

Master Control Systems, Inc.

DCF & DCM Series

Diesel Engine Drive Fire Pump Controllers

Advantages - and - Salient Features

Master Control Systems has manufactured the world famous MASTER line of diesel fire pump controllers for over 25 years. The following list of features, advantages, and performance of our **Series DCF and DCM** Fire Pump Controllers not available from *any* other manufacturer.

Exclusive Standard Features and Performance of DCFRA & DCMRA Series controllers:

- Large View Window with Eight or more large alarm lamps *inside* the controller.
- Five position *heavy duty* (20 amp) Control Switch for all controller functions.
- Complete *Air-Gap Isolation* of all control and timing circuitry during stand-by. All solid state control circuitry is normally de-energized and isolated from line surges, sags, and transients in stand-by mode.
- All logic and control circuitry is *hard wired*. No programmed logic (processors) is used for control or starting. Processor circuitry is used for the PR4001 Paperless Paper Recorder, when supplied.
- Full 100% *modular* plug-in control relays and circuit modules for ease of servicing and modification.
Control wiring *Cable Connectors* for ease of servicing and modification.
- Extra Loud 6" Alarm Bell that can be heard over the sound of a running engine. An important safety feature to alarm on low engine oil pressure or high engine water temperature.
- Field addable Engine Shutdown during Test circuitry and connectors.
- *World famous* highly reliable Dual Battery Charger with two *separate* plug-in Dual Rate Automatic Mode Switching Factory pre-set Float-Equalize Regulator boards -and- two *separate* SCR Heatsink assemblies. Easy and simple to repair when the rare needed arises.
- New exclusive plug-in Dual Charger Failure Alarm (DFA) board factory pre-set to alarm *before* battery discharge begins.
- Six Charger Status indicator LED's. Two of each to Indicate Regulator Board SCR pulse function, Battery Float Voltage OK and Charger in High Rate (Equalize) charge mode.

Other Exclusive Features and Performance:

- *Trouble free* precise Crank Cycle Timer of proven design.
- Heavy duty magnetically latched Battery Switch Over (Ratchet) Relay.
- *Very high* dielectric strength (voltage withstand). *Every* unit factory tested to 1,500 Vac breakdown (high-pot) levels on all AC & DC circuitry. Far exceeds the required 600 Vac test for these controllers.
- *Exclusive* large capacity brass *Strainer* to avoid plugging the Test Drain Valve.

DCF & DCM Series Features - cont'd

Model specific features:

- Sequence Start Timer (TD6) has *Digital* Dip-Switch setting with 1.0 to 1023 seconds time setting range.
- Power Fail Start Timer (TD4) also has Digital Dip-Switch setting with 1.0 to 1023 seconds range.
- Automatic Stop Timer (TD5) has *Digital* Dip-Switch setting from 10 to 10230 seconds (170 minutes).
- Timer status LEDs to indicate when timer is timing and when the timer has timed out.

Also found in every unit:

- ALL units use *Mercoid* pressure switches, 100% tested by M.C.S.
- Pressure switch connects directly to pressure sense line. No intervening valves are ever used in Master Fire Pump Controllers.
- Only *heavy duty* industrial control 10 amp plug-in relays used.
- Full size (1-1/8", 30mm) heavy duty 10 amp *NEMA 4* oil-tight push-buttons.

Unit Construction:

- *Standard* controllers are U.L. listed and labeled *NEMA 12* (U.L. Type 12) dust-tight, oil-tight drip-proof construction. No slots, louvers, holes or venting used in *any* M.C.S. controller enclosure. Heavy duty three point door latches and continuous full-length heavy-duty piano type door hinges.
- All optional *NEMA 3R*, *NEMA 4* and *NEMA 4X* types are U.L. listed and labeled as U.L. Type 3R, Type 4 or Type 4XA, 4XB or 4XC. *NEMA 4XA* has exclusive *Two Exterior Coats* of U.L. listed *Baked Enamel*. Type 4XB is 304 type stainless Steel and 4XC is type 316 stainless steel.
- Heavy duty enclosure sheet metal. All enclosure seams are continuous SEAM WELDED. ALL cabinet metal is #14 MSG (0.075").
- All exterior and interior metal is painted using *BAKED Enamel* paint.
- All pressure connections are on a *side wall* for easy installation and convenient test valve connections. No "Bottom Connection" pressure plumbing on full service units.
- *Full size 1/2"* pressure connections for easy installation and convenient test valve connections. No "Bottom Connection" pressure plumbing on full service units.
- All DCF series controllers are full height enclosures designed for *floor mounting*. No legs or leg kits ever used or required. Floor mounting bolt holes are thru heavy gauge angles spaced away from sidewalls, not underneath the unit, for easy and safe installation. Full NFPA-20 required 12" floor clearance is provided *Inside* the enclosure. No legs, floor pad, or wall mounting needed to obtain necessary floor clearances.
- Full flow heavy-duty drip-tight Test Drain Solenoid Valve on cabinet exterior.

DCF & DCM Series Features - cont'd

Popular DCF & DCM Series Options and Mod's include:

- Exclusive *PR4001A* Paperless Pressure and Alarm Recorder with *separate pressure sensor*.
 - Four line -by- Forty Character back-lit LCD display screen.
 - Scroll-up and Scroll-down and Watch Check-in switches.
 - Remote Data Access available. Network capabilities also available.
 - Automatic *Daylight Savings* Time keeping.
 - Exclusive No Strings Attached *Five Year Warrantee* on entire controller.
 - Exclusive *Five Year* Lightning Damage Guarantee on entire controller.
 - Remote or local changeable alarm designations.
 - Exclusive down load and pressure graphing and alarm Sequence Display P.C. software.
 - Six Exclusive Help Menu Screens
 - Index and I.D. Screen
 - Control Code information Screen
 - Error Code List and information Screen
 - Time and Date Entry (setting) instruction Screen
 - Alarm Name (designation) Entry change instruction Screen
 - Pass Word and Telephone Entry and Change instruction Screen (units with modems)

- Pump Room Alarms and Signals (Option "O") with common alarm circuit and Alarm Bell Silence switch.

- Pump Room Thermostat (Freeze Alarm)

- Low Fuel Switch

For more information Contact Master Controls at:

- by phone at 1-800-462-7457 or at 1-847-295-1010,

- by FAX at 1-847-295-0704,

- by E-Mail to Sales@Mastercontrols.com or

- see our Web Page at <http://www.MasterControls.com> for; bulletins, slide shows, drawings, client lists, and for technical and application information.