400a stock

Switch SUBMITTAL

REVISION 2

Submittals provided for 209980 - GENERATOR SERVICES, WEST COLUMBIA SC

Dan Krause
Sales Representative
dan@generatorservicesinc.com

400a stock

Reference Quote: E1-794407-01
Sales Order: N/A

TRANSFER SWITCH DETAILS									
ATS NAME	QTY	AMPS / POLES (VOLTS)	BYPASS	TRANSITION TYPE	CATALOG NUMBER	ACCESSORIES	OUTLINE DRAWING	WIRING DIAGRAM	BOM NUMBER
	1	0400 / 3 (480V)	N/A	OPEN	J03ATSA30400NG0F		1001393-018	1184913	1169178

Transfer Switch Withstand and Closing Ratings

		300, 4000 & 7000 Series																			
ATS NAME	FRAME SIZE	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
-	J	400	400	200kA	200kA	600	J	200kA	200kA	100kA	0.05	65kA	42kA[5]	35kA	7.5kA		-		-			
						800	L															

NOTES:
1) All WCR values indicated are tested in accordance with the requirements of UL 1008, 7th Edition.
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

400a stock

Transfer Switch Details

#1	ATS	AMPS: 0400	QTY: 1

Product	:	Series 300	Catalog Number	:	J03ATSA30400NG0F
Service Voltage / Hz	:	480V/60Hz	Optional Accessories	:	NO ACCESSORY ADDED
Bypass Isolation	:	Not Applicable	Product Description	:	300 Series, Automatic Open Transition Transfer Switch
No. of Switched Poles:	:	3	Neutral Configuration	:	Solid [A]
Withstand Rating:	:	See WCR Table Below	No. of Cables & Lug Size	:	1, #4 AWG to 600 MCM or (2) 1/0 AWG to 250 MCM
Frame = J, Switch Rating = 0400, Series = 300					
Enclosure	:	3R(F)-UL Type 3R Enclosure (See Disclaimer 3)	Service	:	Three Phase, 4-wire
Extended Warranty	:	Not Included	Markings	:	

EQUIPMENT STORAGE REQUIREMENTS

Equipment provided by Schneider-Electric and/or ASCO Power Technologies that is stored for a short-term duration (i.e., days to weeks) or long-term duration (i.e., months to years), must be kept in a cool, dry, temperature-controlled environment. Storage of equipment in open warehouses, locations without proper temperature and humidity control, and/or outdoor storage is not acceptable without the utilization of heating elements, thermostats, humidistats, and protection from weather and dirt. Failure to comply may result in moisture ingress and/or condensation to form resulting in rusting and or corrosion, component and/or equipment failure and replacement, and/or nullification of any manufacturer warranty.

For **General Instructions for Proper Handling, Installation, Operation, and Maintenance of Deadfront Distribution Switchboards Rated 600 Volts or Less**, refer to ANSI NEMA PB 2.1-2013

Copies of the following documents should be included on the submittals, depending on the units that are on the proposal:

For ASCO Power Technology's **Switchgear and Switchboards**, refer to Instruction Bulletin **381333-393**.
For Schneider-Electric/Square D's **Power Zone 4 (PZ4) Switchgear**, refer to Instruction Bulletin **80298-002-09**.
For Schneider-Electric/Square D's **Power Zone 4 (PZ4) NEMA 3R Walk-In Switchgear**, refer to Instruction Bulletin **80298-156-02**.
For Schneider-Electric/Square D's **Quality, Efficient, Delivery" (QED2) Switchboard**, refer to Instruction Bulletin **80043-055-14**.
For Schneider-Electric/Square D's **Masterclad Metal-Clad Indoor Switchgear**, refer to Instruction Bulletin **6055-30.**

Flexible Power Transfer Solutions for Commercial & Industrial Applications

ASCO Power Technologies™

ASCO SERIES 300
Power Transfer Switches

se.com

Life Is On Schneider Electric

ASCO SERIES 300 Automatic Transfer Switches

Power outages impact small and large facilities alike. ASCO SERIES 300 Automatic Transfer Switches offer rugged design and reliable performance to small and mid-size commercial and industrial facilities in packaged solutions that are easy to select, procure, install, and operate.

Product Details

Transfer Switch Overview

Every SERIES 300 generator transfer switch is engineered with ASCO's reliability expertise in a package that makes backup power accessible for small and mid-size facilities. Leveraging knowledge derived from a century of critical power transfer experience, each SERIES 300 is backed by the same ASCO technical support and service that solves the most demanding critical power challenges facing facilities today.

ASCO's SERIES 300 lineup offers flexible backup power solutions for businesses of every size.

SERIES 300 Automatic Transfer Switches

Designed to Fit Anywhere

The ASCO SERIES 300 product line provides the most compact design of generator power transfer switches in the industry.

Available to mount on walls or floors, all models through 2000 amperes are designed to be completely front-accessible. This permits installation flush against walls while allowing installation of cabling and connections from the front of the switch. Cable entrance plates are standard on 1600 and 2000 amperes units; these allow use of optional side-mounted pull boxes for additional cable bending space.

- 30 through 3000 amperes in compact designs
- Up to 600 VAC, single or three phase
- Listed to UL 1008 - Standard for Safety - Transfer Switch Equipment
- True double-throw operation: The single solenoid design is inherently interlocked to prevent simultaneous connections of two power sources.
- Will not transfer to a dead source - single solenoid operator derives power from the destination source
- Easy-to-navigate 128x64 graphical LCD display with keypad provides LED indicators for switch position, source availability, not-in-auto mode, and alert conditions.
- Integrated, multilingual, user interface for configuration and monitoring
- Available Delayed Transition operation
- Optional Relay Expansion Module with extra relays for accessory outputs
- Soft keys for test function and time delay bypass
- Emergency source failure alert indication
- Optional Historical Event Log
- Displays statistical ATS monitoring information
- Built-in diagnostic functions
- Password protection to prevent unauthorized actions
- Adjustable delay feature prevents nuisance transfer due to momentary utility power outages and generator dips
- ASCO's patented Predictive Outage Detection feature senses voltage instability conditions or flickers and proactively starts the generator for protection of equipment and reduction of downtime
- Auxiliary contacts signal position of main contacts - two for normal and two for emergency position
- Standard solid neutral terminals
- Restriction of Hazardous Substances (RoHS) compliant controller
- Standard 2 year warranty. Optional 1, 2, and 3 year extensions

Power Knowledge

Basic Automatic Transfer Switch Functions

SERIES 300 Power Transfer Switch rated 200 amps

SERIES 300 Automatic Switching Solutions

Automatic and Non-Automatic Transfer Switching

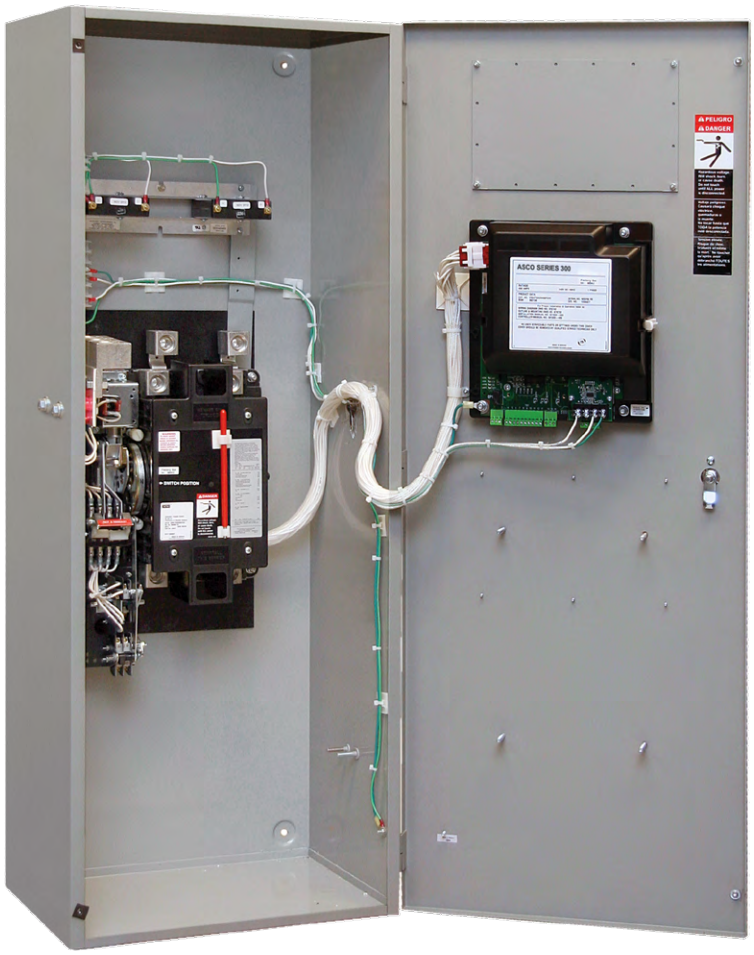
ASCO Transfer Switches are available in both automatic and non-automatic types. Both are electrically operated. For automatic transfer switches, the controller initiates transfer between power sources . For non-automatic transfer switches, a user initiates transfer using local or remote controls.

