



24-hour protection no matter  
when trouble strikes

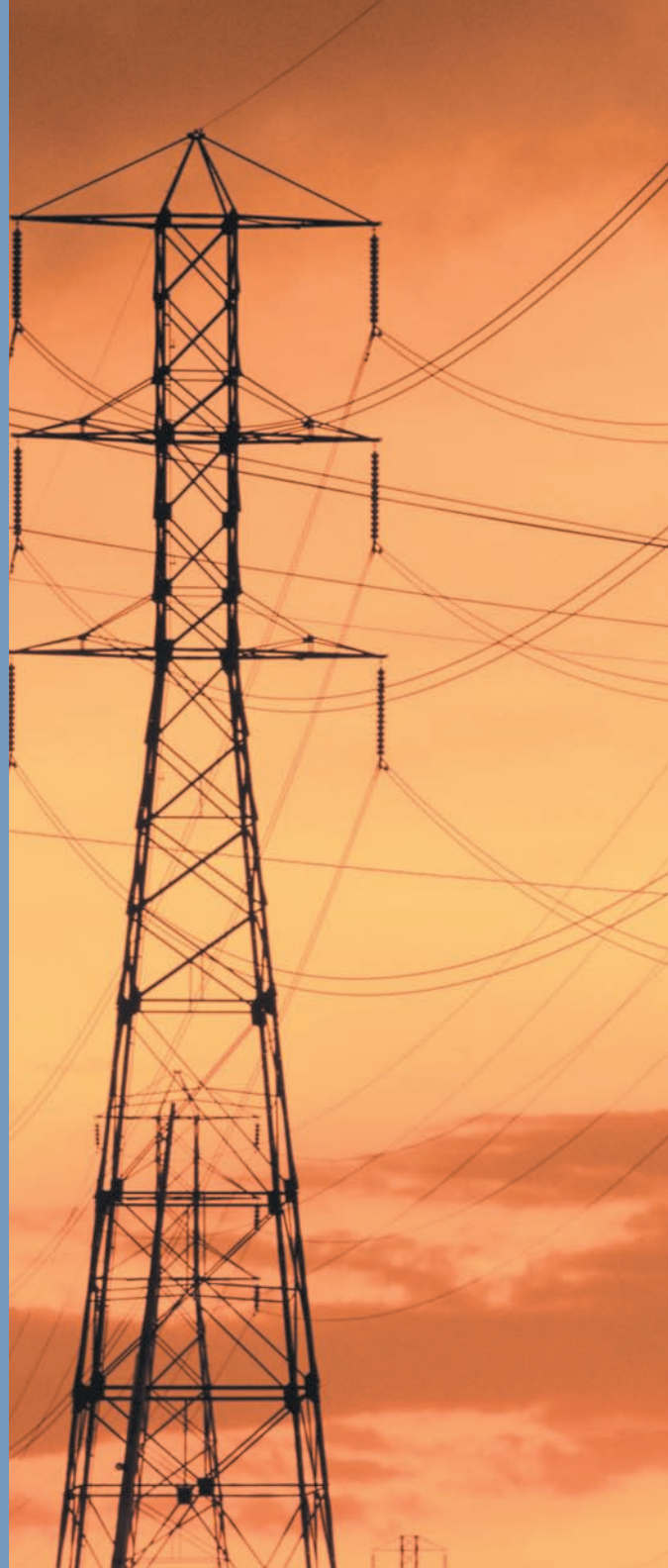
## ASCO SERIES 300 Power Transfer Switches for Power Outage Protection

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

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

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

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





## Typical Applications

### Telecom

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

### Agriculture

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

### Commercial / Retail, Light Industrial

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

### Municipal

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

# ASCO<sup>®</sup> SERIES 300 Power Transfer Switches

## Maximum Reliability & Excellent Value

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

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

The SERIES 300 incorporates the Group G controller with enhanced capabilities for dependable operation in any environment. A user friendly control interface with a 128x64 graphical LCD display and intuitive symbols allow for ease of operation while visual LED indicators verify transfer switch status. Operating parameters and feature settings can be adjusted without opening enclosure door.

