

ISOBUS MG

Gas Insulated Busbar System



ISOBUS MG

The ISOBUS MG system is designed to provide a value added solution in a gas insulated application for primary and secondary distribution up to 40,5 kV and 3150 A. It is a single phase insulated system avoiding phase to phase short circuits for indoor applications and partly outdoor applications.

SF6 Insulation Properties

SF6 gas is chemically inert, non-toxic and non-flammable. It has been used for more than 50 years as an insulating material in medium and high voltage apparatus, e.g. switchgear, transformers and substations. SF6-gas can extinguish electric arc and this property coupled with its excellent dielectric withstand have ensured that SF6 is the chosen insulation medium in literally millions of electrotechnical apparatus worldwide. SF6 gas insulation is not subject to the aging factors which usually affect other insulations over time. The above properties together with client demand were instrumental in the decision to expand our product range to include SF6 solutions.

Medium Voltage Application

- For connections between SF6 insulated equipment.
- For connections between SF6 equipment and non-SF6 insulated equipment.
- For connections between SF6 insulated equipment and cable.

Design Principal (Fig.2)

Each phase of ISOBUS MG consists of a conductor which can be either E-Al or E-Cu and an outer metal enclosure. Each phase is surrounded by separately earthed enclosure. Epoxy resin insulators are used to center the conductors inside the metal housing. The conductors are connected by type tested plugs. Thermal elongation is compensated by expansion elements (Fig. 2, see element 3).

Connections to other Equipment

SF6 Switchgear (Fig.3)

ISOBUS MG can be connected to all types of SF6 switchgear being available in today's market. This is either possible through a direct switchgear connection to the SF6 room or from outside using a plug-in connection. Both male and female sections of this plug-in component can be delivered up to 40,5 kV and 3150 A. It is possible to adapt this component to suit your specific SF6 switchgear plug-in requirements.

Air and Oil Insulated Equipment

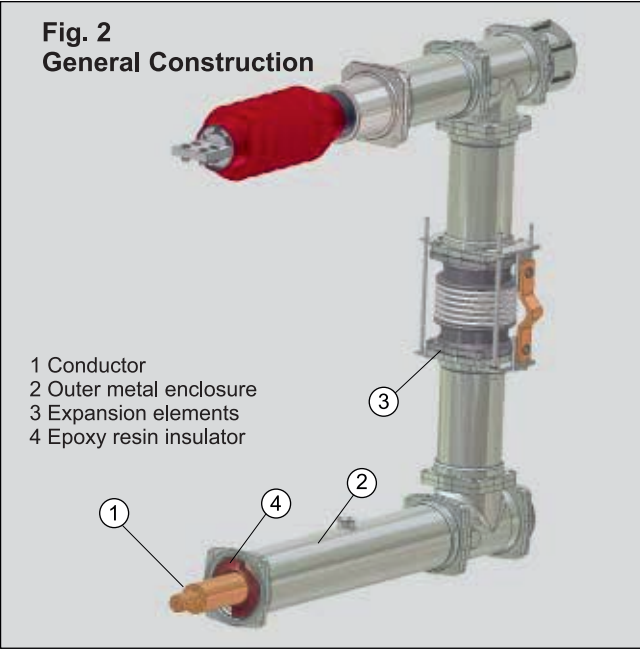
Connection to this equipment is facilitated by using our proven ERIP ISOBUS MB Bushing technology. We can connect to transformers, capacitors, reactors and other electric equipment. A direct plug-in solution for oil insulated apparatus is available.

SF6 Gas Insulated Busbar System for Medium Voltage

TYP/TYPE:	ISOBUS MG
Application:	up to 40,5 kV & up to 3150 A
Insulation:	SF6-Gas
Degree of protection:	up to IP65, Indoor
Leakage rate:	< 1% per year



Fig. 1: Installation



Active Magnetic Field Weakening

The above described arrangement induces minimal magnetic field emissions being achieved as follows:

- Current flows along the conductor which produces a magnetic field.
- The metal enclosure is at zero potential because it is grounded. However by returning an equal and opposite current through the enclosure, magnetic emissions are reduced to almost zero.
- Integral short circuit connections between enclosures make this possible.

Features and Benefits of MG Busbar Systems

Safety and Reliability

- Touch safe during operational conditions due to the outer earthed metal enclosure.
- No phase to phase short circuit due to encapsulation of each phase by metal enclosure.
- Hermetically sealed system which has < 1% leakage per annum.
- No requirement for locked rooms within facility.
- Natural cooling.

