

EMRS – Energy Monitoring and Reporting System – Sales Information.

Office and Retail.
High Rise Developments.
Multi-tenanted Buildings.
Public buildings.
Critical Infrastructure.
Hospitals.



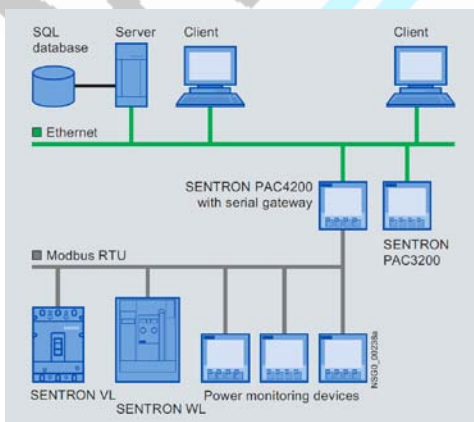
Power Quality Monitoring.
Demand Side Management.
Energy Consumption Records.
Cost Allocation and Billing Systems.
Energy Saving Systems.
CRC Energy Efficiency Schemes.



EMRS Applications.

Energy Monitoring and Reporting Systems in electrical distribution systems are becoming more comprehensive, mainly in response to the requirements of Building Regulations Part L2 and CIBSE TM-39. The advent of benchmarking of energy performance for Carbon Reduction and Building Certification schemes is putting further emphasis on sub-distribution metering and reporting. In rising to this challenge the manufacturers have made technical advances in metering hardware and a wide range of compatible software is also available to acquire and manage data in these systems.

EMRS systems are commonly used for centralised billing and cost allocation, the metering equipment for financial and carbon reporting applications will usually need to comply with the Metering Instrument Directive (MID) and may also be OFGEM approved.



Multi-function digital meters can also offer various levels of *power quality monitoring*, harmonics analysis is a standard feature on most meters which can provide valuable diagnostics for facilities managers.

For mission critical and high technology enterprises *power quality monitoring* may be extended to include transient and disturbance recording systems. When an event is detected the captured data can be formatted into a report which is designed to provide valuable diagnostic information to network operators on the condition of supplies and network infrastructure.

Weirgrove Power Management Systems

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Weirgrove Power Management Systems is an Underwoods Group Company.

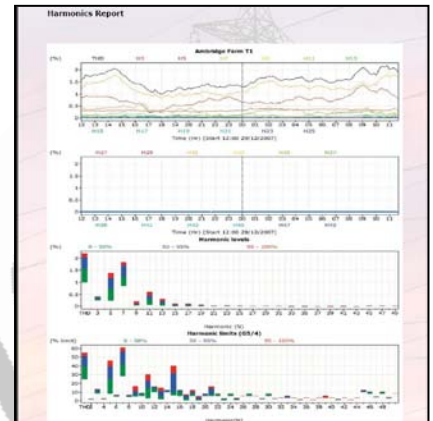
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Description.

kWh digital pulse counting is supported but serial communications ports are usually provided to access the comprehensive data that is available from multi-function meters. Modbus RTU is typically employed at local level but larger sitewide installations typically use Industrial Ethernet.

The major equipment manufacturers offer software packages that are compatible with their metering hardware and most of these can accept data from third party systems via gateway modules. Typically Weirgrove specifies the Siemens Sentron range of meters from with Siemens PowerManager software which is scalable and can be expanded to handle up to 1,000 meters in a single installation.

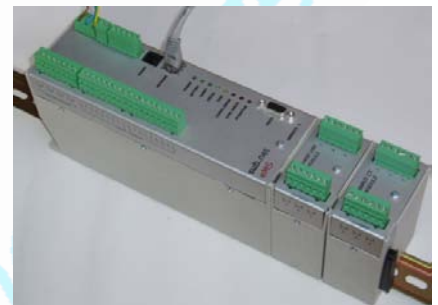
Weirgrove's capability in industrial communications allows us to provide EMRS systems that are stand-alone or use converged system architecture with our ENMS and APMS control systems. Our Siemens expertise allows us to configure custom gateway modules and embedded data concentrators, these add resilience and allow integration of Water, Gas and Steam energy monitoring systems (WAGES).



Embedded Power Quality Monitoring.

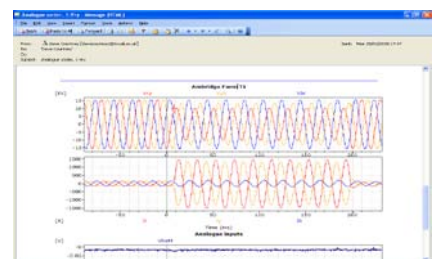
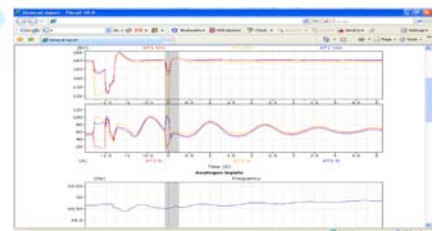
In order to analyse an installation's performance against the requirements of G5/4 harmonics need to be resolved to 50th, high end meters and dedicated analysers have this capability. Many of these systems can also provide valuable information on mains supply transients with waveform capture and network performance diagnostics during fault events.

Weirgrove's favoured power quality analyser is compatible with SCADA and HMIs in our ENMS and APMS control systems, the on-board web-server in the Sub.Net analyser delivers pre-configured reports and supports automated emailing of event notices with attached diagnostics. Sub.Net is cost effective because it easily installed, handles multiple channels and requires no external software tools for analysis and reporting.



Features.

- Data acquisition from networks of metering, real time displays.
- Cost centre allocation, billing and reporting systems.
- Archiving of data, load profiling and trend reporting.
- Limit value monitoring and event logging.
- Handling of digital I/O at individual meters, status displays.
- Scalable with flexible architecture.
- Low maintenance hardware platforms based on solid state processors.
- Remote access via web-server portals.



Options.

- Animated single line graphics diagrams of network.
- Remote Multi-Access and Web Server technology.
- High availability dual redundant head end processors.
- Third party connections via OPC - Open Platform Communications renamed by OPC foundation Nov 2011.
- Networking, converged, distances, fibre optics, integration, data acquisition from multiple sources.

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