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

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

## Features

- The SERIES 300 is listed to UL 1008 standard for total system loads and CSA standard C22.2 for automatic transfer switches.
- Meets NFPA 110 for Emergency and Standby Power Systems and the National Electrical Code (NEC) Articles 700, 701 and 702.
- Controller is RoHS compliant (Restriction of Hazardous Substances).

## UL Listed Withstand & Close-On Ratings

Switch Ratings Amps	Available Symmetrical Amperes RMS		
	When Used With Current Limiting Fuses	Maximum Voltage	When Used With Specific Circuit Breakers
30	100,000	480v/60Hz	10,000
70 - 200	200,000	480v/60Hz	22,000
230	100,000	480v/60Hz	22,000
260, 400	200,000	480v/60Hz	42,000
150, 200, 230	200,000	600v/60hz	42,000
260, 400	200,000	480v/60Hz	50,000
Series 3ADTS only	200,000	240v/60Hz	65,000
600	200,000	600v/60Hz	42,000
600	200,000	480v/60Hz	50,000
600	200,000	240v/60Hz	65,000
800,1000,1200	200,000	600v/60Hz	65,000
1600, 2000	200,000	600v/60Hz	85,000
2600, 3000	200,000	600v/60Hz	100,000

**Notes:** 1. Current limiting fuse should be class J type through 400 amps: use Class L type above 300 - amp fuse rating  
Current limiting fuse for 3ADTS only 150 - 400 amp should be Class L type  
2. Refer to publication 1128 for specific manufacturer's breakers



**Fig. 1:** ASCO Power Transfer Switch rated 200 amperes

- 30 through 3000 amps in a compact design.
- Available to 600 VAC, single or three phase.
- True double-throw operation: The single solenoid design is inherently inter-locked and prevents contacts from being in contact with both sources at the same time.
- There's no danger of the SERIES 300 ATS transferring loads to a dead source because the unique ASCO single-solenoid operator derives power to operate from the source to which the load is being transferred.
- Easy to navigate 128x64 graphical LCD display with keypad provides LED indicators for switch position, source availability, not in auto, and alert condition.
- Integrated multilingual user interface for configuration and monitoring.
- Delayed transition operation is now available (Dual Operator Configuration).
- Relay expansion module with extra relays for accessory outputs (Optional).
- Includes soft keys for test function and time delay bypass as standard features.
- Historical event log (Optional).
- Statistical ATS system monitoring information.
- Diagnostic Functions.
- Password protection to prevent unauthorized tampering of settings.
- Adjustable time-delay feature prevents switch from being activated due to momentary utility power outages and generator dips.
- Supplied with solid neutral termination.
- Optional switched neutral pole available.
- Field modification accessory kits available.
- Available for immediate delivery.



## Designed to Fit Anywhere

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

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



**Fig. 2:** ASCO Power Transfer Switch rated 200 amperes



**Fig. 3:** ASCO Power Transfer Switch rated 400 amperes



**Fig. 4:** ASCO Power Transfer Switch rated 600 Amperes



**Fig. 5:** ASCO Power Transfer Switch rated 1000 amperes



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



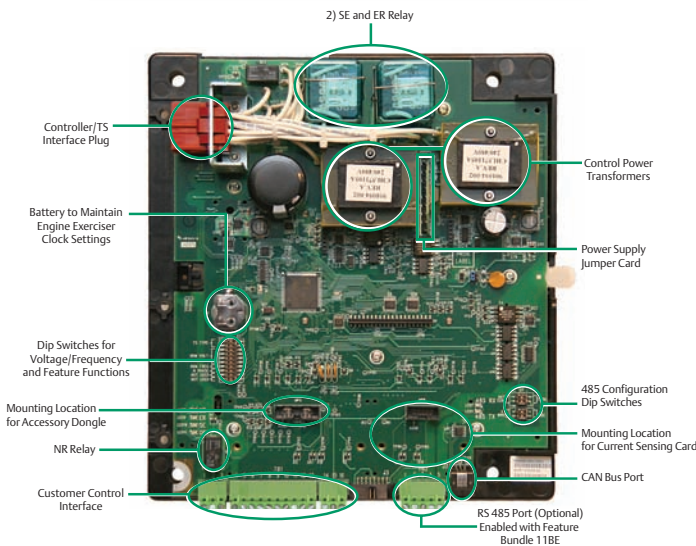
**Fig. 7:** ASCO Power Transfer Switch rated 3000 amperes



The SERIES 300's incorporate the group "G" controller with enhanced capabilities for dependable operation in any environment.

