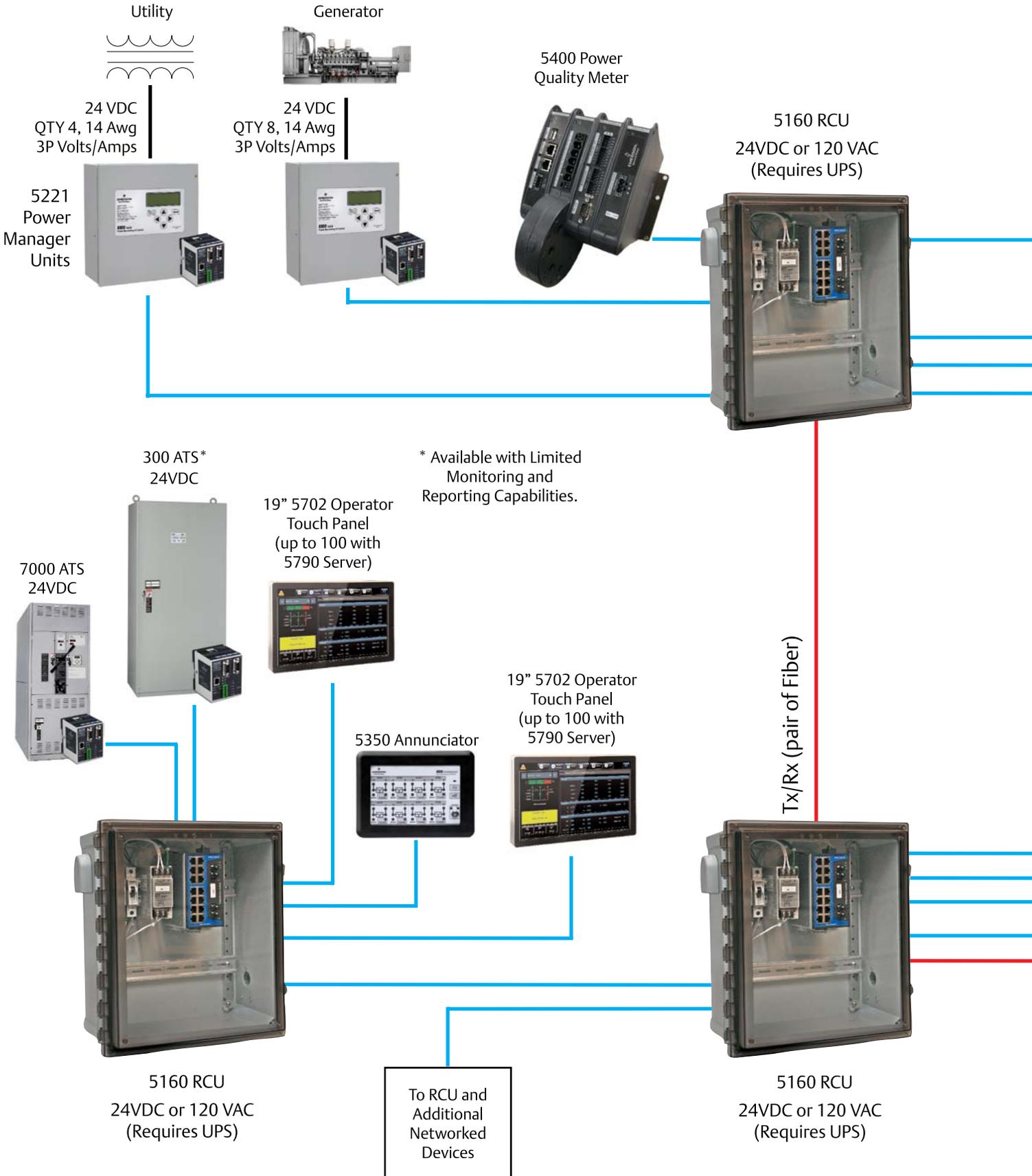
ASCO 5400 SERIES Power Quality Meters
The ASCO Power Quality Meters provide intelligent power analysis, energy measurement and event recording for critical and sensitive loads. Its unique continuous waveform and harmonic recording capabilities ensure all events are captured, improves response time, and helps identify corrective action to power quality related issues.

