

NOJA POWER NEWS

EDITION 7

MISSION STATEMENT:

We offer our customers integrated solutions using innovative products, combined with unrivalled service and reliability worldwide.

Utilities Around The World Switch To NOJA Power Reclosers

Around the world electrical utilities are recognising the benefits of using NOJA Power reclosers in their network. Installations have accelerated in 2004 with devices now on power poles in over 16 countries. This figure is set to increase in 2005 as more utilities realise the unique advantages of the OSM recloser.

NOJA Power's success in the world market has been due mainly to a superior product coupled with a commitment to service and support that is second to none. Users of NOJA Power switchgear have all seen how our engineers and sales people go the "extra mile" in ensuring the installation is a continued success. Integration and installation issues are dealt with promptly and without fuss.

The OSM recloser is a compact, lightweight, device that is big on features. Advanced control electronics are coupled with Rogowski current coils and capacitive voltage screens to provide an extensive range of protection functions and logging capabilities. All this is achieved with a tank that is completely free of harmful insulants such as SF6 or oil.

NOJA Power has taken the approach that integration into existing networks should be as simple as possible. In order to implement this philosophy the OSM recloser is equipped with a very flexible range of protection and network integration features.

Software tools are provided to make configuration more intuitive. Protection curves can be adjusted visually using a graphical tool. SCADA interfaces and protocol points can be adjusted in software to match existing communications networks. We believe these features make the OSM recloser one of the easiest devices to integrate into today's modern, automated distribution networks.



INSIDE:

- Reclosers Installed in Colombia
- Easy Terminations with the OSM
- Multi-Dropping Control Cubicles Using RS485
- NOJA Power Wins Queensland Emerging Exporter of the Year

Colombian Installation Helping To Rebuild A Shattered City

Potencia y Tecnologias Incorporadas Ltda, NOJA Power's Distributor in Colombia, is proud to announce their first contract in Colombia with local Power Utility Empresa Electrificadora del Quindio (EDEQ).

EDEQ is a Power Utility located in the City of Armenia, Capital of Quindio Department, in West Central Colombia. Its climate is humid tropical and has fertile lands surrounded by beautiful mountains where one of the best coffees of the world is grown.

Armenia is known as the Miracle city for the quick time it took to develop - just a few years. Unfortunately on January 25, 1999, an earthquake took place in this beautiful city, leaving 70% of the city destroyed, thousands dead or injured and 200,000 people homeless.

Armenia is now beginning to rebuild its infrastructure. One major task is to upgrade the electrical distribution system across the city. As part of this process EDEQ have decided to install NOJA Power reclosers. The first OSM15 unit was installed in October to replace an old 15kV oil circuit breaker. The installation of the recloser was very simple and smooth due to its light weight and continued support from Potencia y Tecnologias.



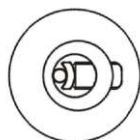
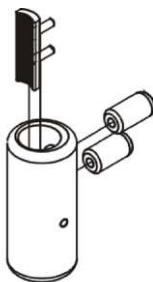
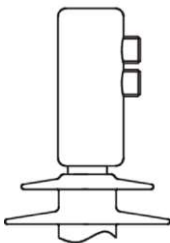
Potencia y Tecnologias are confident that EDEQ will be happy with the reclosers. Their installation will help Armenia enjoy improved reliability of its electrical system. EDEQ will also be able to integrate them into their future SCADA system when required.

Making Long Lasting Terminations With The OSM Recloser

Bird Guard



Cable Terminator



NOJA Power's 200 Series reclosers are constructed out of stainless steel and have many features to make installing and terminating simpler than ever before. Cable terminators are integral to the bushing, optional bird guards are designed for the OSM and the tank is easy to lift into place due to its light weight.

Each bushing has a convenient connector fitted to the end for terminating cables. These are made from brass so they can be used with both copper and aluminium cable tails. Simply strip back some insulation, push the cable end into the connector, and tighten using an allen key wrench. NOJA Power can supply pre-cut lengths of cables for terminating as an option. This means the recloser is ready for termination straight out of the shipping crate.

NOJA Power has designed a special moulded bird guard for use with these connectors. These have the advantage of being very easy to fit and take up minimal space. The bird guards must be ordered separately as an option.

The overall light weight of the tank makes the recloser very easy to install. In most cases a separate crane is not required as many work platforms used by utilities are rated to carry the load. Many of our customers use a block and tackle arrangement fitted to their platform. When combined with integrated connectors and the optional cable tails and bird guards, the 200 series OSM recloser is one of the easiest installations you are ever likely to encounter in a pole mounting situation.

Multi-Dropping Control Cubicles In A Substation Environment Using RS485

NOJA Power auto-reclosers are commonly used in substations to protect feeders. They are generally located outside in the switchyard with the control cubicles within 10 metres of the device. It is an increasingly common requirement for these reclosers to be controlled from inside the substation eliminating the need for personnel to enter high voltage locations.

One way of achieving this would be to extend the length of the control cables so the cubicle can be mounted remotely. This approach is undesirable because there is an increased danger of inducing damaging impulses into the control circuitry. For this reason NOJA Power recommends keeping the control cubicle adjacent to the device and keeping the standard length control cable.

The best approach to controlling NOJA Power reclosers remotely in a substation is to take advantage of the RS485 port built into the controller. When used with appropriate line isolation this method can allow safe operation of multiple reclosers on a single multi-dropped network.