SERIES 300 non-automatic transfer switches offer the following features:

- Models range from 30 through 3000 amperes, up to 600V
- Controller prevents inadvertent operation under low voltage conditions
- Source acceptability lights inform operator when sources are available to accept load
- Standard in-phase monitor for transferring motor loads betweem live sources

Power Knowledge

Non-Automatic and Manual Transfer Switches for Backup Power Applications

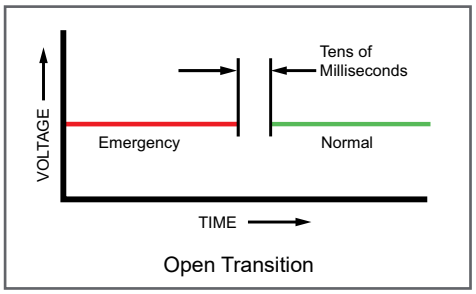


400 Amp, Type 1 Enclosure

Open Transition Transfer Switching

ASCO Transfer Switches are available with a standard, 2-position, open transition models that reliably transfer loads in less than 50 milliseconds. Open transition switches are suitable for a wide range of applications.

- 30 to 3000 amps
- Single-operator switching mechanism prevents simultaneous connection of both sources
- Available In-Phase Monitor can be activated for transferring motor loads

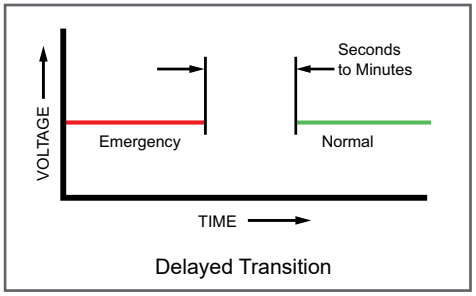


Open Transition

Delayed Transition Transfer Switching

ASCO Delayed Transition Transfer Switches transfer loads between power sources using a timed load disconnect position with an adjustable delay.

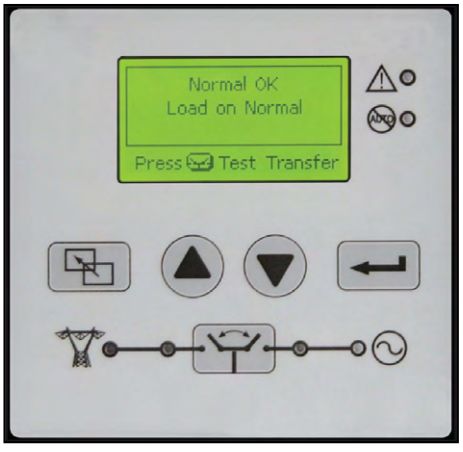
- 150 through 3000 amps
- Reliable, field-proven, dual-solenoid operating mechanism
- Mechanical interlocks to prevent simultaneous connection of both power sources
- Adjustable delay for load disconnect - 0 to 5 minutes
- Non-automatic models available in manual operation configuration
- Automatic models available with load shed feature



Delayed Transition

SERIES 300 Group G Controller

The SERIES 300 Group G Controller is reliable and field-proven. It provides all of the voltage, frequency, control, timing, and diagnostic functions required for most emergency and standby power applications.



- Touch pad programming
- Displays active timers
- On-board diagnostics
- Password protection
- Voltage and frequency sensing
- Status and control functions
- Patented Predictive Outage Detection feature

Power Knowledge

Transition Mode Basics

Transferring Motor Loads between Power Sources

Transferring Loads with Zero Power Interruption

Product Details

Group G Controller

Transfer Switch Communications and Metering

Options to Customize Functionality and Increase Value

Product Details

5300 SERIES Annunciators

Remote Annunciation

Monitor Power Equipment Status from Anywhere

Monitoring and control transfer switches from across the room, building, or from Internet.

5310 – LED annunciator – Single ATS

5350 – LED annunciator – up to 8 ATSs

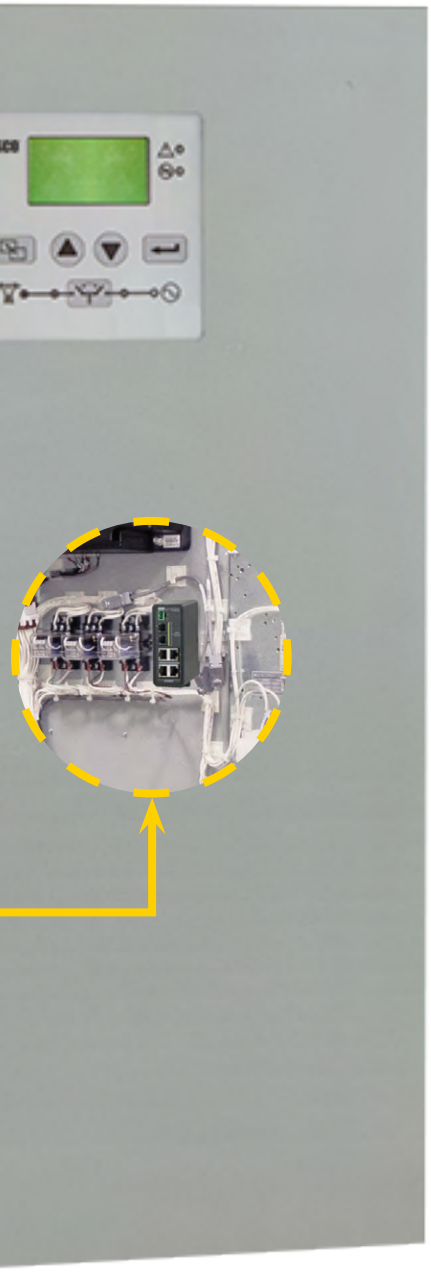
Product Details

5140 Connectivity Module

Communication

Turn Transfer Switches into Power Information Portals

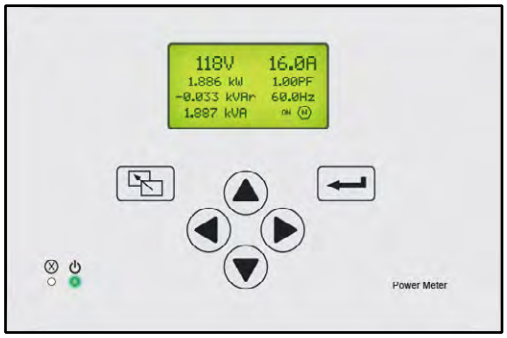
5140 Connectivity Module – Makes status and power information from a single switch available to via ModBUS, SNMP, and web pages.