## Time Delays

- Engine start time delay – delays engine starting signal to override momentary normal source outages – adjustable to 0 to 6 seconds (Feature 1C)
- Transfer to emergency time delay – adjustable 0 to 60 minutes (Feature 2B)
- Emergency source stabilization time delay to ignore momentary transients during initial generator set loading – adjustable 0 to 4 seconds (Feature 1F)
- Re-transfer to normal time delay – adjustable 0 to 10 hours (Feature 3A)
- Unloaded running time delay for engine cooldown – adjustable 0 to 60 minutes (Feature 2E)
- Pre and post signal time delay for selective load disconnect with a programmable bypass on source failures – adjustable 0 to 5 minutes (specify ASCO Optional accessory 31Z)
- Optional 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 (Specify ASCO optional accessory feature bundle 11BE)
- Delay transition load disconnect time delay – adjustable 0 to 5 minutes.



**Fig. 8: ASCO SERIES 300 Microprocessor Controller**

## Control and Display Panel

- Easy to navigate 128x64 graphical LCD display with keypad provides LED indicators for switch position, source availability, not in auto, and alert condition. It also includes test and time delay bypass soft keys.

## Voltage & Frequency Sensing

- 3 – Phase under and over voltage settings on normal and single phase sensing on emergency source.
- Under and over frequency settings on normal and emergency.
- True RMS Voltage Sensing with +/-1% accuracy  
Frequency Sensing Accuracy is +/- 0.1Hz
- Voltage and Frequency parameters adjustable in 1% increments
- Selecting settings : single or three phase voltage sensing on normal, and single phase sensing on emergency; 50 or 60 Hz
- Load current sensing card (Optional)

## Standard Selectable Features

- Inphase monitor to transfer motor loads, without any intentional off time, to prevent inrush currents from exceeding normal starting levels.
- Engine exerciser to automatically test backup generator each week—with or without load 20 minutes not adjustable.
- Commit to transfer.
- Selective load disconnect control contacts (two provided) which operate with time delay prior to and/or after load transfer and re-transfer.
- 60Hz or 50Hz selectable switch.  
Three – phase/single - phase selectable switch.

## Remote Control Features

External Inputs for connecting:

- Remote test switch.
- Remote contact for test or for peak shaving applications. If emergency source fails, switch will automatically transfer back to normal source if acceptable.
- Inhibit transfer to emergency
- Remote time delay bypass switch emergency to normal

# ASCO® SERIES 300 Group G Offers Sophisticated Functionality

The new Group G controller offers an intuitive, easy to navigate 128\*64 graphical LCD display with soft keypad and provides (6) LED indicators

- Switch Position (green for normal, red for emergency LED)

- Source Availability (green for normal, red for emergency LED)

- “Not In Auto” (amber LED)

- Common Alarm (amber LED)

The ASCO group “G” controller is self contained with an integrated display

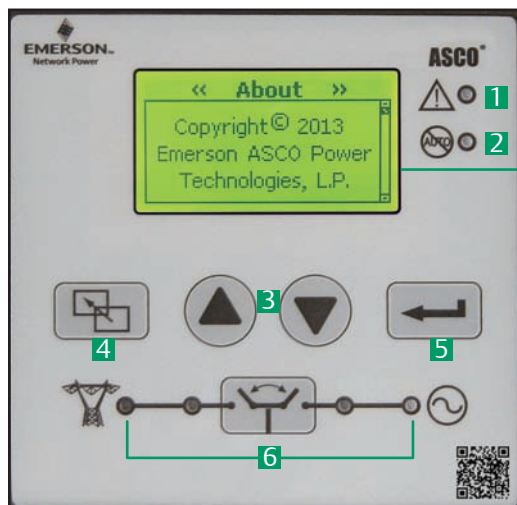
(no other components are required for efficient operation).

The controller allows for open or delayed transition transfer operation (both automatic, and non automatic configurations).

Integrated multilingual user interface for configuration and monitoring (this design

approach allows greater application flexibility).

