



ASCO Power Technologies™

Quick Connect Panels

Quick Connect Product Review

	Introduction to Speaker
	What is a quick connect panel?
	Quick Connect Products
	MTS With Integrated Camlocks (MTQ)
5	Why Does It Matter?

Field Sales Engineer: Carlos Quintero



Speaker's Bio:

My name is Carlos Quintero. I graduated from Rutgers University back in 2018 with a bachelors degree in Electrical and Computer Engineering. I've been with ASCO for 3.5 years. I was previously an applications engineer, mainly working on pricing and designing custom transfer switch lineups. I took on a Field Sales position in November of 2021.

Products and Services

Power Switching and Control Products



Automatic Transfer Switch

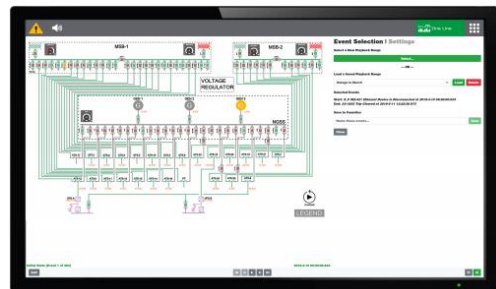


Power Control Systems



Load Banks

EcoStruxure/CPMA



Critical Power Management Appliance

Service



ASCO Services Inc.

Manual Switching and Docking Stations



The ASCO SERIES 300 **Manual Transfer Switch** is the perfect load transfer solution for commercial and municipal applications:



The ASCO SERIES 300 **Quick Connect Power Panel** provides reliable, convenient, and economical connection for a standby generator:



The ASCO SERIES 300 **Manual Transfer Switch with Integrated Quick Connects** provides a total temporary power connection and transfer solution:

What is a Quick Connect Panel?

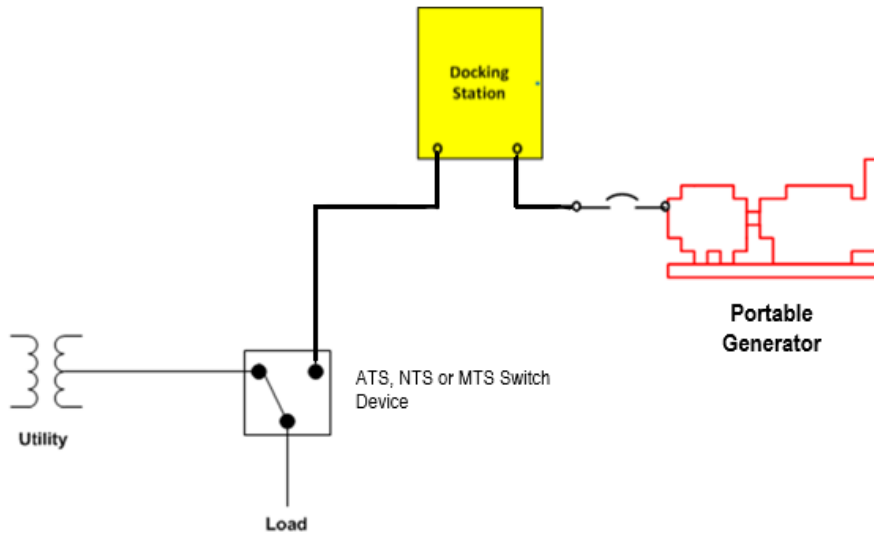
A piece of equipment that allows for a safe means for temporary connection of a generator or load bank.

- Enclosure contains mechanical or compression lugs for permanent connection, bussing and single pole connectors.
- Some include additional accessories, phase rotation monitor, auto start terminal block, disconnect breaker, receptacles.
- Typically for outdoor use only.
 - Enclosures are usually NEMA 3R, enclosures need to provide the same level of protection when cables are either connected or disconnected.
 - NEC requires a line of sight from permanent or portable (> 15kW) generators equipped with disconnects to docking station. 702.12 (A)



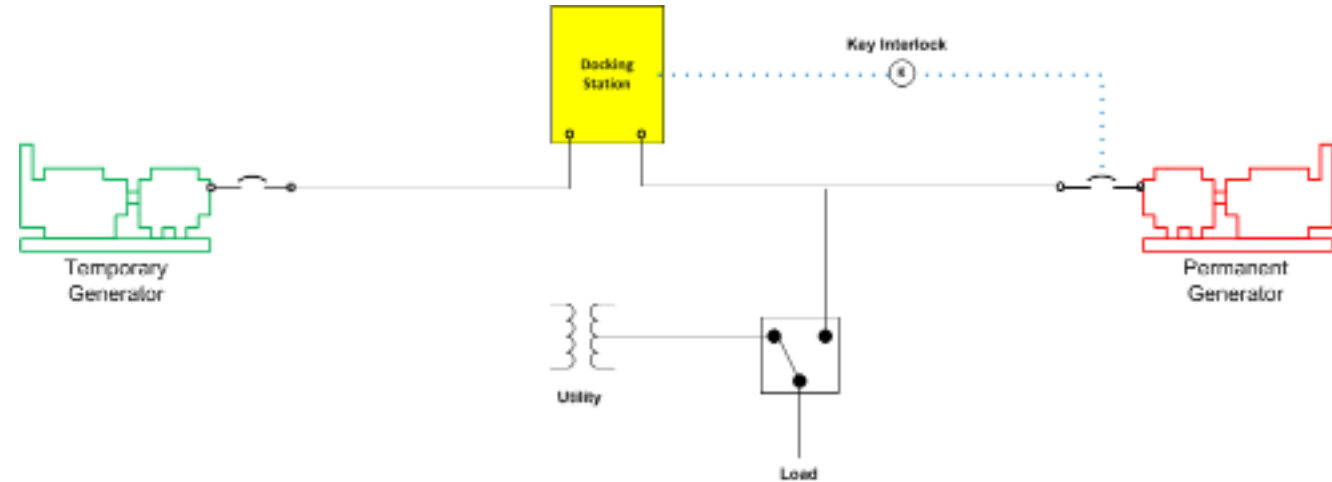
Docking Station Connections

Generator Tap (Standard Connection)



Generator Tap (Optional Standby solution)

Dock in the Middle (feed thru)



“Dock in the middle” requires interlocking method to meet 700.3

- Requires emergency power system to be down to work on PG;
- Key is Trapped
- Line-of-sight requirement

