

Generator/Loadbank Quick Connection (GLQC) Tap Box WM-Series



ADVANCED POWER
TECHNOLOGIES



Solution Brochure

Standard Configuration

Having an APT WM Series tap box pre-installed will eliminate much of the chaos as well as hazards that can be associated with connecting a temporary generator during a facility power loss



Figure 1: Carbon Steel NEMA 3R Enclosure Inside Access



Figure 2: 1200A No Circuit Breaker (Inside Cover Removed)

400 – 4000A, 480V (3Ø) Generator Quick Connection Tap Box

- UL Listed Wall-Mountable Tap Box
- Rating: 400 – 4000A, 480V or 120/208 (3Ø)
- Lockable access flip door to color coded, male (generator) or female (loadbank) E1016 cam-lok type receptacles with covers
 - A phase – Brown (480V) / Black (208V)
 - B phase – Orange (480V) / Red (208V)
 - C phase – Yellow (480V) / Blue (208V)
 - Neutral – White
 - Ground – Green
- Phase Rotation Monitoring:
 - Insures mobile generator set phase rotation matches that of facility
 - Provides visual assurance of correct phasing
- NEMA standard hole pattern with mechanical lugs for permanent facility side connection
- Silver plated copper bus
- Enclosure features:
 - Carbon steel NEMA 1/ NEMA 3R for indoor/outdoor installation
 - Powder coated ANSI 61 Gray
 - Corrosion resistant hardware
 - Padlockable front door
 - Integral lower flip door allowing access to connect the mobile generator cables
 - Bottom door mechanically interlocked with front door to prevent unauthorized access to receptacles when not in use
 - Typical Dimensions:
 - 36"H x 30"W x 16"D

Emergency Ready Facility Service Entrance

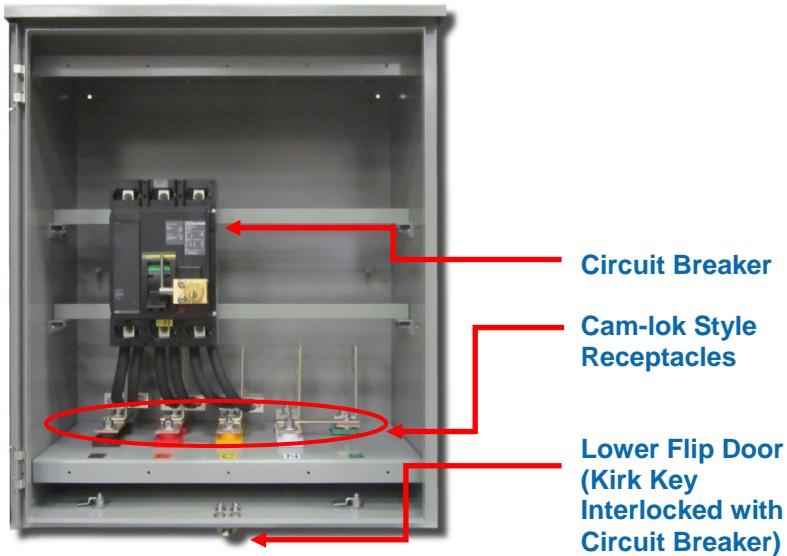


Figure 3: 800A Service Entrance Manual Transfer Tap Box

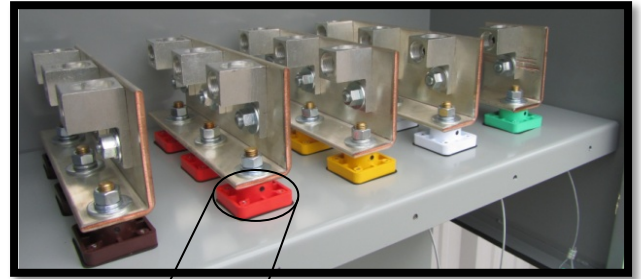


Figure 4: Mechanical lugs on silver plated copper bus bars (Top) with Cam-lok Cover (Left) and Male Cam-lok Receptacle (Right)

Service Entrance Generator Tap Box

- Perfect for Facilities with services of 2500A and below.
- UL Listed Service Entrance Rated Manual Transfer Tap Box (two integrated Kirk Keys)
 - Utility Service Entrance Circuit Breaker with Kirk Key
 - Temporary Generator Quick Connection Flip Door with Kirk Key
- Utility Service Entrance Circuit Breaker
 - Rating: 400 – 2500A, up to 600VAC
 - UL[®] 489 listed
 - Molded Case Circuit Breaker
 - Fixed mount
 - Trip Unit Options:
 - Thermal Magnetic
 - Electronic trip with adjustable long time, short time, instantaneous, and ground fault trip settings
 - Standard or 100% rated
 - Breaker Position Aux Contacts (“a” & “b”)



Figure 5: 800A Utility Service Disconnect



Figure 6: 800A Temporary Generator Connection Receptacles Accessed via Key Interlock with Utility Circuit Breaker

Interlock Applications



Figure 7: 800A Temporary Generator Quick Connection with Generator Signal Terminal Blocks for Customer Connections in Type 304 Stainless Steel Enclosure



Figure 8: 800A Loadbank Quick Connection with Auxiliary Circuit Breaker

Temporary Generator Only, Loadbank Only, Generator/Loadbank Applications

- Generator connection only applications typically require Kirk Key Interlocking to safely prevent the inadvertent paralleling of the normal & emergency power sources:
 - Service Entrance Rated Manual Transfer Tap Box (two integrated Kirk Keys)
 - Utility Service Entrance Circuit Breaker with Kirk Key
 - Temporary Generator Circuit Breaker with Kirk Key
 - Temporary Generator Connection Only
 - External service main no temporary generator circuit breaker protection
 - One integrated Kirk Key, one ship loose Kirk Key for installation on facility service main
 - Multiple generators or feeders circuit breaker sections (multiple Kirk Keys, transfer block)
- Operation sequence without the interlocking of sources is available upon request for users with advanced knowledge of their facility's requirements and procedures
- Loadbank connection only applications
 - Easily connects a temporary Loadbank to a facility's permanent generator(s)
 - Utilizes female cam-lok type receptacles
 - Does not require the use of interlocking
 - Circuit breaker and monitoring options available
- Integrated Generator & Loadbank Quick Connection
 - Integrates male & female cam-loks into one unit for all your temporary connection needs in one location
- Alternatively, cam-lok gender changeover adapters are available to convert Generator Connection into Loadbank Connection*

*Subject to implemented options (available upon request)

Optional Features

APT understands there is not a 'one size fits all' for your power distribution needs. Generator Quick Connection Tap Boxes are customer customizable to suit your facility's needs.

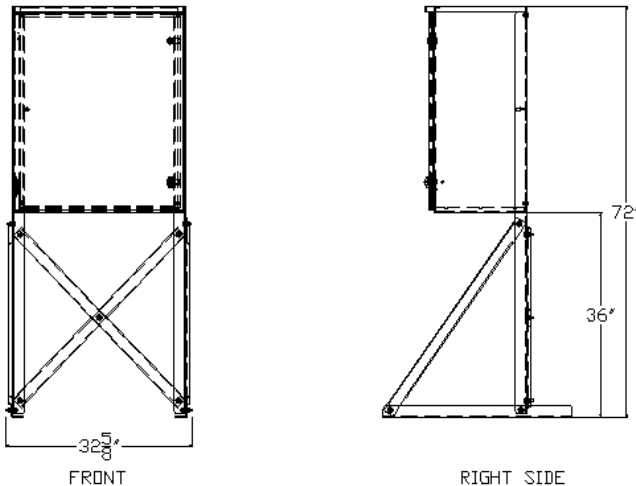


Figure 9: GQC Tap Box Wall-Mount to Pad-Mount Conversion Kit Dimensions



Figure 10: GQC Tap Box Wall-Mount to Pad-Mount Conversion Kit

Monitoring & Application Options

- Ground Fault Monitoring:
 - Factory configured to trip the circuit breaker on ground fault or provide alarm indication only
 - Easily re-configurable in the field
- Generator Start/Stop Signal Terminal Blocks
- Loadbank Dump Connector
- Multiple Source or Feeder Circuit Breakers
- Termination Cabinet (Lug Inputs/Outputs Only)
- 120VAC Convenience Receptacle
- No Neutral Bus or Cam-loks
- 100% Ground
- Surge Protection Device (SPD)
- Generator Remote Start/Stop Terminal Blocks
- Generator Block Heater Receptacle
- SCADA Connection Interface
- 120VAC Battery Charger/Convenience Receptacle

