ITEM OPPORTUNITY SYNOPSIS

Scouting Number:	2024-200
Name of the item to be scouted:	Automatic Transfer Switch
State item to be used in:	Vermont
Describe the Item:	
Please describe the item application/the end use of the item.	Automatic Transfer Switch (ATS) shall automatically switch power from normal source to generator source within 10 seconds.
Supplier Information:	
Type of Supplier Being Sought (select from the list below):	
Manufacturer	x
Contract Manufacturer	
Distributor	
Other (Please Specify)	
Reason for Scouting Submission (select from the list below)	
2nd Supplier	
Price	
Re-Shore	
Past supplier no longer available	
New Product Startup	
BABA	x
Other (Please Specify)	
Summary of Technical Specifications and Performance Requirements:	
Describe the manufacturing processes (elaborate to provide as much detail as possible)	Machining: The switching contacts are machined from solid extruded copper, while the mechanical linkages are crafted from anodized steel rods. Bus bars: These are made from solid copper and are silver plated. Enclosure seams: These are arc-welded for extra bracing and smooth corners.
Provide dimensions / size / tolerances / performance specifications of the item	Automatic transfer switch shall be rated for 208/120Y volts, 800 amperes minimum, 4 pole, and interrupting capacity of 65,000 amperes rated with any circuit breaker. Refer to specification section 262300 for additional ATS information. Unit shall start standby generator unit when line voltage drops to 75% of normal value, transfer load to generator and retransfer load to normal source when voltage is 90% of normal value. Switch shall be electrically operated and mechanically held with overlapping neutral transfer. Units shall be equipped with test switch for manual simulation of normal power outage including standby unit operation and load transfer and time-clock exerciser for auto¬matic periodic exercise of engine-generator unit The automatic transfer switch shall be equipped with time delay features to override momentary normal source outages (up to 5 seconds), on retransfer to normal source (from 0 to 30 minutes) and for unloaded running time cool down (0 to 5 minutes). Adjustable dwell period between sources shall be provided for voltage decay Indicator lights shall be provided for connection to normal source and for connection to emergency source. As a minimum a normally closed and a normally open contact shall be provided for both, connection to normal source and connection to emergency source An in-phase monitor shall be provided. The monitor shall control transfer/retransfer operation between live source so that closure on the alternate source will occur only when the two sources are approaching synchronism and are within 60 electrical degrees' maximum so that inrush currents do not exceed normal starting currents. The monitor shall function over a frequency difference range of up to ±2.0 Hz with a maximum operating transfer time of one-sixth of a second. If the voltage of the load carrying source drops below 70%, the in-phase function shall be automatically bypassed. The monitor shall not require interwiring with the generator controls, or active control of the governor
List required materials needed to make the product, including materials of product components, if applicable	12ga. Steel, copper, rivets, welds
Are there applicable certification requirements?	
Yes	x
No	
Please explain:	UL
Are there any applicable regulations that apply to the production of this item?	
Yes	
No	x
Please explain:	

Are there any other standards / requirements?	
Yes	x
No	
Please explain:	Transfer switch shall conform to latest National Electric Code (NEC)
NAICS CODES:	
NAICS 1	335313 Switchgear and switchboard apparatus manufacturing
NAICS 2	
Additional Comments:	
Additional technical comments:	
Volume and Pricing:	
Estimated Potential Business Volume (i.e. #units per day, month, year):	1 Automatic Transfer Switch is required for this project.
Estimated Target Price/Unit Cost Information:	$21,000/unit
Delivery Requirements:	
When is it needed by? (Immediate, 30 days, 6 months, etc.)	Construction is scheduled to start in February of 2025
Describe packaging requirements (i.e. individually/group packaging, etc.)	palletized
Where will this item be shipped?	Norwich University, Northfield, VT
Additional Comments:	
Is there other information you would like to include?	Contact information for questions including BABA/Buy American compliance: Jones Architecture Alya Staber alya@jonesarch.com Please copy scouting@nist.gov on all correspondence.

SECTION 262300

STANDBY GENERATOR SYSTEM

PART 1 – GENERAL

1.1 WORK INCLUDED

A. Provide standby generator system, transfer switch, and accessories for a complete and operable system.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary General Conditions and other Division 01 specification sections, apply to this Section and to all Contractors, Subcontractors, or other persons supplying materials and/or labor, entering into the Project site and/or premises, directly, or indirectly.

B. The Specifications and Drawings are intended to be complementary. A particular section, paragraph or heading in a Division may not describe each and every detail concerning work to be done and materials to be furnished. The Drawings are diagrammatic and may not show all of the work required or all construction details. Dimensions are shown for critical areas only; all dimensions and actual placements are to be verified in the field. It is to be understood that the best trade practices of the Division will prevail. It remains the responsibility of the Contactor or Subcontractor to provide all items, equipment, construction, and services required to the proper execution and completion of the Work.

C. Reference listings are provided as a convenience to the Contractor or Subcontractor providing the Work of this Section and may not contain all the requirements affecting this Section. It remains the responsibility of the Contractor or Subcontractor to locate and comply with all requirements of the Contract Documents.

D. All trade subcontractors are to note that the organization of these Specifications into divisions, sections, and paragraphs, and likewise the arrangement of the Drawings, is set up for the convenience of understanding the scope of the Work only. This structuring shall not control the Construction Manager in dividing the Work among trade subcontractors or in establishing the extent of the Work to be performed by any trade.

1.3 SUBMITTALS

A. Submit shop drawings and product data in accordance with Section 260100.

B. Submit data, plans, and wiring diagrams, including power and voltage ratings, maximum symmetric short circuit current, annunciation methods, and all control functions. Submittal shall include overall dimension, weight, fuel consumption, and fuel tanks, rated KW, KVA, voltage, starting KVA, circuit breaker rating and alarm. Also automatic transfer switch short circuit voltage and current ratings, dimensions, weight and all control functions.

C. Generator shall operate the intended load with 10% [30%] voltage dip and 0.25% frequency dip maximum. Manufacturer's written verification of generator suitability shall be sent to the Engineer. Contact Engineer for intended load information.

D. Submit certification that the following factory testing has been successfully completed by the manufacturer:

1. Prototype factory tests: The system manufacturer shall certify that the engine, generator, controls, and switchgear of an in-house engineered model with similar characteristics has been completed including the following:

   a. Fuel consumption at 1/4, 1/2, 3/4, and full load.
   b. Exhaust emissions.
   c. Mechanical and exhaust noise.
   d. Governor speed regulation 1/4, 1/2, 3/4, and full load; and during transients.
   e. Motor starting kVA.
   f. Generator temperature rise in accordance with NEMA MG1-22.40.
   g. Voltage regulation at 1/4, 1/2, 3/4, and full load; and during transients.
   h. Harmonic analysis, voltage wave form deviation and telephone influence factor.
   i. Generator short circuit capability.
   j. Cooling system performance.
   k. Torsional analysis.
   l. Linear vibration analysis.
   m. Generator revolving field assembly for 2 hours at 2700 rpm (150% overspeed) and 70°C, and each production unit tested at 2250 rpm (125% overspeed) at room temperature.

2. Production factory tests: The system manufacturer shall perform production tests on the complete generator set supplied by the manufacturer's facility. A certified report of these tests shall be available when requested at the time of the generator set order. These tests and controls shall include but not be limited to:

   a. Operation at rated kW.
   b. Operation at rated kW (optional).
   c. Transient and steady state governing.
   d. Transient and steady state voltage regulation.
   e. Operation of all alarm and shutdown devices.
   f. Single step load pickup of rated kW.
   g. Operation at 2250 rpm (125% overspeed) at room temperature.

E. Submit operation and maintenance manuals for complete system in accordance with Section 260100, to include but not limited to the following:

1. Operating instructions - with description and illustration of all switchgear controls and indicators; and engine and generator controls and indicators.
2. Parts CD - that illustrates and lists all assemblies, subassemblies, and components, except standard fastening hardware (nuts, bolts, washers, etc.).
3. Preventative maintenance instructions - on the complete system that cover daily, weekly, monthly, biannual, and annual maintenance requirements and include a complete lubrication chart.
4. Routine test procedures - for all electronic and electrical circuits and for the main AC generator.
5. Troubleshooting chart - covering the complete generator set showing description of trouble, probable cause, and suggested remedy.
6. Recommended spare parts list - showing all consumables anticipated to the required during routine maintenance and test.
7. Wiring diagrams and schematics - showing function of all electrical components.

F. Submit test results in accordance with Section 260800.

G. Certifications: Provide manufacturer's certification that all applicable products were manufactured in United States and meet the requirements of the Build America, Buy America Act (BABA) (part of Infrastructure Investment and Jobs Act).