Metering

Transfer Switches are the Perfect Place to Monitor Power Flow, Power Conditions, and Power Events

5210 Power Meter – Provides deeper insight into circuit status and conditions.



Product Details

5210 Power Meter

SERIES 300 Optional Accessories

Communications	
11BE	Feature Bundle. Programmable engine exerciser with seven independenct routines run the generator with or without loads, on a daily, weekly, bi-weekly, or monthly basis. Controlled from the user interface keypad. • Event log display shows the event number, time and date, type and reason (if applicable). • Stores up to 300 events • RS485 Communication Port enabled common alarm output contact • On three-phase systems, Accessory 11BE enables line-to-line voltage imbalance sensing and three-phase sensing capabilities for the Emergency power source as well as the Phase Rotation checking for both power sources.
18RX	Relay Expansion Module provides accessory relays and includes one Form C contact for normal source availability (18G), and one Form C contact for emergency source availability (18B) (contact rating 5 amperes @ 30 VDC or @ 125 VAC resistive) (100 ma, 4 VDC min) Additional output relay is provided the default is to indicate a common alarm.
72EE	Connectivity module provides remote monitoring and control capabilities and includes accessory 11BE feature bundle
Environment and Power	
44A	Strip heater with thermostat for cold environment to prevent internal condensation and icing. External 120-volt AC power source required.
44G	Strip heater with thermostat, wired to load terminals on 208-240, 360-380, 460-480, 550-600 volt models. Contains wiring harnesses for all transfer switch sizes.
1UP	UPS back up power runs controller and LCD display for 30 seconds without AC power
Extension Harness	
37B	Six-foot extension harness for open type units to accommodate customer mounting of controls and switch
37C	Nine-foot extension harness for open type units to accommodate customer mounting of controls and switch
Indicators	
62W	Audible alarm with silencing feature to signal transfers to emergency. (For D-frame models, may require oversize enclosure depending on accessory combination).
Customer Control Circuits	
30A	Load-shed circuit initiated by opening of a customer-supplied contact (Open Transition model only)
30B	Load-shed circuit initiated by removal of customer-supplied control voltage (Open Transition model only)
30AA	Load-shed circuit initiated by opening of a customer-supplied contact (Delayed Transition model only)
30BA	Load-shed circuit initiated by removal of customer-supplied control voltage (Delayed Transition model only)
Surge Protection	
73	Surge suppressor rated 65 kA
Metering	
23GA, 23GB	Load Current Metering card measures either single or three-phase load current. Not available with Power Meter option 135L. Use 23GA for Single-Phase, 23GB for Three-Phase.
135L	Power Meter on load side (includes shorting block and current transformers). Not available with Load Current Metering options 23GA or 23GB.

Field Conversion Kits

Kit No.	Description
935147	Advanced Function Bundle Retrofit Kit (11BE) - See above accessory 11BE description for details.
935148	REX Module with Source Availability Contacts (Acc. 18RX)
935149	UPS to allow controller to run for 30 seconds minimum without AC Power (Acc. 1UP)
935150	1/3 Phase load current sensing card only (Acc. 23GA/GB)
K613127-001	Strip Heater (125 watt) 120 volt (Acc. 44A)
K613127-002	Strip Heater (125 watt) 208-480 volt (Acc. 44G)
948551	Quad-Ethernet Module (Acc. 72EE)
K609027	Cable Pull Box (1600-2000 amperes)

Withstand and Close-on 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[6]	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.

Power Knowledge

- UL 1008 Transfer Switch Withstand and Closing Ratings
- Performance Testing for Transfer Switches

Additional SERIES 300 Product Information

Transfer Switches and Panels	Controls	Technical Information
Manual Transfer Switch	Group G Controller	Withstand and Closing Ratings
Manual Transfer Switch with Quick Connects		Weights and Dimensions and Ordering Info
Quick Connect Power Panel		Drawings
Dual Purpose Quick Connect Power Panel		Wiring Diagrams

SERIES 300 Manual Transfer Switching and Quick Connection Solutions

ASCO SERIES 300 Manual Transfer Switching and Quick Connection Solutions offer reliable service and application flexibility for a wide range of facilities.

Manual Transfer Switches

- Three-position, easy-to-use center-off switch
- Compact design - easy to install and maintain
- Designed to handle demands of motors and inrush currents

Power Knowledge

Differences Between Manual, Non-Automatic, & Automatic Transfer Switches

Product Details

SERIES 300 Manual Transfer Switch

Manual Transfer Switches with Quick Connects

- The ASCO SERIES 300 Manual Transfer Switch with Integrated Quick Connects provides a total temporary power connection and transfer solution
- Enables connection and control of a temporary or portable generator
- Provides a complete UL 1008-listed solution in a single unit

Product Details

SERIES 300 Manual Transfer Switch with Quick Connects

Quick Connect Panels

- Listed to UL 1008 Transfer Switch Accessory standard
- Utilizes standard Cam-Lok™ receptacles for quick connections
- Standard Type 3R construction is weatherproof with or without cable
- Utilizes standard Series 16 Single Pole quick connect receptacles

Power Knowledge

NEC Requirement for Permanent Manual Switching Means

Product Details

SERIES 300 Quick Connect Power Panel

Dual-Purpose Manual Transfer Switches with Quick Connects

- Provides both supplemental backup power and load testing connectivity through a single device.
- Listed by ETL to UL 891
- Utilizes standard Series 16 Single Pole quick connect receptacles

Product Details

SERIES 300 Dual Purpose Quick Connect Power Panel

Life Is On | Schneider Electric™

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Publication 1195 R10. Printed in the U.S.A.

ASCO Power Technologies™

Shipping, Handling, Moving and Storing of Transfer Switches and Power Control Systems

Instructions

381333-512
10/2024

READ ME FIRST

Upon receipt, refer to the Handling instructions in this document and confirm that proper material handling equipment is available to move the products.

When the shipment arrives, inspect the shipping material for any signs of damage or mishandling. Do not attempt to install the system if damage is apparent. If any damage is noted, file a damage claim with the shipping carrier immediately.

NOTE: The above is an example of a typical Transfer Switch packaged on a skid.

Schneider Electric

Legal Information

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Safety Information

Important information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to transport, move or install it. The following special messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that accompany this symbol to avoid possible injury or death.

⚠ DANGER
DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury

⚠ WARNING
WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury

⚠ CAUTION
CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury

NOTICE
NOTICE is used to address practice not related to physical injury. The safety alert symbol shall not be used with the signal word

Please note

Electrical equipment should be transported, moved and installed only by qualified personnel. No responsibility is assumed by ASCO POWER TECHNOLOGIES for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, handling and operation of the electrical equipment and has received safety training to recognize and avoid the hazards involved.

Safety Precautions

⚠WARNING

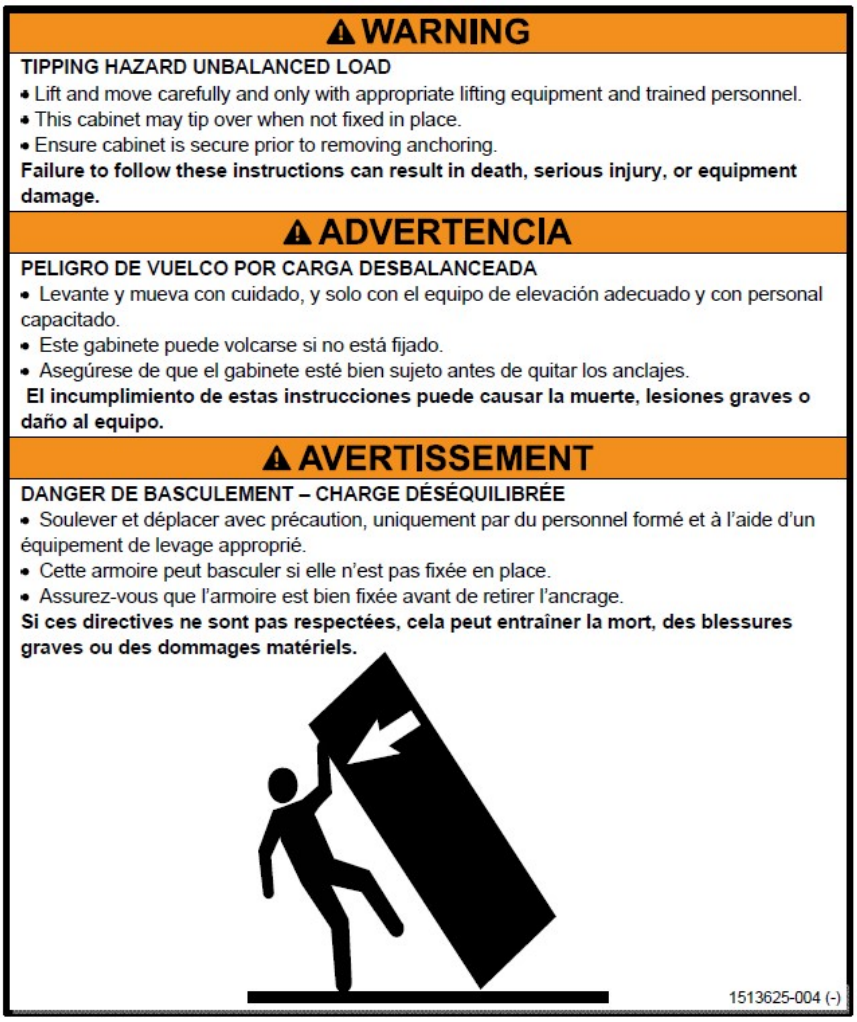
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Do not unpack the equipment before the time of installation.
- Cover the units and store the units in a temperature controlled indoor environment free of conductive contaminants and humidity, where the units are protected from moisture until the time of start-up. Moisture inside the cabinet can create hazardous short circuits.
- Contact your local ASCO Power Technologies representative if you have any questions concerning the equipment.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Improper handling/storage, water or other foreign material ingress may create electric shock hazards.

