Engineering Technical Bulletin: 0015 (Notice of Obsolescence)

Product Line: DC Breaker

Models: NC-4 and NC-6 (HWD Style)

Date: June 22, 2018

Since 2007 Powell has not manufactured the HWD Style DC Circuit Breakers as an active product line but has continued support of the product line with new breakers and spare parts. Due to the low demand for the HWD Style breakers over the last ten years, the difficulty and expense of obtaining parts, and the availability of the more modern Model NDC breakers the HWD Style breakers manufactured by Powell have been declared obsolete. Powell understands that establishing a framework for obsolescence management and planning a cost effective obsolescence management process through all phases of the product lifecycle is a critical activity of our customers. For this reason Powell has generated this notice of product obsolescence to clearly communicate to our customers what they can expect from Powell for the HWD Style DC Breakers which will allow them to properly plan for managing their obsolete equipment. Powell remains committed to supporting our customers and maintaining our relationships while remaining transparent with our plans for product obsolescence.

Effective immediately Powell has implemented an obsolescence schedule for the DC Breaker Models NCD4 (4000A) and NCD6 (6000A). The schedule is as follows:

Effective Date: June 22, 2018
New NCD4 and NCD6 complete breakers are no longer available for purchase.

Effective Date: December 22, 2018
Low criticality spare parts no longer available. Recommended spare parts still available for purchase (See Table 1) as after-market purchase. Breaker inspections available via Powell Service.

Effective Date: June 22, 2019
Recommended spare parts no longer available. Product and Models completely obsolete and no new or spare parts are supported by Powell. Breaker inspections available via Powell Service.

All new DC Breaker requests will be provided with the Model NDC breaker. In an effort to support the transition of Powell customers to the Model NDC breaker Powell has included information on this breaker in this notice. Model NDC Breakers are available as completely new breakers and switchgear. Please contact Powell for additional information on the readily available Model NDC Breaker and Switchgear which has an expected manufacturing life of over 25 years.

Powell is available to assist the customer in developing their own replacement program for the HWD Style breakers with the Model NDC Breakers. Powell's service group is also available to inspect any existing HWD Style breakers, which will include a report recommending repair or replacement, prior to the end of the final obsolescence date.

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Table 1: Recommended Spare Parts (Excerpt from IB-25000)

Part Name	Old Part Number	New Part Number	Rating/Comment
Closing Contactor	A1321-4-2-48	A1321-4-2-48	All Ratings
Control Relays	KRPA-11DG-125	KRPA-11DG-125	125VDC
Stationary Main Contacts	8206C62G04	22208H00003001	4000A Breaker
Stationary Main Contacts	8206C68G04	22208H00003002	6000A Breaker
Stationary Arcing Contact	1804926	22208H00002001	4000A/6000A Breaker
Hold/Trip Coil	300P885G01	22203P00000004	All Voltages
Main Closing Coil	300P849G02	22203P00000002	48VDC
Main Closing Coil	300P849G01	22203P00000001	125VDC
Main Closing Coil	300P849G03	22203P00000003	220VDC
Contact Arm Assembly	6386C50G03	22209G00000001	4000A Breaker
Contact Arm Assembly	6386C50G04	22209G00000002	6000A Breaker
Arc Chute Assembly	3D51073G01	22202G00000001	Up to 1200V
Rocking Beam Relay	684C069G01-A	22307P00000001	4000A Breaker (100-400%)
Rocking Beam Relay	684C069G01-B	22307P00000002	6000A Breaker (100-400%)
Rocking Beam Relay	684C069G01-C	22307P00000003	2000A Breaker (100-400%)
Rocking Beam Relay	684C069G01-D	22307P00000004	2500A Breaker (100-400%)
Rocking Beam Relay	684C069G01-E	22307P00000005	1600A Breaker (100-400%)
Primary Finger Clusters	679C711G08	22212G00000001	All Ratings
Lubrication Kit	POWLUBE-102	POWLUBE-104	All Ratings

Please contact Powell for any questions you have about this product obsolescence and to plan any spare parts orders while they are still available.

Regards,

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Attachments: Powell NDC Breaker/Switchgear Brochure

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Form 01: Users List

This Users List summarizes the customers effected by ETB-0015, Notice of Obsolescence for HWD Style DC Breakers.

Table 1: Users List

User	Project or Substation
DFW Airport	Dallas/Ft. Worth APM
Shanghai Metro	GongHe and XinMin Line Extension
Chicago Transit Authority (CTA)	Grace and Clark Substations
Bombardier	Neihu Test Track
Metro (Minneapolis)	Hiawatha Line
Bay Area Rapid Transit (BART)	Extension, TPSS and Gap Stations, WSS
Baltimore MTA	Monument Substation
Miami Airport	APM
Dallas Area Rapid Transit (DART)	Contract C-98000041, Light Rail Extension
Denver RTD	Substation Upgrades
MARTA	Yard and Shop Replacement
Dulles Airport	APM
Coast Mountain Bus Company	Vancouver Transit Centre, Project 0204-14
Metra (Chicago)	Brookdale Substation
LA Metro	Goldline Extension
New Orleans Regional Transit Authority (NORTA)	St. Charles Avenue Streetcar Line
Translink	Canada Line Extension
Atlanta Airport	APM (PDS-1, PDS-2, PDS-3)

Regards,

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Powell Type NDC-DC Switchgear

DC SWITCHGEAR INCORPORATING THE HAWKER SIDDELEY NDC HIGH SPEED CIRCUIT BREAKER

INTRODUCTION

Powell DC Switchgear incorporating the Hawker Siddeley NDC High Speed DC Circuit breaker provides a reliable product with proven technology for application in your transit project. Building on the 80 year track record of DC design this switchgear solution offers optimal safety and the high speed performance you require.

KEY FEATURES

- Proven technology and minimal maintenance
- A long service life designed to exceed 30 years
- Superior compact design concept
- High speed operation
- Unidirectional direct acting overload
- Bi-directional direct acting overload
- Simple and reliable mechanism - no mechanical latch
- Ergonomic, intuitive truck isolation and interlocking
- Enhanced electrical and mechanical endurance
- Patented arc transfer coil
- Fully bi-directional current interruption
- Silver tungsten carbide main contacts
- Hard-wearing and long-life main contacts
- Selectable UV trip for control power
- Integral racking handle on breaker
- Common spare parts for 4kA, 6kA and 8kA

RATINGS			
Rated Voltage (VDC)	800VDC	1200VDC	1600VDC
Rated Service Current (A)	4000/6000/8000	4000/6000/8000a	4000/6000
Nominal Voltage (VDC)	750	1200	1500
Power Frequency Withstand Level (kV)	3.7kVac OR 5.2kVdc	4.5kVac OR 6.8kVdc	5.4kVac OR 7.6kVdc
Rated Short Circuit Current(kA_P/kA)	200/120	132/180	100/60
Mechanical Endurance	20,000 operations	20,000 operations	20,000 operations
Breaking Characteristic	High Speed	High Speed	High Speed
Auxilliary Operating Supply (VDC)	125[1]	125[1]	125[1]

1-other voltages available

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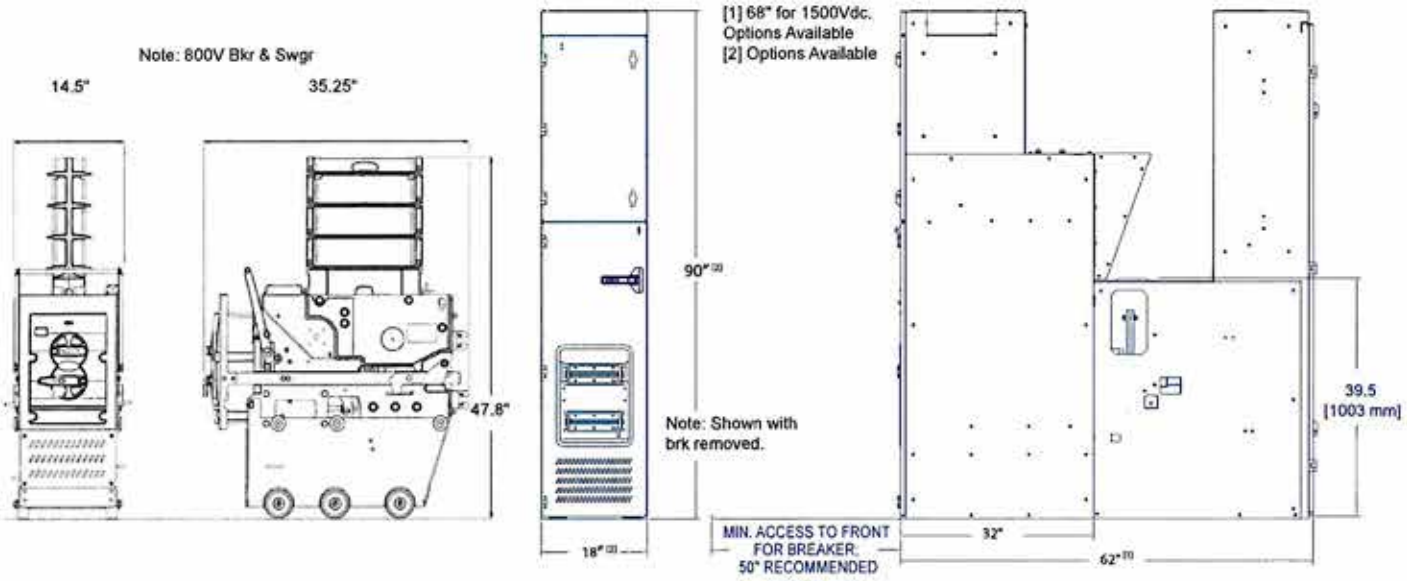
STANDARDS/TESTING

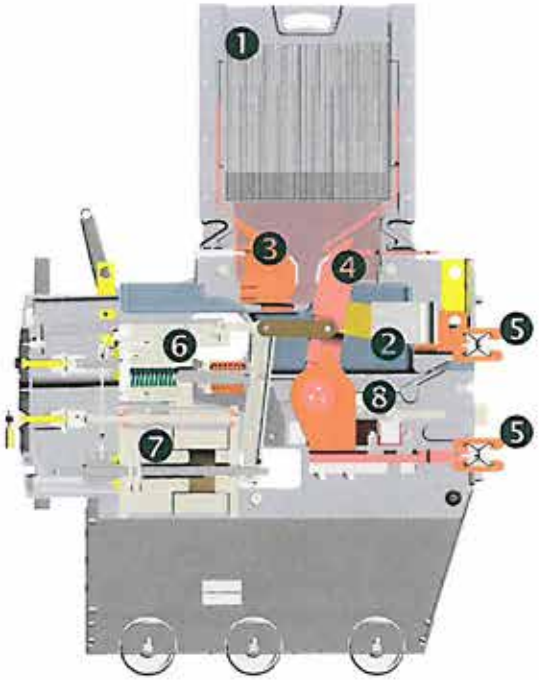
The equipment has been designed and tested to IEEE C37.14:2002, IEEE C37.16:2009, IEE C37.20.1:2002, and IEE 693:2005.

Typical Weights Including Circuit Breaker (lbs)

	800Vdc Breaker and Cell	800Vdc Breaker and Cell	1600Vdc Breaker and Cell	1600Vdc Breaker and Cell
4000A	1460	585	1530	655
6000A	1560	610	1625	675
8000A	1600	630	N/A	N/A

DIMENSIONS AND FEATURES





1. The arc transfer system prevents internal contamination of the circuit breaker compartment and cubicle. The Cold Cathode Arc Chute Assembly (1) dissipates all arc while the transfer coil (2) provides additional magnetic flux across the contact gap, assisting with the interruption of low currents that would lead to long arcing times.
2. The arc transfer system prevents internal contamination of the circuit breaker compartment and cubicle. The Cold Cathode Arc Chute Assembly (1) dissipates all arc while the transfer coil (2) provides additional magnetic flux across the contact gap, assisting with the interruption of low currents that would lead to long arcing times.
3. Fixed Contacts
4. Moving Contact Assembly
5. Primary Disconnects
6. The patented Magnetic Latch mechanism provides the primary means of "high speed" tripping of the circuit breaker. Working in conjunction with the Magnetic Actuator, the latch directly holds the circuit breaker contacts closed.
7. The Magnetic Actuator is based on a solenoid plunger, and provides the motion required to close the main contacts and to reset the latch device on tripping.
8. The uni-directional Direct Acting Release trips the circuit breaker when the current in the main circuit exceeds the overload setting.

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