Enclosure Options

- 480VAC or 240VAC Twist-lock Receptacle
- Load Dump Receptacle / Terminal
- Extra Large Enclosure for Cable Entry/Exit
- Custom Color
- Convenience Light
- Enclosure types available:
 - NEMA 4X / NEMA 3R for indoor or outdoor installation:
 - Powder coated Type 304 or 316 Stainless Steel
- Hurricane Resistant Wall-Mount to Pad-Mount Conversion Kit
 - 3/16" Formed Steel Construction
 - Bolt together design for easy factory or field assembly
 - Designed to withstand Category 5 Hurricane force winds (Up to 190MPH)
 - Galvanized or Powder Coated Finish

Pricing Information

Table 1: Standard Product Configuration Budgeting Prices					
Base Part Number	Approx. Generator Rating @ 480V (kW@0.8pf, kVA)	Current Rating	Maximum # of Cables Per Phase and Neutral		Base Budget Price (No Circuit Breaker) (USD \$)
			Cam-locks/Phase (Temporary Generator Side)	Maximum # Cables/Phase (Permanent Facility-Side)	
APN1583	250kW, 333kVA	400A	1	2	\$ 4,778.00
APN1584	500kW, 667kVA	800A	2	4	\$ 5,594.00
APN1585	750kW, 1000kVA	1200A	3	6	\$ 6,715.00
APN1586	1000kW, 1333kVA	1600A	4	8	\$ 7,531.00
APN1632	1250kW, 1667kVA	2000A	5	10	\$ 8,408.00
APN1633	1500kW, 2000kVA	2400A	6	12	\$ 9,528.00
APN1682	1750kW, 2333kVA	2800A	7	14	\$ 10,345.00
APN1683	2000kW, 2667kVA	3200A	8	16	\$ 11,465.00
APN1780	2500kW, 3000kVA	4000A	10	20	\$ 12,441.00

Base Size

BPN	A	EM	ET	MT	CB	KK	MO	OO
APN1683	G	CS	3R	0	0	0	1	3-5-6-1a
Your P/N:								

Option Number

Base Part Number
(APN1583) - 400A
(APN1584) - 800A
(APN1585) - 1200A
(APN1586) - 1600A
(APN1632) - 2000A
(APN1633) - 2400A
(APN1682) - 2800A
(APN1683) - 3200A
(APN1780) - 4000A

Application
(G) - Generator Only
(L) - Loadbank Only
(GL) - Generator & Loadbank
(SE) - Service Entrance
(TL) - Termination Lugs Only

Enclosure Metal
(CS) - Carbon Steel
(SS4) - 304 Stainless Steel
(SS6) - 316 Stainless Steel

Enclosure Type
(3R) - NEMA 3R
(4X) - NEMA 4X

Mounting
(0) - Wall Mount
(1) - Pad Mount

of Circuit Breakers*
(1) - One CB
(2) - Two CBs
(0) - None

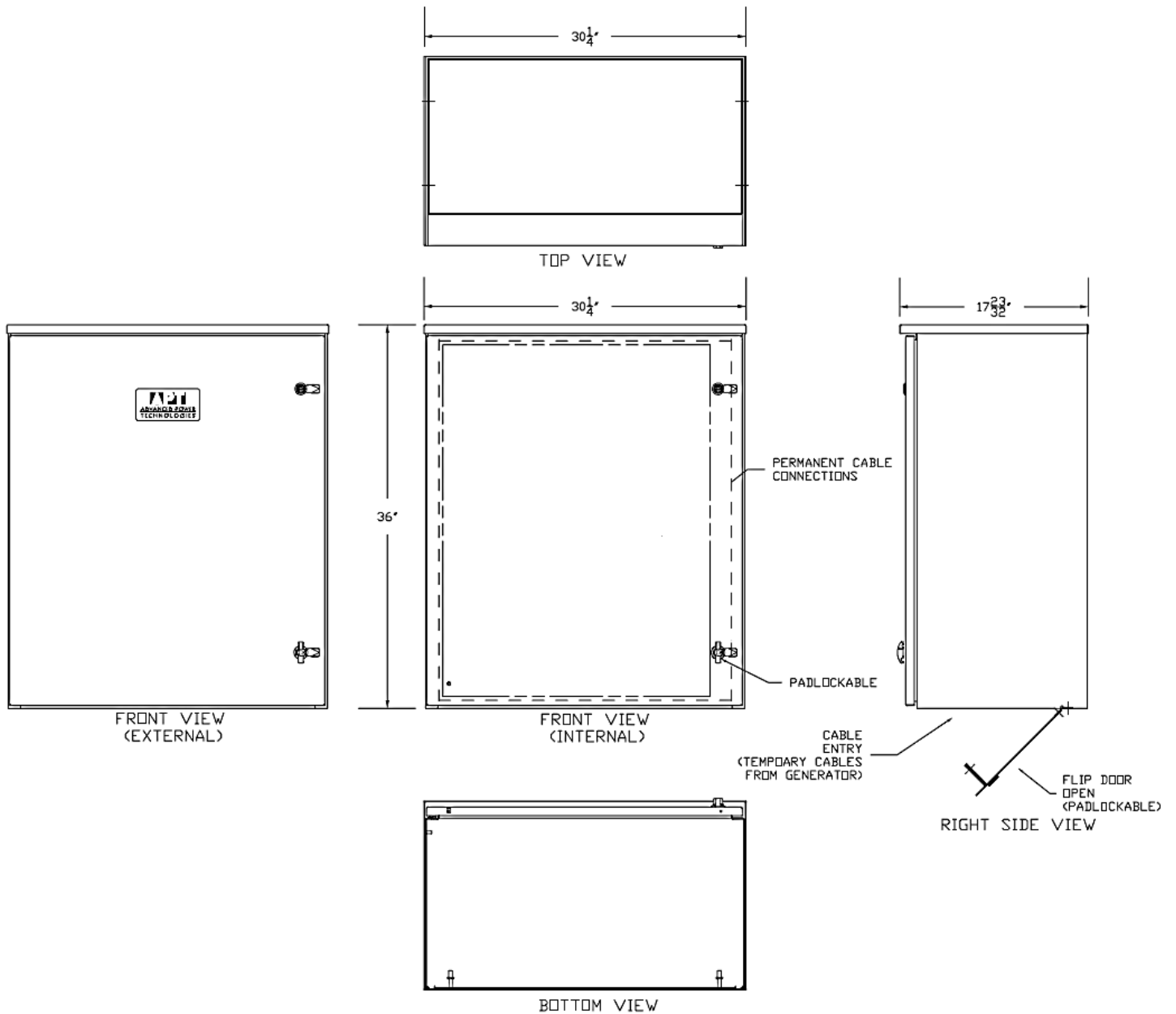
Kirk Key Interlocking
(1) - One Integrated Lock, One Ship Loose Lock
(2) - Two Integrated Locks (Manual Transfer)
(0) - None

Monitoring
(1) - Phase Rotation Only
(2) - Ground Fault Only
(3) - Phase Rotation & Ground Fault

Other Options*
(1) - No Neutral Bus or Cam-locks
(2) - 100% Ground
(3) - Surge Protection Device (SPD)
(4) - Generator Remote Start/Stop Terminal Blocks
(5) - Generator Block Heater Receptacle
(6) - 480VAC or 240VAC Twist-lock Receptacle
(7) - 120VAC Battery Charger/Convenience Receptacle
(8) - Load Dump Receptacle/Terminal
(9) - Extra Large Enclosure for Conduit Entry/Exit
(1a) - Custom Color
(2a) - Convenience Light
(3a) - SCADA Connection Interface
(0) - None

*Customer to provide description of the features desired

Typical Dimensions of GLQC Tap Boxes



Typical Applications of GLQC Tap Boxes

Generator Configurations

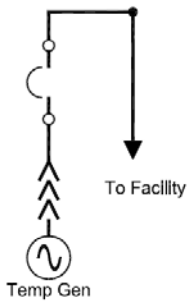


Figure 11: Single Circuit Breaker Option

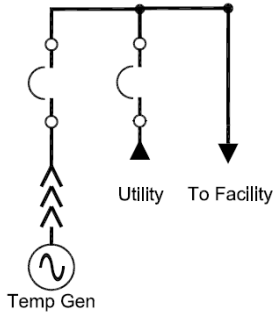


Figure 12: Dual Circuit Breaker Option with Utility & Gen Breaker

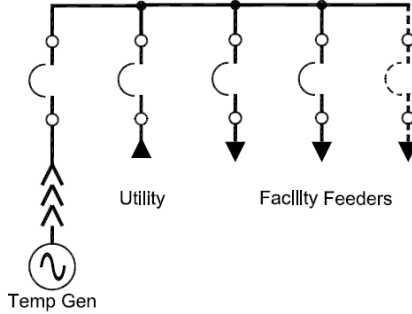


Figure 13: Multiple Circuit Breakers Option

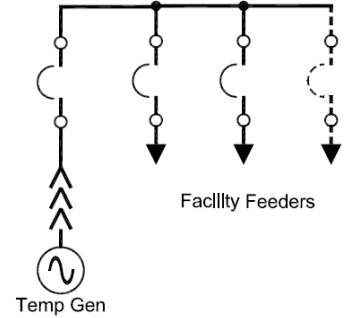


Figure 14: Feeder Circuit Breakers Option

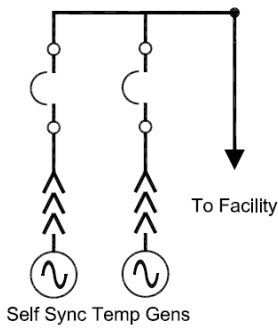


Figure 15: Two Self Sync Temp Gensets into two sets of Cam-locks

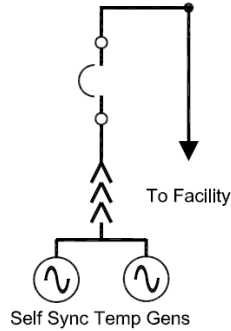


Figure 16: Two Self Sync Temp Gensets into one set of Cam-locks

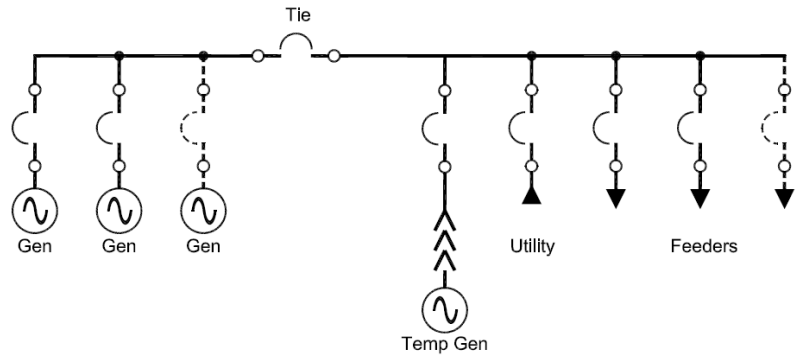


Figure 17: GQC integrated into Low Voltage Switchgear

Loadbank Configurations

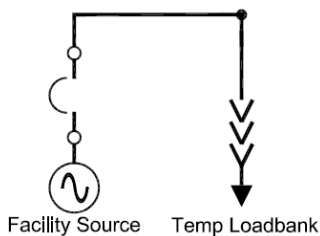


Figure 18: LQC Single Circuit Breaker Option

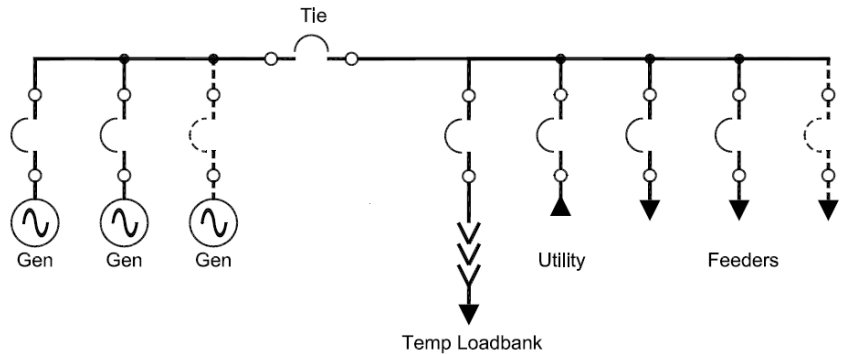


Figure 19: LQC integrated into Low Voltage Switchgear for annual Genset Testing