



# Low Voltage Switch and Control Gear

AS3439.1:2002 ANNEX ZD and IEC 61439.1 Ed 2.0



**Fully Insulated and Arc Free**





**K-MOTROL**  
NEXT GENERATION



## Company Profile

With over six decades of design, manufacturing and supply **Kounis Metal Industries** Pty Ltd has changed its name to **Kounis Group**. The change of name represents the broadening of our portfolio with greater diversification of products and services across all sectors of the business.

Our core belief and objective is to provide products and services of a quality which exceed customer expectations in respect to quality, performance, safety and price. This is reinforced by the positive growth of our core business whilst expanding into areas of new growth with the design and manufacture of transportable electrical switchrooms.

The Kounis Group Head Office is located in Western Australian and is also the location of its main manufacturing plant. In addition the group has several supporting workshops and warehouses located in Perth. The Kounis Group has a well-established large sales and warehousing facility in Melbourne to service the East Coast of Australia which carries comprehensive stocks of cable supports and standard products.

The Kounis Group is quality assured to ISO 9001 and prides itself on the quality of its products and services, along with its dedicated highly experienced equal opportunity workforce. With large stocks of standard products all of which conform to Australian Standards and an ability to manufacture and provide services in a minimum time frame the Kounis Group is able to offer unparalleled service levels across all areas of business.

### Manufacturing and Shipping Worldwide

- Precision and General Sheetmetal Work
- Electrical Switchboards
- Cable Support Systems
- Transportable Switchrooms
- Light to Medium Fabrication
- Rotor Resistance Starters
- Mining Enclosures
- Packaged sub-Stations
- CNC Turret Punching /Laser Cutting and Folding
- De-Watering Skids
- Architectural Screens and Perforating
- Switchboard Service Maintenance and Audits

**Managing Director**

**Dave Kounis**

November 2016

## Health, Safety, Environment and Quality (HSEQ) Policy

The Kounis Group considers Health, Safety, Environment and Quality (HSEQ) an integral part of the company's business vision and values. Our objective is to provide, with the assistance of our people, a workplace that protects the safety and health of its employees, contractors, customers and visitors, whilst producing products and services of an outstanding quality.

The Kounis Group utilises its development and implementation of a documented and systematic HSEQ management system that includes the establishment of HSEQ business standards and supporting procedures, practices, guidance and information. A key aspect of this approach will involve the adoption of risk management for identifying, assessing, controlling and monitoring all areas of the business's operations. In maintaining this commitment, we have developed a Quality Assurance System (QAS) which incorporates all aspects of HSEQ, including objectives, targets and key performance indicators, all of which are utilised to enable continual improvement of operations.

### Objective

The Kounis Group will provide products and services of a quality which conform to customer requirements and consistently exceed our customer's needs and expectations. To achieve this, we have implemented a Quality Management System which conforms to ISO 9001. The Kounis Group aims to strive towards continuous improvement in products and services for our customers by providing the appropriate training, resources (both internal and external), equipment, training, support and reference materials to ensure its HSEQ objectives are met.

### Management Responsibilities

The Managing Director is ultimately responsible for HSEQ management and compliance throughout the company. All managers, supervisors and leading hands are responsible for work areas under their control. HSEQ procedures are in place and observed, and for communicating and implementing the necessary information and guidance to achieve the company's objectives. Managers, supervisors and leading hands are expected to continuously promote and maintain a high standard of quality and safety in their respective work areas and to lead by example and encourage involvement of employees.

### Employee Responsibilities

Employees are responsible for actively participating in the HSEQ management system requirements. This includes working in a safe and healthy manner, participating in training, complying with company procedures, instructions and directions. And not adversely affecting the safety of fellow employees, contractors, customers and visitors, reporting of hazards or incidents, and ensuring the quality of both product and service.

### Communication

The Kounis Group, through our consultative process, encourage two-way communication, cooperation and involvement of management, employees, contractors and customers in the ongoing development of our HSEQ management system (QAS).

#### Managing Director

**Dave Kounis**

November 2016

## Introduction

The Kounis Group are pleased to offer one of the most versatile and safest motor control centre and power distribution switchboards on the market today.

The K-Motrol next generation switchboard system has been developed in house with a strong emphasis on safe operation for the end user, by our dedicated team of designers and engineers using cutting edge 3D modelling and technologies. K-Motrol next generation has been extensively tested and certified to fully comply with AS3439.1:2002 Annex ZD and IEC 61439.1 ED 2.0.

The Kounis Group has developed a product that offers flexibility of choice, design and installation saving both time and money. K-Motrol next generation offers a fully insulated bus system and an arc free environment that insures maximum operator safety

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NEXT GENERATION

“one of the most versatile and safest motor control centre and power distribution switchboards on the market today”

E.&O.E.



## Modular Fully Insulated Bus Bar System

The main design feature of the K-Motrol next generation is the full segregation and insulation of all live parts. This is achieved through the advanced insulation and segregation design of all vertical and horizontal bus bars to achieve an arc free environment.

The K-Motrol next generation bus bar system has been developed to allow live inspection of bus joints utilising unique clear removable polycarbonate shrouding. Temperature indicators are installed at every bus junction to provide a visual indication of any joints that are overheating. This will assist the client by reducing maintenance cost without the need for additional thermo graphic inspections. In addition to the above the polycarbonate shrouding is easily removable for scheduled maintenance during planned outages.



**K-MOTROL**  
NEXT GENERATION

“Temperature indicators are installed at every bus junction to provide a visual indication of any joints that are overheating”.

E.&O.E.

## Additional Bus Bar Features

- Fully modular system allows for additional tiers to be added without the need for site measuring or dis-assembly of existing adjacent tiers.
- Unlike traditional current upgrades that require a full strip down of the existing bus system the versatility of the K-Motrol next generation bus bar laminated arrangement allows for the up-rating of the existing bus system by adding additional laminations of copper. This upgrade can be achieved with minimal shutdown time and without the need to increase the physical foot print of the board, resulting in substantial cost savings.
- K-Motrol's next generation bus bar systems allows for ultimate flexibility by allowing upgraded capacities without effecting type testing.





## Technical Data

### AS/NZS 3439.1:2002

#### Low voltage switchgear and control gear assemblies part 1 type tested and partially type tested assemblies

Rated Voltage	1000V AC
Rated current of an assembly (In)	Up to 4000A
Rated short-time current (icw)	Up to 80kA
Rated frequency	50/60Hz
Degree of protection	Up to IP56
Temperature rise	In accordance with AS/NZS 3439.1:2002 Table 2
Rated short circuit strength	Up to 80kA
Form of separation	Up to form 4b
Electromagnetic compatibility (EMC)	Environments 1 & 2
Insulation	Up to 12kV
Number of poles	Available in 3, 4 or 3&4 pole configurations
Arc fault containment to annex ZD	Schneider, NHP (Terasaki), Siemens & IPD options



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“K-Motrol next generation has been extensively tested and certified to fully comply with AS3439.1:2002 Annex ZD and IEC 61439.1 ED 2.0”.

E.&O.E.



## Technical Data

### IEC61439-1 edition 2 2011-08

#### Low voltage switchgear and control gear assemblies part 1 general rules

Rated operational voltage (Ue)	1000V AC
Rated current of an assembly (InA)	Up to 4000A
Rated short-time current (Icw)	Up to 80kA
Rated Frequency (fn)	50/60Hz
Degree of protection	Up to IP56
Temperature rise	In accordance with IEC61439-1 Section 9.2
Rated short circuit strength	Up to 80kA
Electromagnetic compatibility (EMC)	Environments A & B
Insulation	Up to 12kV
Number of poles	Available in 3, 4 or 3&4 pole configurations
Arc fault containment to IEC/TR61641	Schneider, NHP (Terasaki), Siemens & IPD options

### IEC/TR61641 Edition 2 2008-01

#### Enclosed low voltage switchgear and control gear assemblies guide for testing under conditions of arcing due to internal fault.

Arc free zones	In accordance with Definition 3.7
Arc proof zones	In accordance with Definition 3.8
Arc proof assembly	In accordance with Definition 3.9



E.&O.E.

## Notes



## Notes



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