



**ASCO** Power Technologies™

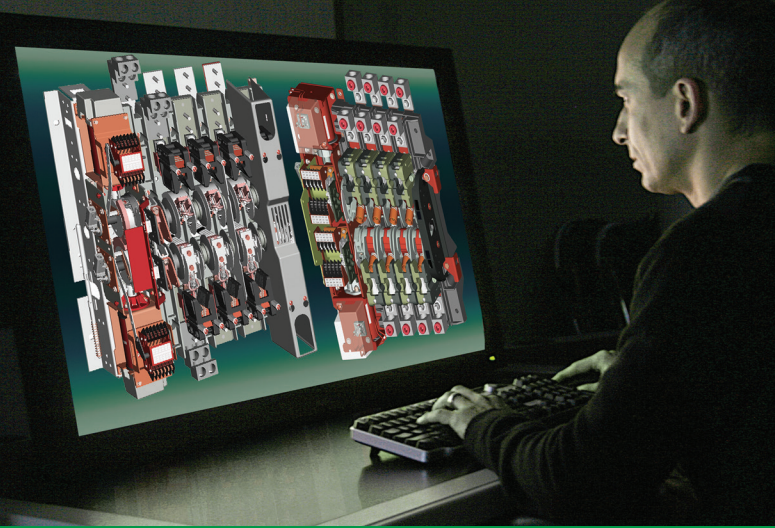
## ASCO 4000 SERIES Power Transfer Switches



[ascopower.com](http://ascopower.com)

Life Is On

**Schneider**  
Electric



The Recognized Leader in Power Transfer Switch Technology Offers the Most Advanced Transfer Switches in the World.



## 4000 SERIES POWER TRANSFER SWITCHES PRODUCT FEATURES

- Conventional two-position transfer configuration, plus closed and delayed transition modes of operation. All configurations available with either automatic or non-automatic control.
- UL listed to 1008 Transfer Switch Equipment & CSA certified to CSA 22.2 No.178-1978 Automatic Transfer Switches.
- Qualified to IEC 60947-6-1, CE marked (optional). (Limited to certain accessories.)
- Rated up to 600 VAC, 30 through 4000 amperes. Reliable and field proven solenoid operating mechanism.
- High withstand and close-on ratings including short time withstand current rating for optimum flexibility in circuit breaker coordination (800-4000 amperes).
- Solid, switched neutral configurations available.

**Fig. 1: Three Pole 4000 SERIES Automatic Transfer Switch rated 800 amperes**

## 4000 SERIES

ASCO Power Transfer Switches are the standard of the industry. High speed transfer of loads between alternate sources of power, regardless of ampacity size, is achieved by a reliable, field proven solenoid operating mechanism. When combined with a programmable microprocessor controller with keypad and LCD display, they offer the most advanced method of transferring all types of loads, such as motors, electronic drives, UPS's and microprocessor based systems. 4000 SERIES Power Transfer Switches are available open or enclosed, in ampacity sizes from 30 through 4000 amperes with a limited selection of optional accessories.



## 4000 SERIES POWER SWITCHING SOLUTIONS



Fig. 2: Four pole, Closed-Transition Transfer Switch rated 1000 amperes in Type 1 enclosure.



Fig. 3: Four pole, Delayed-Transition Transfer Switch rated 400 amperes in Type 1 enclosure.

### CLOSED-TRANSITION TRANSFER SWITCHING

ASCO Automatic Closed-Transition Transfer Switches feature main contacts that overlap, permitting the transfer of electrical loads without power interruption. The switch transfers in a make-before-break mode if both sources are within acceptable parameters. Control logic continuously monitors source conditions and automatically determines whether the load transfer should be open (conventional non-overlap mode) or Closed-Transition. Available 150 through 4000 amperes.

Closed-Transition Transfer within 5 electrical degrees is achieved passively, without control of engine generator set. Therefore, no additional control wire runs are required between the ATS and engine generator set governor. Plus, protective relaying may not be required under normal operation since the contact overlap time is less than 100 milliseconds (consult your local utility on protective relay requirements). Failure to synchronize indication, extended parallel time protection, and transfer switch lock out are standard features.

### DELAYED-TRANSITION TRANSFER SWITCHING

ASCO Delayed-Transition Transfer Switches are designed to provide transfer of loads between power sources with a timed load disconnect position for an adjustable time period. Applications include older style variable frequency drives, rectifier banks, and load management applications.

- Available 150 through 4000 amperes.
- Utilizes reliable, field proven solenoid operating mechanisms.
- Mechanical interlocks to prevent direct connection of both sources.
- Indicator light (LED Type) for load disconnect position.
- Adjustable time delay for load disconnect position.

## 4000 SERIES POWER SWITCHING SOLUTIONS

### NON-AUTOMATIC TRANSFER SWITCHING

ASCO Non-Automatic Transfer Switches are electrically operated units which are operated with manual control switches mounted locally or at remote locations.

- Sizes from 30 through 4000 amperes.
- Microprocessor based controller provides for addition of optional accessories.
- Controller prevents inadvertent operation under low voltage conditions.
- Low control circuit operating currents allow for long line runs between remotely mounted manual control switches and the transfer switch.
- Source acceptability lights inform operator if sources are acceptable.



