

OmniPlex Control Module

Multi-Function Fuel System Controller

BACnet, Modbus, Metasys N2, or LON Communication



General Description

The C800 OmniPlex Multi-Function Control Module is designed to monitor and control diesel fuel transfer for emergency power applications. The OmniPlex Module is customized with operating software to provide required operating functions for over 6 common applications:

- Generator Tank Level Control
- Duplex Pump Control
- Fuel Filtration / Polishing
- Multi-Tank Selection Control
- Remote Tank Fill Systems
- Dual Tank Full Systems

The OmniPlex Module receives inputs from operating systems including: (a) tank level sensors, (b) leak detection sensors, (c) flow sensors, (d) pressure sensors, (e) pump current sensors, (f) filter water sensors, (g) filter differential pressure sensors, (h) valve position sensors.

The OmniPlex Module operates output devices for the fuel system including: (a) solenoid valves, (b) fuel supply pumps, (c) fuel return pumps, (d) actuated ball valves, (e) actuated butterfly valves.

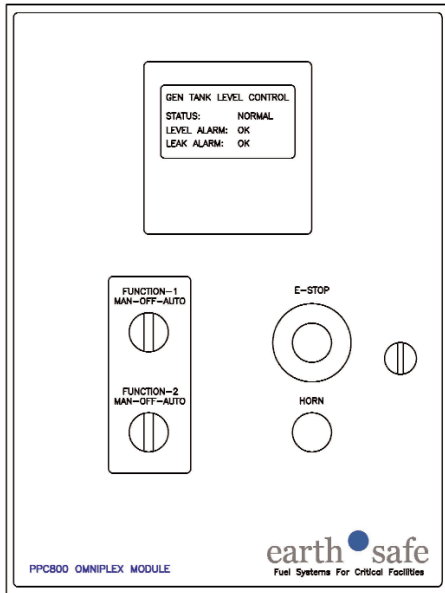
The control module includes MAN.-OFF-AUTO selector switches for the fuel transfer pump / valves. The manual mode allows the pump / valve to be activated for manual operation or testing. In the auto mode the pump / valve are activated by the conditions of the input sensors.

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EMERGENCY POWER FUEL SYSTEMS

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OmniPlex Module

Dimensions	410 H x 305 W x 150 D
Approval	UL / CE
Power	120-240 VAC / 5 A Single or Dual Source
Enclosure	NEMA 4 Color RAL 7035 (Light Gray)
Environmental	0-55 C -40 to 80 C with heater
Communication	BACnet, Modbus, Metasys N2, or LON
Other	Isolated Inductive Loads 5 Amp Output Relays (Typ)
Options	50 Hz Power Intrinsic Safety Barriers Enclosure Heater
Modes	C850: Day Tank Level C820: Duplex Pump C830: Filtration Unit C840: Tank Fill – Solo C841: Tank Fill – Solo -% Fill C842: Tank Fill - Dual C845: Multi-Tank Select

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Software Versions

The OmniPlex Multifunction Controller is programmed to operate in a wide variety of fuel system control configurations. The software is selected at the time of purchase and is factory configured.

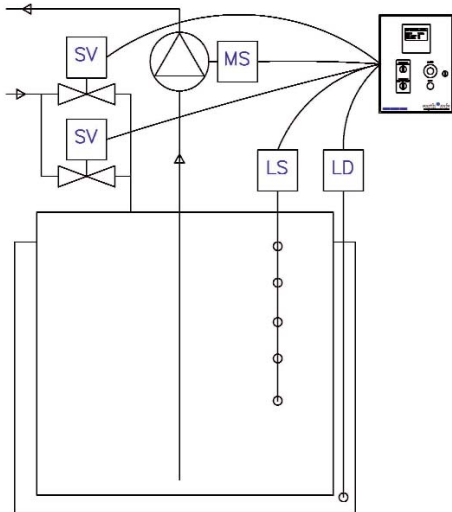
VERSION	TYPE	DESCRIPTION
OS100.01	Gen Tank Refill	Single or Twin Inlet Valve High Stop Valve or Return Flow Pump Pump Start Signal to Remote Pumps Critical Low Output Relay Common Alarm Output Relay: Leak-High-Low
OS100.02	Gen Tank Refill % Fill Display	Level Control from Analog Sensor % Fill Display
OS100.03	Gen Tank Refill Dual Inlet	Duplex Inlet Valve or Duplex Supply Pumps Alternates Valve-Pump each Start or Low Level
OS100.04	Gen Tank Refill Actuated Valves	Dual Inlet Actuated Ball Valves instead of Solenoids Monitor Feedback from Valve and Switch on Fail
OS100.05	Gen Tank Refill Duplex Supply Pumps	Single or Twin Inlet Valve Operation Operate Duplex Fuel Supply Pumps Alternate Pumps on Start Monitor Pump Flow / Current and Switch on Fail
OS200.01	Duplex Pump	Start Pump From Day Tank Signal Submersible or Standard Pumps Alternate Pump Starts Monitor Pump Current / Flow and Switch on Fail
OS200.10	Duplex Pump Dual Tank	Operate Duplex Pumps Select Tank for Supply – Return Operate Supply Valves Operate 3 Way Return Valve or Dual FOR Valves
OS300.01	Filter / Pump	Programmable Timer for Filtration Cycle Start – Stop Pump on Time Cycle Monitor Filter Pressure and Water
OS300.02	Pump / Filter Dual Tank	Operate Filter / Pumps on Timed Cycle Select Tank to be Filtered on Alternate Cycles Operated Supply and Return Valves for Selected Tank
OS300.03	Dual Filter	Operate Remote Pumps for Dual Filter Monitor Dual Filter Status
OS400.01	Single Tank Fill	Single Tank Fill Station Monitor Tank High Level Sensors Audible – Visual Alarm Close Fill Valve at High Level
OS400.02	Single Tank Fill % Fill Display	Operate Single Tank Fill Operation Display Tank % Fill
OS400.03	Single Tank Fill Pump Flow	Operate Single Tank Fill Operation Operate Pump for Fuel Transfer
OS400.04	Single Tank Fill % Fill Display Pump Flow	Operate Single Tank Fill Operation Display Tank % Fill Operate Pump for Fuel Transfer
OS400.10	Dual Tank Fill	Dual Tank Fill Station Select Tank To be Filled Monitor Tank High Level Sensors Audible – Visual Alarm Close Fill Valve at High Level
OS410.02	Dual Tank Fill % Fill Display	Operate Dual Tank Fill Station Display Tank % Fill
OS410.03	Dual Tank Fill Pump Flow	Operate Dual Tank Fill Operation Operate Pump for Fuel Transfer
OS450.01	Multi-Tank Select Dual Tanks	Select Tank for Supply – Return Operate Supply Pump or Valves Operate 3 Way Return Valve or Dual FOR Valves Switch Tanks on Low Level
OS450.02	Multi-Tank Select 3-Tanks	Select Tank for Supply – Return Operate Supply Pump or Valves Operate Return Flow Valves Switch Tanks on Low Level
OS450.03	Multi-Tank Select 4-Tanks	Select Tank for Supply – Return Operate Supply Pump or Valves Operate Return Flow Valves Switch Tanks on Low Level

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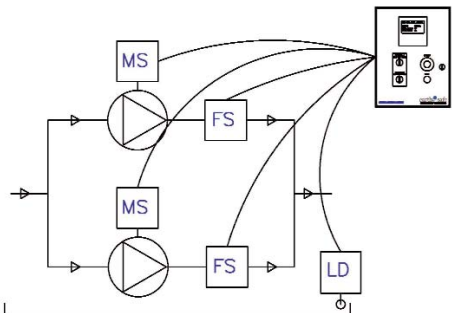
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OmniPlex Module Operating Modes

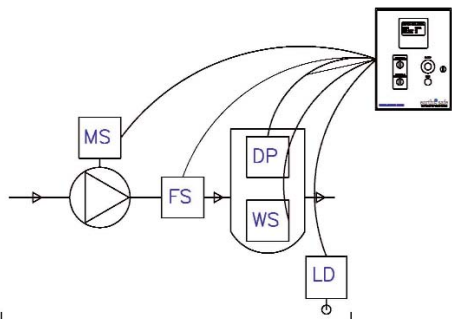
Day Tank Level Control

- Maintains Day Tank Fuel Level
- Alternate Dual Inlet Valves
- Monitors and Activates Overfill Protect Pump
- Alarms: High, Low Warning, Low Alarm, Leak
- Data Share via DeviceNet



Duplex Pump Control

- Monitor Day Tanks for Fuel Request
- Start and Alternate Pumps
- Monitor Pump Starter for Overload / Not Auto
- Monitor Flow Sensors and Leak Sensor
- Data Share Via DeviceNet



Fuel Filtration Control

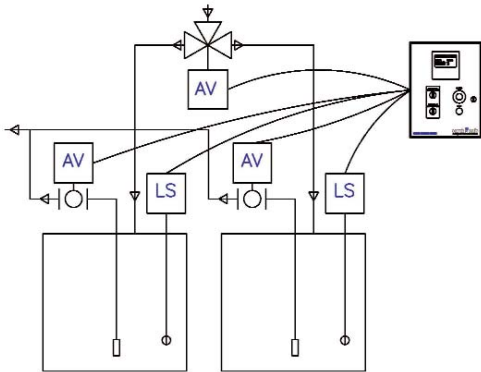
- Operate Filter Pump on Timed Cycle
- Monitor Filter Pressure and Water Level
- Signal to Alternate Tanks for Multi Systems
- Data Share Via DeviceNet

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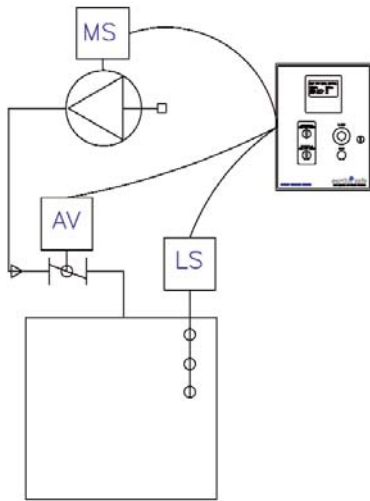
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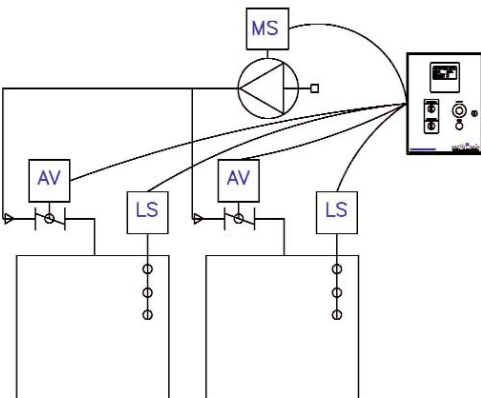
Multi-Tank Selection Control

- Select Fuel Supply Tank on Fuel Request
- Operate Tank Inlet and Outlet Valves
- Monitor Tank Levels and Switch on Low
- Alarm for Valve Position Error
- Data Share Via DeviceNet



Tank Fill Control

- Monitor Tank for High Warn and Alarm
- Operate Tank Inlet Fill Valve
- Operate Tank Fill Pump When Used
- Remote Tank % Fill Display (Optional)
- Data Share Via DeviceNet



Multi-Tank Fill Control

- Allow Tank Selection
- Monitor Multi-Tanks for High Warn and Alarm
- Operate Tank Inlet Fill Valve
- Operate Tank Fill Pump When Used
- Remote Tank % Fill Display (Optional)
- Data Share Via DeviceNet