Refer to the outline and wiring drawings provided with the ASCO Power Technologies equipment for all installation and connection details and accessories.



NOTE: The above label should not be removed and should remain on the product throughout its lifecycle.

Introduction

This manual is provided as a supplement to address the Shipping, Handling, Moving and Storage of the ASCO Power Technologies equipment prior and up to installation. Any discrepancies between this manual and product manual for the equipment, the product manual overrides this Shipping, Handling, Moving and Storing supplement. The product manual and other documents are located inside the equipment and are to be used by the installer then remain with the equipment for the owner/operators use.

Packaging

The equipment is assembled, wired, adjusted, and completely tested at the factory. It is then inspected and packed for shipment at the assembly plant. Most equipment is shipped fully assembled; in some cases, the switch may be shipped in sections for easier handling. When the equipment is shipped in sections the outline drawing will provide details on the shipping splits. The equipment or an equipment section is bolted on a wooden shipping skid and wrapped for shipment. All internal instruments, relays and components are properly blocked to prevent damage to bearings and movements if required. All sections are marked with the factory sales order number and weight. An envelope on the external wrapping contains the bill of lading which identifies the products shipped and provides the weight of the total shipment (weight of all units added together).

Receiving and Handling

Receiving

Upon receipt, check the packing list against the equipment received to ensure the order and shipment are complete. Also, upon receipt, immediately inspect transfer switch for any damage that occurred in transit. If damage is found or suspected, file a claim with the carrier immediately.

Handling in Transit / Handling with a Forklift

⚠WARNING

SPECIAL HANDLING REQUIREMENTS

- Do not lay the equipment on its front or sides.
- Lay equipment on its back only when special handling is required per Site and Moving and Handling Guidelines on page 11.
- Do not ship the equipment in a lying down position.
- Identify Center of Gravity label(s) to avoid creating an unbalanced load.

Failure to follow these instructions can result in serious injury or equipment damage.

Ensure that proper material handling equipment is available at the installation site to handle the ASCO Power Technologies equipment. The proper material handling equipment helps avoid injury to personnel and damage to the ASCO Power Technologies equipment.

The shipping weight of each shipping section is marked on the product. Verify the lifting capacity of the equipment being used to handle the ASCO Power Technologies equipment. in accordance with the shipping weight of each shipping section. Refer to page 11 Site Moving and Handling Guidelines.

The center of gravity (CoG) label is marked on the equipment. (Figure 1).

NOTICE
For Tall, Thin and Heavy (TTH) equipment, this label may not be the center of the equipment.

Figure 1. Center of Gravity label.

Before moving the ASCO Power Technologies equipment with a forklift, other powered or manual pallet lift:

- Read warning and fork access labels on the equipment (Figure 2).
- Lift from side(s) indicated on packaging.
- Check the fork lengths to ensure the forks extend under the entire skid.
- Set the forks to their widest point that will fit under the skid.
- Use a strap when handling or moving the equipment with a forklift.
- Carefully balance the load.
    - Center the forks on the equipment or if the equipment is marked with the center of gravity (Figure 1), center the forks based on the marking.
    - Ensure strap is around the equipment. (Recommended 36”-60” from the skid.)
    - Raise the forks slowly.
    - If the equipment is not balanced on the forks, stop, lower the forks, and reposition.

When moving equipment in a trailer:

- Set switchgear and/or switchboard along the side of the trailer.
- Strap to trailer wall at or above the midpoint of the equipment (typically between 48” and 60”) and/or use airbags or dunnage between equipment and between equipment and the trailer wall.

The center of gravity label should only be removed once the product is secured in its final position.

Figure 2. Warning labels on the equipment.

These labels should remain in place until the product is secured in its final position. After the product is secured, the labels can be removed. These shipping labels and the center of gravity label use a non-permanent adhesive.

⚠ WARNING

TIPPING HAZARD UNBALANCED, HEAVY LOAD
- Ensure proper support under heavy end before moving equipment.
- Secure to forklift with safety strap.
- Ensure forklift capacity suitable for load.

Failure to follow these instructions can result in death, serious injury or equipment damage.

⚠ ADVERTENCIA

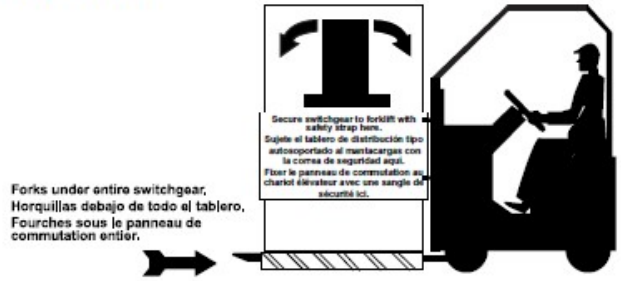
PELIGRO DE VUELCO CARGA DESBALANCEADA, CARGA PESADA
- Asegure un soporte adecuado debajo del extremo pesado antes de mover el equipo.
- Asegúrelo al montacargas con una correa de seguridad.
- Asegúrese de que la capacidad del montacargas sea adecuada para la carga.

El incumplimiento de estas instrucciones puede provocar la muerte, lesiones graves o daños al equipo.

⚠ AVERTISSEMENT

RISQUE DE BASCULEMENT CHARGE NON ÉQUILIBRÉE
- Assurez-vous d'un support adéquat sous l'extrémité lourde avant de déplacer l'équipement.
- Fixez au chariot élévateur avec une sangle de sécurité.
- Assurez-vous que la capacité du chariot élévateur est adaptée à la charge.

Le non-respect de ces instructions peut entraîner la mort, des blessures graves ou des dommages matériels.



Remove label after installation
Retire la etiqueta después de la instalación
Enlever l'étiquette après l'installation

Special Handling Requirements
Do not lay the equipment on it's front or sides. Do so will damage unit.
Equipment may only be laid on it's back for manipulating into place, per ASCO Moving Guidelines for Transfer Switches.
Equipment is NOT to be shipped laying down unless prepared by ASCO.
Failure to follow these instructions can result in death, serious injury or equipment damage.

Requisitos especiales de manejo
No coloque el equipo de frente o de lado. Si lo hace, dañará la unidad.
Coloque el equipo boca arriba solo cuando se requiera manejarlo para ponerlo en su posición, conforme a las directrices de ASCO para mover los tableros.
NO debe enviarse el equipo acostado a no ser que lo haya preparado ASCO.
El incumplimiento de estas instrucciones puede provocar la muerte, lesiones graves o daños al equipo.

Exigences spéciales de manutention
Ne posez pas l'équipement sur le devant ou sur les côtés. Cela endommagerait l'unité.
Couchez l'équipement uniquement sur le dos lorsqu'une manipulation spéciale est nécessaire.
L'équipement ne peut être posé que sur le dos pour être manipulé en place, conformément aux instructions de l'ASCO.
L'équipement ne doit PAS être expédié couché à moins d'avoir été préparé par ASCO.
Le non-respect de ces instructions peut entraîner la mort, des blessures graves ou des dommages matériels.

1513625-001 (-)

⚠ WARNING

TIPPING HAZARD UNBALANCED, HEAVY LOAD
- No lifting this side.

Failure to follow these instructions can result in death, serious injury or equipment damage.

⚠ ADVERTENCIA

PELIGRO DE VUELCO CARGA DESBALANCEADA, CARGA PESADA
- No lo levante por este lado.

El incumplimiento de estas instrucciones puede causar la muerte, lesiones serias o daño al equipo.

⚠ AVERTISSEMENT

RISQUE DE RENVERSEMENT, CHARGE DÉSÉQUILIBRÉE
- Pas de levage de ce côté.

Si ces directives ne sont pas respectées, cela peut entraîner la mort ou des blessures graves ou des dommages matériels.

Remove label after installation
Retire la etiqueta después de la instalación
Enlever l'étiquette après l'installation

1513625-002 (-)

⚠ WARNING

TIPPING HAZARD UNBALANCED, HEAVY LOAD
- Ensure proper support under heavy end before moving equipment.
- Secure to forklift with safety strap.

Failure to follow these instructions can result in death, serious injury or equipment damage.

⚠ ADVERTENCIA

PELIGRO DE VUELCO DESEQUILIBRIO, CARGA PESADA
- Asegure un soporte adecuado debajo del extremo pesado antes de mover el equipo.
- Asegúrelo al montacargas con una correa de seguridad.

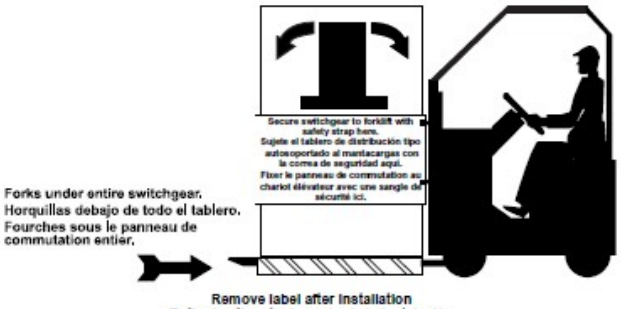
El incumplimiento de estas instrucciones puede provocar la muerte, lesiones graves o daños al equipo.

⚠ AVERTISSEMENT

RISQUE DE BASCULEMENT DÉSÉQUILIBRÉ, CHARGE LOURDE
- Assurez-vous d'un support adéquat sous l'extrémité lourde avant de déplacer l'équipement.
- Fixez au chariot élévateur avec une sangle de sécurité.

Le non-respect de ces instructions peut entraîner la mort, des blessures graves ou des dommages matériels.

Shipping weight:



Remove label after installation
Retire la etiqueta después de la instalación
Enlever l'étiquette après l'installation

FORK ACCESS
ACCESO DE LAS HORQUILLAS
ACCÈS DES FOURCHES

1513625-003 (-)

Storing

Moisture Contamination Avoidance and Mitigation

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Store the equipment in a clean, dry (including no condensation), well-ventilated area with an ambient temperature of approximately 70 °F (21 °C).
- If heaters that are powered from an external source are furnished in the assembly, energize them from an external source.
- If heaters are installed that are powered from the equipment load, provide external heaters per the instructions in this manual.
- If heaters that are powered from an external source are not installed in the assembly, and there is risk of condensing humidity, use a temporary heating source within the assembly. A minimum of 250 watts of heat per section is recommended.
- Avoid greasy, smoky heaters that can deposit carbon on insulation, which could lead to tracking and insulation breakdown.
- If moisture, condensation, or chemical ingress is observed, do not energize the equipment. If the equipment is already energized, de-energize it immediately.

Failure to follow these instructions can result in death or serious injury.

⚠WARNING

FIRE HAZARD

Remove all flammable material in the vicinity of the heaters, such as packaging, accessories in boxes, and documentation, before energizing the heaters.

Failure to follow these instructions can result in death, serious injury or equipment damage.

Shipping and Storing Requirements

Equipment Enclosures do not achieve their ratings until installed per the manual and outline drawings. Prior to installation, this equipment must be stored in a climate-controlled area that uses both heating and cooling to maintain an acceptable environmental conditions. Outdoor rated equipment is not suitable for outdoor storage unless heaters are installed and operational and the equipment is made watertight in accordance with any requirements in the switch manual.

- The equipment should be treated as if it is in storage until it is installed and operational or installed with the heaters operational.
- Equipment should not be stored outdoors. If they must be stored outdoors, they should be covered, and temporary electrical heating should be installed to prevent condensation.
- The storage area should be clear of any construction dust/dirt/debris.
- The storage area should be clean, dry, having uniform temperature to prevent condensation. The storage area must be climate controlled with proper ventilation.
    - Humidity limits: non-condensing relative humidity.
    - Temperature limits (ATS) -22 to 176 °F (-30 to 80 °C).
      (PCS) 0 to 140 °F (-17 to 60 °C)
- If heaters that were not supplied by the manufacturer, they must be clean and free of debris and grease. Greasy and/or smoky heaters can contaminate electrical insulation and lead to dielectric breakdown and/or tracking. Heaters should be at least 250 watts.
- Shipping packaging is not suitable for and cannot be used by itself for equipment storage.
- When receiving equipment, the equipment may be at a lower temperature than the ambient air temperature. Allow time for the equipment temperature, including the temperature of internal components, to rise to the ambient air temperature before making openings in or otherwise disturbing the packaging. Condensation can occur on and inside the equipment if warm air contacts cold surfaces of the equipment. Moisture damage can occur, destroying the dielectric capabilities of the equipment and rendering it unusable.
- The factory shipping wrap around the equipment on shipping pallets is not suitable for non-enclosed over-the-road transportation that risks exposing the equipment to the elements. The factory shipping wrap around the equipment should remain on the equipment until the equipment is ready to be inspected and stored or inspected and installed. After receiving the equipment and allowing it to acclimate to the environment, remove the packaging and inspect the equipment for damage that may have occurred in transit. If damage is found or suspected, immediately file a claim with the carrier and notify your Schneider Electric representative.
- Follow these guidelines every time the equipment is moved to a new storage location or to its final destination.

Exposure to Moisture, Chemicals, and Condensation

If liquids such as moisture, chemicals, and condensation contact the electronics, circuit breakers, fuses, bussing, or other electrical components, do not attempt to clean or repair the equipment as this may lead to unrepairable damage. If the equipment is energized, de-energize it. If equipment is not energized, do not energize it. Contact ASCO POWER SERVICES, Inc at 1-800-800-2726 (ASCO).

Site Moving and Handling Guidelines

Moving

Care must be exercised in moving and transporting equipment. Permanent damage to the connectors, guides, and frame can occur if improperly moved, voiding the ASCO warranty. A professional rigging company should be employed to move or transport equipment.

All ASCO Power Technologies equipment shall be in the upright position when transported via truck, train, boat, or airplane unless packaged on their back by ASCO Power Technologies at the factory. Equipment cannot be transported in any orientation other than vertical or on their back if packaged by ASCO Power Technologies. It is not recommended to package Power Control Systems on their back. If this is required, contact the ASCO Power Technologies Project manager at 1-800-800-2726 (ASCO).

Tables 1, 2 and 3 provide guidelines on moving ASCO Power Technologies equipment once they reach their destination. The tables are applicable to UL Type 1/3R/4/12 enclosures and open configurations only; all other enclosures must be moved in the upright position.

