



## SERIES 300 AUTOMATIC TRANSFER SWITCHES

- Sizes 30 through 3000 amps in a compact design, 2, 3, & 4 pole configurations.
- Available 120 to 600VAC.
- UL 1008 listed to 480VAC for total system loads.
- True double-throw, inherently interlocked construction.
- Mechanically held, electrically operated utilizing a reliable, field-proven single solenoid operator.
- Contacts easily accessible for easy inspection and preventive maintenance.
- Meets National Electric Code requirements (U.S.).
- Rated for emergency and standby applications.
- Standard models in stock.
- Available in Type 1, 3R, 4 and 12 enclosures.
- Conversion kits available from stock to allow field addition of Optional Accessories.



Fig. 1 400 amp Series 300 Automatic Transfer Switch in Type 1 Enclosure.



Fig. 2 200 amp Series 300 Automatic Transfer Switch in Type 3R Enclosure.

### Control Panel Standard Features & Design Criteria

#### Standard Features:

- Motor load transfer controls (inphase monitor) to keep motors operating during transfer.
- Pre-transfer & post-transfer load disconnect contacts for signalling motor starters, elevators, VFDs and other selected loads.
- Standard Engine Exerciser for weekly automatic testing of engine generator set with or without load.
- Selectable control switches for voltage, frequency, time delay settings & additional control features.
- Switch position lights, source availability lights, test switch and time delay bypass switch.

#### Electromagnetic Compatibility Testing:

- EN61000-4-2:1995 Electrostatic discharge (ESD) immunity.
- ENV50140:1993 Radiated electromagnetic field immunity.
- EN61000-4-4:1995 Electrical fast transient (EFT) immunity.
- EN61000-4-5:1995 Surge transient immunity.
- ENV50141:1993 Conducted radio-frequency field immunity.
- EN55011:1991 Group 1, Class B conducted and radiated emission.

#### Additional Design Criteria:

- ANSI C37.90/IEEE472 Voltage Surge Test.
- NEMA ICS-109.21 Impulse Withstand Test.
- Digital circuitry isolated from line voltages.
- Optically isolated RS485 Serial Communications Interface (Acc. 72A).

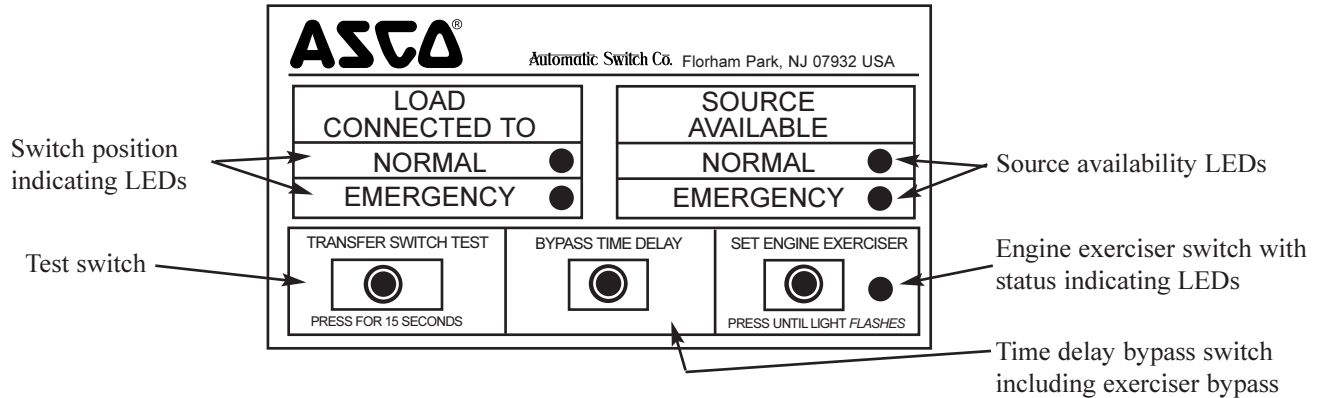


Fig. 3 ASCO Series 300 Microprocessor Control Panel.

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### Standard Operational Features, Controls and Status Indicators

- Flush door-mounted control & display panel which includes:



### Standard Selectable Features

- Inphase monitor to transfer motor loads without any intentional off time to help prevent motor inrush currents from exceeding normal starting levels.
- Selective load disconnect for signaling motor starters, elevators, VFDs and other selected loads, double-throw contact (rated 5 amps at 120VAC or 28VDC) to operate at an adjustable 0 to 20 second time delay prior to transfer and reset 0 to 20 seconds after transfer.
- 7-day engine exerciser to automatically test engine generator each week. Includes *with or without load control switch*.

### Remote Control Features

Terminal provisions for connecting:

- Remote test switch.
- Remote contact for test or for peak shaving applications. Circuit will be automatically bypassed if emergency source fails.
- Inhibit transfer to emergency.
- Remote time delay bypass switch.

### Standard Control Contacts

- Switch position indicating contacts (rated 10 amps 250VAC, 32VDC). (1) for *Normal* position, (1) for *Emergency* position.
- Gold plated engine start contacts (rated 5 amps 28VDC or 120VAC).

### Voltage & Frequency Sensing

- Close differential under voltage sensing on all phases of normal source.
- Pickup voltage is adjustable to 95% of nominal; drop-out is adjustable from 70 to 90% of nominal.
- High/low nominal voltage setting. Allows user to adjust for low voltage source conditions.
- Single phase voltage and frequency sensing of emergency.
- Single or three phase selectable switch.
- 60Hz or 50Hz selectable switch.

### Time Delays

- Adjustable time delay (1 to 3 seconds) to override momentary normal source outages to delay all transfer switch and engine-starting signals.
- Transfer to emergency time delay. Adjustable from 0 to 5 minutes for controlled timing of load transfer to emergency.
- Retransfer to normal time delay. Adjustable to 30 minutes. If emergency source fails during this time delay, switch will retransfer to normal after the time delay described below.
- 4-second time delay to override momentary emergency source voltage dips to delay all retransfer signals to the normal source.
- 5-minute unloaded running time delay for emergency engine generator cool down.

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### Optional Accessories

**Accessory 11CD** - Deluxe programmable engine exerciser provides ability to uniquely program each day of week, or blocks of days from 1-minute to 24-hours with digital readout convenience.

Includes “with or without” load control switch for exercise period. Load indicator in display to show if exerciser is ON or OFF. Timer also includes a permanent battery to maintain settings when normal and emergency power is lost.

**Accessory 14AA/14BA** - Auxiliary contacts to indicate position of main contacts. (2) for normal and (2) for emergency (one set is standard).

**Accessory 44A** - Strip Heater with thermostat, 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.

**Accessory 72A** - Serial Communication Board (RS485) to allow local or remote communications with compatible ASCO PowerQuest communication products shown on page 5.



Fig. 4 Accessory 11CD



Fig. 5 Accessory 72A

### Sizes of UL-Listed Solderless Screw-Type Terminals for External Power Connections

Switch Rating (amps)	Ranges of AL - CU Wire Sizes (Unless Specified Copper Only)
30, 70, 104	One #14 to 2/0 AWG
150	One #8 to 3/0 AWG
200	One #8 to 3/0 AWG CU only
225, 260, 400	Two #1/0 AWG to 250 MCM or One #4 AWG to 600 MCM
600, 800	Three #2 AWG to 600 MCM
1000, 1200	Four 1/0 to 750 MCM
1600, 2000	Six 1/0 to 750 MCM
2600	Eight 3/0 to 750 MCM
3000	Ten 3/0 to 750 MCM

Note: All Series 300 switches are furnished with a solid neutral plate (unless switched neutral configuration is specified) and terminal lugs.

### UL Listed Withstand and Close-On Ratings

Switch Ratings amps	Available Symmetrical Amperes RMS at 480 VAC*	
	When Used With Current Limiting Fuses	When Used With Specific Circuit-Breakers
30	100,000	10,000
70, 104, 150	200,000	22,000
200	200,000 *(240V Max.)	22,000 *(240V Max.)
225, 260, 400	200,000	42,000
600, 800	200,000	65,000
1000, 1200	200,000	85,000
1600-3000	200,000	100,000

Current limiting fuse should be Class J type through 600 amp; for 3000 amp, use Class L type.



