

## Power Analysers & Power Management Systems

### Description

A power analyzer or smart relay is a DIN rail mount (or panel mount) device that can measure the voltage and current of the three phase network and then compute all the electrical parameters such as active power, reactive power, power factor, frequency, maximum demand etc (basic models up to 50 electrical parameters). Sizing for these units is usually 96 x 96mm or 144 x 144mm with an LCD screen or LED's.

They are capable of measuring THD for current/voltage as well as individual harmonic decomposition up to the 50<sup>th</sup> order. Advanced models can have power quality features (sags, dips, flickers, K factor etc.). Options include communication ports such as RS485 or Ethernet enabling them to be interfaced to a central system such as BMS, PLC, automation system or central PC.

### Features

- ❖ Din rail or panel mount
- ❖ Digital LCD display or LED
- ❖ Class 0.2 or class 0.5 or class 1
- ❖ Single or balanced/unbalanced three phase applications
- ❖ Indirect current connection requiring one CT / phase
- ❖ Two or four quadrants (generation or consumption)
- ❖ Displaying minimum, maximum and instantaneous values of the computed electrical parameters
- ❖ Can be a logging device or alternatively logging the data to a central system via communication
- ❖ Can have a large LCD screen where power quality analysis can be performed
- ❖ Measuring in TRMS
- ❖ Leakage/neutral current can be measured depending on the model
- ❖ Can be added few features to basic model (analogue & digital inputs/outputs)
- ❖ Communications can be RS485 or Ethernet meanwhile protocols can be Modbus RTU, Modbus TCP, Johnson Controls, Profibus

### Applications

Networking all these power analyzers to a central system (SCADA, PLC, BMS, central PC, central display...etc) will result in establishing a power management system at sites such as residential complexes, commercial buildings, universities, caravan parks, hotels, shopping centers, marine clubs, sport centers, government buildings, industrial plants etc

### Benefits

- ❖ Identify major consumers
- ❖ Allocate costs
- ❖ Make users aware of expenditures
- ❖ Manage peaks and avoid penalties
- ❖ Optimize the energy contract by planning efficient usage
- ❖ Aggregate multi-sites costs and negotiate global contracts
- ❖ Identify spare capacity for electrical installation extensions
- ❖ Gas, water, steam...etc can be monitored as well using their pulse output facility resulting in a global centralized utility management system
- ❖ Improve power factor by power factor correction solutions
- ❖ Avoid subscribed-power overruns by automatic load-shedding
- ❖ Improve continuity of service by means of software package analysing tools
- ❖ Remote monitoring of electrical parameters
- ❖ Easy access to information from anywhere via web technologies
- ❖ Preventive and corrective maintenance
- ❖ Improve power quality that has direct impact on operating costs: THD & individual harmonic, detection of sags, swells, transients and others
- ❖ Data can be analyzed in raw form (tables, graph) or in professional form such as billing reports



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MySmart supply and develop specialized products to accommodate specific market needs within the building industry, these markets include hotels, aged care, commercial as well as the domestic market. Each of these markets has different requirements in regards to energy efficient products and services. mySmart have develop customs solutions to cater to these markets.



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