



Total Power Group DC Switchgear

DESCRIPTION

For over 40 years, Total Power Group (TPG) has offered DC Switchgear lineups, improving and adapting its design on each iteration. As a result of our vertically integrated designs, TPG DC Switchgear is used by mass transit customers all over North America. TPG designs and builds DC Switchgear lineups specifically for the North American market.

TPG DC Switchgear is typically arranged as a lineup of metal cabinets (Rectifier/Main Breakers, Feeder Breakers, Tie Breakers), racking and disconnect mechanisms, and protective and control elements inside a Traction Power Substation or Tie Breaker Substations. TPG DC Switchgear lineups include the most advanced protection system of the industry.

TPG specializes in upgrading legacy DC Switchgear, simplifying and modernizing the whole lineup. TPG is also capable of assisting mass transit operators in writing specs for procurement operations. At TPG we are experts in DC Switchgear troubleshooting.

TPG has the background, experience, industry knowledge, and standards knowledge that are fundamental for designing and building safe, rugged and reliable DC Switchgear for the North American market.



TECHNOLOGY

TPG DC Switchgear advantages are:

- Rugged machined .5" inch steel base plate with rugged racking mechanism
- Umbilical cord for secondary interface, with user-friendly interlock system
- Low maintenance equipment resulting in high availability substations
- Heavy duty interlocking system
- Mechanical trip pedal
- Vertical Integration and customized substation design
- Choice of DC breakers
- Digital transducer, Ameter and Volt meter
- Load measuring relay and resistor, Heaters as needed
- Copper bus with Shunt(s) as appropriate
- Direct-acting instant bi-directional* trip units
- Both mechanical and electronic protection elements
- All-fiberoptic communications
- Protection algorithms refined for the last 25 years
- Intelligent Electronic Devices for decentralized protection and monitoring
- IMProCon: TPG proprietary networked protection and communication system
- Verified by type tests in accordance with ANSI/IEEE C37.14 and C37.16



[*]: typically bi-directional.



Manufactured in the United States of America.



TPG has developed and certified DC circuit breakers and dozens of switchgear configurations, and has been designed and built with the following DC circuit breakers:

- ABB FBK Circuit Breaker [**]
- EMC / Microelettrica High Speed IR6000 line [**]
- GE (AEG) Gerapid DC Circuit Breaker [**]
- GEC HSN High Speed Circuit Breaker
- General Electric MC-6 Circuit Breaker
- Powell NDC Circuit Breaker
- Secheron UR series
- Westinghouse DM Breaker
- Whipp & Bourne MM74 HSCB

[**] Fully rated cathode breaker available



TECHNICAL DATA / USUAL CONFIGURATIONS

Applicable standard	ANSI/IEEE C37.14 and C37.16	
Rated Voltage	Up to 1,600 V DC	
Rated Service Current	Up to 6,000 A	Up to 10,000 A
Power-Frequency Withstand Level	4.2 – 5.4 kV (ac)	
Rated Short-Circuit Current	100 kA	200 kA
Rated Short-Time Withstand Current	74 kA / 45 kA	149 kA / 90 kA
Breaking Characteristic	High Speed or Semi High Speed	
Auxiliary Operating Supply	125 V DC (other options available)	
Nominal Voltage	750-1,500 V DC	

CUSTOMERS

DC Switchgear customers:

Light Duty	Charlotte CATS, Dallas DART, Dallas McKinney Ave., Denver RTD, Little Rock METRO, Los Angeles LA Metro, Memphis MATA, New Orleans RTA, Philadelphia SEPTA, Pittsburgh PAT, Portland Streetcar, San Diego MTS, San Francisco MUNI, San Jose VTA, Seattle KCA, Seattle KCM, Seattle Sound Transit, Tacoma Link, Tampa TECO, Tucson Sun Link
Heavy Duty	Atlanta MARTA, Boston MBTA, Chicago CTA, Chicago Metra, Los Angeles LAX Automated People Mover, Miami-Dade MDT, New York JFK AirTrain, New York LIRR, New York Metro North, New York NYCTA, Philadelphia SEPTA, San Francisco BART, Washington DC WMATA

CUSTOM OPTIONS

- Motor/Manual Operated switches
- Contactor panels
- Split lineups
- Portable (Trailer) Substations
- Panel mounted/Cubicle mounted/ Elevated switchgear
- Special Split switchgear for limited access installation (ex: underground substations)

CONTACT US

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