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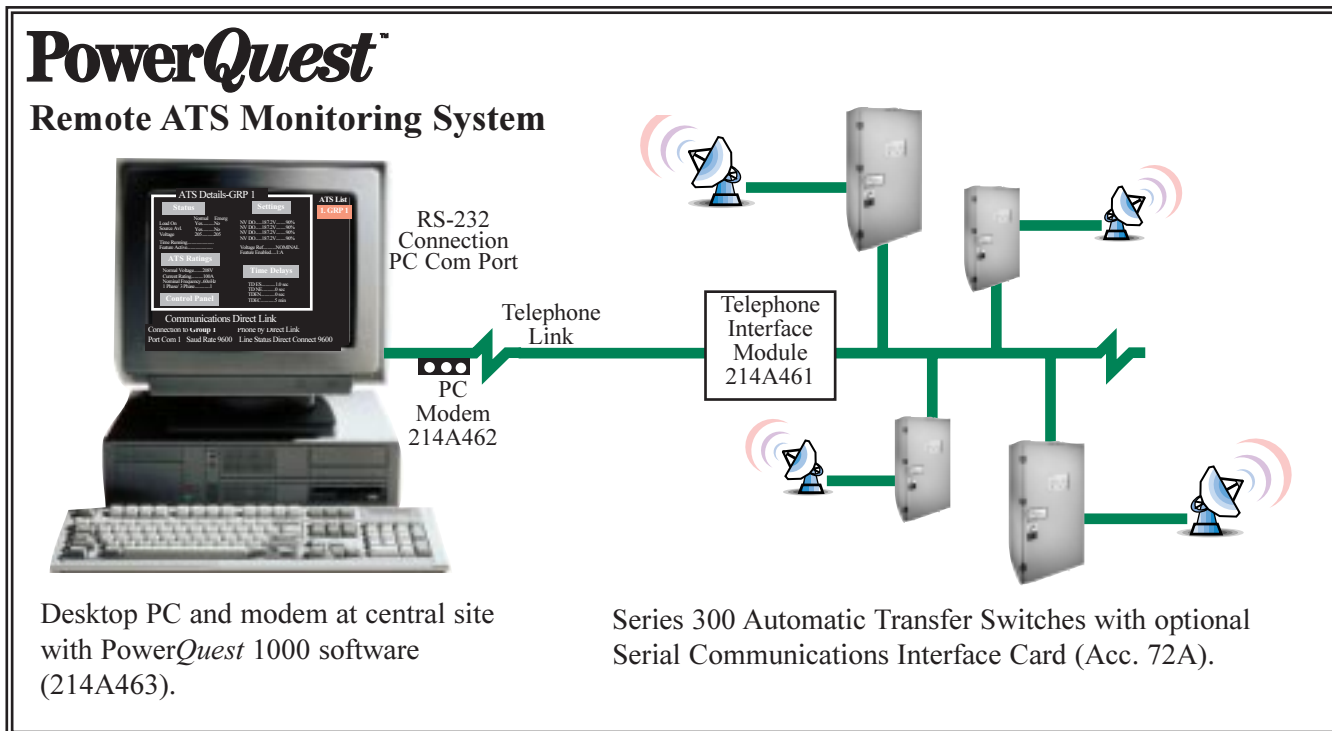
## Dimensions and Shipping Weights

UL Type 1 Enclosures (See notes below for information on Type 3R, 4 & 12 Enclosures)

Switch Rating amps	Phase Poles	Neutral Code	Dimensions, In. (mm) <sup>3</sup>			Approx. Shipping Weight Lb. (kg) <sup>4</sup>
			Width	Height	Depth	
30, 70, 104	2	--	17 1/2 (445)	31 (787)	11 5/8 (295)	67 (31)
	3	--	17 1/2 (445)	31 (787)	11 5/8 (295)	70 (32)
	3	B	17 1/2 (445)	31 (787)	11 5/8 (295)	73 (33)
150, 200	2	--	17 1/2 (445)	31 (787)	11 5/8 (295)	69 (32)
	3	--	17 1/2 (445)	31 (787)	11 5/8 (295)	72 (33)
	3	B	17 1/2 (445)	31 (787)	11 5/8 (295)	75 (34)
225, 260, 400	2	--	18 (457)	48 (1219)	13 (330)	117 (53)
	3	--	18 (457)	48 (1219)	13 (330)	125 (57)
	3	C	18 (457)	48 (1219)	13 (330)	133 (61)
600, 800	2	--	24 (610)	63 (1600)	17 1/2 (445)	250 (114)
	3	--	24 (610)	63 (1600)	17 1/2 (445)	260 (118)
	3	B	30 (762)	63 (1600)	17 1/2 (445)	320 (145)
1000, 1200 <sup>1</sup>	2	--	38 (965)	87 (2210)	24 (610)	870 (395)
	3	--	38 (965)	87 (2210)	24 (610)	920 (417)
	3	B	38 (965)	87 (2210)	24 (610)	970 (440)
1600, 2000 <sup>2</sup>	2	--	38 (965)	91 (2311)	48 (1219)	1110 (503)
	3	--	38 (965)	91 (2311)	48 (1219)	1160 (525)
	3	B	38 (965)	91 (2311)	48 (1219)	1210 (548)
2600, 3000	3		37 (940)	91 (2311)	60 (1219)	2133 (968)
	3	C	37 (940)	91 (2311)	60 (1219)	2233 (1013)