Multiple source sensing capabilities of voltage, frequency (under frequency sensing on normal and emergency sources), and optional current card, single and three phase (Does not require an external metering device).



**Fig. 9:** Door-Mounted Control & Display Panel

- 1 Common Alarm
- 2 Not In Auto Indicator
- 3 Scroll, Up/Down Arrows
- 4 Escape Key
- 5 Enter Key
- 6 LED Source Availability and Switch Position Indicators Transfer / Time Delay Override control pushbutton

## Status

Normal OK  
Load on Normal  
Press Test Transfer

Normal OK  
Normal → Emergency  
Timer: 00Min 02Sec  
Press Bypass Timer

## Alarms

Alarm 1 of 1  
Loss of E when on E  
Press To Acknowledge Alarms

**Common Alarms**  
Loss E when on E ☒  
E Accept Fail ☐

## Source

Normal	Emergency
V <sub>b</sub> 207V	V <sub>b</sub> 207V
V <sub>c</sub> 206V	V <sub>c</sub> 207V
V <sub>a</sub> 207V	V <sub>a</sub> 207V
60.0Hz	60.0Hz

Normal	Load	Emerg.
V <sub>b</sub> 207V	I <sub>a</sub> 200A	V <sub>b</sub> 207V
V <sub>c</sub> 204V	I <sub>b</sub> 198A	V <sub>c</sub> 207V
V <sub>a</sub> 205V	I <sub>c</sub> 200A	V <sub>a</sub> 207V
60.0Hz		60.0Hz

## Data Logging

« Statistics »  
TS Total Transfers  
82  
TS Transfer Time  
5.0 Sec

**Tools**  
Clear Statistics   
Restore Defaults   
Software Upgrade

« Event Log »  
Event 1 of 248  
Engine Stop  
05/07/13 10:23:44.0

## Communication

« Discrete Inputs »  
CNN 1/F5 1/F30 1  
CNE 0/F17 1/TST 1  
CEN 0/F34 1  
CEE 0/F6 1

**RS485 Port**  
Baud Rate 9600  
Device Addr 1  
Protocol AscoBusII  
Emulate Grp1 ☐

## Settings

Enter Password  
\* \* \* \*

**Tools**  
Clear Statistics   
Restore Defaults   
Software Upgrade

## Gen Status

S/N: BER125200004  
S/W: 894063-006  
ASCO  
Gen Room  
Thu 05/23/13 09:07:16

## Engine Exerciser

**Engine Exerciser**  
Present Time 09:08:16  
Program No 1  
Enable ☐  
With Load ☐



## SERIES 300 Transfer Switch Ordering Information

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

3 + A + TS + A + 3 + 600 + N + GX + C											
		Product		Neutral Code		Phase Poles	Amperes	Voltage Code		Controller Code	Enclosure
A	Automatic	TS	Conventional 2 Position	A	Solid Neutral	2 Poles 1 $\phi$	Continuous rating	A <sup>3</sup>	115	G	Type 1 (Standard)
N	Non-Automatic	DTS	Delayed Transition	B <sup>1</sup>	Switched Neutral	3 Poles 3 $\phi$	30 <sup>2</sup> , 70 <sup>2</sup> , 104 <sup>2</sup> , 150 <sup>5</sup> , 200 <sup>4,5</sup> , 230 <sup>2,4,5</sup> , 260 <sup>2,5</sup> , 400 <sup>2,5</sup> , 600 <sup>5</sup> , 800 <sup>5</sup> , 1000 <sup>5</sup> , 1200 <sup>5</sup> , 1600 <sup>5</sup> , 2000 <sup>5</sup> , 2600 <sup>5</sup> , 3000 <sup>5</sup>	B <sup>3</sup>	120	GX	Type 3R Non-Secure <sup>2</sup>
								C	208	Optional Accessories	Type 4 <sup>2</sup> Non-Secure
								D	220		Type 4X <sup>2</sup> Non-Secure
								E	230		Type 12 <sup>2</sup> Non-Secure
								F	240		Type 3R Secure
								H	380		Type 4 Secure
								J	400		Type 4X Secure Double Door 304 SS
								K	415		Type 12 Secure Double Door
								L	440		Type 3RX <sup>7,8</sup> Secure Double Door 304 SS
								M	460		
								N	480		
								Q	575		
								R	600		

### Notes:

- Specify neutral code "C" for 260 and 400 amperes only for 3ATS/3DTS
- Available 30-600 ampere size switches available in non - secure type enclosures
- 115-120 volt available 30-400 amps only. For other voltages contact ASCO.
- 200 and 230 amp rated switches for use with copper cable only.
- Switch sizes 800 - 3000 ampere, and 150 - 400 ampere 3ADTS/3NDTS provided in secure type outdoor enclosures when required.
- Use 3R for 1200, 2000, 2600, and 3000
- Type 304 stainless steel is standard. Suitable for indoor or outdoor use where there may be caustic or alkali chemicals in use. To provide an improved reduction in corrosion of salt and some chemicals, optional type 316 stainless steel is recommended. This is the preferred choice for marine environments.
- Available on switches rated 1200, 2000, 2600, and 3000 amps.
- When temperatures below 32°F can be experienced, special precautions should be taken, such as the inclusion of strip heaters, to prevent condensation and freezing of this condensation. This is particularly important when environmental (Type 3R,4) are ordered for installation outdoors.
- Extra shelter protection should be considered for wind blown rain and snow, since ventilated type 3R enclosures due not protect against these conditions.

## SERIES 300 External Power Connections

### Sizes UL-Listed Solderless Screw-Type Terminals

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

### Notes:

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

## Extended Warranties for SERIES 300 Transfer Switches (3ATS/3NTS/3ADTS)

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



# ASCO® SERIES 300 Transfer Switch Dimensions and Shipping Weights

## UL Type 1 Enclosure<sup>1,2,3,4,5</sup>

Switch Rating Amps	Phase Poles	Neutral Code	Dimensions, In. (mm)			Approx. Shipping Weight Lb. (kg)
			Width	Height	Depth	
30 <sup>4</sup> , 70 <sup>4</sup> , 100 <sup>4*</sup> , 104 <sup>4</sup> 150 <sup>4</sup> , 200 <sup>4</sup> *SERIES 3NTS only	2	A	18(457)	31(787)	13(330)	69(32)
	2	B	18(457)	31(787)	13(330)	72(33)
	3	A	18(457)	31(787)	13(330)	72(33)
	3	B	18(457)	31(787)	13(330)	75(34)
230 <sup>3</sup> , 260, 400	2	A	18(457)	48(1219)	13(330)	117(53)
	2	B <sup>3</sup> or C	18(457)	48(1219)	13(330)	125(57)
	3	A	18(457)	48(1219)	13(330)	125(57)
	3	B <sup>3</sup> or C	18(457)	48(1219)	13(330)	133(61)
150, 200, 230, 260, 400 SERIES 3ADTS/3NTS only	2	A	24(610)	56(1422)	14(356)	196(89)
	2	B	24(610)	56(1422)	14(356)	202(92)
	3	A	24(610)	56(1422)	14(356)	202(92)
	3	B	24(610)	56(1422)	14(356)	208(94)
600	2	A	24(610)	63(1600)	17(432)	316(143)
	2	B	24(610)	63(1600)	17(432)	324(147)
	3	A	24(610)	63(1600)	17(432)	324(147)
	3	B	24(610)	63(1600)	17(432)	332(150)
800, 1000	2	A	34(864)	72(1829)	20(508)	431(196)
	2	B	34(864)	72(1829)	20(508)	460(209)
	3	A	34(864)	72(1829)	20(508)	460(209)
	3	B	34(864)	72(1829)	20(508)	489(222)
1200	2	A	38(965)	87(2210)	23(584)	581(264)
	2	B	38(965)	87(2210)	23(584)	611(277)
	3	A	38(965)	87(2210)	23(584)	611(277)
	3	B	38(965)	87(2210)	23(584)	639(290)
1600, 2000 <sup>1</sup>	3	A	38(965)	87(2210)	23(584)	1160(525)
	3	B	38(965)	87(2210)	23(584)	1160(525)
2600, 3000 <sup>2</sup>	3	A	38(965)	91(2311)	60(1524)	1430(649)
	3	B	38(965)	91(2311)	60(1524)	1495(679)

### Notes:

1. Unit is designed for top cable entry of emergency & load and bottom entry of normal. A cable pull box is also available for all top or bottom cable access when required (optional accessory kit #K609027). Not required for type 3R, 4X & 12 enclosures where available.
2. Enclosures for 2600, 3000 amps are free-standing with removable top, sides & back.
3. Neutral Code "B" for 230 amperes only.
4. Dimensions for 30-200 amperes when furnished with a power meter, 18"W - 41"H - 13"D
5. Dimensional data is approximate and subject to change. Certified dimensions available upon request.