Input vs. Output Docking Stations

Input panels are UL or ETL listed to UL1008 annex J standards as Transfer Switch Accessory

- Male single pole connectors (Typically 16 Series male recessed Camlocks)

Output panels are ETL or UL listed to UL891 Switchboard standards

- Female single pole connectors (Typically 16 Series female Camlock)

16 Series camlocks

- Rated for 400A @ 600VAC
- Short circuit rating of 10kA
- Color configurations determine the voltage of docking station
- NEMA 3R rated

Volts	Cat Code	Phase A	Phase B	Phase C
<=240	F	Black	Red	Blue
<=480	N	Brown	Orange	Yellow
<=600	R	Black	Black	Black
Neutral, if used, is always White Ground is always Green				



Input Panel (Generator) Connector



Cable side mating – Female connector



Output Panel (Load Bank) Connector



Cable side mating – male connector

Quick Connect Power Panel – (Docking Stations)

SERIES 300 Quick Connect Panel Features:

Whether it's a stand-alone panel or integrated into an MTS, ASCO Quick Connect Panels offer the following features:

- Input panels listed to UL 1008 as a transfer switch accessory
- Output panels are listed to UL 891 for switchboards
- 400 to 4000 Amp models rated up to 600 Volts
- Convenient, economical, and reliable connection of emergency or alternate power to a transfer switch
- Standard Type 3R weatherproof construction with or without cables connected
- Quick Connect Panels are constructed of aluminum or stainless steel
- Utilizes standard Cam-Lok receptacle for quick connection
- Lockable doors to prevent unauthorized entry

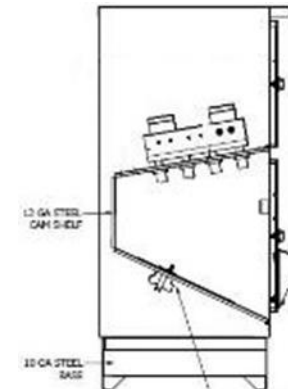
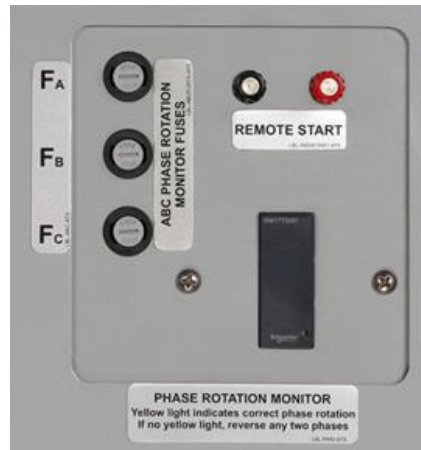


Quick Connect Power Panel – (Accessories)

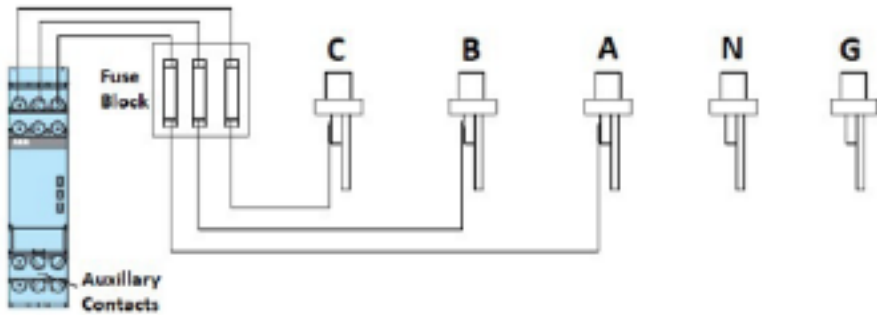
Accessory 171QC (Available for 400A-1600A units)

- Phase Rotation Monitor & Fuses
- Banana Terminal Post for 2 wire auto start cables
- Provisions for Kirk or Trap-Key Interlock
- C Enclosure Design for bottom feed cabling (1200A & 1600A)

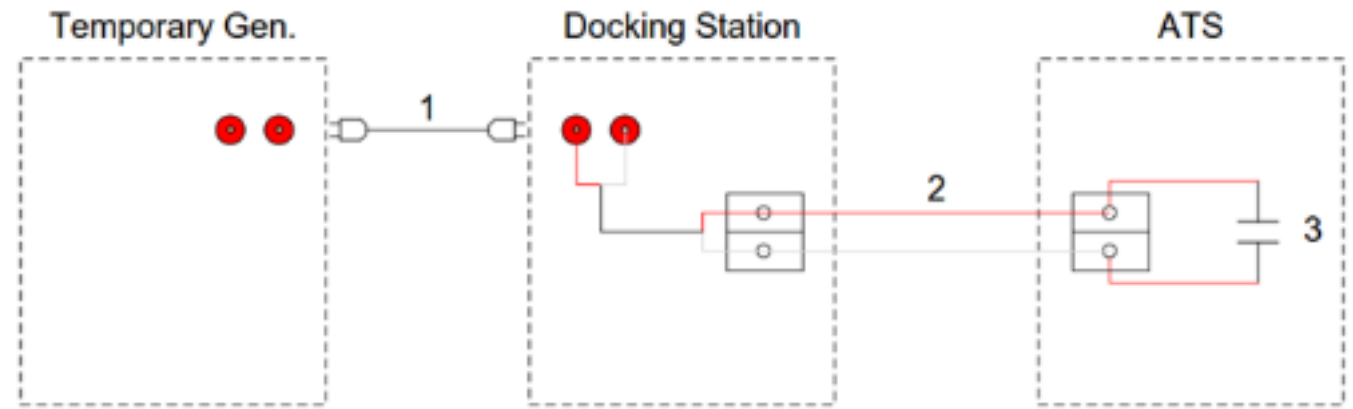
Features provided in accessory 171QC are standard on 2000A-4000A QCPs.



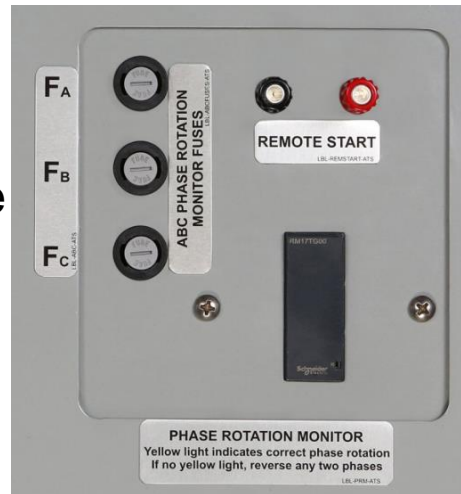
How does the Phase Rotation Monitor & Remote Start circuit work on our Quick Connect panels?



