

PRESS RELEASE

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Keystone Adopts a Modular Approach to Remote Site Monitoring

Keystone Electronic Solutions, a specialist electronic research and development company based in Waterkloof, has developed a modular, web-based solution for remote monitoring of devices in locations such as telecoms GSM base stations, point of presence containers, industrial security applications and many others.

Ivan Popov, managing director, explains: "We developed the Remote Site Monitor solution based on a bus topology, enabling additional monitoring modules to be added into the system as and when required. This limits the initial capital outlay, as you only buy the particular modules you need. You can always add on additional monitoring modules later as the site grows."

"The bus enables each device to have its own monitoring unit added at the point where it is installed, for example smoke detectors, infrared sensors and relay contacts in the case of an industrial security system."

The RSM unit, housed in a standard 19" rack mountable case, has been simplified to ensure self-discovery and self installation. An on-board web-based interface guides the technician through the installation, with nothing more than a laptop and USB interface. Keystone has adhered to conventional wiring systems such as in alarm systems to ensure that any technician will understand it, making it simple to maintain.

A single RSM unit can monitor up to 64 devices. A single controller can have up to 4 buses, with each bus supporting up to 16 monitoring devices. Keystone Electronic Solutions supplies a range of monitoring modules supported by the RSM. Each module is supplied in a wall-mountable industrial casing for ease of deployment. Monitors supported by the RSM include:

- Discreet I/O Board: 8 inputs and 2 outputs
- AC Monitoring Unit: Monitors all power throughout the system
- Environmental Monitor: Monitor temperature, gases etc (available soon)
- CAN Interface Monitor: Designed for use with generators (available soon)

- RS232 Interface Monitor: Developed to monitor legacy equipment (available soon)

All power sources enter the RSM before being fed to any other equipment on the site. This means that all power including three-phase and single-phase power from the grid, as well as inverters and generators, are monitored by the RSM unit itself.

From the user's side, there is no need for any software implementation. The RSM can be accessed from the web-based interface using any browser on any PC connected to the Internet. All data is geo-referenced so that all devices can be displayed graphically on a location map. Keystone has a framework of installable applications, so any additional software required by the client can be built quickly and easily, and deployed as an overlay in the same user interface.

The RSM controller runs the locally developed Guinnux embedded Linux distribution. Keystone prides itself on this in-house developed embedded Linux solution.

Popov comments: "The RSM controller interfaces with the outside world through an IP-based WAN port. Behind the WAN port is a 4-port LAN switch which interfaces through a software NAT gateway. This means that IP traffic can be transparently routed to equipment installed behind the WAN port. "

"In essence, the unit operates as a gateway router with its own internal LAN, including router and firewall. Any additional equipment installed on the site can be managed through the same IP address. This saves time and effort in installation and trouble-shooting."

Keystone has developed a Network Management System which uses the SNMP interface internally within the network of monitoring devices. A MYSQL database installed on the controller maintains a data repository for the entire site, which can be queried remotely by means of the web interface.

"On the software side, each controller has an onboard SNMP version 2 agent which makes it compatible with any SNMP network-based system," says Popov.

"This enhances the integration possibilities with legacy and other systems. This feature, together with the modular nature of the bus topology, makes the RSM is a highly flexible option for monitoring both existing and new implementations well into the future."

For further information, contact Ivan Popov of Keystone Electronic Solutions on 012 460 4135, or ivan@kses.net. See the web site at www.kses.net.

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About Keystone Electronic Solutions

Established in 2007, Keystone Electronic Solutions provides a range of Electronic Engineering Research and Development (R&D) solutions in order to assist customers with R&D, product developed and preparing the product for the market. Based in Waterkloof, Pretoria, the company services the national market, primarily in telecommunications, but increasingly in mining, security and retail. www.kses.net

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