- 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).
  - Enclosures for 1600-3000 amp are free-standing with removable top, sides and back.
  - For Type 3R, 4 & 12 dimensions, add the following values to the Type 1 dimensions:
    - 30, 70, 104, 150, 200A - add 1.5 in. (38 mm) to the height.
    - 1000, 1200A - add 3 in. (76 mm) to the height and 10 in. (253 mm) to the width. Type 3R, 4 & 12 enclosures for 1000-1200A switches do not require a pull box for all top or bottom cable access.
    - 1600-3000A - Type 4 & 12 not available. (Consult ASCO)
  - For Type 3R, 4 & 12 weights, add the following values to the Type 1 weights:
    - 30, 70, 104, 150, 200A - add 15 lbs. (6 kg).
    - 1000, 1200A - add 60 lbs. (27 kg).
    - 1600-3000A - Type 4 & 12 not available. (Consult ASCO)
  - When temperatures below 32° F can be experienced, special precautions should be taken, such as the inclusion of space 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 page 3 for space heater options (acc. 44A and 44G).

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### ASCO® PowerQuest Communications Products for Series 300 Switches.

Catalog No.	Description
214A460	Local Site Converter
214A461	Telephone Interface Module
214A462	PC Modem
214A463	PowerQuest 1000 Software
214A465	Value Package: (1) Acc. 72A Plus (1) 214A461 Telephone Interface Module

Refer to ASCO publication 1193 for additional information on ASCO PowerQuest Products.

### Field Conversion Kits for Series 300 Switches

Kit No.	Description
K601111	Deluxe Engine Exerciser Kit (Acc. 11CD)
K613127-1	Strip Heater Kit, (125 watt) 120 volt (Acc. 44A)
K613127	Strip Heater Kit (125 watt) 208-480 volt (Acc. 44G)
K601110	Serial Communications Module (Acc. 72A)
K609027	Cable Pull Box (1000-1200 amp)

### ASCO® Extended Warranties for Series 300 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)

\* Limited to continental U.S. installations. For foreign installations consult ASCO.



# SERIES 300 AUTOMATIC TRANSFER SWITCHES

## Ordering Information

To order an ASCO Series 300 Automatic Transfer Switch, complete the following catalog number:

**A300 + B + 3 + 600 + 9 + 1 + X + C + 11CD + 480V 60 Hz**

Product	Neutral Code	Poles	Amperes	Voltage Code	Control Panel	Options	Enclosure		Optional Accessories	Specific Volt & Freq
							Blank	Open Type		
<b>A300</b>	<b>Blank</b> Solid Neutral	<b>2 poles, 1Ø</b>	<b>Continuous rating</b> 30, 70, 104, 150, 200 <sup>2</sup> , 225, 260, 400, 600, 800, 1000, 1200, 1600, 2000, 2600, 3000	<b>3, 4, 6, 9, X, G</b> (see chart below)	<b>1</b>	Insert "X" if Type 3R, 4 or 12 enclosure or if Optional Accessories are required	<b>C</b>	Type 1 (Standard)	<b>11CD</b> Deluxe Engine Exerciser <b>14AA/14BA</b> Auxiliary Contacts (2 sets) <b>44A, 44G</b> Strip Heater w/Thermostat <b>72A</b> Serial Comm Board	This information is necessary to allow correct control settings prior to shipment
							<b>C3R</b>	Type 3R Enclosure		
	<b>C4</b>	Type 4 Enclosure <sup>3</sup>								
	<b>C12</b>	Type 12 Enclosure <sup>3</sup>								
	<b>B<sup>1</sup></b> Switched Neutral	<b>3 poles, 3Ø</b>								

- Note:* 1. Specify neutral code "C" for 225, 260, 400, 2600 and 3000 amperes only.  
 2. 200 amp limited to 240 volts.  
 3. Available 30-1200 ampacity. Use Type 3R for 1600-3000 amp applications.

**EXAMPLES:**

- The catalog number for an ASCO Series 300, 3 pole, 200 amp, with switched neutral, 208Y/120 volt 60 Hz, 3Ø, 4 wire switch, with a standard Type 1 enclosure and no optional accessories is: **A300B320041C, 208Y/120v60Hz.**
- To order a Series 300 similar to Example 1, but with a Deluxe Engine Exerciser and a Type 3R enclosure, please specify: **A300B320041XC3R, 11CD, 208Y/120v60Hz.**

**Voltage Codes for 2 Pole Switches**

System Voltage	Voltage Code
115 to 120 V*	3
200 to 208 V	4
220 to 240 V	6
460 to 480 V	9

*Note:* \* 115-120 V not available above 800 amps.  
 For other voltages contact ASCO.

**Voltage Codes for 3 Pole & Switched Neutral**

System Voltage	Voltage Code
200 to 208 V	4
220 to 240 V	6
380 to 415 V	X
460 to 480 V	9
575 to 600 V	G

**Automatic Switch Co.**  
**800-937-ASCO**  
**www.asco.com**

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Florham Park, New Jersey 07932 USA