## UL Type 3R, 4 or 12 Enclosure<sup>1,2,3,4,5</sup>

Switch Rating Amps	Phase Poles	Neutral Code	Dimensions, In. (mm)			Approx. Shipping Weight Lb. (kg)
			Width	Height	Depth	
30 <sup>3</sup> , 70 <sup>3</sup> , 100 <sup>3*</sup> , 104 <sup>3</sup> 150 <sup>3</sup> , 200 <sup>3</sup> *SERIES 3NTS only (Non Secure Enclosure)	2	A	17 1/2 (445)	35(886)	11 5/8 (295)	84(38)
	2	B	17 1/2 (445)	35(886)	11 5/8 (295)	87(40)
	3	A	17 1/2 (445)	35(886)	11 5/8 (295)	87(40)
	3	B	17 1/2 (445)	35(886)	11 5/8 (295)	90(41)
230 <sup>2</sup> , 260, 400 (Non Secure Enclosure)	2	A	18(458)	50 1/2 (1284)	14 1/3 (364)	132(60)
	2	B <sup>3</sup> or C	18(458)	50 1/2 (1284)	14 1/3 (364)	140(63)
	3	A	18(458)	50 1/2 (1284)	14 1/3 (364)	140(63)
	3	B <sup>3</sup> or C	18(458)	50 1/2 (1284)	14 1/3 (364)	148(67)
150, 200, 230 260, 400 *SERIES 3ADTS/3NDTS only (Non Secure Enclosure)	2	A	24(607)	63(1593)	18 1/5 (468)	234(106)
	2	B	24(607)	63(1593)	18 1/5 (468)	241(109)
	3	A	24(607)	63(1593)	18 1/5 (468)	241(109)
	3	B	24(607)	63(1593)	18 1/5 (468)	246(112)
600 (Non Secure Enclosure)	2	A	24(607)	63(1593)	18 1/5 (468)	320(145)
	2	B	24(607)	63(1593)	18 1/5 (468)	328(148)
	3	A	24(607)	63(1593)	18 1/5 (468)	328(148)
	3	B	24(607)	63(1593)	18 1/5 (468)	336(152)
800, 1000 (Non Secure Enclosure)	2	A	34(859)	72(1821)	20(506)	519(236)
	2	B	34(859)	72(1821)	20(506)	543(246)
	3	A	34(859)	72(1821)	20(506)	543(246)
	3	B	34(859)	72(1821)	20(506)	565(257)
1200 <sup>6</sup> (Non Secure Enclosure)	2	A	41(1037)	95 1/2 (2415)	33 1/2 (848)	1131(513)
	2	B	41(1037)	95 1/2 (2415)	33 1/2 (848)	1160(526)
	3	A	41(1037)	95 1/2 (2415)	33 1/2 (848)	1160(526)
	3	B	41(1037)	95 1/2 (2415)	33 1/2 (848)	1189(539)
1600, 2000 <sup>2</sup> (Non Secure Enclosure)	3	A	41(1037)	95 1/2 (2415)	62(1569)	1705(775)
	3	B	41(1037)	95 1/2 (2415)	62(1569)	1830(832)
2600, 3000 (Non Secure Enclosure)	3	A	41(1037)	96(2429)	74(1872)	2150(976)
	3	B	41(1037)	96(2429)	74(1872)	2230(1012)

### Notes:

1. When climate conditions at installation site present condensation risk, special precautions should be taken, such as the inclusion of space heaters, to prevent interior condensation and freezing of this condensation.
2. Neutral code "B" for 230 amperes only.
3. Dimensions for 30 - 200 ampere when furnished with a power meter 18"W - 48"H - 13"D
4. 30-1000 ampere switches are available in secure type enclosures, contact ASCO for details
5. Dimensional data is approximate and subject to change. Certified dimensions available upon request.