Circuit wired in series with automatic transfer switch



- Unit comes prewired to the first camlock of each phase for ABC rotation.
 - Match and confirm build rotation.
- LED indicates correct phase rotation



1. Temporary Conductor between Temp Gen and QCP.
2. Permanent conductors between QCP and ATS.
3. Remote start contacts within ATS.

Operation

- ATS shown in the Normal position connected to Utility Source. (Not Calling for Remote Start.)
- ATS will close contact (3) to remote start Temp gen as required.

Life Is On

Schneider
Electric

3QCN & 3QCU

Single Purpose Quick Connect Panel with Integrated Breaker



150 - 800A Wall-Mount

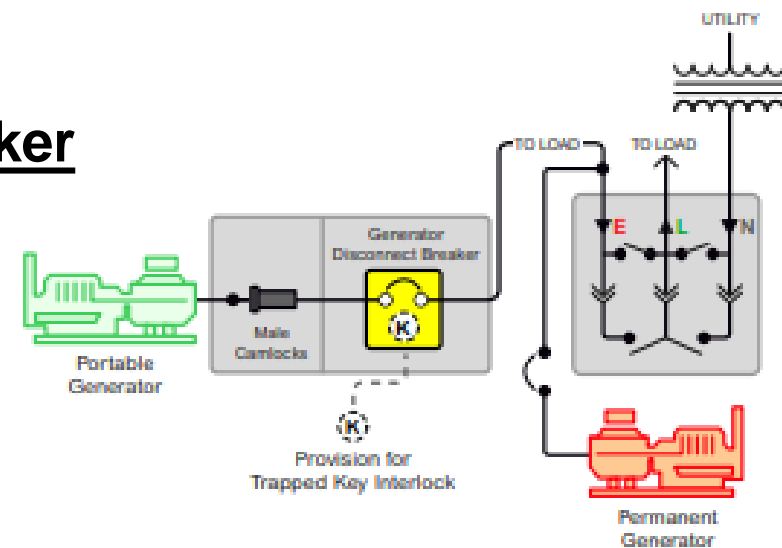


Front view

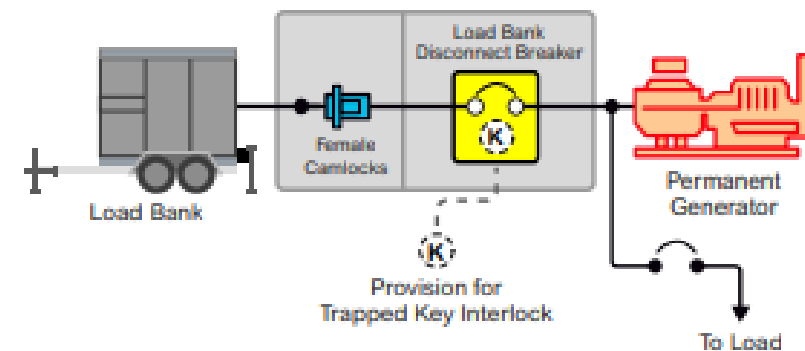


Back view

1000 - 4000A Pad/Floor-Mount



3QCN Input Panel



3QCU Output Panel

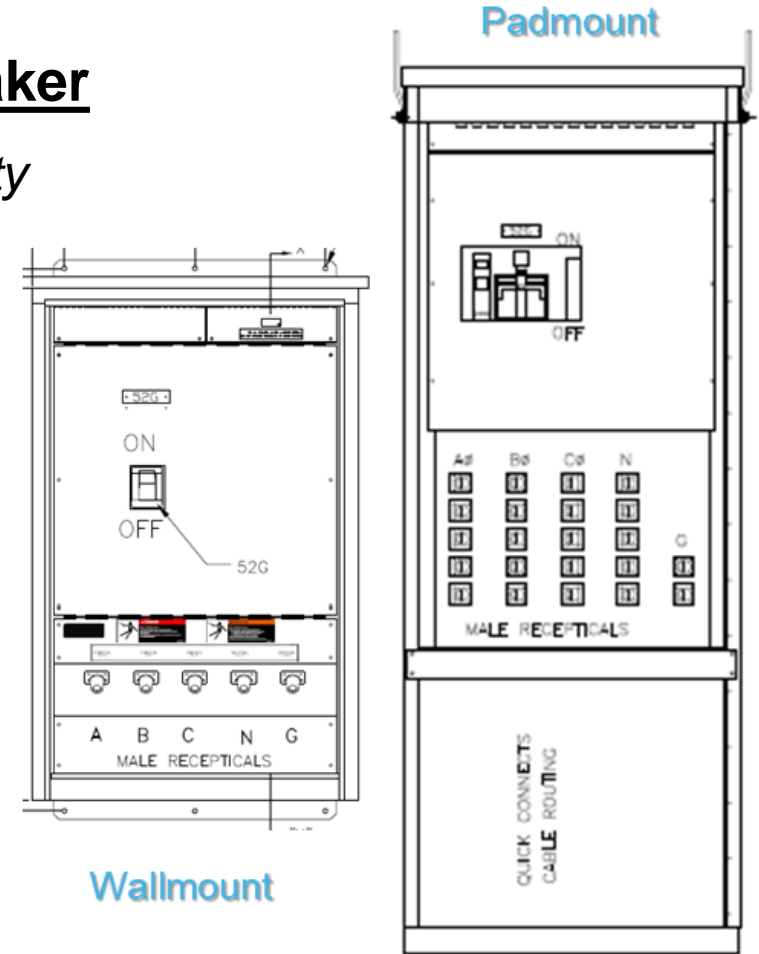
3QCN & 3QCU

Single Purpose Quick Connect Panel with Integrated Breaker

Provide both supplementary backup power and load testing connectivity through a single device with an integrated breaker to prevent overloading.

UL Listed to 891

- Ratings 150 – 4000A, up to 600VAC single or 3 phase
- Enclosures: Outdoor 3R or 3RX (316 Stainless)
- Standard Features:
 - Provision for Trapped Key Interlock (Kirk)
 - 400A – 800A, Provision is on Door (Wall Mount)
 - 1000A – 4000A, Provision is on Breaker (Floor Mount)
 - Generator Panels – Phase Rotation Monitor and Engine Start Connection
 - Load Bank Panels – Load Dump Terminal Connection



Quick Connect Panels

Dual Purpose

Use one panel to connect to a portable generator or load bank to an existing Transfer Switch.

