ABB is expanding its range to cover standard 4- and 6-pole generators for engine and genset manufacturers. Ideal for continuous or standby power, the new compact, high performance generators offer short delivery times and easy installation. ABB’s globally identical production processes ensure high quality, easy sourcing and efficient logistics.

**Standard industrial product family**

As the global technology leader in motors and generators, ABB has expertise in different types of applications to help OEMs and end-users achieve even better performance. We build generators to the strictest manufacturing standards for even the biggest gensets with common base frames.

The new 500–630 frame size generators extend our broad offering into the 0.9 – 7.3 MVA power range at voltages of 3.3 – 13.8 kV. They are ideal for both continuous and standby applications.

These open air cooled, 4- and 6-pole synchronous generators feature H-class insulation. Reliable, high performance PMG excitation comes as standard, complemented by an analog or digital AVR. Optional accessories enable easy customer interface adaptation.

**Future-proof design means significant savings**

The many pre-engineered options mean the standard platform needs only a few frame lengths to cover the whole power range and provide scope for various designs in the future. Adding an inlet air filter (IP23), for example, does not require extra width or derating. The NEMA version also has the same dimensions, with only a slightly higher terminal box.

No additional length is required for the IC01A-IP44 option, and the same foot design is suitable for all protection classes. The large terminal space has room for optional bus bars, PTs and CTs. The center bus bar arrangement enables easy cable connection. These factors not only help OEMs to minimize the number of gen set base frames but also produce significant savings in engineering, material and installation costs.

**Professional features in a standard generator series**

The innovative built-in exciter and PMG unit, as well as the integrated main and auxiliary terminals and AVR, make the generators compact and easy to install – factors that are important in the genset business.

In parallel operation no additional PLCs or cabling are needed to realize Voltage Droop Compensation (VDC) control. For grid operation, ABB’s cutting-edge digital AVR option completes the high performance generator package. ABB is the technology leader in grid code compliant LVRT (low voltage ride through) systems, and the digital AVR not only offers power factor regulation, voltage matching and limiters but also built-in diode monitoring and auto-synchronization. Its fast voltage dip detection keeps the genset connected to the network during fault situations.
Reliable ABB generators with global manufacturing and technical support

High reliability and performance
ABB applies advanced techniques like FEM simulation and CFD, enabling OEMs to produce rigid, predictable genset designs with excellent vibration durability. 3D models can be supplied to help OEMs to rapidly prepare documentation for their genset offering.

ABB generators have quality built in to their design, materials and manufacturing processes. Purchases are sourced from reliable vendors only and thorough testing is performed at all stages of manufacturing.

Both the stator and rotor use reliable ABB form wound windings and vacuum pressure impregnation – which has proven itself for more than 30 years in tens of thousands of large motors and generators that are operating successfully all over the world. Our advanced insulation system gives the windings superior strength to withstand vibration, and mechanical and electrical stresses. ABB uses many different ways to minimize harmonics – such as 5/6 * winding pitch, which reduces all significant harmonics to minimum levels. A 2/3 pitch winding, which eliminates only the 3rd harmonic, can be provided on request, if the neutral point is direct earthed.

*Exact pitch may vary slightly on a case by case basis.

Together with our expertise in a wide range of bearing constructions, these factors result in high availability and trouble-free operation.

The new standard product family offers the same high reliability and low cost of ownership as our proven high power generators. It provides a cost-efficient solution with the fastest delivery times, backed by ABB’s globally identical high quality manufacturing processes and worldwide network of local engineering and service facilities.

The ETO design – engineered to order
ABB generators fit with all engine brands and can be easily adapted to comply with their special requirements. In addition to the most common IP23 open air cooled 4-pole design with single or double bearings, various pre-engineered solutions and selected ETO configurations are available.

Optimized sourcing and logistics
ABB is a truly global company that offers its customers a complete portfolio of products – so OEMs can get all the components they need on time and can optimize their sourcing and logistics, wherever they are located.

ABB’s rigid salient pole rotor construction enables reliable operation under the most demanding load conditions.

Built-in exciter and PMG in NDE shield with easy access to diodes.
Professional features in a standard generator series

**Key benefits**

Most compact in size and easy to install
- built-in exciter and PMG
- large terminal unit with built-in AVR

Adaptability with short delivery times
- standard platform for serial manufacturing with many optional accessories
- ETO range with pre-engineered configurations

Reliable operation under changing and non-linear loads
- good short-circuit, overload and motor starting capabilities using the most reliable PMG excitation

Optimized sourcing and efficient logistics
- globally identical ABB manufacturing processes

Local engineering support
- backed by ABB’s global service network

Complete portfolio of products from single, reliable partner
- independent supplier, technology and market leader with unrivalled experience

Large, integrated terminal space in top of frame for easy installation of cables, transformers and AVR, with a centered bus bar and extra cooling function.

**Typical technical data**

<table>
<thead>
<tr>
<th>Frame size</th>
<th>Power range</th>
<th>Voltage range</th>
<th>Frequency</th>
<th>Pole number</th>
<th>Cooling and protection</th>
<th>Mounting</th>
<th>Main dimensions (LWH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 – 630</td>
<td>0.9 – 7.3 MVA</td>
<td>3.3 – 13.8 kV</td>
<td>50 or 60 Hz</td>
<td>4-pole, (1500 or 1800 rpm)</td>
<td>IC 0A1/IP 23, open air cooled</td>
<td>IM 1101, double bearings, raised feet</td>
<td>500: 2470 x 1310 x 1725 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6-pole, (1000 or 1200 rpm)</td>
<td></td>
<td></td>
<td>560: 2700 x 1400 x 1850 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>630: 3170 x 1650 x 1985 mm</td>
</tr>
</tbody>
</table>

**Design features**

<table>
<thead>
<tr>
<th>Insulation class / Temp. rise</th>
<th>Brushless excitation</th>
<th>AVR type</th>
<th>Winding pitch</th>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>H / H, F or B</td>
<td>PMG as standard</td>
<td>Analog as standard</td>
<td>5/6 (approx.), 2/3 on request</td>
<td>Top integrated terminals and AVR, 4 bus bars – 6 leads</td>
</tr>
</tbody>
</table>

**Main options**

- Cutting-edge digital AVR (advanced ABB Untrol 1010)
- SAE 0 and SAE 00 flanges
- 6 bus bars, CTs and PTs for differential protection
- Inlet air filters (with no power derating or extra width, IP 23)
- Adaptable cable output, all directions with 45° angle cable tube
- Different IP, IC and IM options available

ABB’s cutting-edge digital AVR option makes for a reliable generator package without needing external synchronization or diode monitoring units.
Proven ABB generators enable reliable power production with the lowest lifetime cost

Your reliable partner

ABB is a leader in power and automation technologies that enable utility and industry customers to improve their performance while lowering environmental impact. The ABB group of companies operates in around 100 countries and employs about 150,000 people.

ABB is the technology and market leader in motors and generators for all industrial and marine applications. We have supplied tens of thousands of large motors and generators to customers all over the world, based on more than 120 years of experience in the widest range of solutions.

ABB’s global engineering, manufacturing and service network enables our customers to offer reliable and efficient power generation wherever they operate.

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