

**Xiria**  
24 kV Ring Main Unit

# Xiria

## the smart solution

- High operational safety
- Maintenance-free
- Safe visible earthing and position indication
- Environmentally friendly
- Compact
- Suitable for substation automation
- Vacuum technology



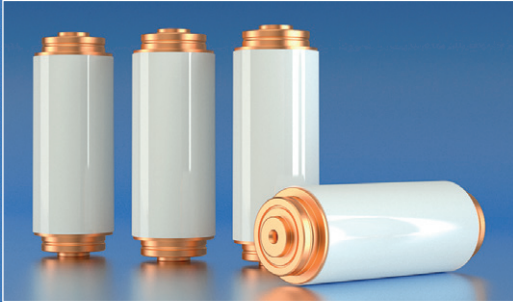
**EATON**

*Powering Business Worldwide*



## Vacuum technology: safe, compact and reliable

Eaton vacuum interrupters consist of a ceramic cylinder, housing a fixed and movable contact. Movement of the contact under vacuum conditions is facilitated by a bellows. A shield surrounding the contacts prevents the insulators from becoming contaminated by metal vapour produced during current interruption. This shield also ensures good potential distribution over the insulator.



A typical feature of Eaton vacuum interrupters is that they are characterised by very low arc voltage and short arc times, resulting in very low arc energy. Contacts wear in a vacuum interrupter is therefore virtually negligible. Vacuum interrupters are maintenance free and are certified up to 30,000 operation cycles.

## Xiria: the smart solution

Xiria is the name of a new generation of ring main units from Eaton. They are characterised by their high level of operational safety and are suitable for applications up to 24 kV. Xiria units are also very compact. Xiria units can be supplied in two-, three-, four- or five-panel versions. Both the primary part of the unit and the mechanisms are housed in a fully enclosed housing which protects the system against environmental influences. There is a choice of two basic panel versions in our product range:

- A vacuum load break switch for ring cable connections.
- A vacuum circuit-breaker for protecting transformers and cable connections.

Both versions can be supplied in a unit in any desired combination and order.



Xiria is an extremely well designed and modern system. For example, when developing the system we intentionally opted for protection in the form of a circuit-breaker combined with an electronic relay. This is a modern, safe and flexible alternative to fuse protection.

In addition it also makes Xiria very easy to use in an automated distribution network. These specific features make Xiria an easy-to-use system that responds perfectly to changing electricity distribution requirements, both now and in the future.







### Maintenance-free

All the live primary parts and mechanisms in a Xiria unit are installed in a fully enclosed housing. This prevents dust, moisture and other environmental influences from affecting the operation of the unit. The switching mechanism has been designed with a minimum number of parts, and is specifically intended for switching after a long period of inactivity – precisely the way it happens in practice. What is more, the mechanism does not use any lubricants, which also benefits its operational safety. As it is maintenance-free, Xiria significantly cuts inspection and maintenance costs without adversely affecting the operational safety of your distribution network. Which is something to look forward to in today's liberalised energy market.



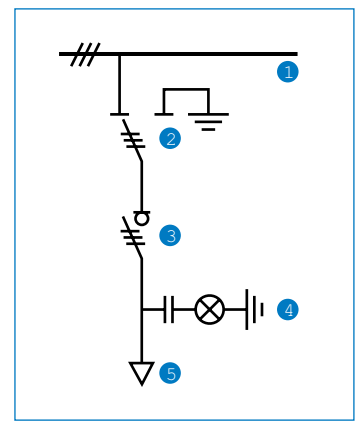
Sealed-for-life housing.



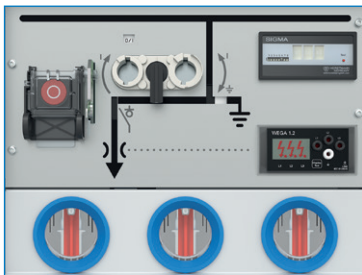
### Intrinsically safe

When carrying out operational actions and work on the cables, it is vital to have unambiguous status indications. When it comes to the safety of the operating personnel, Eaton leaves nothing to chance. That is why Xiria is fitted with directly visible isolation by means of inspection windows in the front which makes the isolating distance between the cable and the busbar system directly visible. A visible, short-circuit proof earthing can take place via the load break switch or circuit-breaker.