Table 1. ASCO 300/7000 SERIES (non-Bypass)

Switch Rating (amps)	Tilted or Laid on Back		
	Open Configuration	Enclosed UL Type 1	Type 3R/4/12 Enclosure
D 20 through 230	Yes	Yes	Yes**
J 150 through 600			
H 600 through 1200			
G 1600 through 3000			No
G 4000*	No	No	No

* 7000 SERIES only
** Welded Enclosures only

Table 2. ASCO 7000 SERIES (Bypass)

Switch Rating (amps)	Tilted or Laid on Back		
	Open Configuration	Enclosed UL Type 1	Type 3R/4/12 Enclosure
J 150 through 600	No	No	No
H 600 through 1200	Yes	Yes	
G 1600 through 3000			
G 4000	No	No	

Table 3. ASCO 185 SERIES

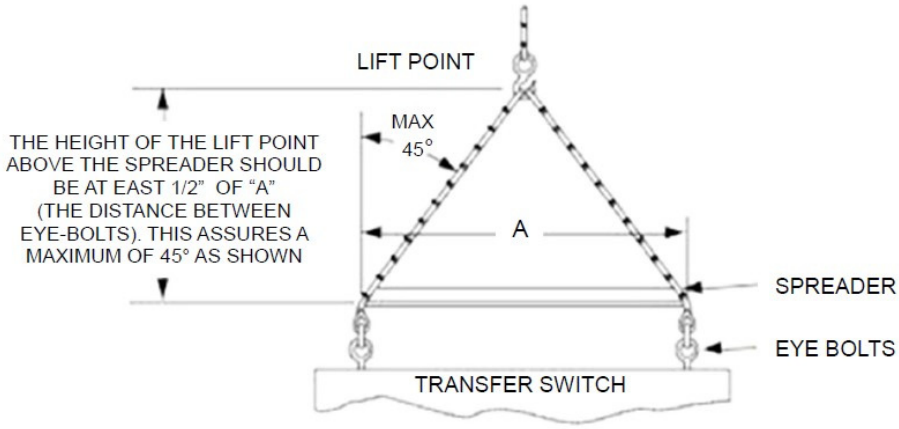
Switch Rating (amps)	Tilted or Laid on Back		
	Open Configuration	Enclosed UL Type 1	Type 3R/4/12 Enclosure
D 20 through 230	Yes	Yes	Yes
E 260 through 400			

See Material Handling Types for lifting specific enclosures (page 15).

Handling with Lifting Eyes

Welded NEMA Type 3R/12/4 enclosures may be provided with lifting eyes. When using the lifting eyes with and overhead crane, and cables or chains use a rigid spreader bar . See Figure 3.

Figure 3. Lifting with Eye Bolts.



Follow these instructions to handle the equipment:

1. Use load-rated cables or chains with safety hooks or shackles. Do not pass cables or chains through lifting eyes.
2. Use load-rated spread bar to prevent structural damage. Rig so that the minimum angle between the lifting cables or chains and equipment top is 45 degrees.

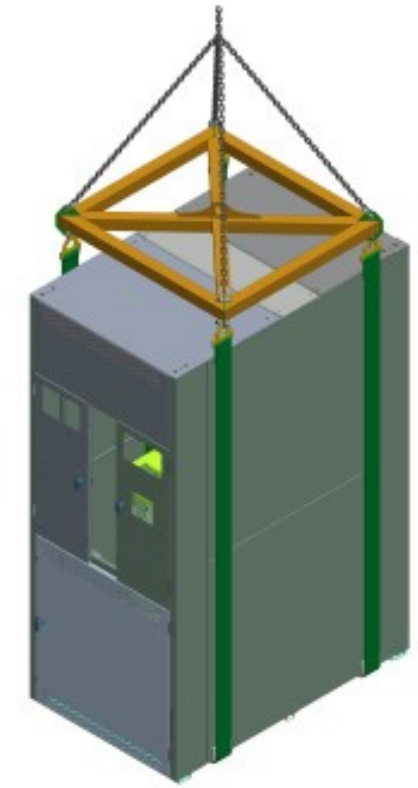
Follow these instructions for laying equipment on it back:

1. Secure to overhead crane with load-rated cables or chains with safety hooks or shackles.
2. Raise the crane to remove any slack.
3. Remove from shipping skid.
4. Rate of lowering or pickup for laying equipment on its back is four feet per minute or less.
5. Move crane and provide blocking to prevent equipment from sliding.
6. Reverse the procedure to stand the equipment in its upright position.

Handling with Lifting Plates (NEMA 3R)

NEMA Type 3R enclosures may be provided with lifting plates. When using the lifting plates with an overhead crane, and cables or chains use a rigid spreader bar. See Figure 4.

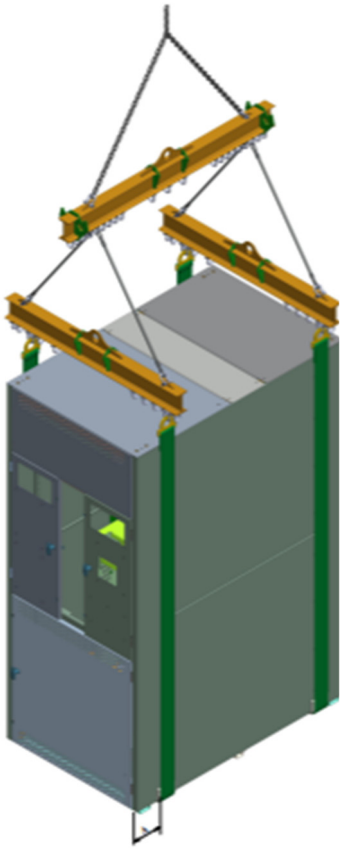
Figure 4. With Lifting Plates.



Handling without Lifting Eyes or Plates

Equipment without lifting eyes require rollers, slings, or other means to handle and should be moved by an experienced Rigger in accordance with ANSI/NEMA PB 2.1 and the instructions below. When slinging use two sets of slings with spreader bars. See Figure 5.

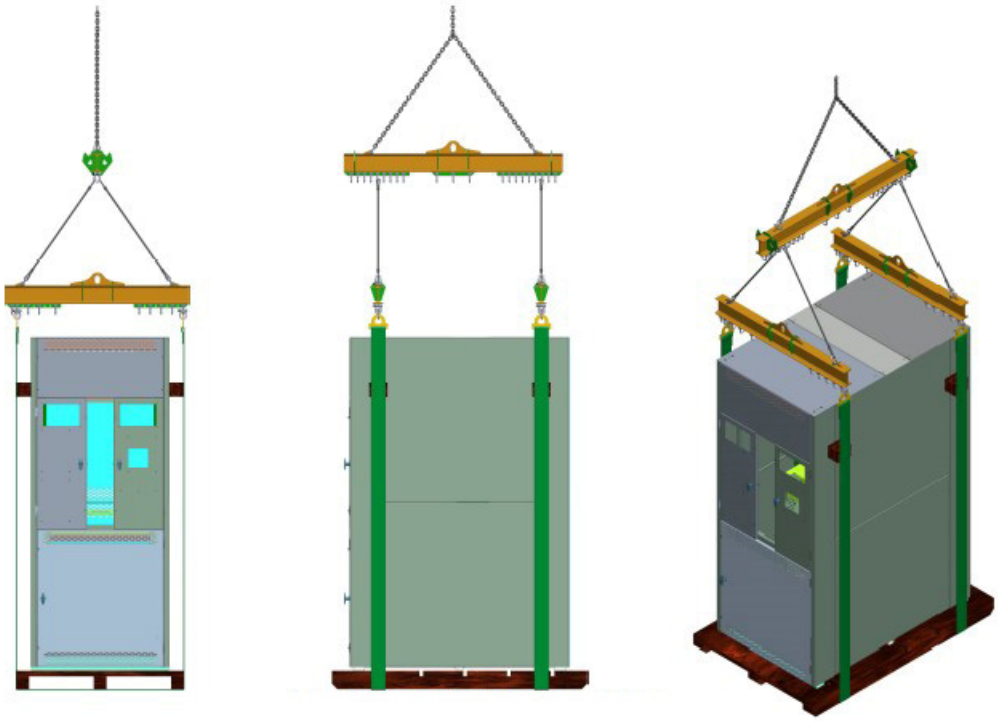
Figure 5. Handling without Lifting Eyes.