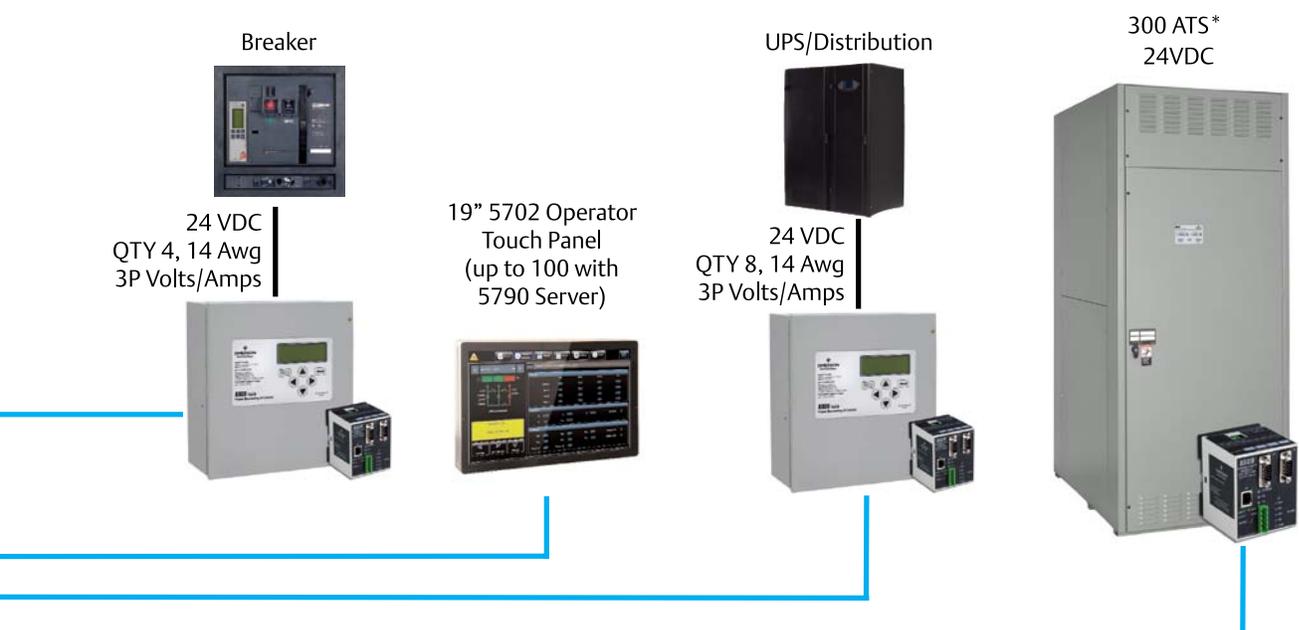
Enterprise
Critical Power
Management
System



5700 SERIES provide various levels of monitoring, control and management capability of power equipment. It seamlessly monitors ASCO transfer switches as well as generators, breakers, paralleling bus, panel boards and other power equipment via a 5221 PMU. It consists of servers and touch screen interfaces.

ASCO® PowerQuest® 5700 Critical Power Management System





5350 Annunciator
 ATS Status Annunciation
 Transfer Test
 Supports 8 ATS's
 24VDC/120VAC/220VAC

5710 CPMS Essential

- Drives 3 Remote 5702 Panels
- Supports 32 Power Devices
- Basic Monitoring and Control
- Standard Performance

5700 CPMS Servers
 Note - Select One Server to install in Centralized Office
 50° to 95°F (10°C to 35°C)

5750 CPMS Professional

Essential Features PLUS:

- Drives 10 Remote 5702 Panels
- Supports 64 Power Devices
- Historical Trending
- Reports
- BMS Modbus Support
- Remote E-Mail Alarming

5790 CPMS Enterprise

Professional Features PLUS:

- Drives 100 5702 Touch Panels
- Redundant Power
- Redundant Storage
- Redundant Processors
- Ultimate Performance
- 128 Power Devices
- Expanded Storage
- Inter-facility Messaging

To RCU and Additional Networked Devices

- AWG Wire Size and Distance by others
- Category 6 Ethernet (300 Feet Max)
- Multi-Mode Fiber, 1300nm, 50/125um, ST Connectors (6500) Feet Max

NOTES -

1. This Drawing is to be used as a Model only; Actual network architecture will depend on equipment placement, cable length and type.
2. 5700 Series Products Operating Temperature is 50° to 95°F (10°C to 35°C) For altitudes above 2950 feet, the maximum operating temperature is derated 1°F/550 ft.



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www.ascoapu.com

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- | | | | |
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| ■ DC Power | ■ Infrastructure Management & Monitoring | ■ Precision Cooling | ■ Surge Protection |

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