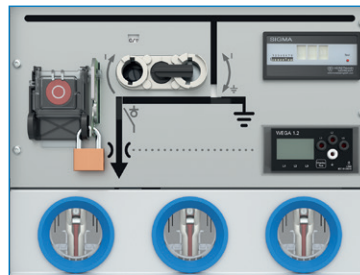
Xiria is designed with a fully enclosed metal housing combined with single-phase insulation of all primary live parts. This reduces the risk of an internal fault to an absolute minimum, thus providing a high degree of safety and availability. The KEMA-tested arc-proof housing also offers additional protection for operating personnel.



- 1 Busbar system
- 2 Busbar/earth disconnector
- 3 Vacuum load break switch or circuit-breaker
- 4 Voltage detector
- 5 Cable connection



Operating position.



Earth position.



### Developments in electricity distribution

Electrical energy has become an indispensable part of modern society. Having a reliable, continuous supply of energy is becoming more and more important every day. From the point of view of energy companies and industry, this means that the distribution network has to meet ever more stringent demands. It goes without saying that safety and operational reliability play a major role.

As a result of the liberalisation of the energy market and the effect that this is having on the market, electricity is becoming an increasingly commercial product, with all that that entails. So when a distribution network is set



**Compact**

Xiria is one of the smallest ring main units of its kind. This high degree of compactness is a direct result of the combination of technologies used by Eaton – electrical field control, solid insulation and the use of extremely compact vacuum interrupters. This compactness offers direct financial benefits in new buildings and when refurbishing existing transformer stations because of the minimal floor area required.



Compact design.



**Ready for automated networks**

Xiria is completely ready for use in fully-automated networks. There are various options available for the system, depending on the level of remote signalling and remote control required. These options are modular, so they can be quickly and easily added in the future. In this way Xiria anticipates future developments in automation and operational control, so you can be sure that you will not be left with control, display and communication standards that are too specific or possibly even obsolete.



Easily adjustable electronic protection relay.



**Clean and green**

Xiria is made exclusively of environmentally-friendly materials. The insulation medium is clean, dry air and the switching medium is vacuum. Thus Xiria responds to the demand for sustainability in energy distribution. The unit is easy to dismantle at the end of its service life as the materials used are clearly labelled and can be reused. This facilitates recycling and avoids excessive costs and environmental taxes when the unit is decommissioned.



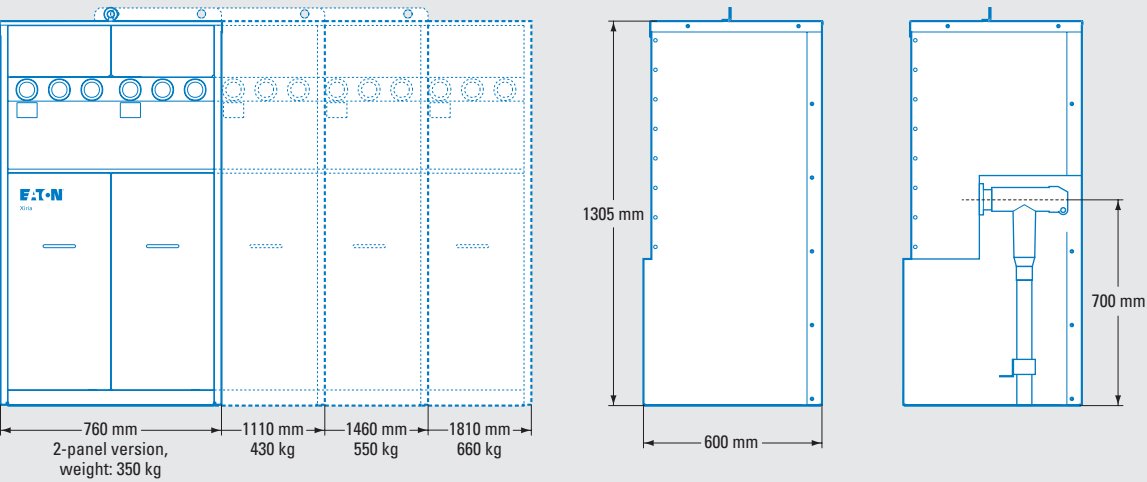
Clear coding for recycling.