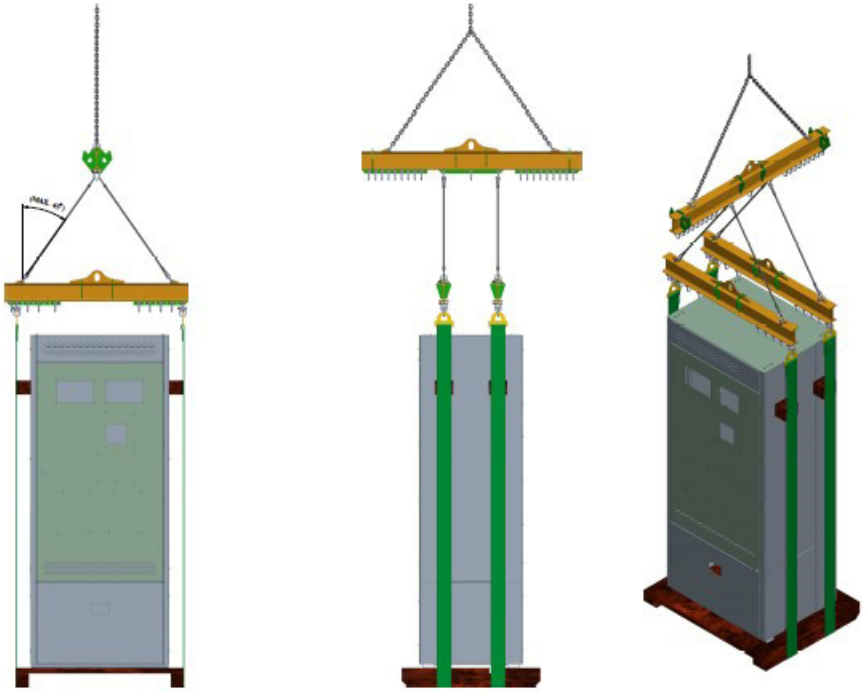
Material Handling Types

Type 1 Enclosures – Skid

Cubicle Deep, Skid

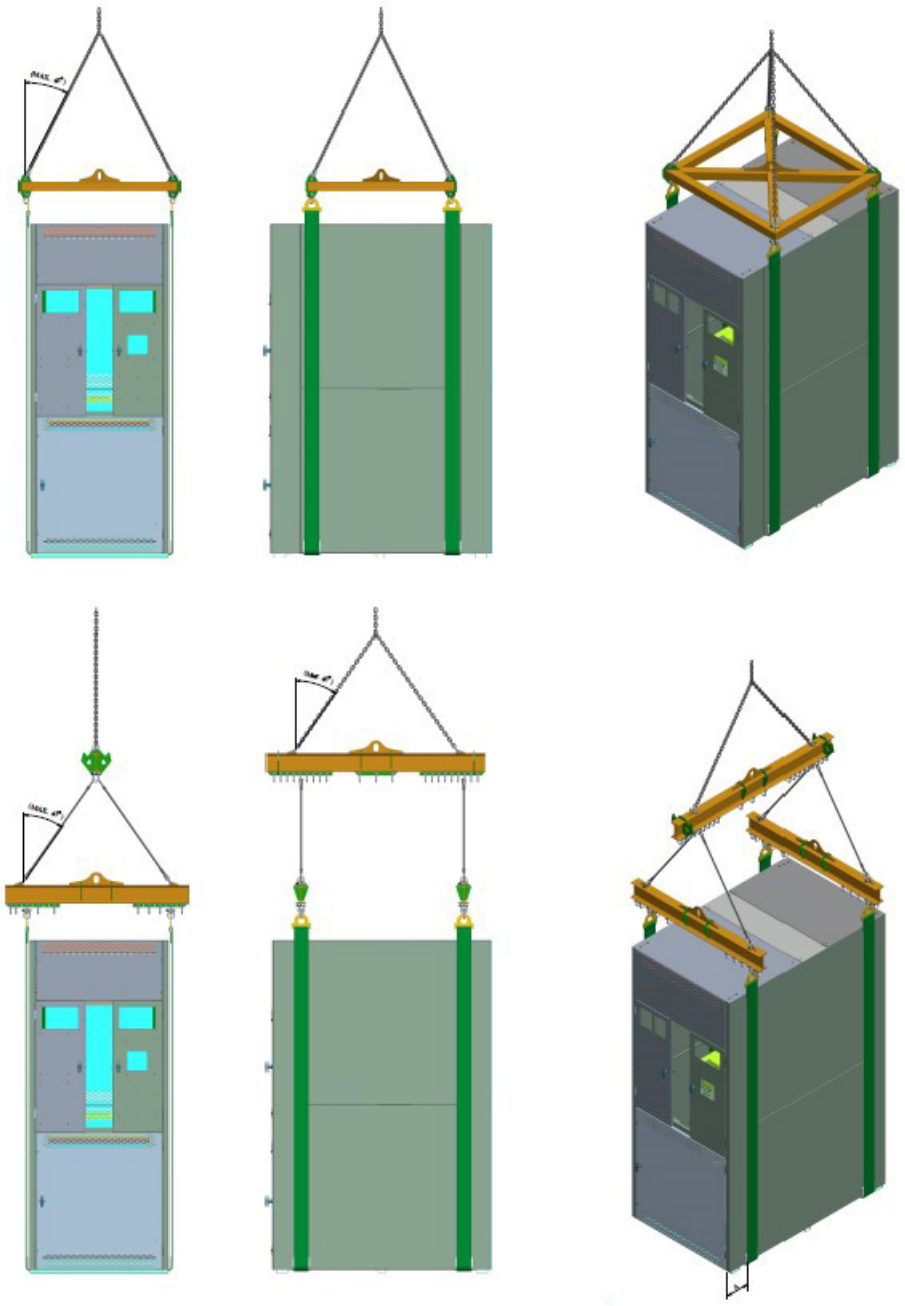


Cubicle Shallow, Skid



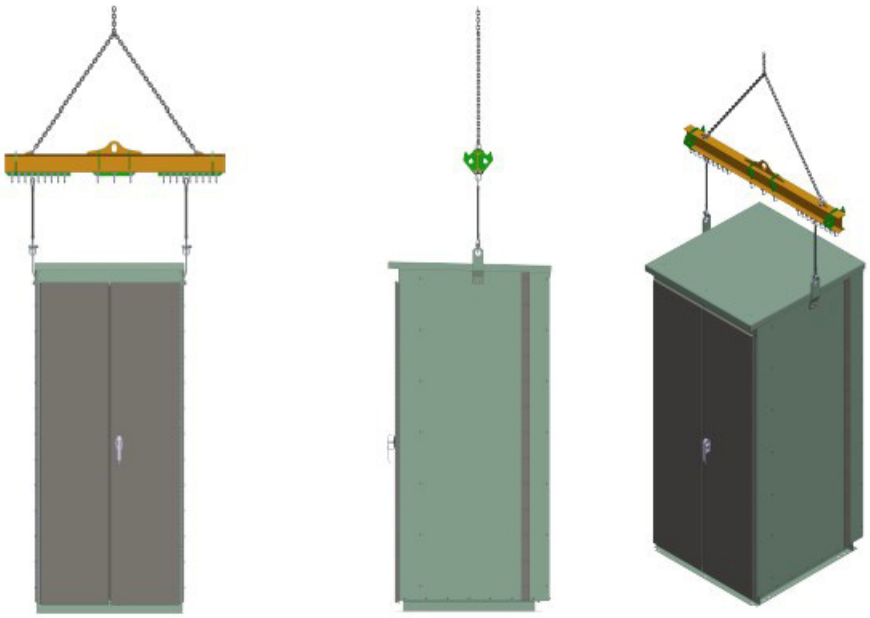
Type 1 Enclosures – Sling

Cubicle Deep, Sling

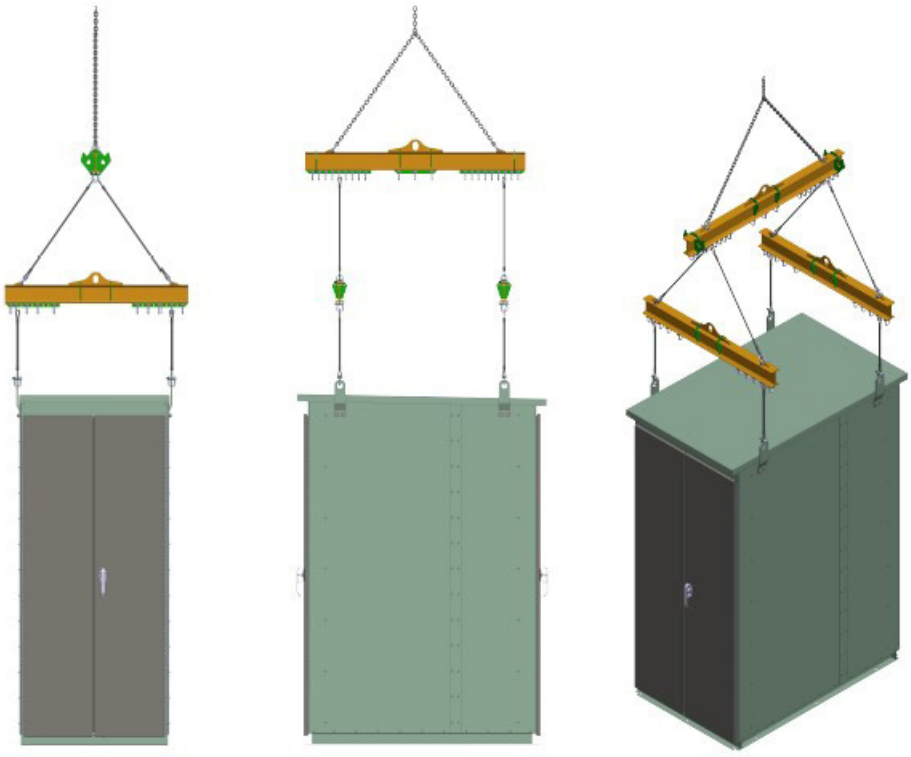


Type 3R Enclosures – with Lifting Eyes

