

**(CMFTS) - CRITICAL MISSION FUEL TRANSFER SYSTEM****CMFTS**

The SmartControls Series - Critical Mission Fuel Transfer System (CMFTS) Fuel System Controls.

Intergraded Fuel System Tank Monitor / Pump Controller up to 10 main tanks and 10 day tanks, Duplex Fuel Polisher System and up to 10 Duplex Pump Sets all on one package.

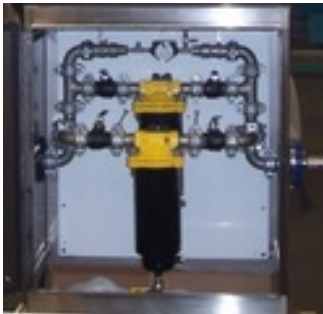
Designed for use in critical applications requiring the highest degree of reliability such as backup power facilities, data centers, institutional boiler supply, and hospitals. The SmartControls intelligently integrates all of the fuel system components into one simple automated package. The (CMFTS) is designed using state of the art equipment and technologies. The (CMFTS) integrates tank gauging and level monitoring, system leak detection, lead/lag fuel transfer pumps, a fuel polishing system, day tanks and return pumps and boiler supply into one complete system. All of the statuses and alarm conditions will be displayed on a Operator Interface Terminal (digital touch screen display). The complete system can be interfaced and monitored from most building management systems. If configured, this state of the art (CMFTS) can be monitored and controlled (multi level password protected) by any web browser. The (CMFTS) is engineered to the highest standards and is built and tested to UL508A standards and labeled accordingly.

Critical Mission Fuel Transfer System integrates the following into one system:

- Critical Mission System Control
- Multiple Main Storage Tanks
- Multiple Day Tanks and Belly Tanks
- Multiple Commercial Boiler Systems
- Fuel Polishing Systems
- Duplex Pump Control Systems
- Above and below Ground Pipe Leak Detection
- Integrated Building Management System

Critical Mission System Controller:

- Dual (or Single) Power Source Feed
- Auto-Switch on Dual Power Source
- Single point connection to Fuel System Equipment
- Control Power Transformer and Circuit Breakers
- Pump Motor Starters with Manual Disconnect and Overload Protection
- State-Of-The-Art Programmable Logic Controller (PLC)
- State-Of-The-Art Operator Interface Terminal (OIT) Touchscreen
- Monitors and Controls All System Components.
- * Leak and Level Devices
- * Flow Indicators and Sensors
- * Motor Starters and Overloads
- * Water and Pressure Switches
- * Pump Motors and Valves
- Integrates with the Building Management System (BMS)
- Utilizes Three Modes of Operations:
 - * Fully Automatic Mode
 - * Supervise the Manual Mode



- * Emergency Manual Mode.
- Allows Maintenance of Equipment Without Equipment Shutdown (CRITICAL MISSION)

Multiple Main Storage Tanks Leak and Level Monitoring:

- Automatic Polished Fuel
- Product Level In US Gallons.
- Product Level In Inches.
- Product Level In Percent Of Full Tank Capacity.
- Overfill Protection.
- High Level Alarms.
- High Level Warnings.
- Low Level Warnings.
- Low Level Alarms.
- Optional Remote Fill Station Enunciation.
- Interstitial (Double Wall Tank) Leak Detection Sensors.
- Piping SumpLeak DetectionSensors.
- Main Tank Level Balancing (With Multiple Tanks)

Multiple Day Tanks and Belly Tanks:

- Automatic Polished Fuel.
- Monitoring the Volume of the Day Tanks.
- Overfill Protection.
- High Level Alarms.
- High Level Warnings.
- Normal Product Levels. (Maintained by Integrated Pump Controls)
- Low Level Warnings.
- Low Level Alarms.
- Interstitial (Double Wall Tank) Leak Detection Sensors.
- Piping SumpLeak DetectionSensors.
- Integrates with Mechanical Overfill Valves.
- Pre-assembled Valve Box Enclosure integrates with:
 - * Flow Switch
 - * Visual Flow Indicator
 - * Critical Mission Fuel Supply Solenoid Valve
 - * Pressure Gauge
 - * Lockable Manual Bypass Valve
 - * Equipment Strainer
- Pre-assembled Return Pump System In Enclosure.
- Both Valve Box In Return Pump Can Be Incorporated in the Same Enclosure As One Assembly

Multiple Commercial Boiler Systems:

- Monitors the Boilers for Automatic Fuel Deliveries.

- Automatically Polishes the Fuel Upon Delivery.
- Verifies Flow and Maintains the Pressure As Required.

Fuel Polishing Systems:

- Able to Change Filter Elements While This System Is in Operation. (MISSION-CRITICAL)
- Automatically Polishes the Fuel on a Scheduled Basis.
- Polishes the Fuel from the Main Storage Tanks.
- Polishes the Fuel from the Days Storage Tanks.
- Provides Maximum Fuel System Reliability by Removing Entrained Moisture and Accumulated Contaminants.
- Keeps Fuel Dry, Promoting Bacteria Free Environment and Preventing Contaminant Build up.
- Monitors System Pressure and Differential Pressure Across the Elements.
- High Water Sensors.
- Enclosure Leak Detection Sensor.

Duplex Pump Control Systems:

- Automatic pump alternation sequencing.
- Lead Lag Pump Controls.(MISSION-CRITICAL)
- Automatic Pump Alternation Sequence.
- Enclosure Leak Detection Sensor.
- Monitored Pump Performance.
- Integrated Flow Switches.

Above and below Ground Pipe Leak Detection:

- Double Wall Pipe.
- Monitors All Piping Sumps and System Enclosures.

Integrated Building Management System:

- Integrates with Building Management systems (BMS) Ethernet, RS232, RS422, Modbus compatible. (OPTIONAL)
- Available 4 to 20 mA Output Of Fuel Levels to the BMS System
- Available 8 Alarms Dry Contacts For Critical System Alarm Conditions.
- Additional Operator Interface Terminal (OIT) Located in a Remote Location (OPTIONAL)

System Benefits:

- One Incoming Power Source for Complete System.
- Integrates All Equipment into One System Including Single wall or Double Wall Pipe.
- These Integrated Systems Eliminate the Hassle of Integrating Multiple Pieces of Equipment, Such as Emergency Generators, a Tank Level Controls, Pump Controls, Take Inventory Controls, And Leak Detection Systems.
- Pre-assembled Date Tank Valve Assemblies, Return Pump Assemblies, Filtration System Assembly, Main



Tank Valve Assemblies, Enabling a Simple Install. In Most Cases the System Can Be Installed By Hooking up a Single Single wall or Double Wall Pipe From Point-To-Point.

- The System Electrical Comes with Point-To-Point Wiring Diagrams Enabling Hassle free Installations.
- The System Reports All Conditions Back to the Building Management System.
- The System Is Purchased and Maintained by a Single Source.
- Integrates up to Four Main Storage Tanks and up to eight Day Tank Storage Tanks.

Specifications:

- All Equipment Is Housed in NEMA 4x stainless steel 304 enclosures. (Carbon Steel Powder Coated Available).
- All Equipment Piping is Stainless Steel 304. Eliminates All Paint for Pipe Valves and Fittings. Hassle free Maintenance For the Life of the Equipment.
- All Leak And Level Sensors And Level Transmitters Are Made of Stainless Steel Construction.
- Available in Single Phase or Three-Phase (50 or 60 Hz)
- Available in Multiple Voltages.

When the Mission is Critical, WE ARE THERE!

[More Information](#)