*Xiria units can be used in compact transformer stations for energy distribution and in accessible stations in utilities and industry. They are also ideal for use in decentralised power generation systems such as wind farms.*

up, far more attention is paid to the total costs over the life span of the network than before. The maintenance-free Xiria system is Eaton's response to this. Sustainability and environmental friendliness are becoming more and more important in the choice of switch materials. Eaton has taken this criterion as a starting point for the design of its new generation of ring main units - both in terms of production and during the entire service life of the unit, including the reuse of the materials used. Based on these developments, Eaton has launched Xiria, a system that responds to present and future developments in the liberalised energy market.



Dimensions (mm)



Technical data

Xiria						
General						
Rated voltage	kV	3.6	7.2	12	17.5	24
Impulse withstand voltage	kV	40	60	75/95	95	125
Power frequency withstand voltage	kV	10	20	28	38	50
Rated frequency	Hz	50/60	50/60	50/60	50/60	50/60
Internal arc resistance	kA-s	20-1	20-1	20-1	20-1	20-1
Busbar system						
Rated normal current	A	630	630	630	630	630
Rated short-time withstand current	kA-s	20-3	20-3	20-3	20-3	20-3
Rated peak withstand current	kA	50	50	50	50	50
Circuit-breaker						
Rated normal current	A	630	630	630	630	630
Rated breaking current	kA	20	20	20	20	20
Rated short-circuit making current	kA	50	50	50	50	50
Rated short-time withstand current	kA-s	20-3	20-3	20-3	20-3	20-3
Load break switch						
Rated normal current	A	630	630	630	630	630
Rated mainly active load breaking current at cos. phi 0.7	A	630	630	630	630	630
Rated short-circuit making current	kA	50	50	50	50	50
Rated short-time withstand current	kA-s	20-3	20-3	20-3	20-3	20-3

Xiria complies with the following international standards	
IEC 62271-1	Common specifications
IEC 62271-200	Metal-enclosed switchgear
IEC 62271-304	Severe climatic conditions
IEC 62271-100	Circuit-breakers (M1/E2)
IEC 62271-103	Switches (M1/E3)
IEC 62271-102	Alternating current disconnectors and earthing switches (M0)
IEC 60529	Degree of protection
IEC 61869-1	Instrument transformers - Part 1: General requirements
IEC 61869-2	Instrument transformers - Part 2: Additional requirements for current transformers
IEC 61869-3	Instrument transformers - Part 3: Additional requirements inductive voltage transformers
EN50181	Plug-in type bushings above 1 kV up to 36 kV

Classification according to IEC 62271-200	
Loss of Service Continuity	LSC2
Partition Class	PM
Internal arc	IAC AFLR 20 kA-1 s

