CORE Fire Protection: Quick Start Guide

WARNING!
Read and Understand the Operator's Manual before servicing this unit. This Quick Start Guide is for Trained and Qualified Fire System Technicians.

HMI, ECPM03, and CORE Board

The HMI provides access to change settings, view operating information, and displays faults (Figure 1) for the electrical package, exhaust fan, and fire system. The HMI has 4 buttons; the function is displayed adjacent to each button on the screen. For more information on menu navigation, refer to the Demand Control Ventilation (DCV) Manual.

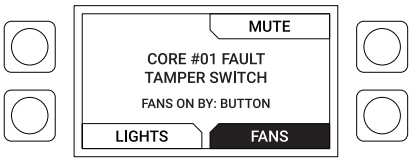

Figure 1 (HMI Screen Example)

The ECPM03 also provides access to fire system information. You can view Faults and Last Fire Info. You may also view if the fire system was activated by Firestat or MAD (Manual Activation Device). The Board has 4 buttons; the function is displayed below each button near the LCD screen (Figure 2). For more information on the ECPM03 Board, refer to the DCV Manual.

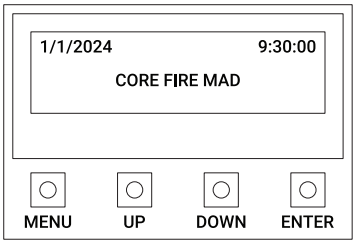

Figure 2 (ECPM03 LCD Example)

The CORE Board uses LEDs (Figure 3) for alerts. The LED lamp meanings are:

- A is for Alarm Alerts
- B is for Fire System and/or Supervision Codes
- C is for Surfactant Low
- D is for Gas Shut Down (Gas is off when the light is on).

Maintenance

WARNING: When servicing or cleaning ductwork, all Hood CORE, PCU CORE, and interlocked fire systems must be placed in test mode to prevent accidental discharge.

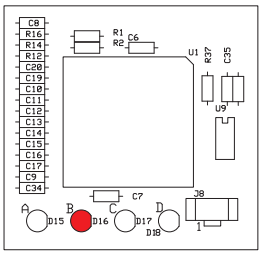

Figure 3 (CORE Board Example)

- Verify that the system design and installation are adequate to protect the hazard area and conform to the instructions in the Operation, Installation, and Maintenance (OIM) Manual.
- Hood filters must be maintained on a daily basis to ensure proper airflow and grease extraction. Clean filters per the recommendations in the Hood Installation, Operation, and Maintenance Manual.
- All water connections must be verified for tightness and leak-free operation.
- If the "Add Surfactant" light is illuminated, add surfactant. Surfactant is used to guarantee proper cleaning of the hood, duct, and plenum during wash cycles and aids with fire suppression.
- Refer to the CORE Maintenance section for 6-Month Inspection Procedure.
- Every two years, you must replace the batteries and inspect all electrical wiring and plumbing.
- If it should become necessary to disconnect the CORE system from AC power for an extended period of time (more than two days), the batteries should be disconnected to prevent them from being damaged due to complete discharge.
- After a fire; Inspect and/or replace all nozzles, Inspect all piping connections for tightness, Inspect all hood lights for proper seal and security, Inspect all wiring and Hood insulation to ensure all are in good condition.

NOTE: See CORE Operation, Installation, and Maintenance Manual for detailed procedures.

Failure to properly maintain equipment will void warranty.

To order Surfactant,
Scan the QR Code:

To order Batteries,
Scan the QR Code:

For support, contact your local Sales Office or Service Representative

CORE Board Faults

When there are no faults in the fire system, Lamp B will stay solid (An LED indicator is also on the control package). When a fault exists, the LED will flash with a short break. Count the flashes then wait for a short break to determine the fault. For packages with HMIs, refer to the fault displayed on the screen.

NOTE: CORE Boards with software versions 1.68 and prior will use one brief flash every 3-seconds to indicate there is no fault.

Test Mode allows the system to be tested with operational appliances without discharging the system. If the system is left in test mode for 15 minutes, the gas valve will be locked out until test mode is deactivated.

Flashes	Fault Condition	Corrective Action
Catastrophic Faults		
1	Invalid Activation*	Check for external voltage being applied at J3-7 and J3-10.
2	CORE Water Solenoid*	Check solenoid and wiring to solenoid, replace as needed.
3	CORE Appliance Solenoid*	Check solenoid and wiring to solenoid, replace as needed.
4	Auxiliary Fault*	Check supervised Pressure Regulating Valves (optional) and Pressure Switches (optional).
5	Microcontroller Fault*	Replace CORE printed circuit board.
Critical Faults		
6	CORE Surfactant Pump	Check surfactant pump motor and wiring to the motor, replace as needed.
7	Supervised Loop Fault*	Check the installation of the wiring to all the manual actuation devices (push stations) and firestats. Verify connections are secure and tight. Check for open/short circuits in the wiring. Repair or replace wiring as needed.
Important Faults		
8	Ground Fault	Check the installation of the wiring to all the manual actuation devices (push stations) and firestats. Verify connections are secure and tight. Check for open/short circuits in the wiring. Repair or replace wiring as needed.
9	Surfactant Low	Add surfactant. Check/replace float switch.
10	Battery Voltage Low	The voltage is below the battery threshold. Wait for batteries to recharge if there was a power failure. Replace if the batteries will not hold a charge.
11	AC Power Failure*	The voltage is below the power supply (PS-02) threshold; approximately 27.18V DC. Check breakers, call power company.
12	Door Tamper Switch	Close cabinet door.
13	Test Mode*	Place switch in armed position when testing is complete.
14	CORE Interlock	Check Dip Switches on all boards and RS-485 network wires connecting boards.
15	Fault on Hood in Network	Check all hoods in CORE network for faults.
16	Fault on PCU in Network	Check all PCUs in CORE network for faults.

NOTE: When a Supervised Loop fault is present for 24 hours, cooking operations will shut down.

Faults marked with (*) will shut down Gas/Shunt. During an AC power failure or loss of building power, all 120V AC gas valves/electrical appliances will shut down immediately. For 24V DC gas valves, the valve will stay powered for a few minutes depending on battery voltage (when both an AC Power Failure and Battery Voltage Low fault are present, the valve will shut down).

CORE Fire Protection: Inspection Report

Start-up and checks must be performed after install. Warranty will be void without completion of forms. Scan or Print the following Inspection Report when installing or inspecting this fire system.

Job Information:

Start Date/Time		**Type of Inspection: (check mark one)**	**Commissioning**	**Semi-Annual**
Business Name:				
Business Address:			**Startup after Decommissioning (For systems shutdown for over 2-days)**	
Business Phone:				

Cooking Appliance Locations: Left to Right

Name Plate and Hood Information					
Fire System #	**Hood Model #**	**Job #**	**Volts**	**Hertz**	**Phase**

CORE/Self Cleaning (SC) Plumbing Verification

Verify all nozzles are secure		Verify Surfactant line is connected	
Open all water valves to hood		Verify wash cycle operates and water is draining properly	
Check field piping is complete with approved materials		Set all wash timers	
Multiple hood connections: Check plenum connections are complete. Record piping size connection		Verify Surfactant pump is primed and operates	
Multiple hood connections: Check appliance connections are complete. Record piping size connection		Check for leaks in the manifold	
Check for shut off valves in the CORE water line. Verify all shut off valves are supervised		Check for leaks through filters	
CORE water line is connected to the Building Wet Sprinkler System or Dedicated Water Supply		Verify gas valve strainer is installed. Clean out strainer (Gas must be shut off)	
Verify hot water connection is made and complete		Clean out Wye strainer located in plumbing manifold (Water must be shut off)	
Record CORE water pipe size: Pipe size must be 3/4” or larger		Record CORE operating water pressure: Max water pressure = 70 PSI	
Record SC water pipe size: Pipe size must be 3/4” or larger		Record SC operating water pressure: Max water pressure = 70 PSI	
Verify hot water pipes are insulated		Record CORE max static water pressure (125 PSI Max)	
Verify all drains are piped to floor drain or grease trap		Record SC max static water pressure (125 PSI Max)	
Check Surfactant tank is full		Record hot water wash temperature (140°F Min)	

Service Notes:

CORE Fire Protection: Inspection Report

Electrical	
CORE Control Panel power wired (Wall Mounted Control cabinet only)	
Power Supply (PS-02) is connected to AC power	
Verify all fans are wired to control panel and operate	
Shunt Trip Breaker wired (if required)	
UDS Appliance Kill Switch (if equipped) wired	
Gas valve wired (if 120V AC) = Terminals GAS and N1	

Low Voltage Wiring	
All Firestats are wired	
Remote Push Station is wired	
Supervised loop is run through metallic conduit and not with high voltage wiring	
Supervised loop connections secured in terminal blocks, J-boxes, and push-station(s)	
Building alarm and trouble relay wired (if required)	
Battery connected at connector J1	
Gas valve wired (if 24V DC) = Terminals LGV and N1D	
CORE Appliance solenoid valve wired (Wall Mounted Control cabinet only)	

Fire System	
Record Battery Date Code (Replace if 2-years or older)	
Record CORE Board Revision #	
Push station cover and tamper seal installed	
Main water line supply is supervised	
All nozzles are 30-55” from Hazard Zone Nozzles within 18” from Front/Back of Hazard Zone	
Check dedicated appliance coverage (if required)	
Record Power Supply (PS-02) output (Reading = 27.5 +/- 0.1V DC)	
Verify all CORE interlocks are connected (CA, CB, CC)	

Fire System Activation Method	
Manual Activation Device (MAD)	
Firestat	
120V AC Only	
Battery Backup Only	
Test Mode	
“Push to Reset” operates	

Fire Mode	
Appliance solenoid opens and water sprays	
All gas and electric appliances shutdown	
Fire system light activates	
Audible alarm sounds	
Constant Surfactant injection	
HMI displays “FIRE”	

ALL SYSTEMS MUST BE ARMED AND NO FAULTS SHOULD BE PRESENT BEFORE LEAVING THE SITE.

Service Contact Information:

End Date/Time	
Service Company:	
Company Address:	
Company Phone:	
Contact Name (Printed):	
Contact Name (Signed):	

Service Notes: