

Power-Wave - Frame (Air Circuit Breaker)

Introduction

Rated from 400 to 6300A the Power - Wave Plus circuit breaker has been designed to meet the most stringent demands in fault detection and safe interruption thereof.

Available in 2 frame sizes:

- Frame size 1 ranging from 400 to 2500A
- Frame size 2 ranging from 800 to 4000A

The range has been developed aesthetically and technically to co-ordinate with other protective devices within our company for industrial/domestic applications.

All 3 frame sizes have unique look available with both fixed pattern and drawout versions which can be manually or electrically operated. These ACBs are designed to offer multiple main connection options it also comes with a wide range of easy-to-install accessories.

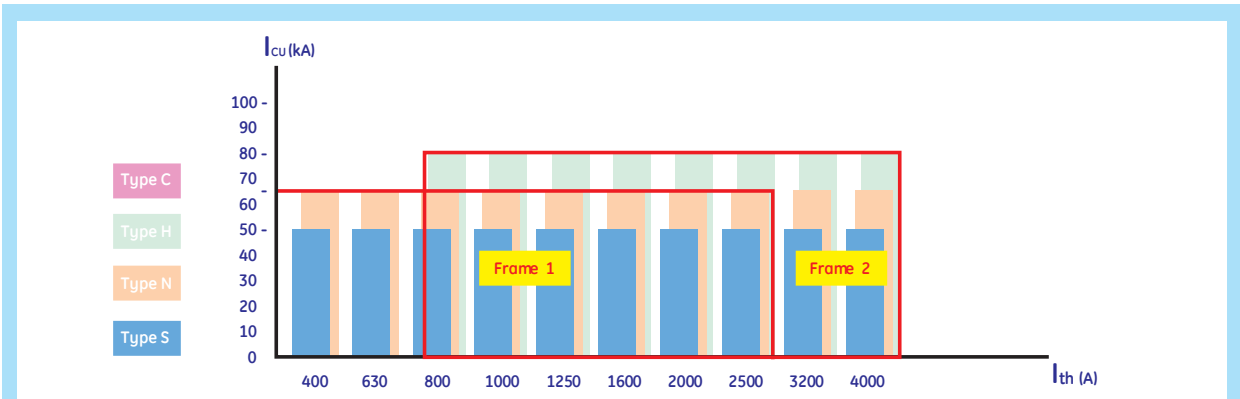
Specification

Power - Wave Plus air circuit breakers comply with the following specifications for low voltage switchgear:

- IEC 947-1
- IEC 947-2
- IEC 947-3
- VDE 0660 Part 101 and Part 107
- Utilization category B

Approvals

LOVAG certification in accordance with IEC 947-2, BS EN 60947-2 ASTA, KEMA



Compact frame sizes

Frame size 1 - 400 to 2500A
Frame size 2 - 800 to 4000A

- Frame 1 & 2
Fixed & withdrawable version is offered with 3 or 4 pole configuration, front and rear access connections (horizontal / vertical).
- Devices provided with or without protection relay
- Manual or electrical operation and built-in safety features e.g. safety shutters

- Wide range of protection settings offering full selectivity combinations of earth fault protection with simple & easy service on site

Performance ranges ⁽¹⁾

Type S : 50 kA I_{cu} = I_{cs} = I_{cw}
Type N : 65 kA I_{cu} = I_{cs} = I_{cw}
Type H : 80 kA I_{cu} = I_{cs} = I_{cw}
Type C⁽²⁾: 100 kA I_{cu} = I_{cs} = I_{cw}

(1) Ratings shown at 500V AC

(2) Ratings shown at 690V AC

Power-Wave

Fixed Pattern Circuit Breaker

Frame 1 & 2

All Power-WAVE Plus fixed pattern air circuit breakers incorporate a stored energy mechanism. The spring can be charged either manually or electrically via a motor operator that is automatically activated after the closing operation.

IP43 front panel and door escutcheon seals are standard features with IP20 protected secondary isolating contacts. For enhanced protection, an optional IP54 door panel is also available.

Installation

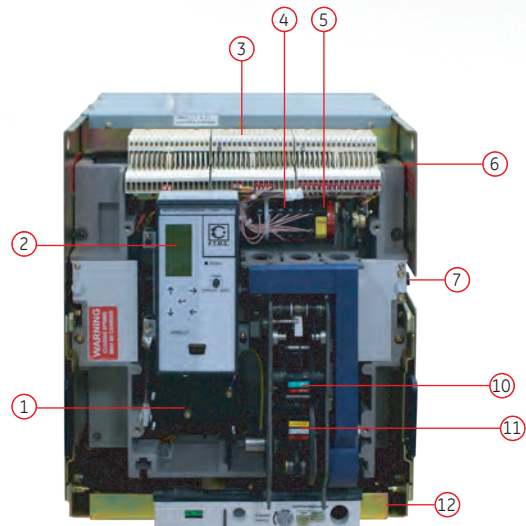
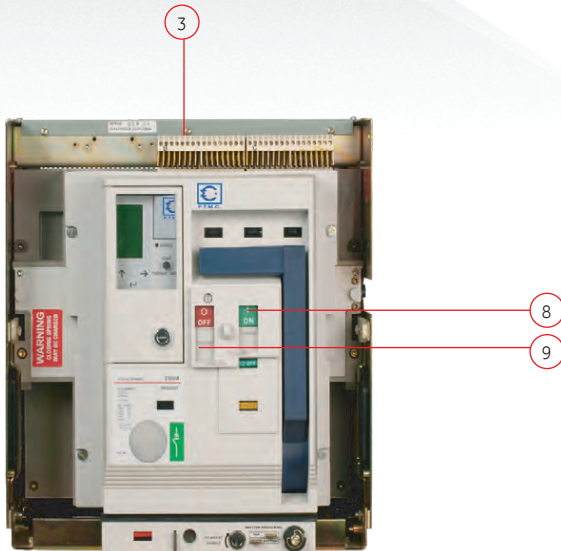
Fixed pattern Power-WAVE Plus can be fastened into any suitable switchboard or cubicle arrangement using four M8 bolts.

Clearance is only required above the unit for the removal and inspection of the arc chutes (see dimensional drawings for mounting details and recommended clearance distances).

An earthing point is provided on either side of the circuit breaker.

Power supply

All stated short-circuit ratings are certified with incoming supply connection made to either upper or lower terminals.



- Trip-free operating mechanism
- Positive 'ON/OFF' main contact indication
- Mechanical/electrical anti-pumping device
- Charging spring status indication
- Ergonomic manual spring charging handle
- Field-mountable range of accessories
- Auxiliary switches 5 NO and 3 NC, potential free 10A 250V (standard)
- Mechanical trip alarm switch (1 NO/NC) (optional)
- Padlockable push-button cover (for mechanical and electrical lock)
- Mechanical cable interlocking (optional)
- Termination: rear, horizontal or front access (optional)
- Electrical clearances according to IEC 947-2
- Front access of secondary terminals for simple connection
- Maintainable arcing contacts are offered as a standard feature.

1. Motorised spring charging unit (optional)
2. FTCCM - protection relay (optional)
3. Secondary contacts
4. Shunt trip (optional)
5. Closing coil (optional)
6. Undervoltage release (optional)
7. Manual charging handle
8. ON/OFF push-buttons
9. Push-button padlockable covers
10. Positive contact indication
11. Charging spring status indication
12. Mounting plate

Power-Wave

Withdrawable Pattern Circuit Breaker Frame 1 & 2

Pre-mounted into a self-contained 'cassette', this versatile circuit breaker can be inserted or withdrawn via sliding rails using a racking drive mechanism controlled by a racking handle.

It provides three set positions:
Disconnected / Test / Connected.

Any attempt to withdraw the unit whilst in service will automatically trip the breaker, either by the racking position safety mechanism or by the insertion of the racking handle. It can be racked to the disconnected position with the cubicle door closed or open.

Installation

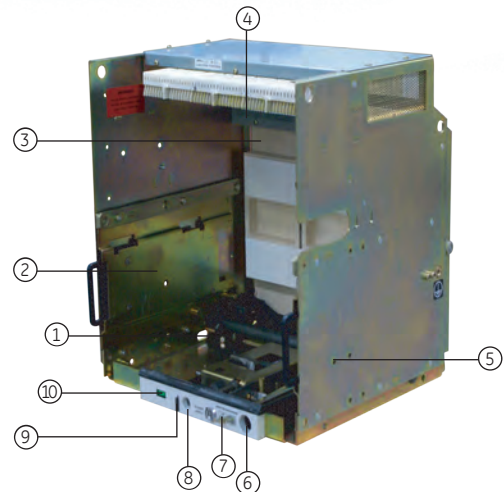
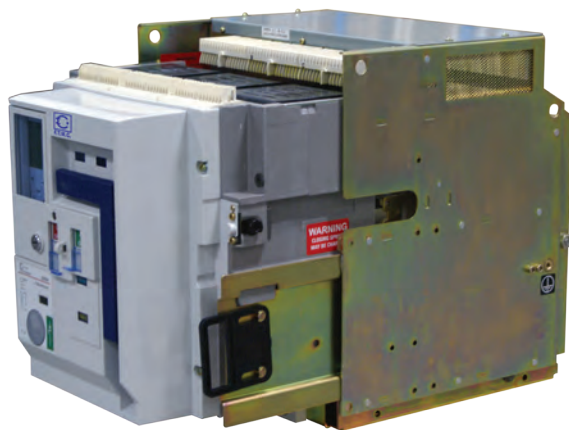
Circuit breakers are delivered pre-mounted in the cassette (standard)

Versatile fixing arrangements allow mounting onto any switchboard or cubicle using four M8 bolts (see dimensional drawings for mounting details and recommended clearance distances)

Earthing point situated on the right hand side of cassette (front view)

Power supply

All stated short-circuit ratings are certified with incoming supply connection made to either upper or lower terminals.



- Insulated shutters to isolate the main contact zone
- Front access padlocking for safety shutters
- Secure padlocking in the "Disconnect" position
- Clearly visible operational position indication
- Carriage position switch (optional)
- Termination: Flat copper palms (standard) with captive M10 fixing nuts
- Rear terminal adaptors for horizontal/vertical connection (optional)
- Front access connection (optional)
- Automatic disconnect of secondary circuits
- Lifting lugs for ease of removing the circuit breaker from the cassette (Power-Wave Plus handling truck required)
- Front access of secondary terminals for simple connection

1. Carriage position switch (optional)
2. Slide rails
3. Insulated safety shutter
4. Secondary terminals
5. 2 or 3 way interlock mechanism (optional)
6. Racking handle (storage)
7. Padlocking for safety shutters
8. Insertion hole for racking handle
9. Padlocking in the DISCONNECTED position
10. Operational position indication
11. Key interlock (optional)*

* Feature not visible in picture