Cubicle with 2 Lifting Eyes

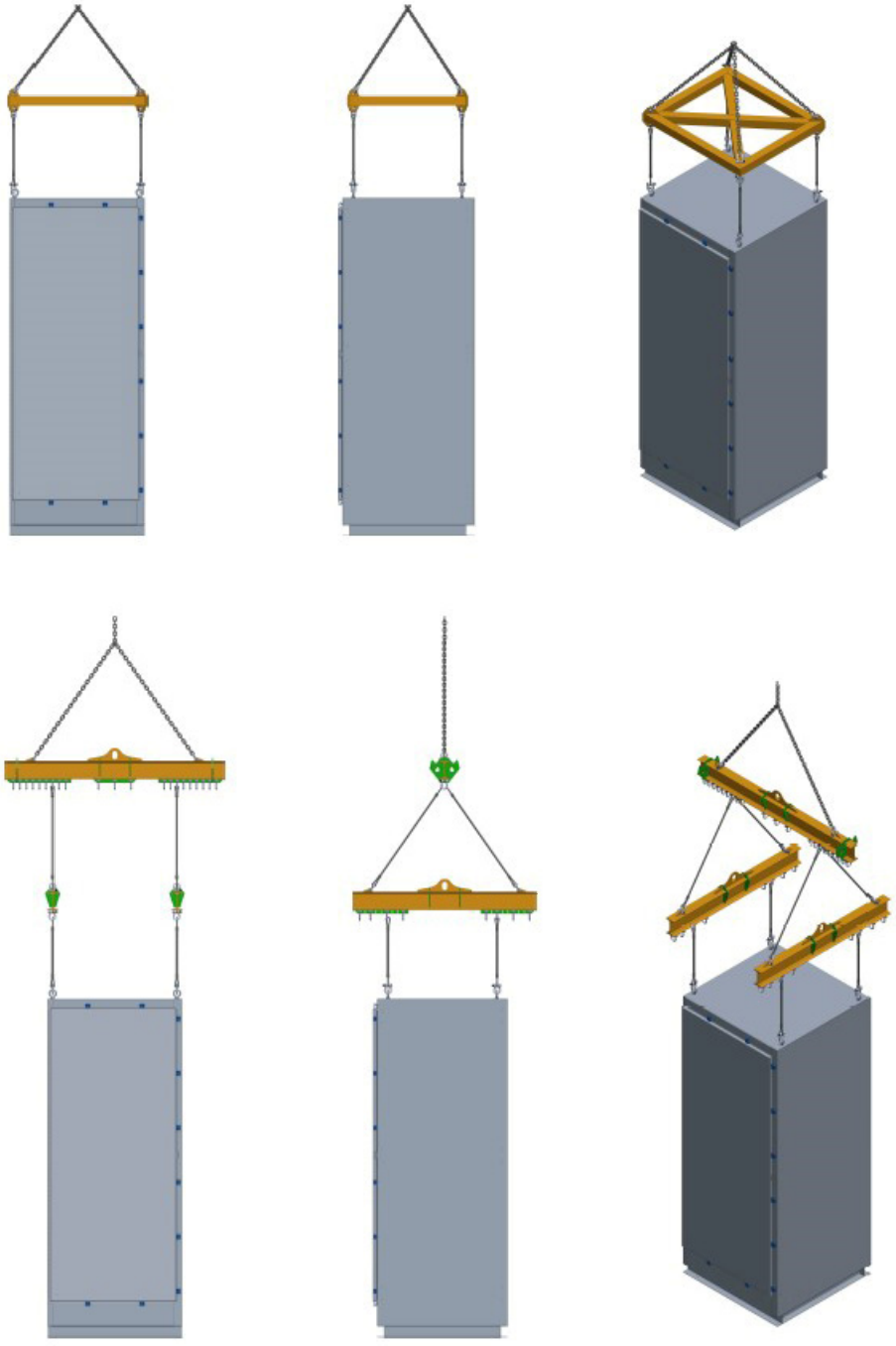


Cubicle with 4 Lifting Eyes



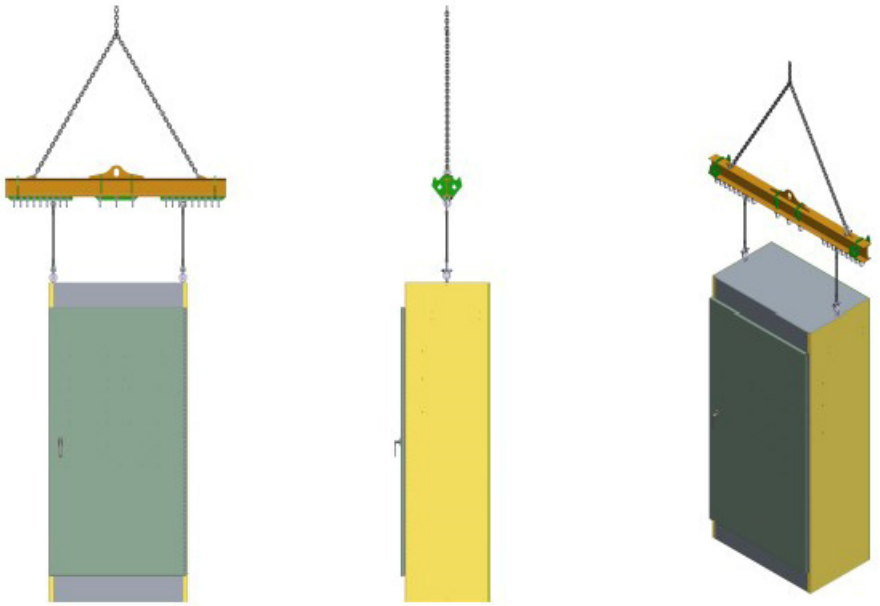
Type 4 Welded Enclosures – with Lifting Eyes

Welded Enclosures with 4 Lifting Eyes



Type 12 Welded Enclosure – with Lifting Eyes

Welded Enclosures with 2 Lifting Eyes



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