Quality standards	
ISO 9001-2015	Quality
ISO 14001	Environmental management

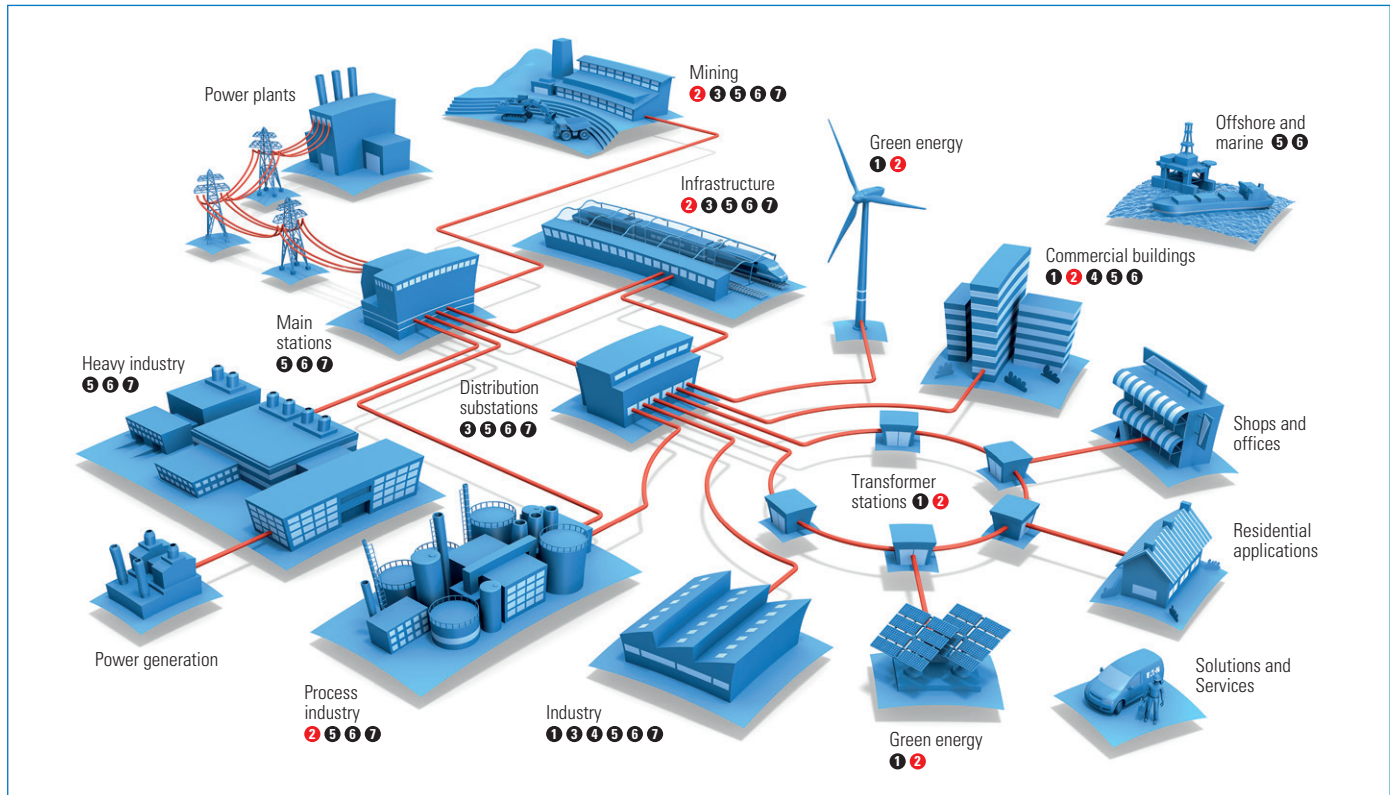




Eaton's electrical business is a global leader with expertise in power distribution and circuit protection; backup power protection; control and automation; lighting and security; structural solutions and wiring devices; solutions

for harsh and hazardous environments; and engineering services. Eaton is positioned through its global solutions to answer today's most critical electrical power management challenges.

## Eaton medium voltage products in the energy chain



1 Magnefix



2 Xiria (blocktype)



3 Xiria E (extendable)



4 Xiria M (metering solutions)



5 Power Xpert® FMX



6 Power Xpert® UX



7 MMS

Eaton Industries (Netherlands) B.V.  
P.O. Box 23  
7550 AA Hengelo  
The Netherlands

Tel.: +31 (0)74 - 246 40 10  
Fax: +31 (0)74 - 246 40 25  
info.electric@eaton.com  
www.eaton.com/xiria

The information provided in this document reflects the general characteristics of the referenced products at the time of issue and may not reflect their future characteristics. Eaton Corporation reserves the right to modify the contents of this document and the characteristics of the referenced products without prior notification. Eaton Corporation does not assume liability for potential errors or omission of information in this document.

© 2022 Eaton Corporation  
All rights reserved.

Form No. 994.153J  
October 2022