Product Introduction

UniGear ZS3.2
Metalclad air insulated medium voltage switchgear
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Metalclad air insulated medium voltage switchgear.
Fitted with vacuum circuit breaker type VD4 or SF₆ circuit breaker type HD4.

The metal clad, air insulated switchgear panels of the UniGear ZS3.2 series, are designed for use in 36kV and 40.5kV systems. They are designed for indoor application.

UniGear ZS3.2 Robust and compact
- The panel is constructed by bolting together double folded components, manufactured from aluminum-zinc coated sheet steel, to form an extremely rigid construction.
- Primary circuit insulation and optimized conductor shape provide the platform for a compact air insulated panel.

UniGear ZS3.2 Safe and reliable
- All compartments are separated from each other by earthed sheet steel components to give a true "Metal Clad " construction. The three high voltage compartments are fitted with pressure relief plates on the top of the panel. Overpressure, in the event of an internal fault, will be released upward limiting damage to adjacent compartments as well as to personnel.

- The VD4 vacuum circuit breaker or the HD4 SF₆ circuit breaker are interchangeable and provide a complete range of switching solutions.
- Simple and effective interlocking prevents operator error.
- The operation of all equipment is carried out with the panel doors closed.
- Type tests to DIN VDE 0670 part 601 (Pehla guideline No. 4), IEC 62271-200 and GB 3906 have verified performance in the event of an internal fault.

UniGear ZS3.2 Availability and flexibility
- Vacuum or SF₆ circuit breaker technology is available.
- Circuit breakers with the same rating are interchangeable irrespective of switching technology.
- Versatile panel arrangements allow most switchgear configurations to be implemented.

UniGear ZS3.2 Suitable for all applications
- Complies with IEC and also with the Chinese " GB" National Standards and "DL" design requirements.
- Technical data, including high dielectric withstand capability, allows application in most systems where electrical energy is generated, distributed or utilized.
A Low voltage compartment
B Circuit breaker compartment
C Busbar compartment
D Cable compartment
1 Hinged shutter system
2 Circuit breaker
3 Control wiring plug connector
4 Busbar
5 Busbar bushing
6 Earthing switch
7 Disconnect contacts and spout
8 Insulator
9 Insulated separating plate
10 Space heater
11 Cable sealing ends
12 Current transformer
13 Pressure relief plate
14 Partition plate
The basic structure of the switchgear panel comprises the panel itself and withdrawable part with circuit breaker. The panel consists of four separate compartments. That is circuit breaker compartment, busbar compartment, cable connection compartment and low voltage compartment.

Busbar compartment
"D" shaped busbars that optimize field control are used for inter-panel connections. Panels are divided by inter-panel bushings to prevent transfer of faults between panels. Busbars are provided with full insulation (including joints) to ensure that as far as possible the bus system is a fault free zone.

Cable compartment
Current transformers, earthing switch with short circuit making capacity, and surge arresters are installed in the cable compartment. Space is provided for multiple cable connections.
Low voltage compartment
All secondary equipment required for protection and control functions is located in this compartment. External control cables are terminated here after entering through generous metal enclosed ducts.

Circuit breaker compartment
The circuit breaker compartment accepts either a Vacuum or SF₆ circuit breaker mounted on a UniGear ZS3.2 switch-truck. Service and disconnect/test positions are accommodated entirely within the panel. Metallic shutters cover the disconnect contacts in the spout bushings when the circuit breaker is in the disconnect position providing true visible disconnection with earthed metal separation.
All operations are carried out with the doors closed. This ensures that protection of operators in the event of an internal fault is complete at this important time.

Withdrawable part
Circuit breakers are mounted on withdrawable trucks to provide the "disconnect" function. This disconnect position provides a visible indication of primary circuit separation and the withdrawable part is separated from the fixed part by earthed metal shutters. The disconnect position also allows testing of the apparatus with the primary circuit disconnected.
The drawout operation is performed with the panel door closed and the switch-truck remains entirely within the panel when it is in the disconnect position.
Other equipment including voltage and potential transformers with primary fuses may be mounted on a withdrawable switch-truck.

Interlocks, protection against incorrect operation
A complete series of mechanical interlocks are provided to ensure correct operation.
UniGear ZS3.2 A complete system of protection
for plant, personnel and equipment

- Reliable primary and secondary circuit components
- Internal fault protection
- Operation with doors closed (protection in place)
- Complete interlocks
### Technical Data

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<thead>
<tr>
<th></th>
<th>IEC</th>
<th>CNS</th>
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<tbody>
<tr>
<td>Rated voltage</td>
<td>kV</td>
<td>36</td>
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<tr>
<td>1 min power frequency</td>
<td>kV</td>
<td>70</td>
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<tr>
<td>Lightning impulse</td>
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<tr>
<td>Rated frequency</td>
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<tr>
<td>Rated current of busbar</td>
<td>A</td>
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<tr>
<td>Rated current of tee-offs</td>
<td>A</td>
<td>...3150&lt;sup&gt;1)&lt;/sup&gt;</td>
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<tr>
<td>Rated current of circuit</td>
<td>A</td>
<td>...3150&lt;sup&gt;1)&lt;/sup&gt;</td>
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<tr>
<td>Breaking current of</td>
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<td>...31.5&lt;sup&gt;2)&lt;/sup&gt;</td>
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<tr>
<td>circuit breaker</td>
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<tr>
<td>Rated peak withstand</td>
<td>kA</td>
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<td>kA</td>
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<tr>
<td>Auxiliary voltage</td>
<td>V</td>
<td>DC&lt;sup&gt;4)&lt;/sup&gt; 60,110,125</td>
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<tr>
<td>Weight</td>
<td>kg</td>
<td>1100~2000</td>
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1) Up to 3150A at 40˚C and 2500A at 55˚C with forced ventilation,
2) 40kA on request.
3) 100kA on request.
4) Special DC Voltage on request.