



ADVANCED POWER  
TECHNOLOGIES

# 208V-575V Motor Control Center Switchgear



## PwrMotorL-Series Low Voltage Distribution & Motor Control Solutions Brochure

[www.appt-power.com](http://www.appt-power.com)  
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**SAFE SMART SERVICEABLE SWITCHGEAR &  
ENGINEERED POWER SYSTEM SOLUTIONS**



ALN: 531 Rev. 02

# General Features



## Designed to Meet UL® 891 Requirements

- ⊙ UL 891 Listed & Labeled Motor Control Center Switchboard Assembly
- ⊙ Voltage:
  - 208V – 575V, 3Ø
- ⊙ Frequency:
  - 60Hz and/or 50Hz
- ⊙ Silver plated copper bus
- ⊙ Standard bus ampacity up to 4000A
- ⊙ Main Bus to accommodate connection of motor control center sections, automatic transfer switches, and
- ⊙ Bus Access & Cable Entry
  - Front Access for either top or bottom cable entry
- ⊙ Insulated Case Circuit Breakers
  - See page 4 (Feeder Sections) for more information
- ⊙ Molded Case Circuit Breakers
  - See page 4 (Feeder Sections) for more information
- ⊙ Motor Control Center Buckets
  - See page 3 (Motor Starting Sections) for more information
- ⊙ Installation Location & Enclosure
  - NEMA 1 for Indoor Installation
  - NEMA 3R for outdoor installation
  - Manufactured from Carbon Steel
  - Powder coated ANSI 61 Gray
  - Lockable Handles
  - Optional: Internal Climate Control
    - Anti-condensation Heater w/Thermostat
  - Stainless steel hardware (NEMA 3R only)
- ⊙ Standard Section Maximum Sizes
  - 95"H x 20"W x 20"D
  - 95"H x 26"W x 20"D
  - 95"H x 36"W x 20"D
- ⊙ Custom Sizes Available Upon Request

# Motor Starting, Protection, & Control

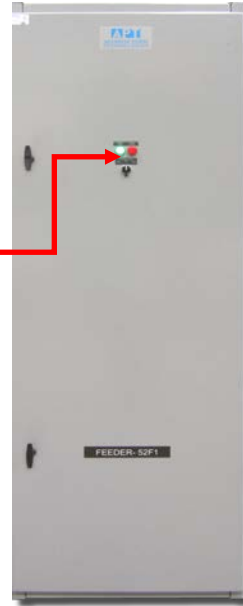


## Motor VFDs, Soft Starts, Contactors Sections

- ⦿ Single Phase and Three Phase (115V – 575V) motor controls
- ⦿ 0.5HP – 400HP drives in a single standard section
- ⦿ Over 400HP through 800HP drives can be housed in larger custom sized sections
- ⦿ Hand-Off-Auto control switches and activity indicating lights gives users the ability to control motors from the control panel
- ⦿ Terminal blocks as needed for customer field connections
- ⦿ Optional: UL 845 Listed Sections
- ⦿ Able to house:
  - Variable Frequency Drives
  - Motor Soft Starters
  - Manual Starters
  - Motor Controller Contactors
  - Overload Relays
  - Full Voltage Non-Reversing Starters
  - Full Voltage Reversing Starters
- ⦿ Air Flow cutouts ensure proper cooling for the number of devices

## Protection for Facility Main/Feeders

Circuit Breaker  
Position  
Indicating Lights  
& Control Switch



## Large & Small Branch Circuit Protection Sections

- ⊙ High visibility, LED type indicating lights with lenses of 1" outside diameter and a service life of 100,000 hours at 77°F
- ⊙ See page 6 for available main circuit breaker ratings
- ⊙ Your Choice of Circuit Breakers:
  - Molded Case Circuit Breakers:
    - UL® 489 Listed
    - Available up to 1200A
    - Manually Operated
    - Electrically Operated with Motor Operator Add-on
    - 80% or 100% Rated
    - Fixed Mounted
    - Interrupting Rating:
      - 18kA – 200kA @ 480V<sub>AC</sub>
    - Circuit breaker position Aux Contacts ("a" and "b")
  - Insulated Case Circuit Breakers:
    - UL® 489 Listed
    - Available from 800A up to 4000A
    - Electrically or Manually Operated
    - 100% Rated
    - Fixed Mounted or Drawout
    - Interrupting Rating:
      - 65kAIC (800 – 2000A)
      - 100kAIC (over 2000A)
    - Circuit breaker position Aux Contacts ("a" and "b")
  - Circuit Breaker Trip Units:
    - LI – Adjustable long time, instantaneous trip settings
    - LSI – Adjustable long & short time, instantaneous trip settings
    - LSIG – Adjustable long & short time, instantaneous trip settings, with ground fault trip settings

