TANK
FIRE SUPPRESSION

TANK 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.

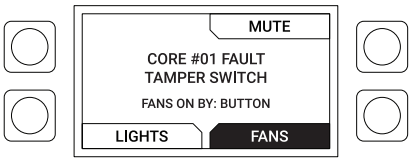

Figure 1 (HMI Screen Example)

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.

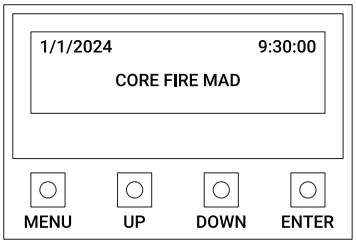

Figure 2 (ECPM03 LCD Example)

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 N/A
- 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.

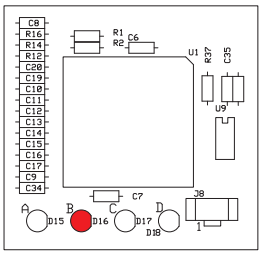

Figure 3 (CORE Board Example)

- 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 actuation hoses must be hydrostatically tested (at 500 psi test pressure) or replaced every twelve years in accordance with NFPA 17A.
- Refer to the TANK Maintenance section for 6-Month Inspection Procedure.
- Every two years, you must replace the batteries and inspect all electrical wiring and piping.
- If it should become necessary to disconnect the TANK 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.
- Tanks must be replaced every twelve years.

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

Failure to properly maintain equipment will void warranty.

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	Release Solenoid*	Check solenoid and wiring to solenoid, replace as needed.
3	Pressure Switch*	Check switch and wiring to switch, replace as needed.
4	N/A	N/A
5	Microcontroller Fault*	Replace CORE printed circuit board.
Critical Faults		
6	N/A	N/A
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	N/A	N/A
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: The low pressure switch option is not required per product safety listings and standards. The fault is for monitoring purposes. When a Pressure Switch or 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).

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TANK Fire Suppression: Inspection Report

Start-up and checks must be performed after install. Warranty will be void without completion of forms. Scan or print these pages during installation or inspection procedures.

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**

TANK System Verification

Verify all nozzles are secure		Actuators in Ship/Test Position (First Install/Semi Annual Inspections)	
Check field piping is complete with approved materials		Vent limiting orifice is installed in last actuator	
Multiple hood connections: Check supply line connections are complete		Pressure gauge monitoring performed (Nitrogen to PAK Hose)	
All appliances properly covered with correct nozzles; Verify correct flows (4FP, 5FP, 6FP) are covering the proper appliance		No pressure leaks in the manifold. Verify Pro Press fittings are secure. Nitrogen is not leaking through	
		PAK Hose connected and torqued to 15 in-lbs	
Duct and Plenum covered with correct nozzles		Pressure gauge leakage test	
Tank cylinders have proper PSI with gauges functioning properly. Pressure is in the green range		System connections sprayed with coil leak detector	
Tanks installed securely with straps and mounting hardware		All filters are installed	
O-ring is installed, and free of damage, in Primary Actuator Hose (PAK Assembly)		Verify gas valve strainer is installed. Clean out strainer (Gas must be shut off)	

Service Notes:

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Electrical	
TANK 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	
Secondary Release solenoid valve wired (Remote cabinet only) and Pressure switch	

Fire System	
Record Battery Date Code	
Record CORE Board Revision #	
Push station cover and tamper seal installed	
All nozzles are 35-50” from Hazard Zone Nozzles within 18” from Front/Back of Hazard Zone	
Check dedicated appliance coverage (if required)	
Record Power Supply (PS-02) output voltage	
Verify all CORE Board interlocks are connected (CA, CB, CC)	
After testing is complete, the actuator(s) are mounted to the tank(s)	

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

Fire Mode	
Release solenoid opens and balloons inflated	
All gas and electric appliances shutdown	
Fire system light activates	
Audible alarm sounds	
Actuators deployed (Ship/Test Position)	
HMI displays “FIRE”	

ALL SYSTEMS MUST BE ARMED AND NO FAULTS SHOULD BE PRESENT BEFORE LEAVING THE SITE. YOU MUST VERIFY THE ACTUATORS ARE MOUNTED TO THE TANKS BEFORE LEAVING THE SITE!

Service Contact Information:

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

Service Notes: