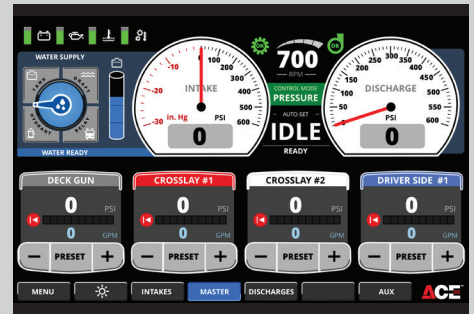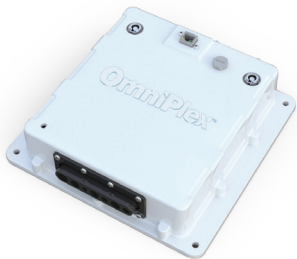## Advanced Control Environment

Graphical touch screen interface provides intuitive control of pump and associated systems simplifying operations and allowing the operator to perform other critical functions. Customizable automation improves operations while providing additional protection to the apparatus and crew.

Key Features & Benefits

- Advanced Control Environment for key Fire Apparatus operations with a modern, touch screen enabled, vivid color graphical user interface.
- Presents a unified view of critical flow, pressure, engine, pump and valve information in a compact highly usable format especially effective during pump operations at active fire incidents.
- Centralizes control functions for users into an easy to learn and easy to operate LCD and Touch Screen driven user interface
- System user control layout is geared to support common workflow needs at Fire incident scenes.

- Provides automation of certain key workflows and at the same time gives users the option to take over manual control at any time.
- User warnings and checks built into workflow to provide additional operational safety.
- Customizable system can support both manual and electric valves
- Automated discharge control with manual override at the touch of a button.

System Components

S-Core

LCD Screen w/Touch

ACE Gateway

Tank Sensor Module

www.fireresearch.com

+1 631.724.8888

sales@fireresearch.com

FRC
A Safe Fleet Brand

Specifications

System Overview

S-Core	ACE System Controller. Runs Graphic User Interface, system logic and automation. Receives, processes and displays data from all ACE connected devices on LCD screens. Takes user input and operates devices according to operator's command and system logic. Executes automatic functions and processes. Features menu system for user customizations, devices setup/calibration and diagnostics.
ACE Gateway	CAN-to-CAN message interpreter and data server for ACE system. Enables communication between S-Core Controller and other CAN bus devices like valves, pressure governor etc. Maintains connected device status for diagnostic and other purposes. Facilitates device setup and calibrations.
Tank Sensor Module	Monitors sensors for apparatus water and foam tanks. Based on calibration data, calculates the percentage of volume of each liquid remaining in the tank. Transmits data to ACE system and remote displays. Provide alarm signal If needed.
Pressure Governor	Regulates and maintains set pump pressure or engine RPM. Displays pump and engine information. Implements safety features to protect apparatus from damage and displays warnings to operator. Exchanges engine and pump data with ACE system and supports ACE automation processes. Additional units can be installed as remote or redundant controller.
Electric Valves	Elkhart Brass electrically actuated valves with CAN bus control. Use for Discharges, Intakes, Tank to Pump and Tank Refill functions.

ACE Gateway

Enclosure	Aluminum, anodized, with mounting flange and seals
Dimensions	5.91" x 4.00" x 1.80" (150.1 mm x 101.6 mm x 45.7 mm)
Ingress Protection	IP67
Operating Temperature	-40°F to 185°F (-40°C to 85°C)
Supply Voltage	9 VDC to 30 VDC
Current	Typ. 0.5 A @12VDC
USB	Type A USB OTG Pot
CAN Bus	Two (2) CAN Bus ports reserved for ACE functions.
Mount/Install	Flange with mounting holes

S-Core

Enclosure	Aluminum, painted, with mounting flange and seals
Dimensions	7.36" x 5.75" x 2.41" (187mm x 146.1mm x 61.2 mm)
Ingress Protection	IP67
Operating Temperature	-40°F to 185°F (-40°C to 85°C)
Supply Voltage	9 VDC to 32 VDC
Current	Typ. 3A @12VDC (with two 12" Screens)
Inputs	6 x Digital Inputs (Positive or Ground)
Processors	2 x IMx6 processor
Ethernet	RJ45 Ethernet port
Wi-Fi	Built-in 802.11 b/g/n with external SMA Antenna
Displays Support	Up to 2 Full-color LCD Screen (WXGA) with a projected capacitive touch sensor
CAN Bus	4 x CAN bus ports 2 reserved and 2 spare
SD-Card	1 x Micro SD-Card slot (internal). For documentation, data log storage, and firmware updates.
USB	One (1) USB Type C (internal) for programming
Mount/Install	Flange with mounting holes.

Tank Sensor Module

Enclosure	Aluminum, painted, with mounting flange and seals
Dimensions	1.90" x 1.55" x .51" (48.3 mm x 39.4 mm x 1.7 mm)
Ingress Protection	IP67
Operating Temperature	-40°F to 185°F (-40°C to 85°C)
Supply Voltage	9 VDC to 30 VDC
Current	Typ. 0.2 A @12VDC
Inputs	3 x Tank pressure sensor (0-5VDC)
Outputs	3 x 1-wire link for In-Cab mini display 1 x Alarm Output (0.5A) for audio or visual alarm
USB	None
CAN Bus	One (1) CAN Bus port for ACE functions and remote displays
Mount/Install	Flange with mounting holes