



SYSTEM “VISION” CONTROL

The control and monitoring system “Vision” is designed for the future with you in mind.

With “VISION” we:

- Further increases the reliability and maintainability of the NO-BREAK E1
- Reduces the number of single point failures and interfaces
- Creates maximum flexibility with automatic recognition of single or parallel systems
- Incorporates a web based monitoring system
- Integrated intelligence features such as diesel start reduction, peak-shaving and an energy saving feature in conditioning more.

“VISION” Features:

1. Single = Parallel
Within the Dynamic UPS industry many suppliers provide a separate control panel for parallel configurations usually designed for a known total number of systems operating in the final configuration. With “VISION”, this control panel is not required. The individual unit controls distinguish automatically if they operate in a single, parallel or parallel-redundant configuration. The elimination of this extra control panel reduces the complexity and costs of the overall design, and creates an environment for the customer to expand its existing system(s), by adding one or more modules in parallel, without deciding up-front what the final configuration or power demand is going to be.
2. Diesel Start Reduction
The Diesel Start Reduction feature inhibits the diesel start in case of voltage fluctuations or very short outages. It reduces the amount of diesel starts significantly, without affecting the system reliability and output performances. While using this mode, we program a “Utility Acceptance Curve” and prevent the diesel engine from starting when the input voltage is zero for a duration of <10 mSec; when the voltage is only 70% of Nominal for a duration <120mSec; and with a voltage level at 90% Nominal or greater.
3. Economy Mode Option
When the “Economy Mode” option is selected, the UPS systems will automatically determine if it is possible to inhibit the starting of one or more diesel engines and inhibit the excitation of one or more accu-rotors. In the event of a utility failure only the necessary systems will start and provide an uninterruptible power supply to the load. Regardless of the load demand on the total system, when operating in Economy Mode, the configuration will always maintain a minimum N + 1 redundancy. In this mode we can increase the over-all system efficiency, reduce the maintenance costs and extend the life-time of several components.
4. Peak-Shaving Option
The NO-BREAK E1 can be used as a prime mover to generate electricity at minimal cost. We can peak shave either by opening the input circuit breaker QD1 thus disconnecting the NO-BREAK E1 from utility, or by operating the NO-BREAK E1 in parallel with utility and operating it at a pre-set base-load.
5. Automatic Diesel Engine Test
By setting this feature to “On” you can program automatic unloaded diesel engine tests. The date/times can easily be set or changed and the test results will be logged in the monitoring system. The above makes it easy to schedule testing during known less critical time-windows without having an operator present.
6. Maintenance Required
The NO-BREAK E1 systems are designed, manufactured, and tested to critical technical standards to obtain the highest reliability. To maintain the high reliability - regular maintenance is required. The “Vision” system will proactively provide information that a preventive maintenance is due. Once maintenance is performed, the alert will be reset by the maintenance technician.
7. Monitoring Options
Not only can “Vision” provide various communication protocols such as Modbus, Profibus and Internet. But more importantly the communication protocol can be integrated into you BMS. Vision has a standard storage of the last 500 events. These events can easily be stored or printed in detail. Vision also provides an option for local or remote operation of the NO-BREAK E1. The selection local or remote can only be made locally to guarantee safe system operation.



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Simplicity

To maximize reliability and availability for the life of the NO BREAK E1, the Digital Control Module (DCM) is the interface between the NO-BREAK E1 and the Programmable Logic Control (PLC) providing simple communications and programming to provide a Dynamic Control for the delivery of Stable Uninterrupted Power to the critical loads under all circumstances.

The "VISION" control system is equipped with a touch screen Human Machine Interface (HMI), proving external access to critical NO break E1 functional data in real time analysis thru a modem, Modbus/Profibus Protocol, or via the World Wide Web. The functionality of the NO-BREAK E1 is completely independent from the touch screen. The system can be completely operated via secure local or remote access.

HMI

The modern HMI is the black-box of the NO-BREAK E1 and provides a wide range of functionalities and data packages - Including:

- Input and output voltage, frequency, power demand (kW, kVA, kVA_r), current, and power factor data
- System Mode, Alarms, Status and Controls
- User Settings such as language, time, communication protocols and system tests
- Maintenance settings

The screenshots below provide an indication of the capabilities:

