



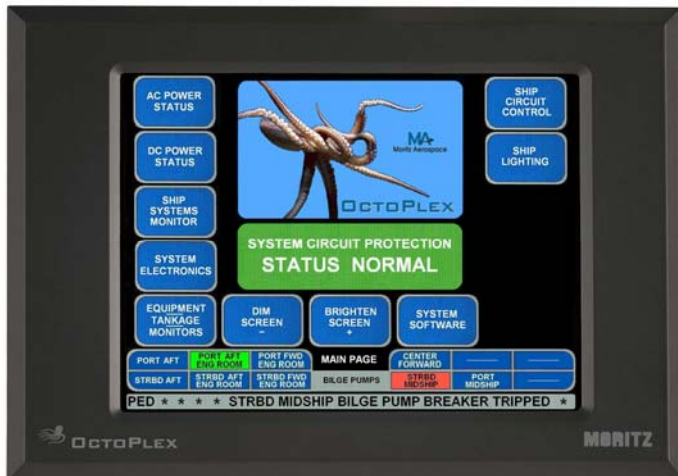
OCTOPLEX™

THE MOST ADVANCED, MOST DEPENDABLE, AND MOST CAPABLE SHIP'S MONITORING AND CONTROL SYSTEM

The Moritz Aerospace **OCTOPLEX™** Control System provides incredible advantages in the management of shipboard power, circuit protection, and ship systems monitoring. Designed to aerospace standards for extreme reliability, the **OCTOPLEX™** System increases vessel safety while enabling substantial savings in ship construction with significant reductions in vessel wiring complexity. The system is protected from obsolescence with the availability of future software upgrades and installation of NMEA 2000 components.

The **OCTOPLEX™** System provides:

- Remote activation of AC and DC breakers
- Accurate monitoring of current flow to every DC load
- Immediate remote visual and audible AC and DC circuit breaker trip indication
- Remote control of all electrical loads via touch-screen or separate discrete switches



- Programmable grouping and DC light dimming control via touch-screen or wall mounted discrete switches
- Immediate recognition of DC no-load situations with lamp burnout indication
- Programmable equipment pre-failure alert modes
- Remote monitoring of vessel shore and generator power
- Programmable automatic load shedding and load re-activation at operator selectable current levels
- Programmable automatic low-voltage brownout protection for desired loads
- Monitoring and remote management of vessel tankage
- Monitoring of generator and engine operating parameters
- Immediate alert to alarm functions and equipment activity
- Monitoring of Battery voltages, current usage, temperatures, and state-of-charge
- Access to connected NMEA 2000 compliant electronics
- Availability of custom screen logos and display formatting

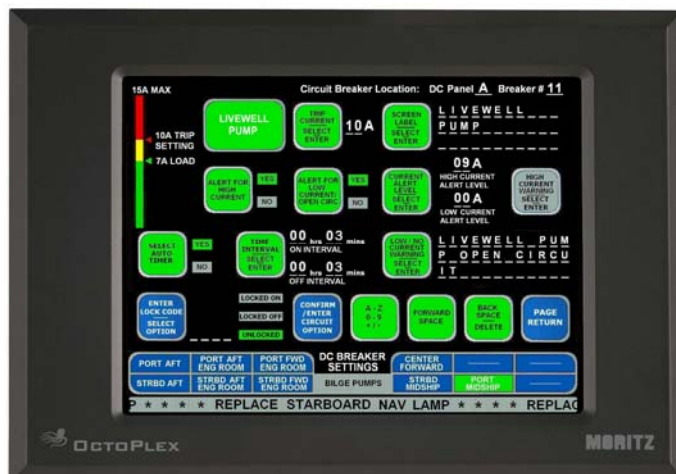


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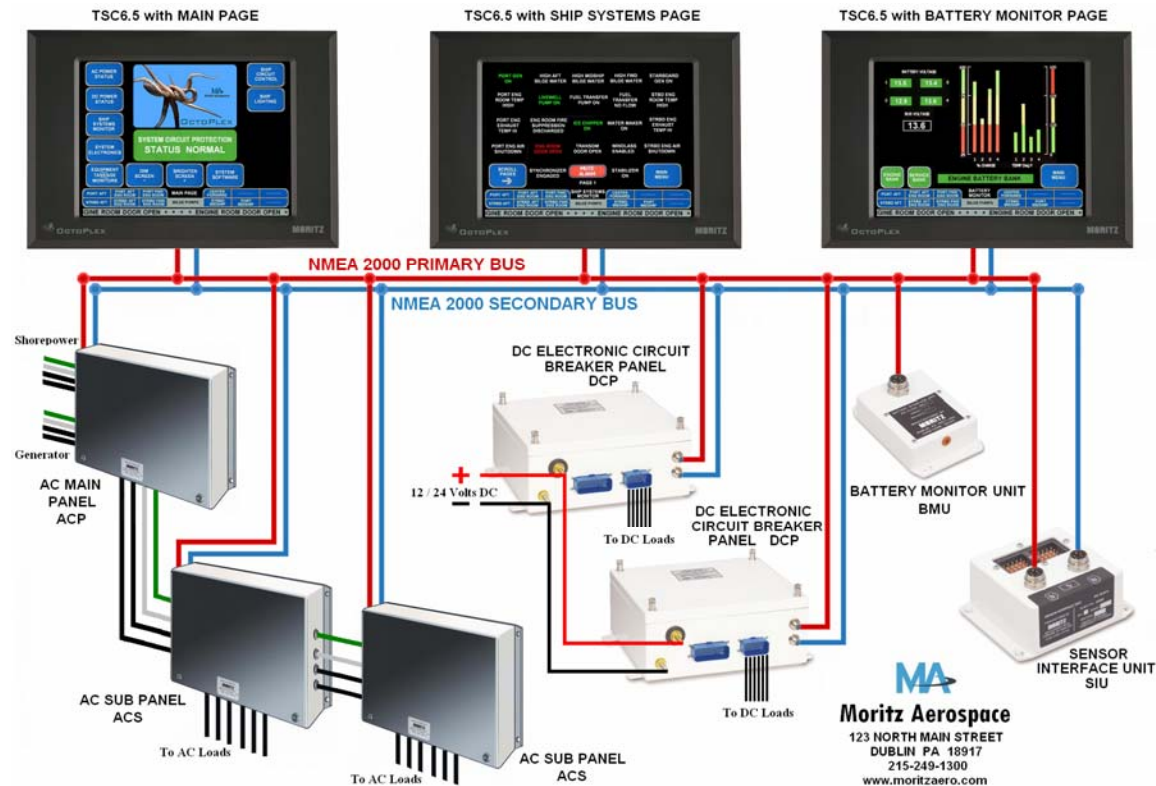
SYSTEM COMPONENTS

Touch-Screen Monitors
Tank Sensors

AC Circuit Panels
Control Solenoids

DC Circuit Panels
NMEA 2000 Electronics

Sensor Interface Units



Features and Benefits

- **Simplicity of operation with intuitive programming**
- **Efficient interfacing with ease of installation**
- **Safe and secure operation** – The system enables operational security coding to protect selected circuits from inadvertent remote activation
- **System Redundancy to virtually eliminate single point failures** – The system is installed with two separate NMEA 2000 bus lines and continually operates with two processors in the online devices driving both buses – in the event of the failure or severing of the primary bus line, the system automatically switches to the secondary bus and provides notification of the primary bus failure; likewise, should one of the primary bus processors fail in a system's online device, the system will automatically switch to the secondary bus and provide notification of the failure. Also, while operating on the primary bus, the system constantly monitors the secondary bus and will provide notification of a secondary bus failure.
- **Fail Safe operation** – In the extremely unlikely case of a complete shutdown of the electronic control system, there is no effect on the continuity of either the AC or DC circuit protection systems. The AC circuit breaker panels will continue to operate in manual mode, while the DC circuit breaker panels will automatically switch to one of two internal power supplies to maintain their dual internal processors controlling the electronic breaker trip settings. Should the two processors, or the two back-up internal power supplies within a DC panel fail, the DC circuits may be manually activated with non-electronic modules.
- **Installation flexibility for breaker panel locations** – AC and DC breaker panels may be mounted in remote locations without the necessity of air conditioning – both the solid state DC and the hydraulic-magnetic AC circuit breakers provide consistent protection within an ambient temperature range of -40C to +85C.
- **Total awareness and control of ship's power** – Every online **OCTOPLEX**™ LCD touch screen provides complete monitoring and control of the vessel's AC and DC circuit breakers, monitoring of all power source data – including voltage, frequency, and amperage for all generator and shore-power feeds, and monitoring of any connected ship's systems, including alarm functions, electronics, and engine and generator functionality and ship tankage monitoring and control.
- **Expandable functionality** – The system accommodates the addition of NMEA 2000 compliant electronics.
- **Programmability** – The system enables direct programming of numerous functions by operator touch screen entry, and also provides for internal software updating.
- **Built-in Diagnostics** – Multiple diagnostics are built into the system to facilitate management.
- **Certifications** – The system is tested to the Radio Technical Commission for Aeronautics (RTCA) specification DO-160E in all essential categories. AC circuit breakers are tested to meet Mil Spec standards and will have UL listing with additional desired agency certifications, including CE, Lloyds, etc. The communication protocol is certified to NMEA 2000, and the system has passed in-vessel testing for both radar and single-sideband RFI environments.