Space and Time Saving Installation

- Modular system components allow made to measure distribution solutions within compact medium voltage applications. Change of directions and tape-offs in all three dimensions are possible.
- Compact system with right angled connections and small phase to phase distance means minimal space requirements and connection possible to any type of SF6 switchgear.
- Light weight system saves installation time.
- No special tools required.
- Fast assembly and installation of type tested components.
- Value added solution supplied. The ISOBUS MG including the fixation system is designed, manufactured, tested and delivered as a SF6 distribution kit, complete with all necessary components and installation documents.
- Minimal maintenance.

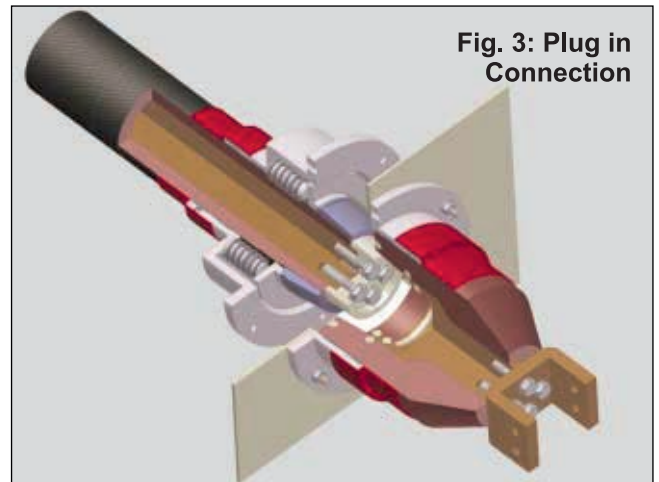


Fig. 3: Plug in Connection



Tefelen Preissinger GmbH

We are a German company, located at Industriestrasse 12, 96120 Bischberg, with a very long product history and a deep experience regarding low and medium voltage cast resin insulated busbar systems.

History

The product history started at Messwandler-Bau (MWB) in Bamberg in the late 1960s and early 1970s, where Mr. Norbert Preißinger († 2015) headed the engineering and construction department for busbar systems during the 1980s until he left the company in 1988.

In that year Mr. Preißinger founded his own engineering office for cast resin insulated busbar systems, which were produced by his former employer Messwandler-Bau (MWB).

After successfully running his engineering office for 11 years, Mr. Preissinger started his own production site under the company name pbp Preissinger GmbH & Co. KG in Bischberg in 1999. In 2009 the head office moved to a new office building in Breitenguessbach. In the years until 2012 the company grew to the size of 45 employees. In 2014 Preissinger doubled its production capacity by implementing a second production kiln for the cast resin impregnation process of the busbar elements and the connection tubes. Since its establishment in 1989 Preissinger has sold more than 2.000 busbar systems across the world.

On 16th August, 2016 pbp Preissinger GmbH & Co. KG was taken over by Tefelen Preissinger GmbH.

Technology for Power Distribution, Power Generation and Electrical Energy

Tefelen Preissinger GmbH provides busbar solutions meeting the highest requirements of the global markets and in accordance with the customers' requirements.

Tefelen Preissinger GmbH keeps its reputation by high-quality products and its market position as a global leader by providing a complete range of cutting-edge products:

- > Medium Voltage Epoxy Cast Resin Insulated Busbar Systems ISOBUS MR up to 40,5 kV & 7.000 A
- > Medium Voltage Gas Insulated Busbar Systems ISOBUS MG up to 40,5 kV & 3.150 A
- > Wall Bushing Solutions ISOBUS MB up to 52 kV & 7.000 A

Compared to cable solutions and air insulated bus duct solutions the cast resin insulated busbar systems providing space saving solutions by the capability to carry higher currents and achieving smaller bending radii and the lost factor is much low. So the total cost of operation is significantly lower than for air insulated bus duct systems and cable solutions especially taking into account that the cast resin insulated busbar systems are maintenance free.

Our aim is providing efficient and perfect solutions for every customer application and any kind of specification. Based on our outstanding service and competence, we wish to establish a long-term business relationship with our business partners and clients.

The Tefelen Preissinger GmbH became a leading manufacturer of Medium Voltage Busbar System Solutions merging more than 30 years of experience. Numerous companies in more than 100 countries across Asia, North/South America, Europe, Africa and the Middle East put their trust in the innovative technology, provided by Tefelen Preissinger GmbH.

Tefelen Preissinger GmbH is committed to assisting customers with their unique needs by providing them with comprehensive, value-added solutions and professional service.

Please do not hesitate to contact us.

For more information, visit www.tefelen-preissinger.de

Or contact us at: info@tefelen-preissinger.de