**Fig. 4: Three pole Non-Automatic, electrically operated 200 ampere switch shown in Type 1 enclosure.**

### WITHSTAND AND CLOSING RATINGS FOR ALL 4000 SERIES PRODUCTS

SWITCH RATING (AMPS)	UL 1008 WITHSTAND AND CLOSE-ON RATINGS¹									
TRANSFER SWITCHES	RATINGS (RMS SYMMETRICAL)						RECOMMENDED FUSES		SHORT TIME RATINGS 480V	
	SPECIFIC BREAKER²	VOLTS MAXIMUM	“ANY” BREAKER³	VOLTS MAXIMUM	CURRENT LIMITING FUSE RATING	VOLTS MAXIMUM	MAX SIZE, A	CLASS	RATING (RMS SYM), A	DURATION (CYCLES)
30			10KA	600V	100KA	480V	60	J	N/A	-
70, 100, 125, 150	22KA	480V	10KA	600V	200KA	480V	200	J	N/A	-
200	22KA	480V	10KA	480V	200KA	480V	200	J	N/A	-
230	22KA	480V	10KA	480V	100KA	480V	300	J	N/A	-
260, 400, 600	50KA	480V	65KA	240V	200KA	600V	800	J	N/A	-
	42K	600V	42KA	480V			800	L		
			35KA	800V						
800-1200	65KA	600V	50KA	600V	200KA	600V	1600	L	36KA	18
1600-2000	125KA	480V	100KA	600V	200KA	600V	3000	L	42KA	18
2600-3000	-	600V	100KA	600V	200KA	600V	4000	L	42KA	18
4000	-	600V	100KA	600V	200KA	600V	5000	L	85KA	8
									65KA	30

1) All WCR values indicated are tested in accordance with the requirements of UL 1008. See ASCO Pub. 1128 for more WCR information.

2) Application requirements may permit higher WCR for certain sizes of switch. Contact ASCO for guidance if application requires higher WCR.

3) Based on 3 cycles for 260-4000 A and 1.5 cycles for 30-230A switches. Applicable to circuit breakers with instantaneous trip elements.

4) Optional front connect service (Accy 40MY and 40NY) limits 1600 and 2000 AG Frame switches to 85 kA Any breaker rating.

5) J Frame switches utilizing overlapping neutral (code "C") are limited to 35 kA Any Breaker rating at 480V.

4000 SERIES MICROPROCESSOR CONTROLLER



Fig. 5: 4000 SERIES Microprocessor Controller.

The 4000 SERIES microprocessor controller is used with all sizes of Power Transfer Switches from 30 through 4000 amperes. It represents the most advanced digital controller in the industry and includes, as standard, all of the voltage, frequency, control, timing and diagnostic functions required for most emergency and standby power applications.

Because of severe voltage transients frequently encountered with industrial distribution systems, the microprocessor logic board is separated and isolated from the power board as shown below. This improves electrical noise immunity performance and helps assure compliance with the rigorous transient suppression standards highlighted below.

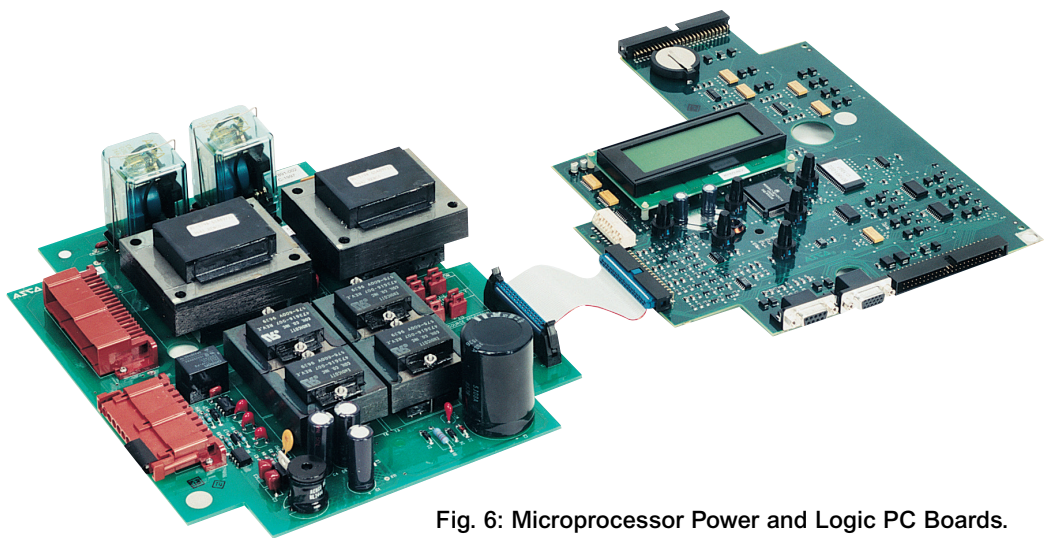


Fig. 6: Microprocessor Power and Logic PC Boards.

4000 SERIES Microprocessor Controller		
Emission Standard - Group 1, Class A		EN 55011:1991
Generic Immunity Standard, from which:		EN 50082-2:1995
• Electrostatic Discharge (ESD) Immunity		EN 61000-4-2:1995
• Radiated Electromagnetic Field Immunity		ENV 50140:1993
• Electrical Fast Transient (EFT) Immunity		EN 61000-4-4:1995
• Surge Transient Immunity		EN 61000-4-5:1995
• Conducted Radio-Frequency Field Immunity		EN 61000-4-6:1996
• Voltage Dips, Interruptions and Variations Immunity		EN 61000-4-11:1994

# 4000 SERIES MICROPROCESSOR CONTROLLER

## FEATURES

- Digital microprocessor.
- Touch pad programming of features and settings without the need for meters, or variable power supplies.
- Sixteen (16) selectable operating voltages available in a single controller.
- On-board diagnostics provide control panel and ATS status information to analyze system performance.
- Displays and counts down active timing functions.
- Selectable multi-language display (English, German, Portuguese, Spanish, or French. For others contact ASCO)
- Password protection to prevent unauthorized tampering of settings.
- Remote monitoring and control with ASCO PowerQuest® communications products. Specify optional accessory 72A or 72E.
- Load shed option for bus optimization applications. Specify optional accessory 30B.
- Lamp Test - Provides a convenient way to verify functionality of all LED's on the user interface.

## VOLTAGE AND FREQUENCY SENSING

- 3-Phase under and over voltage settings on normal and emergency sources.
- Under and over frequency settings on normal and emergency.
- True RMS Voltage Sensing with +/- 1% accuracy; Frequency Sensing Accuracy is +/- 0.2%.
- Selectable settings: single or three phase voltage sensing on normal and emergency; 50 or 60Hz.
- Phase sequence sensing for phase sensitive loads.
- Voltage unbalance detection between phases.

## STATUS AND CONTROL FEATURES

- Output contact (N/O or N/C) for engine-start signals.
- Selection between "commit/no-commit" on transfer to emergency after engine start and normal restores before transfer.
- Terminals for remote test or customer contact for peak shaving applications
- Advanced inphase algorithm which automatically measures the frequency difference between the two sources and initiates transfer at appropriate phase angles to minimize disturbances when transferring motor loads.
- Output signals for remote indication of normal and emergency source acceptability.
- Statistical ATS/System monitoring data screens which provide:
  - Total number of ATS transfers.
  - Total number of days ATS has been in operation.
  - Total number of hours that the normal and emergency sources have been available.

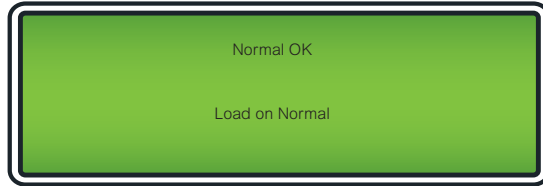
## TIME DELAYS

- Engine start time delay - delays engine starting signal to override momentary normal source outages - adjustable 0 to 6 seconds.
- Transfer to emergency time delay - adjustable 0 to 60 minutes.
- Emergency source stabilization time delay to ignore momentary transients during initial generator set loading - adjustable 0 to 6 seconds.
- Retransfer to normal time delay with two settings:
  - Power failure mode - 0 to 60 minutes.
  - Test mode - 0 to 10 hours.
- Unloaded running time delay for engine cooldown - adjustable 0 to 60 minutes.
- Fully programmable engine exerciser with seven independent routines to exercise the engine generator, with or without loads, on a daily, weekly, bi-weekly or monthly basis.
- Contains all alarm signals, logic and time delays for use with closed transition switches.
- Insynch time delay - 0 to 3 seconds.
- Failure to synchronize - 1 to 5 minutes.
- Extended parallel time - 0.1 to 1.0 seconds.
- Transfer switch locked out.
- Delayed transition load disconnect time delay - adjustable 0 to 5 minutes. (Delayed Transition Switches only.)

## 4000 SERIES POWER CONTROL CENTER SCREENS

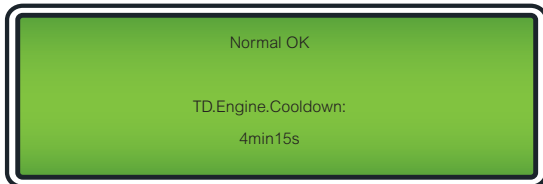
### STATUS

#### SYSTEM STATUS



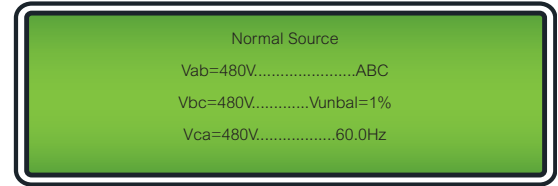
Displays system status in clear, concise language. Message shown indicates normal source is acceptable and the load is connected to the normal source.

#### TIME DELAY STATUS



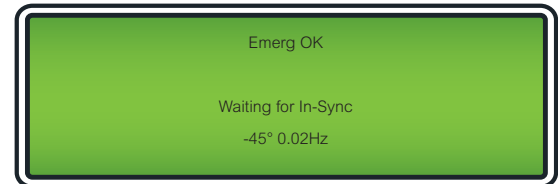
Active time delay status displays time remaining until next control event.

#### SOURCE STATUS



Displays voltage for each phase, frequency, phase rotation and voltage unbalance for both normal and emergency sources.

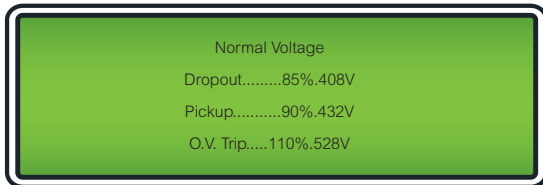
#### INPHASE TRANSFER MODE



Displays the relative phase angle between sources and frequency differential to indicate the controller is awaiting an inphase condition.

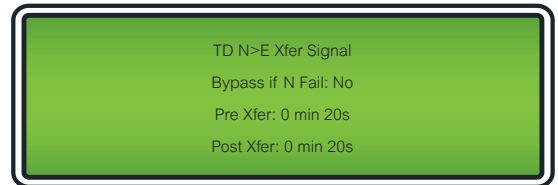
### SETTINGS

#### VOLTAGE AND FREQUENCY SETTINGS



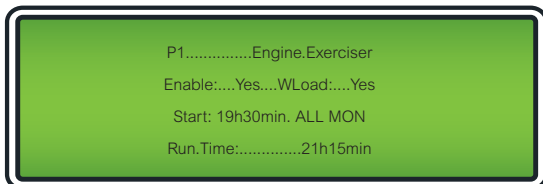
Provides voltage and frequency setting values for normal and emergency sources. Voltage pick-up, dropout and trip settings are set in percentage of nominal voltage and are also displayed in rms voltage values.

#### TIME DELAY SETTINGS



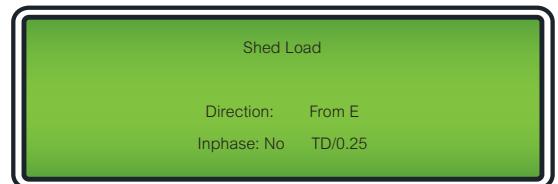
Provides direct reading display for setting time delays.

#### ENGINE EXERCISER



Seven independent programs, load/no load selection, flexible run times and daily, weekly, bi-weekly and monthly exercise routines.

#### FEATURE SETTINGS



Standard features can be activated with the keypad. As an example, when enabled, the “shed load” option causes the transfer switch to transfer the load off of the specified source. If desired, the load shed transfer can be made inphase.

### DATA LOGGING

#### ATS STATISTICS



Instant availability of statistical information on total number of ATS transfers, number of transfers caused by power failures and total days controller has been energized, plus more.



## 4000 SERIES OPTIONAL ACCESSORIES

### TIME DELAYS

**2C** Provides an extended time delay on engine starting. The standard feature one time delay is adjustable from zero to six seconds. Accessory 2C allows this time delay to be adjustable from zero to sixty minutes in one second intervals factory set at five minutes.

**1G** Similar to accessory 2C except using an external 24 volt DC power input. Available only as a feature of accessory 18Z.

### INDICATORS & CONTROLS

**14A/14B** Additional auxiliary contact sets to indicate switch position. Two sets are typically standard. Maximum number of two additional sets. (Varies by configuration)

**6C** Reset Switch for manual retransfer to normal with automatic override upon emergency source failure.

### NEUTRAL CONDUCTOR OPTIONS

- Solid neutral, with fully-rated terminals. (AL-CU) UL Listed.
- Conventional neutral switching pole.

Note: Specify neutral option in catalog number, see page 18 for instructions.

### COMMUNICATIONS OPTIONS

**72EE2** Ethernet connectivity module for remote communications to ASCO POWERQUEST® products. Contains embedded web pages for the remote monitoring of ASCO products as well as some 3rd party devices. Also provides Serial-to-Ethernet link with ability to communicate using Modbus/TCP.

### CUSTOMER CONTROL CIRCUITS

**30A** Load-shedding circuit initiated by opening of a customer-supplied contact.

**30B** Load-shedding circuit initiated by removal of customer-supplied control voltage. (Specify voltage).

**44G** Strip Heater with thermostat recommended for outdoor applications on temperatures below 32° F (0°C) to prevent condensation and freezing.

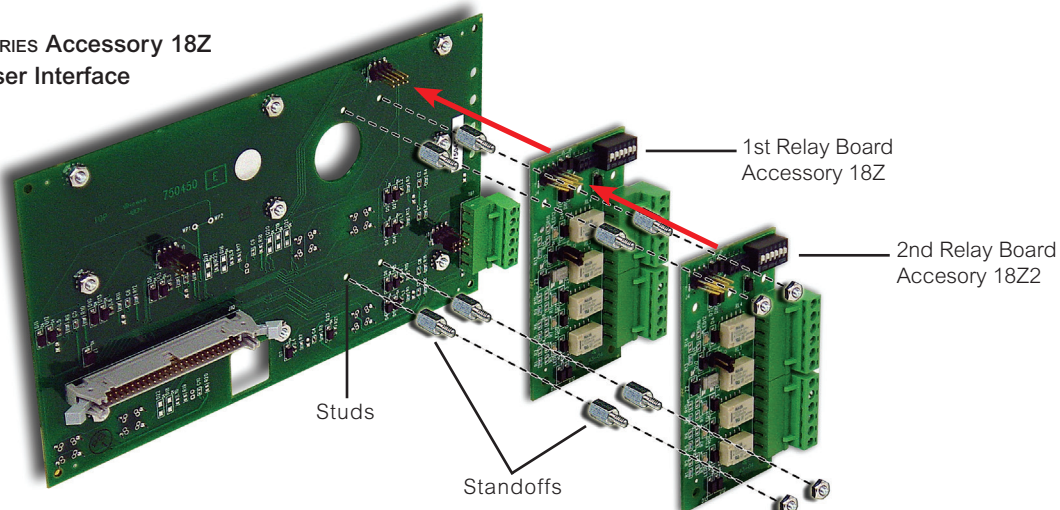
### ADD-ON BOARDS

**18Z** Includes one Form C contact (Rated 2A @ 30VDC or .5A @ 125VAC) for each of the following:

- Normal Source Acceptability.
- Emergency Source Acceptability.
- Selective Load Disconnect. - Pre and post transfer signal time delay for selective load disconnect with a programmable bypass on source failures - adjustable 0 to 5 minutes.
- Fourth contact can be set to mimic the acceptability contacts or annunciate any combination of the acceptability contacts and/or any switch alarm conditions available:
- Extended Parallel Time (Closed transition),
- Failure to Synchronize (Closed transition),
- Transfer Switch Locked Out (Closed transition),
- Load Disconnected (Delayed transition).
- Accessory 18Z includes an extension of the engine start time delay (feature) to 60 seconds if an external 24VDC supply is connected to a 4000 SERIES controller. This external power source will also allow the LCD display to be active when both normal and emergency sources are unavailable.

**18Z2** Includes two 18Z accessory boards. (Maximum of two 18Z accessory boards allowed.)

Fig. 9: 4000 SERIES Accessory 18Z mounting on User Interface





## 4000 SERIES OPTIONAL ACCESSORIES

### ASCO 5200 SERIES POWER METER

The ASCO 5200 SERIES Power Meter is a microprocessor based metering device that provides real-time measurements of single and three phase power systems. The Power Meter uses digital signal processing technology to measure voltage and current per phase; real, reactive and apparent power, and bi-directional energy. All measurements can be viewed locally with a backlit liquid crystal display and/or displayed remotely with ASCO PowerQuest® products.

Direct voltage input for systems up to 600 Volts AC can be monitored without the use of external potential transformers (PTs). Measures three phase currents and a fourth current input is available for measuring current in the neutral conductor. The Power Meter includes one discrete input for transfer switch position, eight general purpose discrete inputs, and four relay outputs for monitoring and controlling external devices.

### POWER METERING

- Voltage:  
Line - Line: VAB, VBC, VCA, VAVERAGE  
Line - Neutral: VAN, VBN, VCN, VAVERAGE
- Frequency: 45.0 to 66.0 Hertz
- Current: IA, IB, IC, IAAVERAGE
- Unbalance %: Voltage, Amps
- Real Power: KWA, KWB, KWC, KWNET
- Reactive Power: KVARA, KVARB, KVARC, KVARNET
- Apparent Power: KVAA, KVAB, KVAC, KVANET
- Real Energy: KWHIMPORT, KWHEXPORT, KWHNET
- Reactive Energy: KVARHIMPORT, KVARHEXPORT, KVARHNET
- Power Factor: PFA, PFB, PFC, PFNET

### DATA ACCESS

- Eight digital inputs, four relay outputs.
- Input/Output 15-character, user definable screen display for identification of input/output signals.

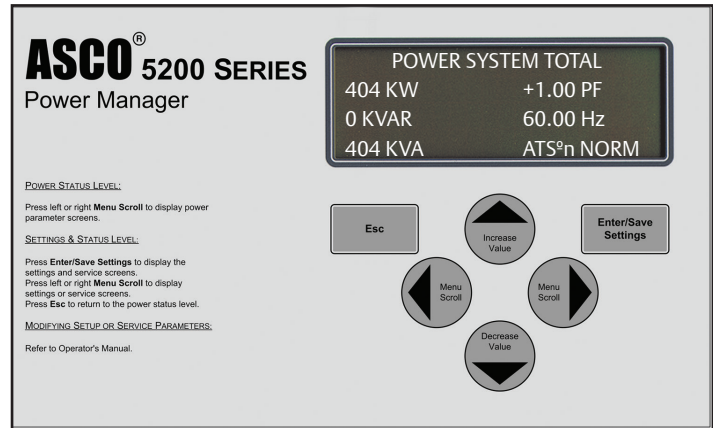


Fig. 10: ASCO 5200 SERIES Power Meter

### CONFIGURABLE DESIGNATIONS

- Local - A four line, 20 character LCD backlit display.
- Remote - With optional Acc. 72A or 72E and Power Meter monitoring systems.
- Provides user programmable setpoints based on twelve metering and I/O parameters. Each setpoint allows the user to select the parameter, the trip & reset levels, the trip & reset time delays and the alarm type or relay output to trigger. This can be used for protective relaying and peak shaving applications.

### INTEGRATED ATS FEATURES

When configured on load of ATS:

- Displays ATS position.
- Displays power data as a function of ATS position (normal/emergency).
- Accumulates energy data separately for normal and emergency sources.

### Optional Configurations and Connection Arrangements

Connected To:	With Display	Without Display
Load	Acc. 85L	Acc. 75L
Normal	Acc. 85N	Acc. 75N
Emergency	Acc. 85M	Acc. 75M

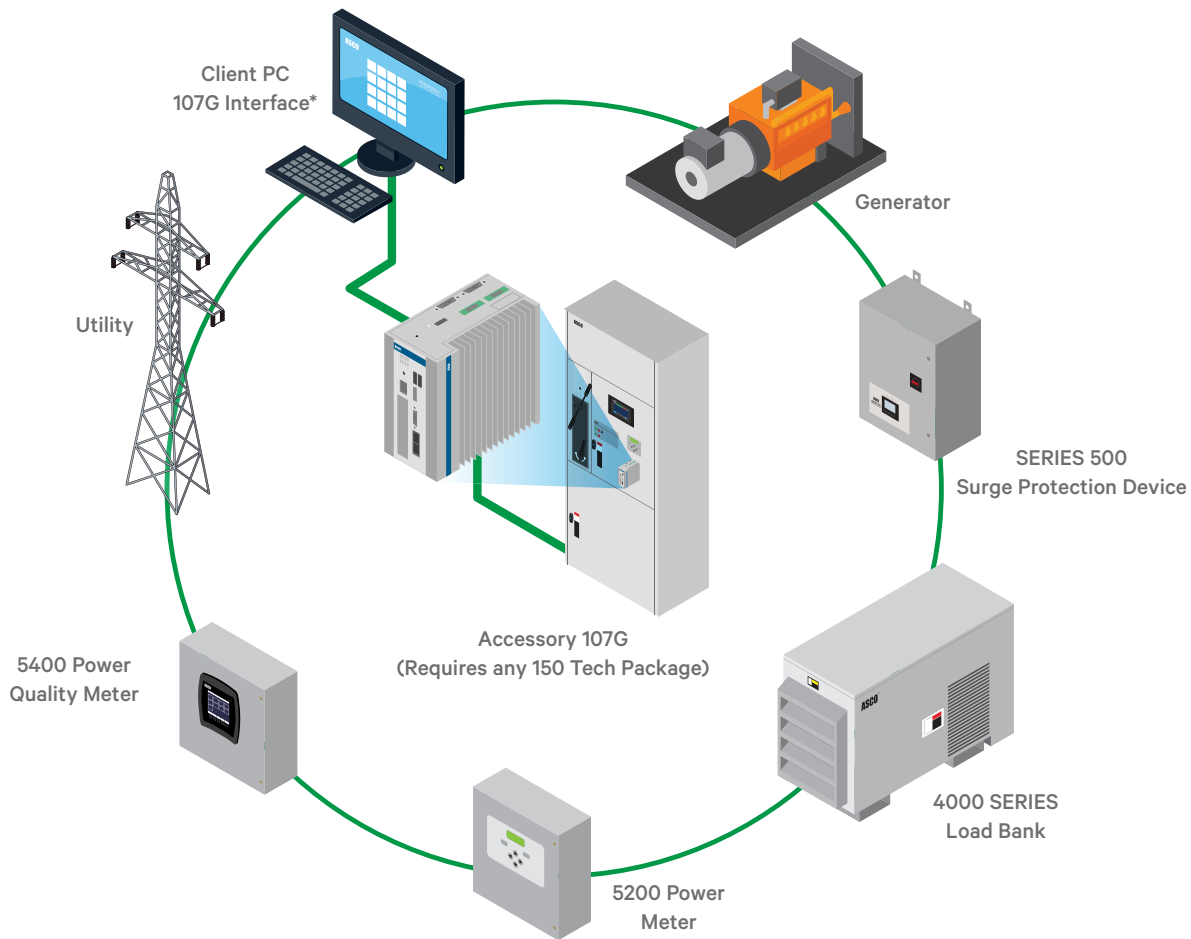
Add suffix "A" to above designations if neutral conductor monitoring is required.

Note: Accessory 75 and 85 includes component mounting, CTs, shorting blocks and all necessary interwiring.

Note: The ASCO Power Manager is also available as a separate unit for monitoring electrical parameters anywhere in the power distribution system.

## ASCO MONITORING GATEWAY ACCESSORIES

The Monitoring Gateway (Accessory 107G) monitors the state and performance of your transfer switch and its associated devices, including engine-generators, utility power quality meters, surge protection devices, and circuit breakers. The Monitoring Gateway simplifies the NFPA 110 fire code and Joint Commission compliance and reporting activities required for critical and healthcare facilities. It is compatible with Building Monitoring Systems, sharing data in open Modbus TCP/IP and BACnet IP formats.



Meets NFPA and Joint Commission Compliance requirements

Provides required engine-generator and transfer switch safety indicators and shutdowns. Automatically generates NFPA test and utility outage reports. Listed to UL 1008.



Gain real-time status and performance insights

Provides instant access to critical utility power, engine-generator, transfer switch, surge protection and load bank information. Transmits immediate email and text alerts of alarm and event conditions.



Integrates with common building monitoring systems and the ASCO Critical Power Management System

Shares power system data with other monitoring systems, allowing greater analysis of operating data and faster response to changing conditions.

# ASCO QUAD-ETHERNET MODULE ACCESSORIES

The Quad-Ethernet Module is the easiest way to connect, monitor and control your power transfer switch, utility power and engine-generator. Through the web app, you can monitor power conditions, start your engine-generator, and transfer between power sources.

### Monitoring

- Engine-generator, utility, and transfer switch status
- Email Notification
- Alarms and Alerts
- Statistics and Activity
- Event Log (downloadable)
- Controller Setpoints
- Power Monitoring\*
- Energy Consumption\*
- Historical KW Demand\*

\*Accessory 150A or 150B

### Control

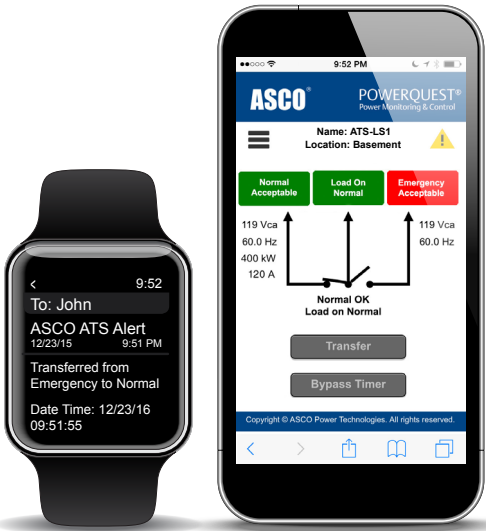
- Engine Start/Stop
- ATS Transfer/Retransfer
- Generator Test
- Bypass Timer Delays

### Communicate

- Modbus
- SNMP
- SMTP Advanced Encryption Standard
- Four Port Ethernet Switch
- RS485 Port



Quad-Ethernet Module  
Accessory 72EE2



## Ordering and Specifications Information

Ordering	
Catalog Number	5170
Catalog Name	Quad-Ethernet Module
Transfer Switch Accessory	72EE2
ATS Tech Package	150A for Non-Bypass
ATB Tech Package	150B for Bypass
Part Number for Kit	K1106217-001

Ports	
Ethernet	
Number of Ports	4
Type of Ports	RJ45, 10/100 BaseTX
Protocol	Modbus, SMTP, SNMP
RS485	
Number of Ports	1
Type of Connection	2-Wire or 4-Wire
Protocol	Modbus



## ASCO ATS REMOTE ANNUNCIATORS

5350 8-ATS Annunciator



Cat. 5350



Cat. 5310

5705 8-Device Annunciator



Cat. 5705

Description	5350 8-ATS Annunciator	5705 8-Device Annunciator
Listed to UL 1008	Yes	Yes
NIST Compliant Security	AES 128-bit Encryption	AES 128-bit Encryption
Monitoring Interface	LED	Graphical Touchscreen
ATS Supported	Up to 8 (5310, 1-ATS)	Up to 8
Transfer and Engine-Start Control	Yes	Yes
Transfer Switch Monitoring	Transfer Switch Position, Source Availability, Time-Delay Active, Communications Status, Locked Out, Fail-to-Synchronize, Extended Parallel	
NFPA 110 Engine-Generator Safety Indicators and Shutdowns	No	Yes, any generator with ASCO 5212 PMU
Surge Protective Devices	No	ASCO SERIES 500 and 400 with Active Surge Monitoring
Load Bank	No	ASCO Avtron 5000 and 4000 SERIES with Accessory 150LB
Email Notification	No	Yes
Audible Alarm	Yes	Yes
Mounting	Wall or Flush-mounted	Wall-mounted
Common Alarm Output	Yes	Yes
Control Security	Key Lock	Multi-Level Password
Control Power	24VDC or 120VAC	24VDC or 120VA
Ethernet Ports	2	2
Power-outage ride-through (seconds)	0.1	60
ATS accessory required	Any ASCO Accessory 150 Technology Package or Accessory 72EE2	Any ASCO Accessory 150 Technology Package

# ASCO 5700 CRITICAL POWER MANAGEMENT SYSTEM

## Critical Facility, Power and Energy Management

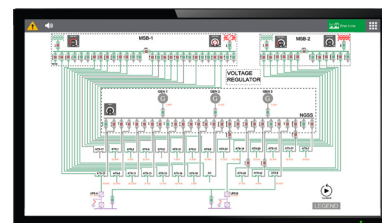
The PowerQuest Critical Power Management System (CPMS) enables you to centrally manage your critical infrastructure and increase its reliability, efficiency, and regulatory compliance.



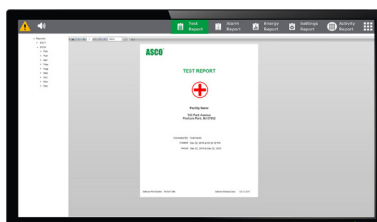
5700 SERIES Server with Touchscreen



System Overview



Dynamic One Line  
(Engineering Services Option)



Automated Outage  
and NFPA Compliance Reports



Alarm Dashboards

## With the ASCO PowerQuest® CPMS, you can

- Understand power system and equipment status throughout a facility
- Quickly identify and resolve alarms to reduce downtime risk and increase reliability
- Monitor KW capacity and demand at any point in the distribution system
- Automatically generate outage reports for NFPA and Joint Commission compliance
- Ensure power quality compliance to increase the service life of business critical equipment and devices
- Leverage existing network infrastructure and add existing legacy equipment
- Analyze comprehensive forensic power quality and sequence of event data in millisecond granularity
- Identify utility energy usage and demand billing discrepancies
- Reduce or eliminate power factor and demand penalties
- Monitor, benchmark and increase energy efficiency
- Allocate energy costs to departments or processes

	5710	5750	5790
Hardware	Server+22-inch Touchscreen	Server+22-inch Touchscreen	Server+22 inch-Touchscreen
Number of Equipment Monitored	32	64	128 <sup>1</sup>
Remote Clients Support	3	10	25 <sup>1</sup>
Monitoring & Control	✓	✓	✓
Email Notification	✓	✓	✓
BMS Communications	✓	✓	✓
System Event Log		✓	✓
Historical Trending		✓	✓
Automated Reports		✓	✓
Power Quality Meter Analytics	✓	✓	✓
Reference Library		✓	✓
Redundant Storage			✓

<sup>1</sup> Consult ASCO for engineered dashboards, additional equipment or clients.

## 4000 SERIES USER INTERFACE

### USER INTERFACE FEATURES

- **Convenient One Line Diagram** - Provides a clear view of the position of the transfer switch, as well as the acceptability of the Normal and Emergency sources.
- **Source Acceptability LEDs** - Provide true indication of the acceptability of each source, as determined by the voltage, frequency, voltage unbalance, and phase sequence settings of the control panel.
- **Transfer Switch Position LEDs** - Provide an indication of which source the transfer switch is connected to.
- **Transfer Test** - Allows the user to test the operation of the transfer switch under a simulated failure of the normal source. Holding for 15 seconds allows time for the engine generator to come online and the transfer switch to transfer the load.
- **Retransfer to Normal** - Allows the user to bypass the programmed Retransfer to Normal time delay upon the return of the normal source when the switch has transferred to emergency either during normal operation or a transfer test.
- **Lamp Test** - Provides a convenient way to verify the functionality of all LEDs on the User Interface.
- **User Controls Locked** - Visually displays the status of the keypad lock feature of the control panel. When illuminated, the buttons of the User Interface are disabled and the user must enter a password into the control panel to unlock the switch. When LED is blinking, the controls are temporarily unlocked for five minutes from the last button pressed.

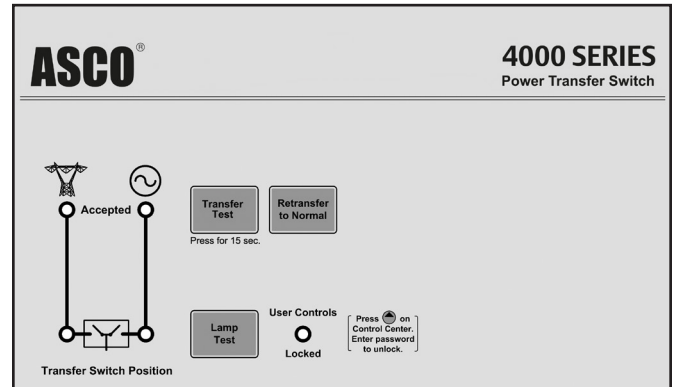


Fig. 7: 4000 SERIES Open Transition User Interface

### ADDITIONAL CLOSED TRANSITION USER INTERFACE

#### FEATURES

- **Extended Parallel Time** - Provides visual indication when the pre-set extended parallel time has been exceeded. The controls automatically open the emergency or normal main contacts. Separate contact also available to shunt trip to an external breaker.
- **Failure To Synchronize** - Visually displays a failure to synchronize alarm if the time delay settings is exceeded, during closed transition transfer operation.
- **Transfer Switch Locked Out** - Prevents transfer in either direction if the extended parallel time is exceeded.
- **Alarm Reset** - Resets extended parallel and failure to synchronize alarms.
- **Closed Transition Bypass** - Pushbutton allows transfer between sources in an open transition mode.

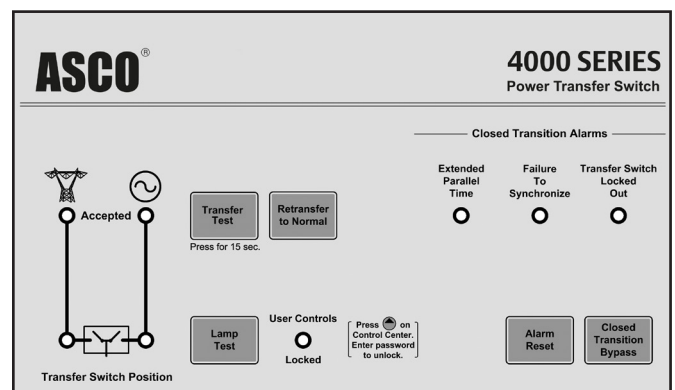


Fig. 8: 4000 SERIES Closed Transition User Interface



4000 SERIES ORDERING INFORMATION

To order an ASCO 4000 SERIES Power Transfer Switch, complete the following catalog number:

4	A	TS		A		3	400		N		5X	C			
		PRODUCT		NEUTRAL CODE*		PHASE POLES	AMPERES		VOLTAGE CODE		GRP CODE	ENCLOSURE			
A	Automatic	TS	Conventional 2-Position	---	No Neutral	2 3	30	1000	A	115	5 5X- optional	---	No enclosure		
							70	1200	B	120		C	Type 1 enclosure		
							100	1600	C	208		F	Type 3R enclosure		
							125	2000	D	220		G	Type 4 enclosure		
							150	2600	E	230		H	Type 4X enclosure <sup>2</sup>		
		N	Non-Automatic	CTS	Closed Transition	A	Solid Neutral	200 230 <sup>1</sup> 260 400 600 800	200	3000		F	240	L	Type 12 enclosure
									400			H	380	M	Type 3R secure double door
									600			J	400	N	Type 4 secure double door
									800			K	415	P	Type 4X secure <sup>2</sup> double door (304 Stainless Steel)
												L	440	Q	Type 12 secure double door
		M	460	R	Type 3RX <sup>2</sup> secure double door (304 Stainless Steel)										
		N	480												
		P	550												
		Q	575												
		R	600												

\*Note:  
1. 200 and 230 amp switch limited to 480 volts maximum.  
2. Type 304 Stainless steel is standard. To provide an improved reduction in corrosion in salt or marine environments, specify optional type 316 stainless steel.

The Example Catalog Number above is 4ATSA3400N5XC  
(X is used to specify optional accessories).

TRANSFER SWITCH CONFIGURATIONS  
4ATS, 4NTS, 4ADTS, 4NDTS, 4ACTS, 4NCTS

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

SWITCH RATING AMPS	MAX # OF CONDUCTORS PER TERMINAL	RANGE OF AL-CU CONDUCTOR SIZES
30 -230 <sup>1</sup> ATS,NTS	One	#14 to 4/0 AWG
150 DTS, CTS	One	#4 AWG to 600 MCM
	Two	#1/0 AWG to 250 MCM
260-400	One	#4 AWG to 600 MCM
	Two	#1/0 AWG to 250 MCM
600	Two	#2 AWG to 600 MCM
800-1200	Four	#1/0 AWG to 600 MCM
1600-2000 <sup>2</sup>	Six	#1/0 AWG to 600 MCM
2600, 3000 <sup>2</sup>	Twelve	#1/0 AWG to 600 MCM
4000 <sup>2</sup>	Twelve	#2/0 AWG to 600 MCM

Notes:  
1. 200 and 230 amp rating for copper conductors only.  
2. All main terminals are rear connected. 1600 & 2000 amp switches are available in optional front connected arrangement. Specify optional accessory 40MY for 1600 amp and 40NY for 2000 amp. WCR rating limited to 85,000 amp rms symmetrical. see pages 20, 21 for enclosure dimensions.



ASCO Power Technologies - Global Headquarters  
160 Park Avenue  
Florham Park, NJ 07932  
Tel: 800 800 ASCO

[www.ascopower.com](http://www.ascopower.com)  
[customercare@ascopower.com](mailto:customercare@ascopower.com)