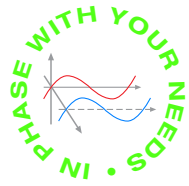




Preissinger GmbH & Co. KG

# ISOBUS MG

## SF6 Gas insulated Busbars for medium voltage



| Typ/Type:             | ISOBUS MG                 |
|-----------------------|---------------------------|
| Application:          | - 40,5 kV, -3150A         |
| Insulation:           | SF6-Gas                   |
| Degree of protection: | IP 66, Indoor and Outdoor |
| Leakage rate:         | <1% per year              |

### SF6 Insulation Properties

SF6 gas is chemically inert, non-toxic and non-flammable. It has been used for just under 50 years as an insulating material in both medium and high voltage apparatus, e.g. switch gear, transformers and sub-stations. SF6-gas can extinguish electric arc. This property coupled with its excellent dielectric withstand have ensured that SF6 is the chosen insulation medium in literally millions of electro-technical apparatus world wide.

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 our 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

### Features and benefits of installing ISOBUS MG in the above applications:

#### 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 with < 1% leakage per annum
- No requirement for locked rooms within facility
- Natural cooling
- High voltage testing of sub-assembly components through full assembly prior to leaving our manufacturing plant
- Quality assurance according to ISO 9001

#### Space and time saving installation

- Modular system components allow made to measure distribution solutions, within compact medium voltage applications. Change of directions and branch 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 time at installation.
- No special tools required
- Fast assembly and installation of type tested components
- Value added solution supplied. Both ISOBUS MG and the fixing system are designed, manufactured, tested and delivered as an SF6 distribution kit, complete with all necessary components and installation documents. Made to measure for "fit and forget" solutions.
- Minimal maintenance



Fig. 1-3: ISOBUS MG • SF6-Gas insulated

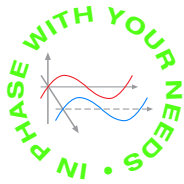




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## SF6 Gas insulated Busbars for medium voltage



worldwide safely connected

### Basic Design (Fig. 4)

#### Physical Components

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 this separately earthed enclosure. High voltage epoxy resin insulators are used to centre the conductors inside the metal housing. The conductors are connected by a series of high voltage type tested plugs. Thermal elongation is compensated by a series of independent expansion elements.

#### Electro-technical: Active Magnetic Field Mitigation

The above arrangement produces minimal magnetic field emissions. This is achieved as follows:

- Current flows along the conductor which produces a magnetic field
- The metal enclosure is at zero potential, earth. 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

### Connections to other Equipment

#### SF6 Switch gear (Fig. 5)

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

#### Air and Oil Insulated Equipment

Connection to this equipment is facilitated by using our proven technology ERIP ISOBUS MB Bushings. We can connect to transformers, capacitors, coils and other electric apparatus. We also have a direct plug-in for oil insulated apparatus.

Fig. 4: General construction

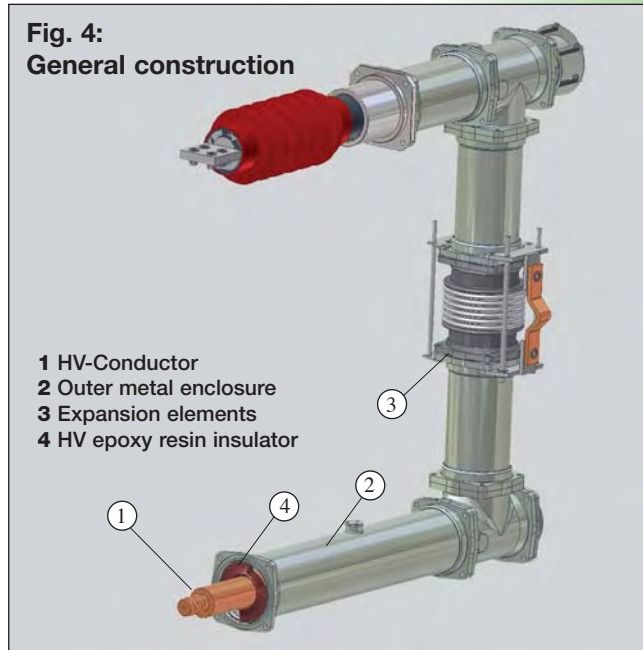


Fig. 5: Plug-in connection