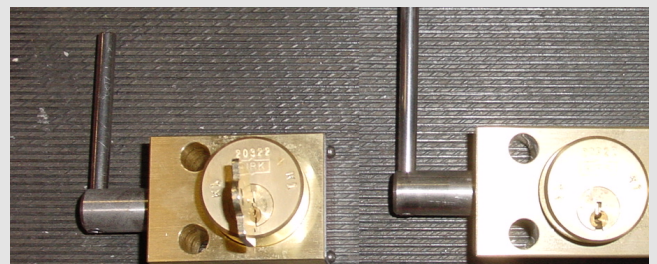


# Auto & Manual Source Transfer



## Automatic & Manual Transfer Switching Options

- ⦿ Automatic standby with Open Transition return operation:
  - Time delayed control sensor detects if a utility outage has occurred
  - When timer expires, the generator set is automatically started and brought up to speed and voltage
  - Utility circuit breaker opens and generator circuit breaker closes (after adjustable time delay) so that generator supplies power to the site load
  - When a healthy utility is connected for a set time delay, the generator breaker opens, and the utility breaker closes and Normal power is restored
- ⦿ Call APT for Automatic standby with (Soft loading/Unloading) operation or Sustained Utility Paralleling operation
- ⦿ Manual Transfer via Captive Key Interlocking
  - Two locks, one key provided.
  - Should the normal source fail, the interlocking key shall be removed from the normal sources circuit breaker to hold it in the 'Open' position and inserted into the secondary source circuit breaker to allow connection of the secondary source to the MCC load.



# Insulated Case Main CB Ratings

Table 1: Available Main Circuit Breaker Ratings

Breaker Type	Frame Rating (A)	Interrupting Rating (kA)			Sensor Plug (A)
		240V	480V	600V	
Drawout	800	65	65	50	100, 250, 400, 600, 800
		100	100	85	
		200	150	100	
		200	150	100	
	1200	65	65	50	600, 800, 1000, 1200
		100	100	85	
		200	150	100	
		200	150	100	
	1600	65	65	50	800, 1000, 1200, 1600
		100	100	85	
		200	150	100	
		200	150	100	
	2000	65	65	50	1000, 1200, 1600, 2000
		100	100	85	
		200	150	100	
		200	150	100	
	2500	100	100	85	1200, 1600, 2000, 2500
		200	150	100	
	3000	100	100	85	1600, 2000, 2500, 3000
		200	150	100	
	4000	100	100	85	2000, 2500, 3000, 4000
		200	150	100	
	5000	100	100	85	2500, 3000, 4000, 5000
		200	150	100	
	6000	100	100	85	3000, 4000, 5000, 6000
		200	150	100	
Fixed	800	65	65	50	100, 250, 400, 600, 800
		100	100	85	
	1200	65	65	50	600, 800, 1000, 1200
		100	100	85	
	1600	65	65	50	800, 1000, 1200, 1600
		100	100	85	
	2000	65	65	50	1000, 1200, 1600, 2000
		100	100	85	
	2500	100	100	85	1200, 1600, 2000, 2500
	3000	100	100	85	1600, 2000, 2500, 3000
	4000	100	100	85	2000, 2500, 3000, 4000
	5000	100	100	85	2500, 3000, 4000, 5000
	6000	100	100	85	3000, 4000, 5000, 6000

# About Advanced Power Technologies



Advanced Power Technologies (APT) is on the cutting edge of the latest engineered power system smart technologies, as it relates to microgrid & storage management, renewable & conventional energy source deployment, demand peak shaving, and facility back-up and co-generation power systems. Located in the central United States and headquartered in Lafayette, Indiana with solutions development engineers around the country, APT provides domestic and international products and services to industry leading companies from around the world. APT engineers have decades of power system experience from working with some of the largest companies in industry. Over the last two decades, we have produced successful solutions for hundreds of large-scale electric power projects involving utility/generator paralleling, transfer, peak shaving, and distribution. We pride ourselves in providing electrical power systems that are engineered and custom built, utilizing state-of-the-art technologies to fit our customer's exact needs. The core of our business is low & medium voltage engineered power systems for a wide range of indoor & outdoor applications, such as:

- ⦿ Utility(ies) and Generator(s) Paralleling/Transfer/Peak Shaving/Distribution Switchgear
- ⦿ Microgrids, Microgrid Master Control Panels, SCADA systems
- ⦿ Containerized Battery Energy Storage Systems (BESS)
- ⦿ Photovoltaic (PV) Solar Power Collection/Distribution & Renewable Energy Storage Systems
- ⦿ Low & High Resistance Grounding Systems, Grounding Systems for Photovoltaic Effective Grounding
- ⦿ High Efficiency Combined Heat and Power Switchgear & Control Systems (CHP, Co-generation)
- ⦿ Outdoor Walk-In Electrical Houses (E-Houses) & Skid-Mounted Switchgear
- ⦿ Motor Control Centers & Motor Control Switchgear
- ⦿ Automatic & Manual Load Transfer Switchgear
- ⦿ Bypass/Isolation & Power Distribution Circuit Breaker Switchboards
- ⦿ Generator/Loadbank Quick Connection Switchgear, Switchboards, & Tap Boxes
- ⦿ Industrial Control Panels

Please see our product webpages on [www.appt-power.com](http://www.appt-power.com) for product brochures and relevant information. Actual products may look different from images shown on the website and in brochures, based on actual specifications.

APT cares and understands that each power system is different. We will evaluate various solutions in order to develop the best solution for a site. APT focuses on our ability to combine several traditional pieces of equipment/functionality into as little of a footprint possible. This saves on space, the cost of equipment, cost of installation, and accomplishes the most optimal/state-of-the-art design your facilities. APT's desires to foster and grow a culture of continued open communication with each customer. Let APT be your source to provide fully engineered power system equipment solutions for the full customer facility on time, on or under budget, and in the smallest footprint possible. We are always available to assist customers and engineers representing customers in the development of complex power solutions for all facility types.