

**FOR IMMEDIATE RELEASE**

November 09, 2018

Marketing contact:  
Martin Van Der Linde  
Global Marketing Manager

Tel : +61 7 3907 8777  
Mob. +61 438 690 116  
Fax : +61 7 3399 6777  
martinv@nojapower.com.au  
www.nojapower.com.au

# A Ground Mount Kiosk for Connecting Renewables and Distributed Generation

Distributed Generation Proliferation is the new normal for distribution network operators, as the commercial viability of medium scale generation incentivises the development of this infrastructure. Connecting these generation plants to the grid provides a unique challenge, where connection is no longer trivial, but the costs of engineering connections must be reasonable.

NOJA Power's new GMK product is an example of a turnkey point-of-connection switchgear developed in collaboration with Australian DNSPs and refined through diverse practical applications. By incorporating the typical product permutations into a single versatile product, end users can achieve both cost effective engineering for connections with the required flexibility of the application.

Existing installed applications include:

- Skid Mounted Mobile Switchgear for connecting Mining Generators to Equipment
- Rail Connections for Auto Changeover
- Individual Generator Connection on private infrastructure
- Connecting Diesel Generators for Micro-grids

From a technical standpoint, the key inbuilt requirements can include:

- Circuit Breaker
- A Load Side Earth Switch
- Metering Instrumentation
- Auxiliary supply transformer
- Additional CT's for Differential Protection
- Power Quality Metering
- Synchro-Check, Auto-Synchroniser, Live Load Interlocks
- Traditional Voltage and Current Protection
- SCADA Control through IEC 61850, DNP3 or IEC60870-5-101/104
- Remote Engineering Access

The NOJA Power GMK's core switchgear is a NOJA Power OSM Recloser with RC Series control. By taking the outdoor pole mounted product and mounting it in the GMK, users are provided with most of the protection, automation and communications functionality that would be necessary for distributed generation connection.

With the OSM Recloser mounted in a GMK, the traditional overhead connections are replaced by DIN Profile terminals, allowing for direct installation of underground cables onto the device.

Internalising the OSM Recloser in a GMK provides plenty of indoor environment for installation of any peripheral equipment or auxiliary systems. The standard augmentation is to include a mechanically interlocked earth switch. By interlocking the earth switch with the mechanical lockout of the recloser, engineers provide operators with the ability to earth the load side of the Recloser only when the Recloser is in the open position. In compliance with mining standards, the Earth Switch Position can easily be locked with a padlock.

NOJA Power's OSM Recloser also provides class leading SEF protection, with the Matched CT option providing a minimum SEF pickup of 200mA, with precision increments of 100mA. This functionality meets mining requirements for 500mA SEF pickup in a single standard product.

Further safety features in the GMK include the WiFi capability, allowing for secure access and interrogation of the equipment in hazardous environments – keeping operators a clear distance away from HV equipment.

Protection capability is further supported by the integrated Synchrocheck and Auto-Synchroniser, enabled by the OSM Recloser's voltage sensing on either side of the interrupter. This facilitates safe interlocks for switching practices, whilst enabling the synchronisation of load and source through use of the inbuilt ANSI25 Auto-Synchroniser.

For distributed generation scenarios, the GMK provides ample real estate for inclusion of metering class CT's and VT's. CT's can be LV insulated, as insulated underground cables are fed through them during installation before terminating onto the GMK bushings. All instrumentation is wired to terminal blocks in the control panel of the GMK, providing a safe working environment for metering equipment.

Finally, simple quality of life additions such as detachable lifting points or skid mounted design allows for the GMK to be carted around mine sites or private infrastructure with ease. Commissioning time is greatly reduced as the full system can be factory tested, mitigating test requirements for full installations. These features make renewable connection engineering far more cost effective, providing efficient use of engineering resources to standardise a product for the application.

“Our GMK product provides all of the advanced protection communications and data logging features standard in our range of pole mount recloser products and makes them available for underground cable networks,” says NOJA Power Group Managing Director Neil O'Sullivan. “With the space available in the GMK2000 series kiosk, metering class CT's and VT's can be fitted together with revenue metering as well as any additional communications equipment required to offer a complete packaged solution in a single enclosure.”

For more information, get in contact with NOJA Power or visit [www.nojapower.com.au](http://www.nojapower.com.au)



*Figure 1 – Cable Bay showing optional Metering CT's*



*HV Compartment View, Side Access Door*



*LV Control Bay – NOJA Power GMK*