Product Information:

- Available from 150A-800A up to 600Vac
- Dual Purpose QCP with disconnect breaker.
- ETL listed to UL 891 specifications
- Integrated disconnect breaker and castell locking system
- Available in Type 3R and 3RX enclosures.



150A-800A Wall Mount Dual Purpose QCP with Disconnect Breaker between Sources

Product Information:

- Available from 800A-4000A up to 600Vac
- ETL listed to UL 891 specifications
- No disconnect breaker-
- Kirk key mounted on door and second lock included to be mounted on Perm Gen Breaker
- Available in Type 3R and Type 3RX enclosures

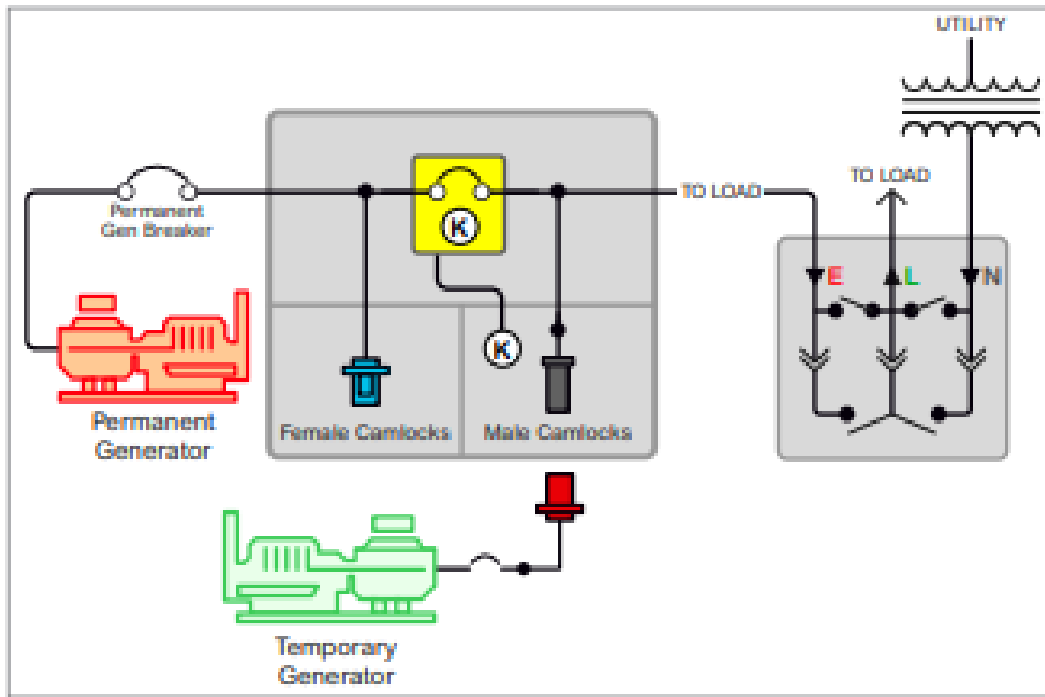


2400A-4000A Pad Mount Dual Purpose QCP (No Breaker)

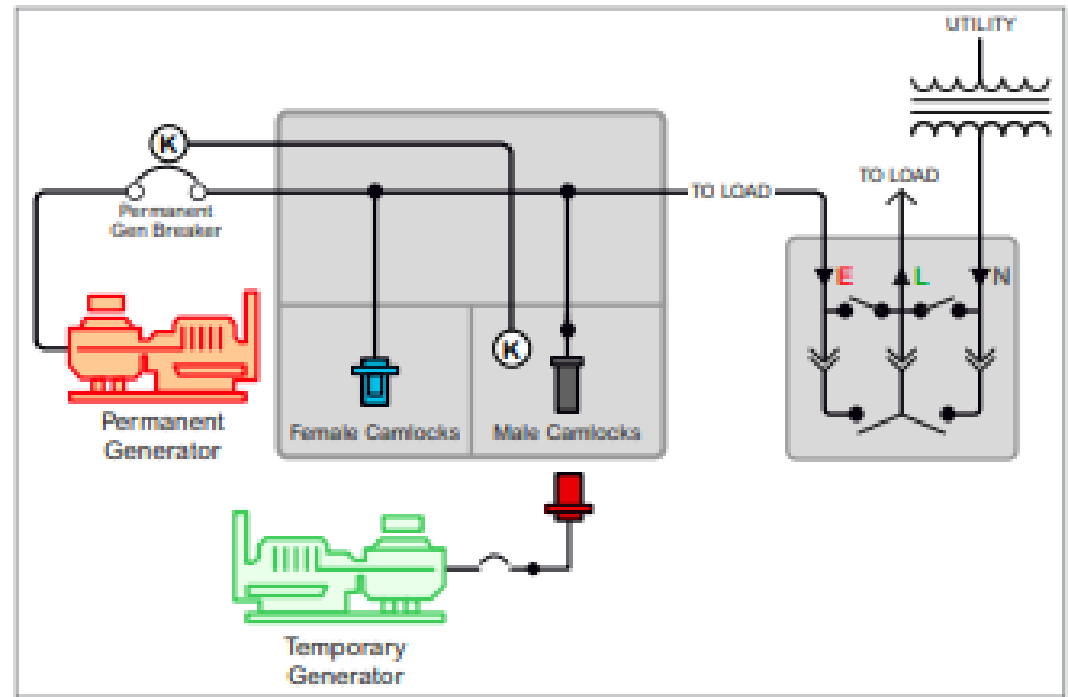
Quick Connect Panels

Dual Purpose

Use one panel to connect to a portable generator or load bank to an existing Transfer Switch.