Two communications protocols are available as standard - MODBUS and DNP3. Point mappings, Master/Slave IDs and physical port settings can all be accomplished using NOJA Power's recloser configuration software (TELUS). Input and output points can be controlled via these protocols making our reclosers ideal for sub-station automation.

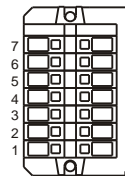
The RS485 port is located inside the control cubicle as a set of WAGO cage clamp terminals. A twisted pair cable can be connected to these ports and looped to each recloser in the sub-station. If this medium is used it is absolutely essential to use opto or galvanic isolation where the cable enters the cubicle. Alternatively a fibre-optic modem can be connected eliminating the need for separate isolation.

Connecting sub-station reclosers back to a computer in the sub-station control room allows them to be controlled through a SCADA system. Another option is to use TELUS if a full SCADA system is not required. If NOJA Power's new TELUS Remote is used, engineers can connect to each recloser through a TCP-IP network without the need for a SCADA system.



These 15kV reclosers are all networked back to the substation control room using MODBUS over a multi-dropped RS485 network.

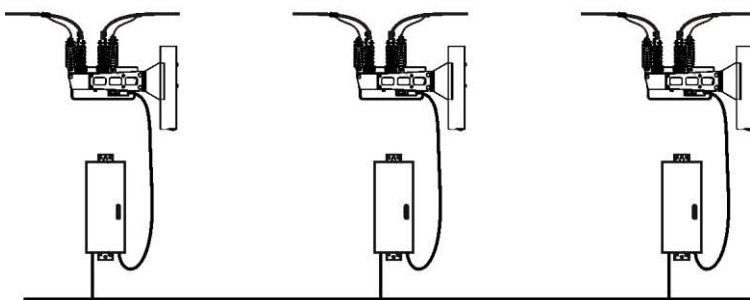
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 RX+ 6
 RX- 5
 TX- 4
 TX+ 3
 GND 2
 +12V_Ext .. 1



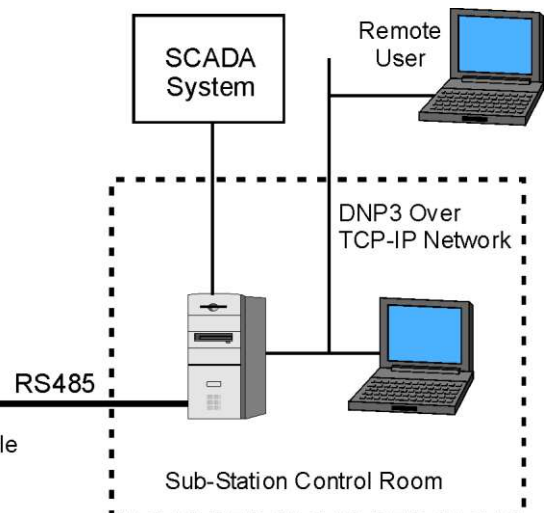
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The RS485 connector is located inside the control cubicle. Both half-duplex and full-duplex communications are supported.

NOJA Power Reclosers in a Zone Sub-Station Switchyard



Single Twisted-Pair Cable Multi-Dropped to Each Control Cubicle



NOJA Power Wins Emerging Exporter Of The Year Award

NOJA Power was awarded the Queensland Emerging Exporter of the Year at a gala awards ceremony recently. The award recognises NOJA Power's achievement in quickly establishing medium voltage recloser exports to over 13 countries worldwide. As part of the application, NOJA Power had to demonstrate a superior commitment to service, quality and sustainable financial management. Our expertise in these areas were recognised as being superior to all other companies in the Emerging Exporter field.



The NOJA Power Management Team Accept the Award on the Night.

NOJA Power Switchgear researches, designs and manufactures a range of pole-mounted medium voltage electricity reclosers for sale throughout the world. The reclosers protect electrical distribution lines and reconnect power automatically without human intervention, reducing the power interruptions experienced in electrical storms and other fault events.

NOJA Power is rapidly building a reputation for leading edge technology and high reliability within Australia and in its 13 export markets including China, Bangladesh, New Zealand and Kenya. Using an extensive market research program, the company rapidly identifies changing customer needs and regulatory requirements around the world and responds with new designs. This constant repositioning and commitment to research and development enables NOJA Power to meet customers' expectations and capitalise on export growth opportunities.



With an Export Award win under our belt, wider market coverage is next on NOJA Power's agenda. The company already has distributors in 46 countries and aims to have more than 100 within five years.

African Distributor Receives Factory Training And Meets The Local Wildlife



Jose Gancho meets some of the locals.

NOJA Power's African distributor, Jose Gancho from CPS Consultants, visited our head office in Brisbane recently for training. Jose was very interested in gaining experience with the DNP3 communications protocol and the new TELUS Remote features. NOJA Power's service manager, Oleg Samarski, gave Jose a comprehensive overview of how to configure DNP3 and interface communications equipment to the RC01ES control cubicle. Special attention was paid to using the unique tools within TELUS to greatly simplify these tasks.

While in Brisbane Jose took the time to familiarise himself with some of the Australian wildlife with a visit to the Currumbin Wildlife Sanctuary. The sanctuary is located in the scenic Gold Coast hinterland and allows visitors to get up close and personal with the animals.

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