1.4 REGULATORY REFERENCES

A. All specified items or systems shall be designed, manufactured, tested, and installed in compliance with applicable provisions of all governing codes, rules, laws, and ordinances in accordance with Section 260100.

1. If there is a conflict between applicable documents, then the more stringent requirement shall apply. All documents listed are believed to be the most current releases of the documents. The Contractor has the responsibility to determine and adhere to all applicable documents and to the most recent release when developing the proposal for installation.
2. This document does not replace any code, either partially or wholly. The Contractor must be aware of local codes that may impact this project.

1.5 WARRANTY

A. Provide full two-year warranty for standby generator system at the completion of the project. The warranty shall cover all parts, labor and travel expenses necessary for a dependable system for the indicated period. Warranty shall not cover routine maintenance items such as oil, filters and belts.

B. Provide warranty in accordance with Section 260100.

C. The generator set supplier shall have factory-trained service representatives and tooling necessary to install, test, maintain, and repair all provided equipment and shall maintain a dispatch center 24 hours per day, 365 days per year to minimize service response time.

D. The generator set supplier shall have sufficient parts inventory to maintain over the counter availability of at least 90% of any required parts and shall guarantee 100% parts availability within 48 hours from the time an order is entered with the dealer.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with requirements, provide products by the following or equal:

1. Standby Generator:

a. Kohler
b. Caterpillar
c. Onan

2. Automatic Transfer Switch:

a. Asco Series 4000
b. Russelectric

B. Substitutions: Items of equal quality, function, and performance may be proposed for substitution by following the procedures outlined in Section 260100.

2.2 STANDBY GENERATOR SYSTEM

A. Emergency standby generator system shall be suitable for intended use. Ratings of system shall be adequate for proposed full loading. Work shall be coordinated with Division 23 to ensure proper operation of the system.

B. Upon failure of normal power source switch of emergency load to generator shall be within 10 seconds maximum.

2.3 ENGINE-GENERATOR UNIT

A. Provide an alternating current standby #2 diesel fuel engine-driven generator unit as indicated rated for 250KW, 331 KVA] at 0.8 power factor for standby operation, 208/120 volt, three-phase, four-wire, 60 Hz, 1800 rpm, water-cooled, with unit-mounted radiator, heavy-duty engine connected directly to a 4-pole revolving field type single-bearing generator. Equip unit with low oil pressure, low coolant level, high water temperature, over-speed and overcrank automatic safety shutdown.

B. Unit shall be equipped with a Level 1 type control panel including, but not limited to:

1. Visual indication of:

a. overcrank, low water temperature (below 70°F),
b. high engine temperature pre-alarm,
c. high engine temperature,
d. low lube oil pressure pre-alarm,
e. low lube oil pressure,
f. overspeed,
g. low coolant level, EPS supplying load,
h. control switch not in automatic position,
i. high battery voltage,
j. low battery voltage,
k. battery charger AC failure, lamp test.
l. Loss of start circuit integrity

2. Audible alarm indication of:

a. overcrank,
b. low water temperature (below 70°F),
c. high engine temperature pre-alarm
d. high engine temperature
e. low lube oil pressure pre-alarm
f. low lube oil pressure
g. overspeed, low coolant level
h. control switch not in automatic position
i. Loss of start circuit integrity

3. Generator shutdown control of:

a. overcrank
b. high engine temperature
c. low lube oil pressure

d. overspeed.

4. A means shall be provided to shut off the audible signal in the event of an alarm indication but the visual indication would remain on until the condition was rectified. Additional alarm, if specified, shall have indication at this panel. Provide a break-glass emergency manual stop station.
5. The generator controller shall start the generator upon loss of start circuit integrity.

C. Unit shall automatically start upon indication from the automatic transfer switch. Upon transfer of full load, the voltage dip shall not exceed value specified in paragraph 1.03.C, at the rated power factor. Voltage shall be regulated to within 2% of rated value during constant load conditions. Stable operating conditions shall be reestablished within two (2) seconds following any sudden change in load. Generator shall have a manufacturer sized, UL listed, thermal magnetic circuit breaker (with shunt trip device connected to safety shutdowns) on its output. The circuit breaker shall be mounted to be accessible per the NEC.

D. Engine-generator unit shall be installed as indicated on Drawings. Unit shall be mounted on heavy steel base with vibration isolators (Korfund Series L or equal) to reduce the possibility of torsional vibration, and shall conform to seismic requirements. A sufficient number of control wires shall be provided to and from the automatic transfer switch and remote annunciator panel (if specified) for indicated system operation. Critical exhaust silencer shall be provided to minimize the noise emission from the unit. Silencer shall have mounting brackets with isolators to isolate the silencer vibration from the weather housing.

E. Engine shall have electric starting system including rack-mounted 24-volt storage batteries, starting motor alternator, and automatic battery charger. Batteries shall be maintenance-free type with 60-second cranking capability minimum. Battery charger shall be fed from normal power source under normal conditions. Battery shall be charged by alternator when engine/generator unit is in operation. A dual-rate 10 ampere battery charger shall be provided which shall accept 120-volt AC, single-phase input to provide 24-volt DC output. It shall be fused on the AC input and DC output, incorporate current limiting circuitry, and include a DC ammeter and voltmeter. The charger shall be housed in a NEMA 1 enclosure and vibration mounted on the generator set. An automatic disconnect device shall be provided to remove electrical power upon engine start. Wiring for the charger and all controls shall be provided complete and shall be terminated in the Control and Auxiliary Power Enclosure. The charger shall include LED annunciation for low battery voltage, high battery voltage, battery charger malfunction, and AC failure; and dry contacts for battery charger malfunction and low battery voltage; as required by NFPA-110.

F. The exciter shall be a three-phase, brushless, permanent magnet type with full-wave rectified output.

G. Unit shall have 120V electric water jacket heater with thermostat to ease starting in cold weather. Operating temperature shall be as recommended by the manufacturer.

H. Unit shall also have a heated type fuel filter, and generator strip heater.

I. Provide electric solenoid valves equipped with manual operation feature or manual bypass valves.

2.4 AUTOMATIC TRANSFER SWITCH

A. Automatic transfer switch shall be rated for 208/120Y volts, 800 amperes minimum, 4 pole, and interrupting capacity of 65,000 amperes rated with any circuit breaker. Unit shall start standby generator unit when line voltage drops to 75% of normal value, transfer load to generator and retransfer load to normal source when voltage is 90% of normal value. Switch shall be electrically operated and mechanically held with overlapping neutral transfer. Units shall be equipped with

test switch for manual simulation of normal power outage including standby unit operation and load transfer and time-clock exerciser for automatic periodic exercise of engine-generator unit.

B. The automatic transfer switch shall be equipped with time delay features to override momentary normal source outages (up to 5 seconds), on retransfer to normal source (from 0 to 30 minutes) and for unloaded running time cool down (0 to 5 minutes). Adjustable dwell period between sources shall be provided for voltage decay.

C. Indicator lights shall be provided for connection to normal source and for connection to emergency source. As a minimum a normally closed and a normally open contact shall be provided for both, connection to normal source and connection to emergency source.

D. An in-phase monitor shall be provided. The monitor shall control transfer/retransfer operation between live source so that closure on the alternate source will occur only when the two sources are approaching synchronism and are within 60 electrical degrees' maximum so that inrush currents do not exceed normal starting currents. The monitor shall function over a frequency difference range of up to ±2.0 Hz with a maximum operating transfer time of one-sixth of a second. If the voltage of the load carrying source drops below 70%, the in-phase function shall be automatically bypassed. The monitor shall not require interwiring with the generator controls, or active control of the governor.

2.5 REMOTE ANNUNCIATOR PANEL

A. The remote annunciator panel shall be located as indicated on Drawings. The panel shall be a flush-mounted NEMA 1 enclosure with a lockable, hinged door.

B. Unit shall be equipped with a Level 1 type control panel including, but not limited to:

1. Visual indication of:

a. overcrank, low water temperature (below 70°F),
b. high engine temperature pre-alarm,
c. high engine temperature,
d. low lube oil pressure pre-alarm,
e. low lube oil pressure,
f. overspeed,
g. low coolant level, EPS supplying load,
h. control switch not in automatic position,
i. high battery voltage,
j. low battery voltage,
k. battery charger AC failure, lamp test.
l. Loss of start circuit integrity

2. Audible alarm indication of:

a. overcrank,
b. low water temperature (below 70°F),
c. high engine temperature pre-alarm,
d. high engine temperature,
e. low lube oil pressure pre-alarm,
f. low lube oil pressure,
g. overspeed, low coolant level,
h. control switch not in automatic position.
i. Loss of start circuit integrity

3. Generator shutdown control of:

    a. overcrank,
    b. high engine temperature,
    c. low lube oil pressure,
    d. overspeed.

4. A means shall be provided to shut off the audible signal in the event of an alarm indication but the visual indication would remain on until the condition was rectified. Additional alarm, if specified, shall have indication at this panel. Provide a break-glass emergency manual stop station.
5. The generator controller shall start the generator upon loss of start circuit integrity.

2.6 WEATHERPROOF SOUND ATTENUATED ENCLOSURE

A. Provide engine generator unit with a weatherproof housing suitable for the intended location. Housing shall be of 14-gauge steel with sufficient bracing and support and zinc phosphate rust inhibiting primer and two finish coats of color satisfactory to the Owner. Housing shall have lockable doors for unit maintenance with stainless steel hinges and locks. Unit shall have externally-mounted generator stop button with vandal protection, and a window for full view of the control panel.

B. Provide 208/120 volt, three-phase panelboard within enclosure to power all generator appurtenances. Provide all necessary branch circuits to power generator accessories indicated above.

C. If the housing will not accept the panelboard due to the size of the generator, the panelboard shall be provided exterior to the housing as indicated on the drawings with branch circuits extended as required.

D. A ground bus bar shall be provided within the enclosure for equipment grounding of the generator and base. The generator neutral conductor shall be connected to the ground bar.

2.7 EXHAUST SYSTEM

A. A complete exhaust system shall be provided by the generator manufacturer. The silencer, piping, and associated fittings shall not impose more than 27 inches H_2O restriction, and shall include aluminized side-in, end-out exhaust silencer limiting exhaust noise to a maximum 85 dBA measured at 10 feet. Silencer shall include a rain cap and provisions for draining moisture. Provide stainless steel flexible connection and mating weld flanges, gaskets, and Grade 8 hardware. Exhaust silencer shall be mounted within the weatherproof generator enclosure.

2.8 SKID-MOUNTED FUEL TANK

A. The emergency generator shall be supplied fuel by a double-wall, skid-mounted fuel tank located as indicated on the Drawings. The skid-mounted fuel tank shall also have alarm indication for high fuel, low fuel, and shutdown of the generator due to very low fuel, as a minimum. These alarms shall be tied into and have indication at the generator control panel and the generator annunciator panel.

B. The skid-mounted fuel tank operation shall be controlled by the level in the tank. The two control levels in the skid-mounted fuel tank shall be as follows:

1. Level 2: If the fuel level drops below this level the low level alarm shall activated.
2. Level 3 (lowest): If the fuel level drops below this level, the generator shall shut off.

C. These levels shall be set by the manufacturer. The skid-mounted fuel tank shall also have a vent to the outside per the manufacturer. A weather cap shall be on the outside end of the vent.

D. The capacity of the skid-mounted fuel tank shall be such as to provide fuel for a minimum of 24 hours of standby use.

E. Provide a tank overfill audible and visual alarm at the tank fill location, visible to the person filling the tank. Set tank overfill alarm at 90% of tank capacity.

F. Provide an NFPA-compliant sign on the tank indicating tank identification number, capacity, and safe fill height or volume. The sign shall be completely visible and hall be located directly adjacent to the tank fill line.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Installation of all emergency power system equipment shall be in accordance with the manufacturer's written instructions and with recognized industry practices to ensure that the system fulfills requirements. Comply with NFPA and NEMA standards pertaining to installation of engine-generator systems and accessories.

B. Provide equipment grounding connections, sufficiently tight to assure a permanent and effective ground for system components.

C. Upon completion of installation of engine-generator system and after building circuitry has been energized with normal power source, test engine-generator and associated equipment in accordance with Section 260800 to demonstrate standby capability and compliance with requirements. Engineer shall be notified five (5) days prior to the test.

D. Cooling system shall have manufacturer-recommended percentage of glycol added.

E. Phase sequencing between normal and emergency power sources shall be coordinated.

F. The Contractor shall coordinate with the environmental permitting agency (DEC) and provide all permits, inspections, and certifications required, and shall include all auxiliary devices as required by the permit.

G. The Contractor shall provide fuel for all testing and start-up services and a full tank of fuel at the completion of the project before turn-over to Owner.

END OF SECTION

ASCO Power Technologies™

ASCO 7000 SERIES
Power Transfer Switches
Technical Data and Ordering Information

ascopower.com

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ASCO 7000 Series ORDERING INFORMATION

To order an ASCO 7000 SERIES Power Transfer Switch, complete the following catalog number:

J	+	07ATS	+	A	+	3	+	0600	+	N	+	5X	+	C

Frame	Transition Type	Neutral Code	Phase Poles	Amperes	Voltage Code	Group Code	Enclosure
D[1] = 30A-230A ATS & NTS Only J = 150A-600A H = 800A-1200A G = 1600A-4000A	**Automatic** 07ATS Automatic, Conventional 2 - position 7ACTS Automatic, Closed Transition 7ADTS Automatic, Delayed Transition 07ATB Automatic, Open Transition Bypass 7ACTB Automatic, Closed Transition Bypass 7ADTB Automatic, Delayed Transition Bypass **Non-Automatic** 07NTS Non Automatic, Conventional 2 - position 7NCTS Non Automatic, Closed Transition 7NDTS Non Automatic Delayed Transition 7NTB Non Automatic, Open Transition Bypass 7NCTB Non Automatic, Closed Transition Bypass 7NDTB Non Automatic, Delayed Transition Bypass	**0** = No Neutral **A** = Solid Neutral **B**[2] = Switched Neutral **C** =Overlapping Neutral	2 3	0030 0070 0100 0150 0200[1] 0230[1] 0260 0400 0600 0800 1000 1200 1600 2000 2600 3000 4000	**C** = 208 **D** = 220 **E** = 230 **F** = 240 **H** = 380 **J** = 400 **K** = 415 **L** = 440 **M** = 460 **N** = 480 **P** = 550 **Q** = 575 **R** = 600	**50** No Optional Accessories **5X** Optional Accessories **5Z** VATS **5D** VATS with Distribution Breakers	**0** = Open Type (zero) **C** = Type 1 Enclosure **F** = Type 3R[3] Enclosure **G** = Type 4 Enclosure **L** = Type 12 Enclosure **M** = Type 3R[3] Secure Double Door[4] Enclosure **N** = Type 4 Secure Double Door[4] Enclosure **Q** =Type 12 Enclosure Double Door[4] Enclosure **S** = Type 3RX Secure Double Door[4] Enclosure (316 Stainless Steel) **U** = Type 4X Enclosure (316 Stainless Steel) **V** = Type 4X Secure Double Door[4] Enclosure (316 Stainless Steel)

Notes:

1. 225 and 230 amp switch limited to 480 volts maximum, for D7ATS only.
2. Conventional switched neutral is provided on closed and delayed transition transfer products when specified. Overlapping neutral not available on delayed and closed transition designs.
3. Type 3R enclosures are not suitable for installations likely to experience windblown snow or rain conditions.
4. Double door enclosures are door over internal dead front panels/doors. All controls are mounted on internal panel/door. External door is pad-lockable for secure applications.

A comprehensive ASCO Limited Guardian Warranty covers 7000 SERIES Power Transfer Switch(s) and warranties the product to be free of defects in material and workmanship from date of shipment. The warranty provides:

- 2 years for labor and travel expenses (extendable in 1 year increments up to 5 years for a nominal fee).
- 5 years for parts (2 years for circuit breakers).
- 10 years for main contacts.

Refer to Publication 3227 for warranty details, terms and conditions.

The Example Catalog Number above is J07ATSA30600N5XC

ASCO 7000 Series ORDERING INFORMATION — POWER CONNECTION DETAILS

Transfer Switch Configurations 7ATS, 7NTS, 7ADTS, 7ACTS, 7NDTS, 7NCTS

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	
		Open Type	Enclosed Type
D[1] Frame 30-230A ATS & NTS Only	One	#14 to 4/0 AWG	#14 to 4/0 AWG
J Frame 150 - 400A	One	#4 AWG to 600 MCM	#4 AWG to 600 MCM
	Two	#1/0 AWG to 600 MCM	#1/0 AWG to 600 MCM
J Frame 600A	Two	#1/0 AWG to 600 MCM	#1/0 AWG to 600 MCM
H Frame 600A	Two	#1/0 AWG to 600 MCM	#1/0 AWG to 600 MCM
H Frame 800 - 1200A	Four	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 1000 - 1200A	Four	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 1600 - 2000A	Six	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 2600 - 4000A[2]	Twelve	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM

Notes:

1. 200 and 230 amp rating for copper conductors only for transfer switch configurations only.
2. All main terminals are rear connected. All other units are front connected as standard, rear connected optional via accessory.

Transfer Switch Configurations 7ATB, 7NTB, 7ADTB, 7ACTB, 7NDTB, 7NCTB

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

Switch Rating Amps	Max # of Conductors per Terminal	Range of AL-CU Conductor Sizes	
		Open Type	Enclosed Type
J Frame 150 - 400A	One	#4 AWG to 600 MCM	#4 AWG to 600 MCM
	Two	#1/0 AWG to 600 MCM	#1/0 AWG to 600 MCM
J Frame 600A	Two	#2 AWG to 600 MCM	#2 AWG to 600 MCM
H Frame (Front & Rear Connected) 600A	Two	#2 AWG to 600 MCM	#2 AWG to 600 MCM
H Frame (Front Connected) 800 - 960A	Three	#1/0 AWG to 600 MCM	#1/0 AWG to 600 MCM
H Frame (Rear Connected) 800 – 1200A	Four	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 1000 - 1200A[1]	Four	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 1600 – 2000A[1]	Six	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 2600 – 3000A[1]	Ten	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 4000A[1]	Twelve	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM

Notes:

1. All main terminals are rear connected

ASCO 7000 Series DESIGNED TO FIT ANYWHERE

Automatic Transfer Switching – Open Transition: 7ATS and 7NTS

Dimensions and Shipping Weights*

Frame	Switch Ratings Amp	Neutral Type & Poles	Type 1 Enclosure[1]				Open Switch Configuration			
			Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)	Width In (mm)	Height In (mm)	Depth In (mm)	Open[2] lb (kg)
D	30, 70, 100	02 or A2	18 (457)	48 (1219)	13 (330)	70 (32)	10 (260)	10 (260)	5.5 (140)	30 (14)
		03 or A3				80 (36)				35 (16)
		B3 or C3				85 (39)				40 (18)
D	150, 200, 230	02 or A2	18 (457)	48 (1219)	13 (330)	115 (52)	10 (260)	10 (260)	5.5 (140)	35 (16)
		03 or A3				120 (55)				40 (18)
		B3 or C3				130 (59)				45 (21)
J	150, 260, 400	02 or A2	24 (610)	56 (1422)	14 (356)	270 (123)	19 (470)	25 (635)	8 (203)	220 (100)
		03 or A3				280 (128)				230 (105)
		B3 or C3				290 (132)				240 (109)
J	600	02 or A2	24 (610)	63 (1600)	17 (432)	270 (123)	19 (470)	30 (762)	10 (251)	260 (119)
		03 or A3				280 (128)				270 (123)
		B3 or C3				290 (132)				280 (128)
H	600, 800, 1000	02 or A2	34 (864)	72 (1829)	20 (508)	470 (214)	27 (686)	31 (787)	13 (327)	260 (119)
		03 or A3				480 (219)				270 (123)
		B3 or C3				490 (223)				280 (128)
H	1200	02 or A2	38 (965)	87 (2210)	23 (584)	670 (308)	27 (686)	31 (787)	13 (327)	300 (137)
		03 or A3				680 (310)				310 (141)
		B3 or C3				690 (315)				320 (146)
G	1000, 1600[3], 2000[3]	02 or A2	38 (965)	91 (2311)	48 (1219)	1330 (606)	33 (845)	28 (711)	26 (667)	450 (205)
		03 or A3				1350 (616)				470 (214)
		B3 or C3				1400 (638)				500 (228)
G	1600, 2000 (Front Connected)[4]	02 or A2	38 (965)	87 (2210)	23(584)	1300 (590)	33 (845)	28 (711)	26 (667)	450 (205)
		03 or A3				1345 (612)				470 (214)
		B3 or C3				1390 (635)				500 (228)
G	2600[3], 3000[3]	02 or A2	38 (965)	91 (2311)	60 (1524)	2150 (980)	33 (845)	29 (711)	31 (781)	890 (406)
		03 or A3				2180 (994)				920 (420)
		B3 or C3				2230 (1017)				1000 (456)
G	4000[3]	02 or A2	60 (1524)	92 (2311)	72 (1829)	2250 (1026)	60 (1524)	70 (1778)	53 (1272)	990 (451)
		03 or A3				2280 (1040)				1020 (465)
		B3 or C3				2330 (1062)				1100 (502)

Notes:

1. Consult ASCO for dimensions on enclosures other than UL type 1.
2. Open weights include transfer switch and controller. 1200-4000 amp enclosures require ventilation openings, refer to drawing for details.
3. Enclosures are free-standing with removable top, sides, and back.
4. Order accessory 40MY for 1600A and 40NY for 2000A Front Connected (F/C) design.

*All dimensions and weights shown are approximate and should not be used for construction purposes. Verified dimensions can be furnished upon request.

ASCO 7000 Series DESIGNED TO FIT ANYWHERE

Automatic Transfer Switching – Closed and Delayed Transition: 7ACTS, 7ADTS, 7NCTS, 7NDTS

Dimensions and Shipping Weights*

Frame	Switch Ratings Amp	Neutral Type & Poles	Type 1 Enclosure[1]				Open Switch Configuration[2]			
			Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)	Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)
J	150, 200, 230, 260, 400	03	24 (610)	56 (1422)	14 (356)	320 (146)	18.5 (470)	25 (635)	8 (203)	220 (100)
		B3				330 (150)				230 (105)
J	600	03	24 (610)	63 (1600)	17 (432)	380 (173)	19 (483)	30 (762)	10 (251)	260 (119)
		B3				390 (178)				270 (123)
H	600, 800, 1000	03	34 (864)	72 (1829)	20 (508)	480 (219)	27 (686)	31 (787)	13 (327)	360 (164)
		B3				490 (223)				370 (169)
H	1200	03	38 (965)	87 (2210)	23 (584)	680 (310)	27 (686)	31 (787)	13 (327)	360 (164)
		B3				690 (315)				380 (173)
G	1000, 1600[3], 2000[3]	03	38 (965)	91 (2311)	48 (1219)	1350 (616)	33 (845)	28 (711)	26 (667)	580 (264)
		B3				1400 (638)				600 (274)
G	1600, 2000 (Front Connected)[4]	03	38 (965)	87 (2210)	23.5 (597)	1345 (612)	33 (845)	28 (711)	26 (667)	580 (264))
		B3				1390 (635)				600 (274)
G	2600[3], 3000[3]	03	38 (965)	91 (2311)	60 (1524)	2180 (994)	33 (845)	29 (711)	31 (781)	1060 (483)
		B3				2230 (1017)				1100 (502)
G	4000[3]	03	60 (1524)	92 (2311)	72 (1829)	2290 (1044)	60 (1524)	70 (1778)	53 (1272)	1060 (483)
		B3				2380 (1085)				1140 (520)

Notes:

1. Consult ASCO for dimensions on enclosures other than UL type 1.
2. Open weights include transfer switch and control panel. 1200-4000 amp enclosures require ventilation openings, refer to drawings for details.
3. Enclosures are free-standing with removable top, sides, and back.
4. Order accessory 40MY for 1600A and 40NY for 2000A front connected design.

*All dimensions and weights shown are approximate and should not be used for construction purposes. Verified dimensions can be furnished upon request

ASCO 7000 Series DESIGNED TO FIT ANYWHERE

Automatic Transfer Bypass-Isolation – Open Transition: 7ATB, 7NTB

Dimensions and Shipping Weights*

Frame	Switch Ratings Amp	Neutral Type & Poles	Type 1 Enclosure[1]				Open Switch Configuration[2]			
			Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)	Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)
J	150, 200, 230, 260, 400 (Front Connected)	02 or A2	34 (864)	85 (2159)	28 (711)	1230 (561)	34 (864)	85 (2159)	28 (711)	1100 (502)
		03 or A3				1240 (565)				1110 (506)
		B3 or C3				1260 (575)				1130 (515)
J	600 (Front Connected)	02 or A2	34 (864)	85 (2159)	28 (711)	1290 (588)	34 (864)	85 (2159)	28 (711)	1190 (543)
		03 or A3				1300 (593)				1200 (547)
		B3 or C3				1320 (602)				1220 (556)
H	600, 800 (Front Connected)[3]	03 or A3	38 (965)	91 (2311)	32 (813)	1400 (638)	38 (965)	72 (1829)	38 (965)	1260 (575)
		B3 or C3				1420 (648)				1280 (584)
H	1000, 1200 (Front Connected)[3]	03 or A3	38 (965)	91 (2311)	34 (864)	1430 (650)	38 (965)	72 (1829)	38 (965)	1290 (588)
		B3 or C3				1450 (659)				1310 (597)
H	600, 800, 1000 (Rear Connected)	03 or A3	38 (965)	91 (2311)	48 (1219)	1720 (784)	38 (965)	72 (1829)	38 (965)	1260 (575)
		B3 or C3				1740 (793)				1280 (584)
H	1200 (Rear Connected)[4]	03 or A3	38 (965)	91 (2311)	48 (1219)	1820 (830)	38 (965)	72 (1829)	38 (965)	1290 (588)
		B3 or C3				1840 (839)				1310 (597)
G	1000, 1600, 2000 (Front Connected)[4]	03 or A3	38 (965)	91 (2311)	60 (1524)	2360 (1076)	38 (965)	72 (1829)	38 (965)	1500 (684)
		B3 or C3				2540 (1158)				1680 (766)
G	2600, 3000 (Rear Connected)[4]	03 or A3	38 (965)	91 (2311)	72 (1829)	2730 (1245)	38 (965)	72 (1829)	38 (965)	1690 (771)
		B3 or C3				3360 (1532)				2290 (1044)
G	4000 (Rear Connected)[4]	03 or A3	60 (1524)	92 (2311)	96 (2438)	6300 (2873)	60 (1524)	91 (2311)	96 (2438)	5153 (2338)
		B3 or C3				6900 (3146)				5500 (2495)

Notes:

1. Handles extend 6-1/4 inches (159mm).
2. Open weights include transfer switch, bypass-isolation switch and controller. 1600-4000 amp enclosures require ventilation openings, refer to drawings for details.
3. Specify optional accessory 40J Y for 800 Amp front, 40KY for 1000 Amp, and 40LY for 1200 Amp - front connected arrangement. All service and load cables limited to top entry only.
4. Recommended clearance to enclosure: 3 feet (914mm) from rear, 4 feet (1219mm) from front (25 inches required for transfer switch draw out). Side or rear access required.

*All dimensions and weights shown are approximate and should not be used for construction purposes. Verified dimensions can be furnished upon request.

ASCO 7000 Series DESIGNED TO FIT ANYWHERE

Automatic Transfer Bypass-Isolation: Closed and Delayed Transition: 7ACTB, 7ADTB, 7NCTB, 7NDTB

Dimensions and Shipping Weights*

Frame	Switch Ratings Amp	Neutral Type & Poles	Type 1 Enclosure[1]				Open Switch Configuration[2]			
			Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)	Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)
J	150, 200, 230, 260, 400 (Front Connected)	02 or A2	34 (864)	85 (2159)	28 (711)	1255 (572)	34 (864)	85 (2159)	28 (711)	1125 (513)
		03 or A3				1265 (577)				1135 (518)
		B3 or C3				1285 (586)				1155 (527)
J	600 (Front Connected)	02 or A2	34 (864)	85 (2159)	28 (711)	1315 (600)	34 (864)	85 (2159)	28 (711)	1215 (554)
		03 or A3				1325 (604)				1225 (559)
		B3 or C3				1345 (613)				1245 (568)
H	600[3], 800[3] (Front Connected)	03 or A3	38 (965)	91 (2311)	32 (813)	1425 (650)	38 (965)	72 (1829)	38 (965)	1285 (586))
		B3 or C3				1445 (659)				1280 (595)
H	1000[3], 1200[3] (Front Connected)	03 or A3	38 (965)	91 (2311)	34 (864)	1425 (650)	38 (965)	72 (1829)	38 (965)	1315 (600)
		B3 or C3				1445 (659)				1335 (609)
H	600[4], 800[4], 1000[4] (Rear Connected)	03 or A3	38 (965)	91 (2311)	48 (1219)	1745 (796)	38 (965)	72 (1829)	38 (965)	1285 (586)
		B3 or C3				1765 (805)				1280 (595)
H	1200[4] (Rear Connected)	03 or A3	38 (965)	91 (2311)	48 (1219)	1845 (841)	38 (965)	72 (1829)	38 (965)	1315 (600)
		B3 or C3				1865 (850)				1335 (609)
G	1000, 1600[4], 2000[4] (Rear Connected)	03 or A3	38 (965)	91 (2311)	60 (1524)	2385 (1088)	38 (965)	72 (1829)	38 (965)	1525 (695)
		B3 or C3				2565 (1170)				1705 (777)
G	2600[4], 3000[4] (Rear Connected)	03 orA3	38 (965)	91 (2311)	72 (1829)	2755 (1256)	38 (965)	72 (1829)	38 (965)	1715 (782)
		B3 or C3				3385 (1544)				2315 (1056)
G	4000[4] (Rear Connected)	03 orA3	60 (1524)	91 (2311)	96 (2438)	6325 (2884)	60 (1524)	91 (2311)	96 (2438)	6280 (2849)
		B3 or C3				6925 (3158)				6450 (2926)

Notes:

1. Handles extend 6-1/4 inches (159mm).
2. Open weights include transfer switch, bypass-isolation switch and controller. 1600-4000 amp enclosures require ventilation openings, refer to drawings for details.
3. Specify optional accessory 40J Y for 800 Amp front, 40KY for 1000 Amp, and 40LY for 1200 Amp - connected arrangement. All service and load cables limited to top entry only.
4. Recommended clearance to enclosure: 3 feet (914mm) from rear, 4 feet (1219mm) from front (25 inches required for transfer switch draw out). Side or rear access required.

*All dimensions and weights shown are approximate and should not be used for construction purposes. Verified dimensions can be furnished upon request.

ASCO 7000 Series 30 CYCLE ORDERING INFORMATION

To order an ASCO 7000 SERIES Power Transfer Switch, complete the following catalog number:

P	+	07ATS	+	A	+	3	+	0600	+	N	+	5X	+	C

Frame	Transition Type	Neutral Code	Phase Poles	Amperes	Voltage Code	Group Code	Enclosure
P = 600A - 800A ATS/CTS/DTS **P** = 600A - 1200A ATB/ACTB/ADTB **Q** = 600A - 1600A **S** = 800A - 2000A **G** = 1600A - 4000A **U** = 2600A - 4000A	**Automatic** 07ATS Automatic , Conventional 2 - position 7ACTS Automatic, Closed Transition 7ADTS Automatic, Delayed Transition 07ATB Automatic, Open Transition Bypass 7ACTB Automatic, Closed Transition Bypass 7ADTB Automatic, Delayed Transition Bypass **Non-Automatic** 07NTS Non Automatic, Conventional 2 - position 7NCTS Non Automatic, Closed Transition 7NDTS Non Automatic, Delayed Transition 7NTB Non Automatic, Open Transition Bypass 7NCTB Non Automatic, Closed Transition Bypass 7NDTB Non Automatic, Delayed Transition Bypass	**0** = No Neutral **A** = Solid Neutral **B**[1] = Switched Neutral	3	0600 0800 1000 1200 1600 2000 2600 3000 4000	**C** = 208 **D** = 220 **E** = 230 **F** = 240 **H** = 380 **J** = 400 **K** = 415 **L** = 440 **M** = 460 **N** = 480 **P** = 550 **Q** = 575 **R** = 600	**50** No Optional Accessories **5X** Optional Accessories **5Z** VATS **5D** VATS with Distribution Breakers	**0** = Open Type (zero) **C** = Type 1 Enclosure **M** = Type 3R[2] Secure Double Door[3] Enclosure **N** = Type 4 Secure Double Door[3] Enclosure **Q** = Type 12 Enclosure Double Door[3] Enclosure **S** = Type 3RX[2] Secure Double Door[3] Enclosure (316 Stainless Steel) **V** = Type 4X Secure Double Door[3] Enclosure (316 Stainless Steel)

Notes:
1. Conventional switched neutral is provided on closed and delayed transition transfer products when specified.
2. Type 3R enclosures are not suitable for installations likely to experience windblown snow or rain conditions.
3. Double door enclosures are door over internal dead front panels/doors. All controls are mounted on internal panel/door. External door is pad-lockable for secure applications.

A comprehensive ASCO Limited Guardian Warranty covers 7000 SERIES Power Transfer Switch(s) and warranties the product to be free of defects in material and workmanship from date of shipment. The warranty provides:

- 2 years for labor and travel expenses (extendable in 1 year increments up to 5 years for a nominal fee).
- 5 years for parts (2 years for circuit breakers).
- 10 years for main contacts.

Refer to Publication 3227 for warranty details, terms and conditions.

The Example Catalog Number above is P07ATSA30600N5XC

ASCO 7000 Series DESIGNED TO FIT ANYWHERE

30 Cycle Automatic Transfer Switch (Non-Bypass) & Bypass - Isolation Switch 7ATS, 7NTS, 7ACTS, 7ADTS, 7NTCS, 7NDTS, 7ATB, 7NTB, 7ACTB, 7ADTB, 7NCTB, 7NTB

Dimensions and Shipping Weights*

Frame	Switch Ratings Amp	Switch Configuration	Type 1 Enclosure[1, 2] Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)
P	600 - 800A (Front Connected ATS)	ATS/NTS	34 (864)	72 (1829)	20 (508)	470 (214)
		ACTS, ADTS, NCTS, NDTS				480 (219)
	600 - 800A (Front Connected BPS)	ATB/NTB	38 (965)	91 (2311)	48 (1219)	1420 (648)
		ACTB, ADTB, NCTB, NDTB				1445 (659)
Q	600 - 1600A (Front Connected ATS)	ATS/NTS	38 (965)	87 (2210)	23 (584)	1005 (458)
		ACTS, ADTS, NCTS, NDTS				1105 (504)
	600 - 1600A (Rear Connected BPS)	ATB/NTB	38 (965)	91 (2311)	60 (1524)	2385 (1086)
		ACTB, ADTB, NCTB, NDTB				2485 (1131)
S[3]	800 - 2000A (Rear Connected ATS)	ATS/NTS	38 (965)	91 (2311)	60 (1524)	1645 (749)
		ACTS, ADTS, NCTS, NDTS				1745 (794)
	800 - 2000A (Rear Connected BPS)	ATB/NTB	38 (965)	87 (2210)	23.5 (597)	2890 (1318)
		ACTB, ADTB, NCTB, NDTB				2990 (1364)
G[3]	1600 - 2000A (Front & Rear Connected ATS)	ATS/NTS	38 (965)	91 (2311)	48 (1219)	1350 (616)
		ACTS, ADTS, NCTS, NDTS				1400 (638)
	1600 - 2000A (Rear Connected BPS)	ATB/NTB	38 (965)	91 (2311)	60 (1524)	2385 (1088)
		ACTB, ADTB, NCTB, NDTB				2565 (1170)
	2600 - 3000A (Rear Connected ATS)	ATS/NTS	38 (965)	91 (2311)	60 (1524)	2180 (994)
		ACTS, ADTS, NCTS, NDTS				2230 (1017)
	2600 - 3000A (Rear Connected BPS)	ATB/NTB	60 (1524)	91 (2311)	72 (1829)	2930 (1329)
		ACTB, ADTB, NCTB, NDTB				3360 (1532)
	4000A (Rear Connected ATS)	ATS/NTS	60 (1524)	91 (2311)	72 (1829)	2290 (1044)
		ACTS, ADTS, NCTS, NDTS				2380 (1085)
	4000A (Rear Connected BPS)	ATB/NTB	60 (1524)	91 (2311)	96 (2438)	6325 (2884)
		ACTB, ADTB, NCTB, NDTB				6925 (3158)
U[3]	2600[1], 3000A[1] (Rear Connected ATS)	ATS/NTS	60 (1524)	91 (2311)	72 (1829)	5200 (2373)
		ACTS, ADTS, NCTS, NDTS				5300 (2418)
	2600[4], 3000A[4] (Rear Connected BPS)	ATB/NTB	60 (1524)	91 (2311)	96 (2438)	6700 (3057)
		ACTB, ADTB, NCTB, NDTB				6725 (3069)
U[3]	4000 A (Rear Connected ATS)	ATS/NTS	60 (1524)	91 (2311)	72 (1829)	5400 (2464)
		ACTS, ADTS, NCTS, NDTS				5600 (2555)
	4000A[4] (Rear Connected BPS)	ATB/NTB	60 (1524)	91 (2311)	96 (2438)	6900 (3149)
		ACTB, ADTB, NCTB, NDTB				6925 (3160)

Notes:
1. Consult ASCO for dimensions on enclosure other than UL Type 1.
2. For Bypass-Isolation Switches Only: handles extend 6-1/4 inches (159 mm).
3. Enclosures are free standing with removable top, sides and back.
4. Recommended clearance to enclosure: 3 feet (914 mm) from rear, 4 feet (1219 mm) from front (25 inches required for transfer switch draw out).

30 Cycle Automatic Transfer Switch Configurations 7ATS, 7NTS, 7ACTS, 7ADTS, 7NCTS, 7NDTS, 7ATB, 7NTB, 7ACTB, 7NCTB, 7ADTB, 7NDTB

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	
		Open Type	Enclosed Type
P Frame 600A	Two	#2 AWG to 600 MCM	#2 AWG to 600 MCM
P Frame 800 - 1200A	Four	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
Q Frame 600 - 1200A	Four	300 MCM to 600 MCM	300 MCM to 600 MCM
Q Frame 1600A	Six	300 MCM to 600 MCM	300 MCM to 600 MCM
S Frame 800 - 1200A	Four	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
S Frame 1600 - 2000	Six	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 1600 - 2000A	Six	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 2600 - 3000A	Ten	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
U Frame 2600 - 4000[2]	Twelve	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM

Notes:
1. Unit is designed for top cable entry of emergency and load and bottom entry of normal
2. All main terminals are rear connected.

* All dimensions and weights shown are approximate and should not be used for construction purposes. Verified dimensions can be furnished upon request.

ASCO 7000 SERIES SERVICE ENTRANCE POWER TRANSFER SWITCHES ORDERING INFORMATION

To order an ASCO 7000 SERIES Power Transfer Switch, complete the following catalog number:

J	+	07AUS	+	A	+	3	+	0600	+	N	+	5X	+	C

Frame	Transition Type[5]	Neutral Code	Phase Poles	Amperes	Voltage Code	Group Code	Enclosure
D = 70A - 225A AUS/NUS Only **J** = 150A - 600A 150A - 225A: DTTS / CTTS Only **H** = 600-1200A **G** = 1000-4000A	**Automatic** 07AUS Automatic, Conventional 2 - position 7ACUS Automatic, Closed Transition 7ADUS Automatic, Delayed Transition 07AUB Automatic, Open Transition Bypass 7ACUB Automatic, Closed Transition Bypass 7ADUB Automatic, Delayed Transition Bypass **Non-Automatic** 07NUS Non Automatic, Conventional 2 - position 7NCUS Non Automatic, Closed Transition 7NDUS Non Automatic, Delayed Transition 07NUB Non Automatic, Open Transition Bypass 7NCUB Non Automatic, Closed Transition Bypass 7NDUB Non Automatic, Delayed Transition Bypass	**A** = Solid Neutral **B**[1] = Switched Neutral **C** = Overlapping Neutral	2 3	0070 0100 0150 0200 0225 0260 0400 0600 0800 1000 1200 1600 2000 2500 3000 4000	**C** = 208 **D** = 220 **E** = 230 **F** = 240 **H** = 380 **J** = 400 **K** = 415 **L** = 440 **M** = 460 **N** = 480 **P** = 550 **Q** = 575 **R** = 600	**50** No Optional Accessories **5X** Optional Accessories **5Z** VATS **5D** VATS Distribution	**C** = Type 1 Enclosure **M** = Type 3R[2] Secure Double Door[4] Enclosure **N** = Type 4 Secure Double Door[4] Enclosure **Q** = Type 12 Enclosure Double Door[4] Enclosure **S** = Type 3RX[3] Secure Double Door[4] Enclosure (316 Stainless Steel) **V** = Type 4X Secure Double Door[4] Enclosure (316 Stainless Steel)

Notes:
1. Conventional switched neutral is provided on closed and delayed transition transfer products when specified.
2. CAUTION: Type 3R enclosures are not suitable for installations likely to experience windblown snow or rain conditions.
3. Type 3RX limited to 1600 - 4000 amperes only.
4. Double door enclosures are door over internal dead front panels/doors. All controls are mounted on internal panel/door. External door is pad-lockable for secure applications.
5. AUS represents a switch with a utility service entrance breaker. In addition to the AUS, ASCO offers AGS - Generator breaker, APS - Utility and Generator breaker, and ARS - Utility and Generator breaker, dual service entrance.

A comprehensive ASCO Limited Guardian Warranty covers 7000 SERIES Power Transfer Switch(s) and warranties the product to be free of defects in material and workmanship from date of shipment. The warranty provides:

- 2 years for labor and travel expenses (extendable in 1 year increments up to 5 years for a nominal fee).
- 5 years for parts (2 years for circuit breakers).
- 10 years for main contacts.

Refer to Publication 3227 for warranty details, terms and conditions.

The Example Catalog Number above is J07AUSA30600N5XC
(X is used to specify optional accessories).

ASCO 7000 SERIES DESIGNED TO FIT ANYWHERE

Service Entrance Power Transfer Switches (Non-Bypass): 7AUS, 7NUS, 7ADUS, 7NDUS, 7ACUS, 7NCUS

Dimensions and Shipping Weights*

Frame	Switch Ratings Amp	Type 1 Enclosure[1]				Open Switch Configuration[2]			
		Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)	Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)
D	70, 100, 150, 200, 225 7AUS/7NUS Only	36.5 (927)	48.5 (1232)	13.25 (337)	490 (226)	36 (914)	48 (1219)	16 (406)	540 (249)
J	150, 250, 400	38 (965)	91 (2311)	28 (711)	880 (407)	41 (1041)	95 (2426)	33 (838)	1880 (544)
J	200, 225 7ADUS/7NDUS and 7ACUS/7NCUS only	38 (965)	91 (2311)	28 (711)	880 (407)	41 (1041)	95 (2426)	33 (838)	1880 (544)
J	600[2]	38 (965)	91 (2311)	28 (711)	980 (452)	41 (1041)	95 (2426)	33 (838)	1280 (590)
H	600, 800[2]	38 (965)	91 (2311)	28 (711)	1280 (590)	41 (1041)	95 (2426)	33 (838)	1480 (683)
H	1000[2]	38 (965)	91 (2311)	48 (1219)	1280 (590)	41 (1041)	95 (2426)	62 (1575)	1480 (683)
H	1200[2]	38 (965)	91 (2311)	48 (1219)	1480 (683)	41 (1041)	95 (2426)	62 (1575)	1940 (895)
G	1000, 1600[2], 2000[2]	38 (965)	91 (2311)	48 (1219)	1800 (831)	41 (1041)	95 (2426)	62 (1575)	2200 (1015)
G	2600[2], 3000[2]	38 (965)	91 (2311)	72 (1829)	2180 (1006)	41 (1041)	95 (2426)	85 (2159)	2854 (1317)
G	4000[2]	60 (1524)	91 (2311)	72 (1829)	3485 (1606)	63 (1600)	100 (2540)	91 (2311)	4300 (1981)

Notes:
1. Type 3R enclosures are not suitable for installations likely to experience windblown snow or rain conditions.
2. Unit is designed for top and bottom cable entry for all services and load.

*All dimensions and weights shown are approximate and should not be used for construction purposes. Verified dimensions can be furnished upon request.

A comprehensive ASCO Limited Guardian Warranty covers 7000 SERIES Power Transfer Switch(s) and warranties the product to be free of defects in material and workmanship from date of shipment. The warranty provides:

- 2 years for labor and travel expenses (extendable in 1 year increments up to 5 years for a nominal fee).
- 5 years for parts (2 years for circuit breakers).
- 10 years for main contacts.

Refer to Publication 3227 for warranty details, terms and conditions.

ASCO 7000 SERIES SERVICE ENTRANCE POWER TRANSFER SWITCH 30 CYCLE ORDERING INFORMATION

To order an ASCO 7000 SERIES 30 Cycle Service Entrance Power Transfer Switch, complete the following catalog number:

P	+	07AUS	+	A	+	3	+	0600	+	N	+	5X	+	C

Frame	Transition Type	Neutral Code	Phase Poles	Amperes	Voltage Code	Group Code	Enclosure
P = 600A - 800A AUS/CUS/DUS Only **P** = 600A - 1200A AUB/CUB/DUB Only **Q** = 600A - 1600A **S** = 800A - 2000A **G** = 1600A - 4000A **U** = 2600A - 4000A	**Automatic** 07ATS Automatic , Conventional 2 - position 7ACTS Automatic, Closed Transition 7ADTS Automatic, Delayed Transition 07ATB Automatic, Open Transition Bypass 7ACTB Automatic, Closed Transition Bypass 7ADTB Automatic, Delayed Transition Bypass **Non-Automatic** 07NTS Non Automatic, Conventional 2 - position 7NCTS Non Automatic, Closed Transition 7NDTS Non Automatic, Delayed Transition 7NTB Non Automatic, Open Transition Bypass 7NCTB Non Automatic, Closed Transition Bypass 7NDTB Non Automatic, Delayed Transition Bypass	**A** = Solid Neutral **B**[1] = Switched Neutral	2 3	0600 0800 1000 1200 1600 2000 2600 3000 4000	**C** = 208 **D** = 220 **E** = 230 **F** = 240 **H** = 380 **J** = 400 **K** = 415 **L** = 440 **M** = 460 **N** = 480 **P** = 550 **Q** = 575 **R** = 600	**50** No Optional Accessories **5X** Optional Accessories **5Z** VATS **5D** VATS with Distribution Breakers	**C** = Type 1 Enclosure **M** = Type 3R[2] Secure Double Door[4] Enclosure **N** = Type 4 Secure Double Door[4] Enclosure **Q** = Type 12 Double Door[4] Enclosure **S** = Type 3RX[2] Secure Double Door[4] Enclosure (316 Stainless Steel) **V** = Type 4X Secure Double Door[4] Enclosure (316 Stainless Steel)

Notes:
1. Conventional switched neutral is provided on closed and delayed transition transfer products when specified.
2. Type 3R enclosures are not suitable for installations likely to experience windblown snow or rain conditions.
3. Double door enclosures are door over internal dead front panels/doors. All controls are mounted on internal panel/door. External door is pad-lockable for secure applications.

A comprehensive ASCO Limited Guardian Warranty covers 7000 SERIES Power Transfer Switch(s) and warranties the product to be free of defects in material and workmanship from date of shipment. The warranty provides:

- 2 years for labor and travel expenses (extendable in 1 year increments up to 5 years for a nominal fee).
- 5 years for parts (2 years for circuit breakers).
- 10 years for main contacts.

Refer to Publication 3227 for warranty details, terms and conditions.

The Example Catalog Number above is P07AUSA30600N5XC

ASCO 7000 SERIES DESIGNED TO FIT ANYWHERE

30 Cycle Service Entrance Power Transfer Switch (Non-Bypass Configurations) Dimensions and Shipping Weights*

Frame	Switch Ratings Amp	Type 1 Enclosure[1]				Type 3R Enclosure[1]			
		Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)	Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)
P	600[1], 800[1] (Front Connected) 7AUS/7NUS Only	38 (965)	91 (2311)	48 (1219)	1800 (821)	41 (1041)	95 (2426)	62 (1575)	2000 (912)
Q	600[1], 800[1], 1000[1], 1200[1], 1600[1] (Front Connected)	38 (965)	91 (2311)	48 (1219)	2000 (912)	41 (1041)	95 (2426)	62 (1575)	2200 (1004)
S	800[1], 1000[1], 1200[1], 1600[1], 2000[1] (Rear Connected)	38 (965)	91 (2311)	72 (1829)	2800 (1278)	41 (1041)	95 (2426)	86 (2184)	3010 (1374)
G	1600 - 2000A (Rear Connected)	38 (965)	91 (2311)	48 (1219)	1800 (831)	41 (1041)	95 (2426)	86 (2184)	2200 (1015)
G	2600 - 3000A (Rear Connected)	38 (965)	91 (2311)	72 (1829)	2180 (1006)	41 (1041)	95 (2426)	62 (1575)	2854 (1317)
G	4000A (Rear Connected)	60 (1524)	91 (2311)	72 (1829)	3485 (1606)	63 (1600)	100 (2538)	91 (2311)	4300 (1981)
U	2600[1], 3000[1] (Rear Connected)	60 (1524)	91 (2311)	72 (1829)	4850 (2213)	60 (1523)	100 (2538)	91 (2311)	5160 (2354)
U	4000[1] (Rear Connected)	60 (1524)	91 (2311)	72 (1829)	4850 (2213)	60 (1523)	100 (2538)	91 (2311)	6800 (3103)

Notes:
1. Type 3R enclosures are not suitable for installations likely to experience windblown snow or rain conditions.

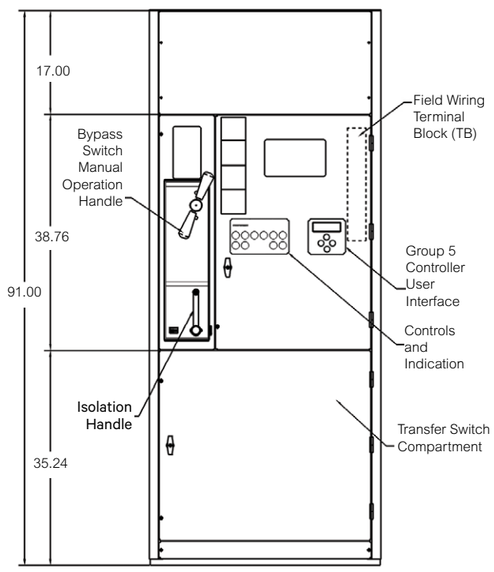
*Dimensional data is approximate and subject to change. Verified dimensions available upon request.

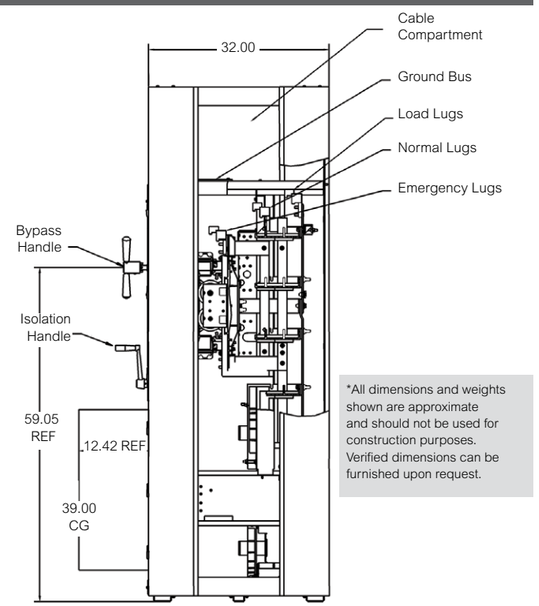
All 30 cycle service entrance enclosures are freestanding and designed for top and bottom cable entry for all services and load.

ASCO 7000 SERIES DESIGNED TO FIT ANYWHERE*

Optional Front Connected Design Saves Valuable Space

H Frame 800 Amp Optional Front Connected Design

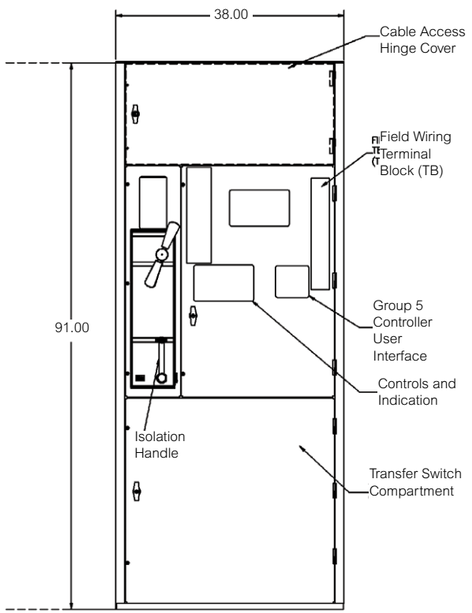


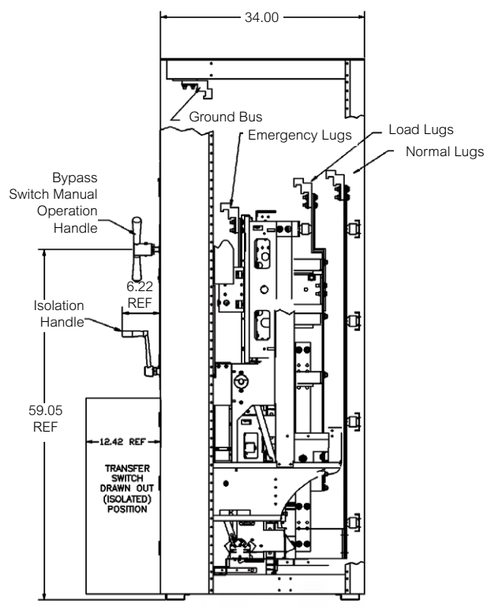


*All dimensions and weights shown are approximate and should not be used for construction purposes. Verified dimensions can be furnished upon request.

Front Views (Covers Installed) | Right Side Views (Covers Removed)

H Frame 1000-1200 Amp Optional Front Connected Design





WITHSTAND AND CLOSING RATINGS

Withstand and Close-on Ratings for all 7000 SERIES Power Transfer Switches, including 0.5 second (30-cycle) designs.

Frame	Switch Rating (Amps)		Current Limiting Fuses				Specific Breaker			Time Based				Short Time Ratings[3] (sec)							
														480V Max.				600V Max.			
	Transfer Switches	Bypass Switches	480V Max.	600V Max.	Max Size, A	Class	240V Max.	480V Max.	600V Max.	Time (sec)	240V Max.	480V Max.	600V Max.	.13	.2	.3	.5	.1	.13	.3	.5
D	30	-	100kA	-	300	J	22kA	25kA	10kA	0.025	10kA	10kA	10kA	-				-			
			200kA	35kA	200	J															
			35kA	35kA	200	RK1															
D	70, 100	-	35kA	35kA	200	RK1	150kA	85kA	25kA	0.025	10kA	10kA	10kA	-				-			
			200kA	35kA	200	J															
D	150	-	35kA	35kA	200	RK1	150kA	85kA	25kA	0.025	10kA	10kA	10kA	-				-			
			200kA	35kA	200	J															
D	200	-	200kA	35kA	200	J	200kA	85kA	14kA	0.025	10kA	10kA	10kA	-				-			
			35kA	35kA	200	RK1															
D	230	-	100kA	-	300	J	200kA	85kA	14kA	0.025	10kA	10kA	-	-				-			
E	260, 400	-	200kA	-	600	J	65kA	42kA	22kA	0.05	35kA	35kA	22kA	-				-			
J	150, 200, 230, 260	150, 200, 230, 260	200kA	200kA	600	J	200kA	200kA	100kA	0.05	65kA	42kA[5]	35kA	7.5kA		-		-			
					800	L															
J	400	400	200kA	200kA	600	J	200kA	200kA	100kA	0.05	65kA	42kA[5]	35kA	7.5kA		-		-			
					800	L															
J	600	600	200kA	200kA	800	L	200kA	200kA	100kA	0.05	65kA	42kA[5]	35kA	7.5kA[9]		-		-			
			200kA	200kA	600	J															
H[8]	600	600	200kA	200kA	1600	L	65kA	150kA[6]	65kA	0.05	50kA	50kA	50kA	36kA		-		36kA		-	
P[8]	600	600	200kA	200kA	1600	L	65kA	150kA[5]	65kA	0.05	50kA	50kA	50kA	36kA		30kA		36kA		-	
P[8]	800	800 - 1200	200kA	200kA	1600	L	65kA	150kA[6]	65kA	0.05	50kA	50kA	50kA	36kA		30kA		36kA		-	
H	800 - 1200	800 - 1200	200kA	200kA	1600[4]	L	65kA	150kA	65kA	0.05	50kA	50kA	50kA	36kA		-		36kA		-	
Q[8]	600-1600	600-1600	200kA	200kA	2000	L	65kA	65kA	65kA	0.05	65kA	65kA	65kA	50kA				50kA			
S[8]	800 - 1200	800 - 1200	200kA	200kA	2500	L	100kA	100kA	65kA	0.05	100kA	100kA	65kA	65kA				65kA			
G[8]	1000 - 1200	1000 - 1200	200kA	200kA	2000	L	85kA	85kA	85kA	0.05	85kA	85kA	85kA	-				-			
G	1600 - 2000 (Front Connected TS Only)		200kA	200kA	2500	L	85kA	85kA	85kA	0.05	85kA	85kA	85kA	42kA		36kA		-			
G[8]	1600 - 2000	1600 - 2000	200kA	200kA	3000	L	200kA	200kA	100kA	0.05	100kA	100kA	100kA	42kA		36kA		42kA		-	
S[8]	1600 - 2000	1600 - 2000	200kA	200kA	2500	L	100kA	100kA	85kA	0.05	100kA	100kA	85kA	85kA		65kA		85kA		65kA	
G	2600 - 3000	2600 - 3000	200kA	200kA	4000	L	125kA[6]	125kA[6]	100kA	0.05	100kA	100kA	100kA	42kA		36kA		42kA		-	
G[8]	3200	-	200kA	-	4000	L	100kA	100kA	-	0.05	100kA	100kA	-	-				-			
G	4000	4000	200kA	200kA	5000	L	100kA	100kA	100kA	0.05	100kA	100kA	100kA	85KA		65kA		65kA			
U[8]	2600 - 4000	2600 - 4000	200kA	200kA	5000	L	125kA	125kA	125kA	0.05	125kA	125kA	125kA	100kA				100kA			

Notes:

1. All WCR values indicated are tested in accordance with the requirements of UL 1008, 7th Edition. See ASCO Pub. 1128 for more WCR information
2. Application requirements may permit higher WCR for certain switch sizes.
3. Short Time ratings are provided for applications involving circuit breakers that utilize trip delay settings for system selective coordination
4. Max fuse rating is 1200A on front connected H frame switches
5. Switches utilizing overlapping neutral (code "C") have 35kA, 0.050 Sec time based rating at 480V Max
6. Rating shown is for Bypass switches only, Transfer Switch rating is 100kA for the G frame and 65kA max for the H and P frames. See ASCO Pub. 1128.
7. See ASCO for Service Entrance Switch ratings
8. These frames are only available on the 7000 Series product
9. Short Time Rating applies to 600A Bypass switch only, the 600A Transfer Switch does not have a Short Time Rating

All units are RMS Symmetrical Amperes.

All Withstand and Close-on Rating (WCR) values are established by testing in accordance with UL 1008. For the latest ratings, including transfer switch ratings when used with specific circuit breakers, see **ASCO Publication 1128** for more WCR information.

Application characteristics may permit higher WCRs for certain switch sizes.
Contact ASCO Power Technologies for more information.

Contact ASCO for Service Entrance Switch ratings.

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