Sample connection diagram for 150A-800A Wall Mount Dual Purpose QCP with Disconnect Breaker between Sources



Sample connection diagram for 800A-4000A Pad Mount Dual Purpose QCP (No Breaker)

Manual Transfer Switch

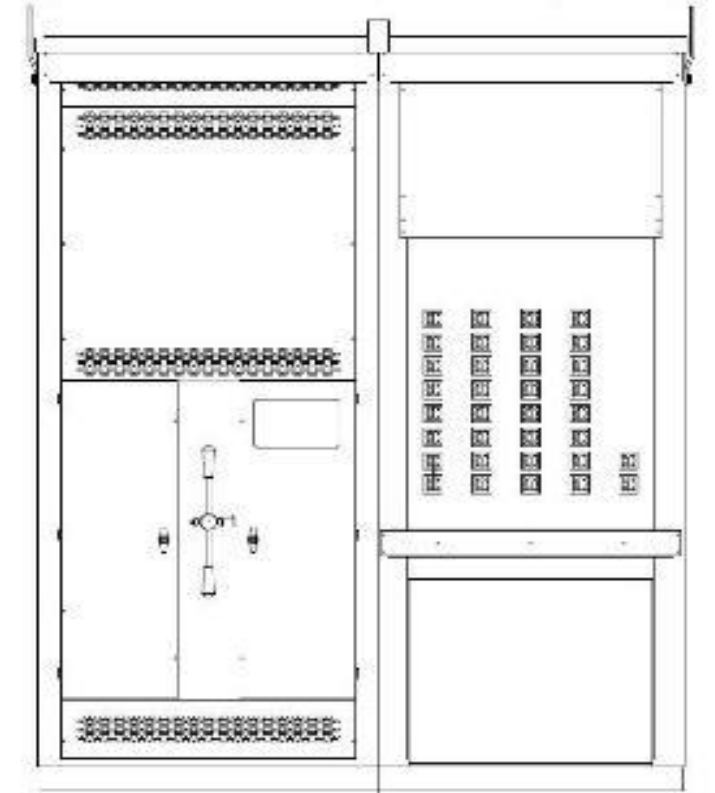
- Transfer Switches listed to UL 1008 standard
- Service Entrance configurations listed to UL 891
- Available from 150 to 3000 Amps, up to 600VAC, single or 3-phase
- Dual-operator configuration provides 3-position switching with center-off position
 - Switch design prevents simultaneous connection to two power sources
 - Pad-lockable in any position
- Leverages ASCO's field-proven transfer switching technology
- Designed to handle the demands of motors and high inrush currents
- Available with solid neutral termination or switched neutral pole
- Available stainless steel enclosure for use in corrosive environments
- When equipped with a connecting means, meets NFPA 110 standards for Emergency and Standby Power Systems and NEC® Article 700.3(F)
- Auxiliary contacts indicate switch position - two contacts for Normal and two for Emergency
 - LED indicators and Form C contacts for switch position and source availability
 - Phase rotation monitoring to ensure correct connection of temporary source
 - Two-wire engine start switch
- IO Module for building management system integration
- Restriction of Hazardous Substances (RoHS) compliant



The ASCO SERIES 300 **Manual Transfer Switch** is the perfect load transfer solution for commercial and municipal applications:

Manual Transfer Switch with Integrated Quick Connects

- Available from 150 to 1200 Amps (at the moment) , up to 600VAC, single or 3-phase.
- Provides a complete UL1008 listed solution in a single unit.
- Service Entrance (MUQ) and Gen breaker (MGQ) configurations available
- Standard Type 3R cabinet is weatherproof with or without temporary power cables connected
- Utilizes 16 Series camlock connectors



Manual Transfer Switch with Integrated Quick Connects (accessories)



Manual Transfer Switch w/ Dual Purpose Quick Connects

SERIES 300 MTDQ & MGDQ with Integrated Quick Connections

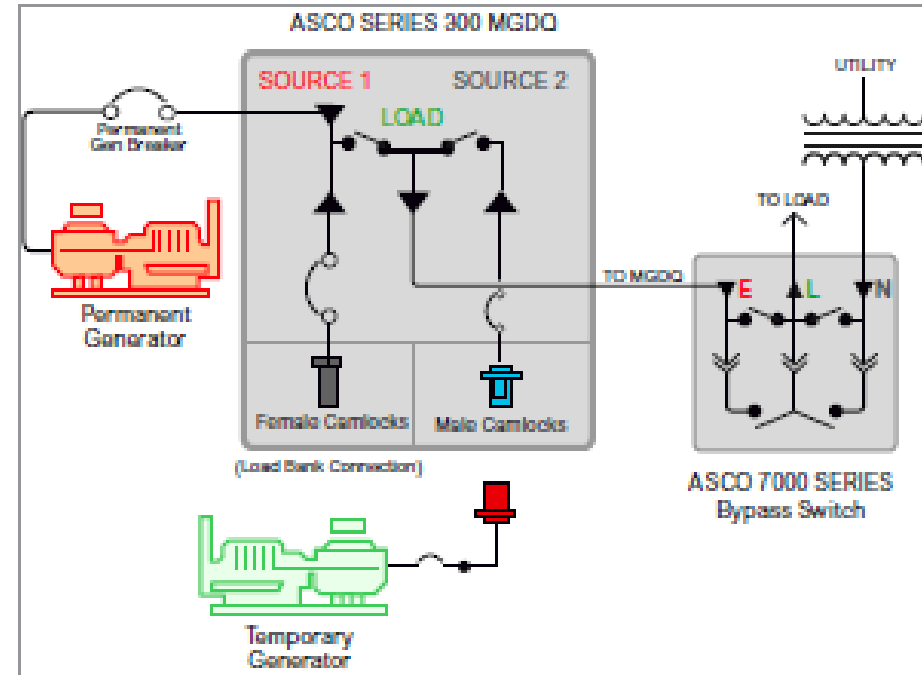
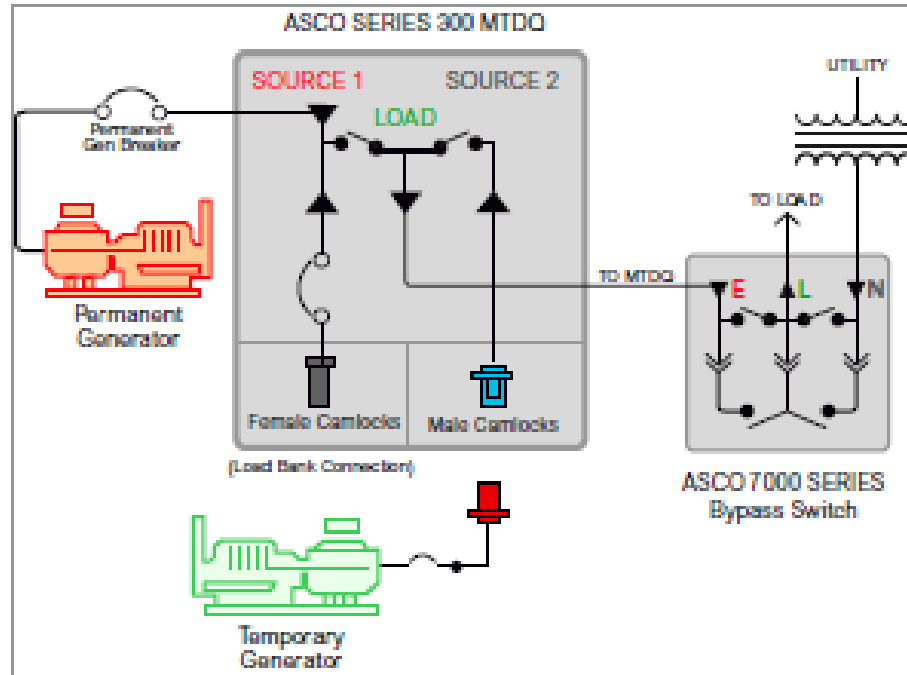
Every ASCO SERIES 300 Manual Transfer Switch with dual purpose Quick Connects provides the following capabilities and features:

- Listed to UL 891 standards. Transfer switch is UL1008 listed.
- Available from 150 to 3000 Amps, up to 600VAC, single or 3-phase.
- Dual-operator configuration provides 3-position switching with center-off position.
 - Switch design prevents simultaneous connection to two Sources.
- Simultaneously load bank your permanent generator while connecting your portable
- Available with solid neutral termination or switched neutral pole.
- Pad-lockable in any position.
- Standard Type 3R cabinet is weatherproof with or without temporary power cables connected.
- Utilizes 16 Series Cam-Lok connectors.



Manual Transfer Switch w/ Dual Purpose Quick Connects

ASCO SERIES 300 Manual Transfer Switch with Dual Purpose Quick Connects



Accessory 130QL Family

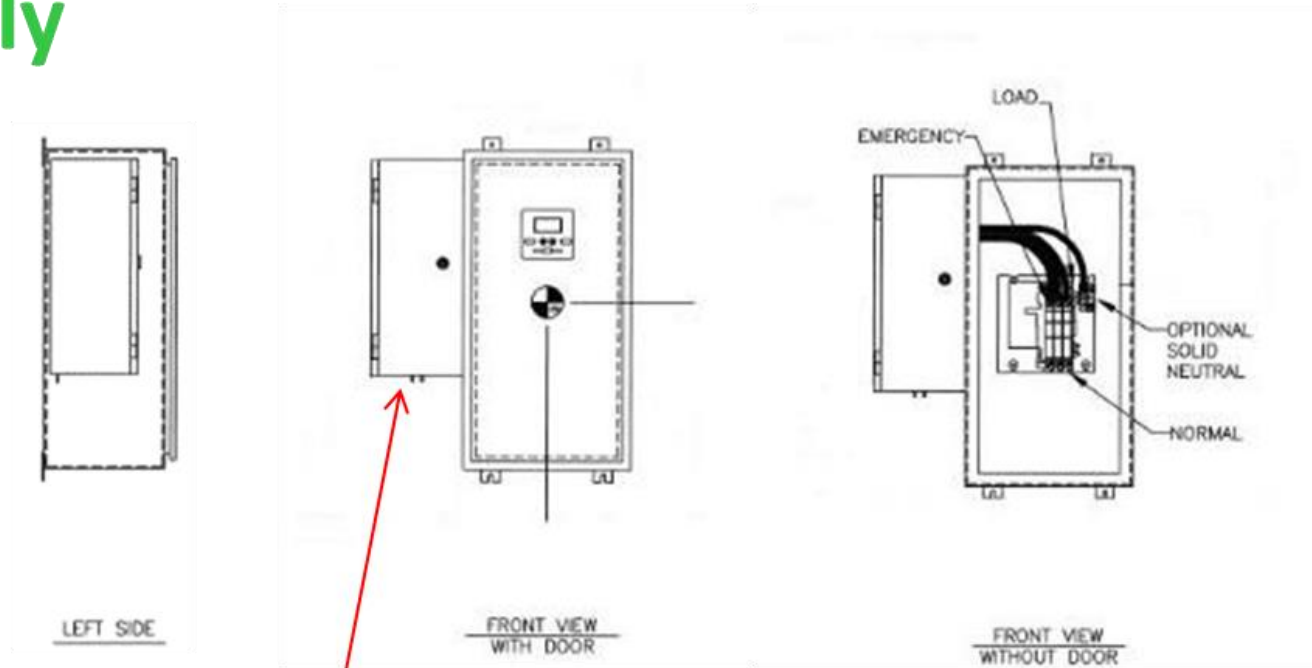
Available for D & J-Frame (400A & below)
ATS, SE-ATS, NTS and SE-NTS

Aluminum receptacle housing mounted on the left side of Type 3R transfer switch enclosure.

Contains 16 Series Camlock connectors wired to emergency side of transfer switch for connection to alternate source.

Connector configurations: 480/277V 3φ,
208/120V 3φ, 240/120V 1φ.

List adder \$2800



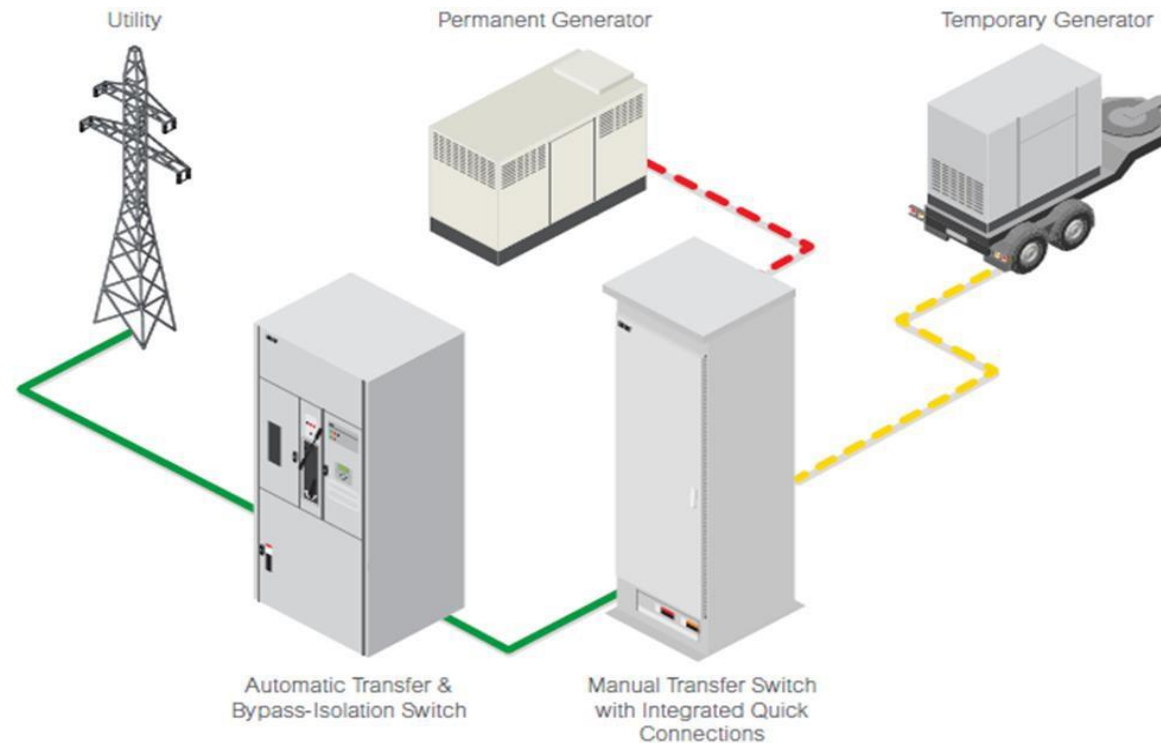
Add on Quick Connect Enclosure

Accessory Code	# of poles	Voltage	Amperage
130QL1	2	240/120V	200A & below
130QL2	2	240/120v	230A-400A
130QL3	3	208/120V	200A & below
130QL4	3	480/277V	200A & below
130QL5	3	208/120V	230A-400A
130QL6	3	480/277V	230A-400A

Why are these products important?

The Perfect Solution for NEC® 700.3 Requirements

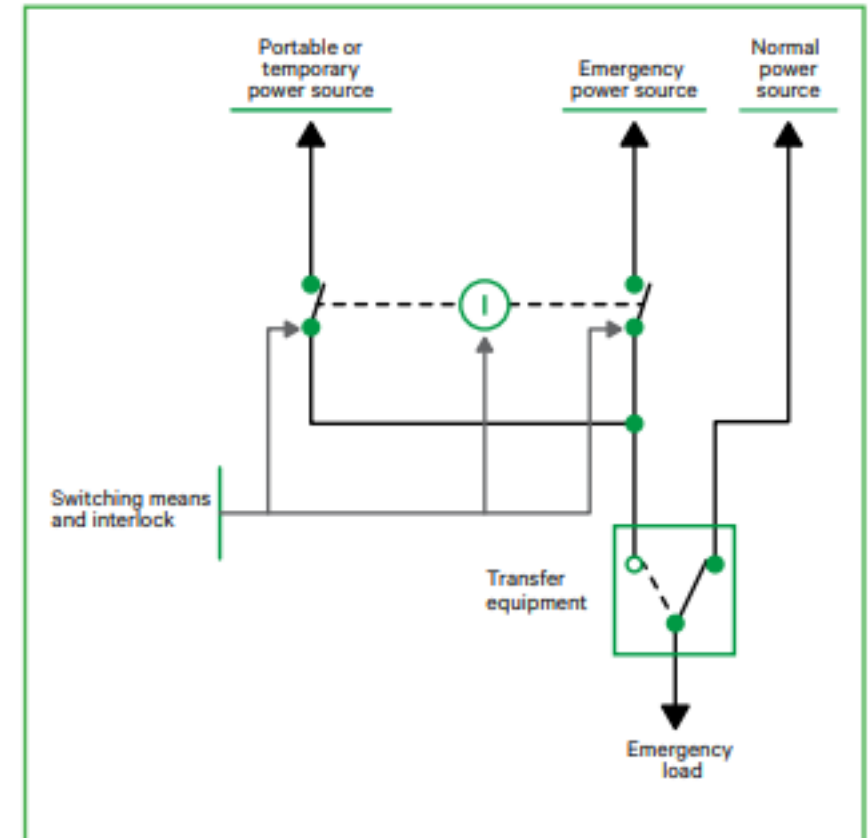
At facilities where backup power must be available even when servicing a facility's sole generator, National Electrical Code® Article 700.3(F) requires that a permanent switching means be provided to connect an interim source of secondary power. For facilities without a permanent backup generator, an MTS and a connecting means can facilitate the connection of a temporary or portable generator when needed, without the cost of a permanent engine-generator.



700.3(F) Requirements

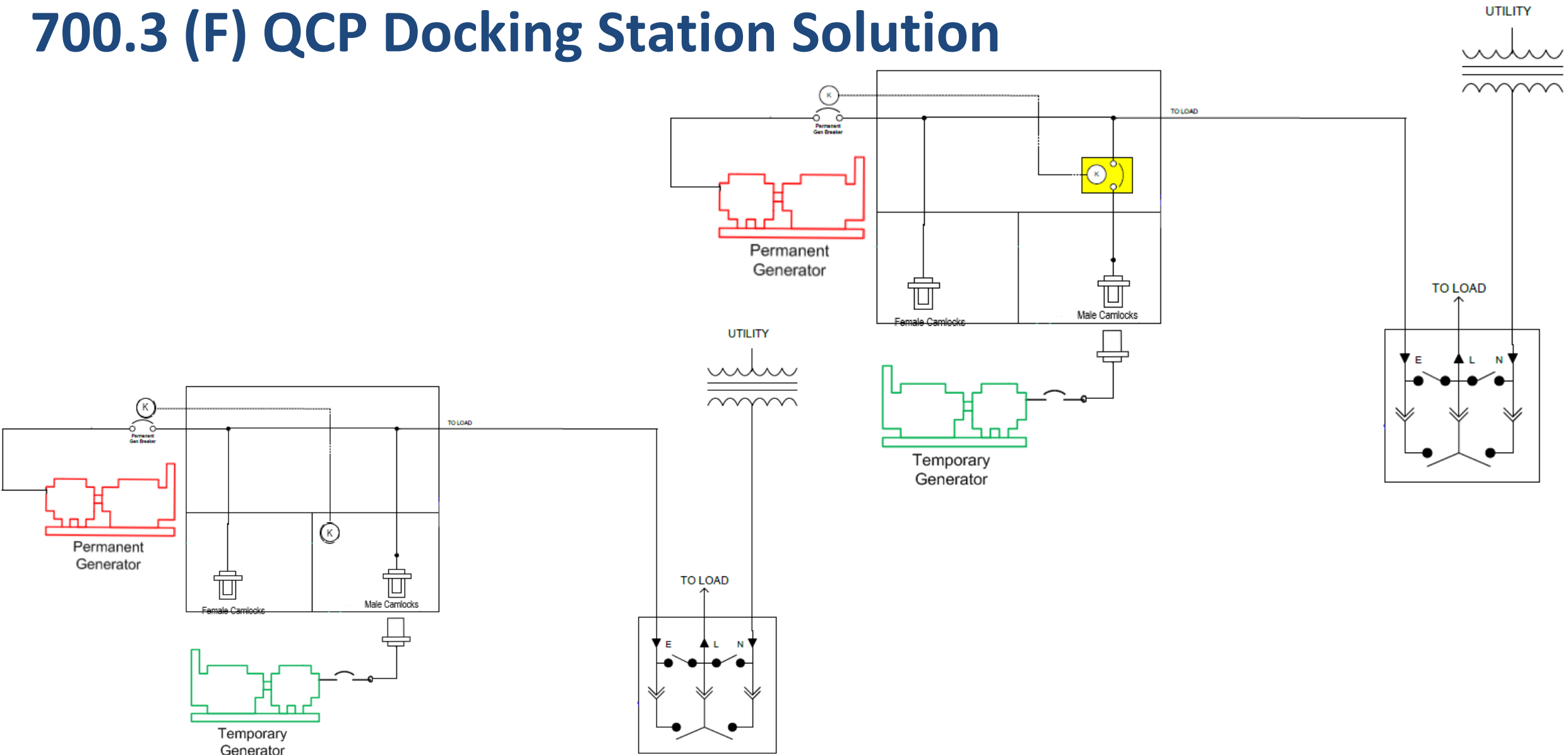
700.3 (F) “**If the emergency system relies on a single alternate source of power** which will be disabled for maintenance or repair, the emergency system **shall include permanent switching means to connect a portable or temporary alternate source of power** The **permanent switching means** to connect a portable or temporary alternate source of power **shall comply with the following:**

1. Connection to alternate power source shall require no modification to permanent system wiring.
2. Transfer between normal and emergency power source shall meet 700.12. (10 second requirement)
3. Connection point of temporary power source shall be mark with phase rotation and system bonding requirements.
4. Device must be electronically or mechanically interlocked.
5. Switching means shall include a contact point for annunciation, that indicates the permanent emergency source is disconnected from the emergency system.

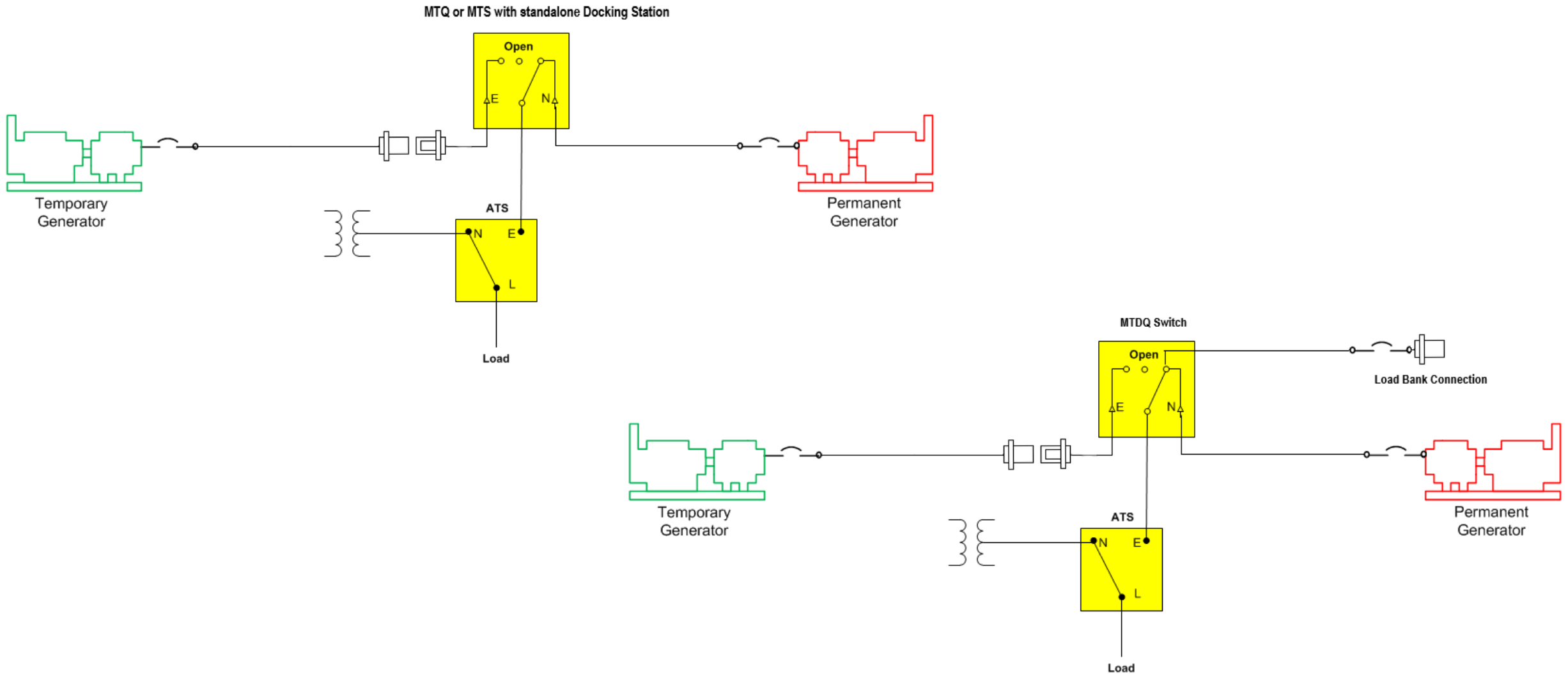


For emergency power systems with a single alternate power source, NEC Article 700.3(F) requires a means of connecting temporary or portable power.¹

700.3 (F) QCP Docking Station Solution



700.3 (F) MTS Solution



Questions, Comments, Open Discussion



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