



MICRO PROCESSOR BASED FIRE PUMP CONTROLLERS





AN INTRODUCTION TO NAFFCO

NAFFCO was founded in Dubai, UAE to become the world's leading producer and supplier of life safety solutions. By recognizing the importance and convenience of having easy access to multiple safety services, we became specialized by offering complete solutions under one roof for all types of high quality firefighting equipment, fire protection systems, fire alarms, addressable emergency systems, security systems, custom-made vehicles such as fire trucks, ambulances, mobile hospitals and airport rescue firefighting vehicles (ARFF).

With the most talented and dedicated employees from around the world, NAFFCO has over 2,000 passionate engineers and over 6.5 million square feet of manufacturing facilities. We are currently exporting to over 100 countries worldwide.

NAFFCO manufactures UL, FM, BSI & Global Mark approved products in our facility in consistent with International Standards UL-DQS, BSI certifies for the Quality Management System against ISO 9001. Our Environmental (ISO 14001) & Occupational Health & Safety (ISO 45001) Management Systems have been certified by UL-DQS. Our Trucks & Vehicles division has been assessed & certified for Quality Management System requirement for Aviation, Space & Defense organization (AS 9100) by UL-DQS.

Our success is driven by our passion to protect; our vision is to become the world's number one provider of innovative solutions in protecting life, environment and property.





MANUFACTURING

NAFFCO manufacturing department has the latest technology, state-of-the-art machines (CNC machines, hydraulic shearing and bending machines, all types of welding machines - MIG, TIG, ARC etc. and a complete machine shop that enable us to meet the needs of any production requirement.

NAFFCO has the ability to introduce the latest technological systems & equipment in the field. Our engineers and technicians are well qualified & experienced in producing quality products.

The department is equipped with full-fledged testing facilities to test the equipment as per NFPA, EN, ICAO, KKK and Civil Defense standards & requirements, and to meet the customers specifications.

Considering the above facilities and excellence in engineering capabilities, NAFFCO can meet any challenges to produce bulk quantities of fire safety materials.



UL / FM CERTIFIED DIESEL ENGINE CONTROLLER

MICROPROCESSOR BASED CONTROLLER

NAFFCO Fire Diesel Engine Controller are listed by Underwriters Laboratories (UL file number EX15064), in accordance with UL 218 (Standard for Fire Pump Controller), UL 508 (Standard for Industrial Control Equipment), NFPA 20 (National Fire Protection Association Standard for the Installation of Stationary Pumps for Fire Protection), NFPA 70 (National Electric Code) and relevant NEMA standards.

Also approved by FM approvals (Factory Mutual), in accordance with FM standard 1321 / 1323 Approval Standard for Controllers for Electric Motor Driven and Diesel Engine Driven Fire Pumps. Controllers are rated

for 12/24 V DC operating voltage, 110 / 220 volts AC input voltage, 50/60 Hz. These controllers are compatible with most types of diesel engines that are used in firefighting applications.

Only high quality UL listed or UL recognized components are used in these panels to guarantee the best possible reliability. Also high quality UL listed enclosures are used. This controller is completely wired, assembled and tested at the factory before shipment, and ready for immediate installation.



ENCLOSURE OPTIONS : NEMA 2, NEMA 3, NEMA 4, NEMA 4x & NEMA 12



CONTROLLER RATINGS

Line Voltage (VAC)	DC Voltage (VDC)
220/110	12/24

DIESEL ENGINE CONTROLLER

FEATURES

STANDARD FEATURES

- System error alarm / indicator.
- AC power healthy indicator.
- DC power healthy indicator / free contact.
- Speed switch error or failed while running alarm / indicator.
- Automatic shutdown enabled/disabled indicator.
- Low discharge pressure alarm / indicator / free contact (programmable).
- Deluge valve on alarm / indicator / free contact(programmable).
- Remote start on alarm / indicator / free contact(programmable).
- 10 additional programmable indicators.
- 11 additional programmable digital inputs.
- 8 additional programmable output relays (free contacts).
- Common alarm free contact.
- Electrical alarm bell.
- Push button for alarm silence (only for additional alarms).
- Pressure transducer with analog voltage output
- Data logging system for pressure and events.
- USB port for saving recorded pressure and events on USB memory, and can be viewed with MS word and Excel
- Electrically actuated built in discharge solenoid valve
- 220 / 110 VAC main line system power.
- 12 / 24 VDC system control voltage.
- Automatic / Manual / Off mode (selectable).
- Two 12 / 24 VDC, 10 Amps smart automatic microprocessor battery chargers.
- Protection circuit breakers before and after battery chargers.
- 20x4 LCD display showing all system parameters and variables
- User friendly software enable user to program alliterated parameters like timers, pressure, inputs,outputs ... etc.
- Shows battery 1 and 2 voltages.
- Shows battery 1 and 2 charging currents.
- Shows real value of discharge pressure.
- Shows engine running hours.
- Showing ambient temperature.
- Automatic cranking from two different batteries.
- Two push buttons for manual cranking from two different batteries.
- Manual stop push button.
- Programmable automatic weekly test, which can be programmed to start at any desired day, hour and minute in a week.
- Manual test push button.
- Starting delay timer (programmable) for sequence multiple pumps starting.
- Automatic or manual shutdown after automatic start
- Compatible with fuel solenoid engines and stopped solenoid engines.
- Engine run indicator / free contact.
- Test running indicator / free contact.
- Automatic mode indicator / free contact.
- Manual mode indicator.
- Battery Charger 1 error indicator.
- Battery Charger 2 error indicator.
- Battery 1 failure alarm / indicator.
- Battery 2 failure alarm / indicator.
- Low oil pressure alarm / indicator.
- High water temperature alarm / indicator.
- Over speed shut down alarm / indicator.
- Engine failed to start alarm / indicator.
- Cranking coil 1 failure alarm / indicator.
- Cranking coil 2 failure alarm / indicator.
- Ambient Temperature Operating Range: 39°F (4°C) to 122°F (50°C)

This controller is completely wired, assembled, programmed and tested at the factory before shipment, and ready for immediate installation.



NAFFCO WEATHER PROOF ENCLOSURE

NEMA 4x & NEMA 12

NAFFCO Weather Proof Enclosures are UL Listed. The construction of the metallic enclosures are based on UL50E standard, with requirements meeting for NEMA 4X & 12

Environmental Considerations. These enclosures acts as solution to protect the electric control panels against different environmental factors.

Equivalent Ingress Protection Ratings as per ANSI/IEC 60529

NEMA 4X - IP66

NEMA 12 - IP54

NEMA 4x & NEMA 12 ENCLOSURES		
Enclosure Series	NF-ENC-1000	NF-ENC-2000
Enclosure Material	E.G. Sheet	
Hinge Material	Stainless Steel	
Lock Material	Stainless Steel	Zinc Alloy Casting
Lock Type	Quarter Turn Lock	Multi Point Lock
Min. Overall enclosure dimensions (H X W X D) in mm	270x270x150	850x600x200
Max. Overall enclosure dimensions (H X W X D) in mm	800x600x300	1700x1200x500
Designed as per NEMA 250		
Tested and Approved as per UL 50 and UL 50E		

NEMA 4X: These enclosures are constructed for indoor and outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, windblown dust, splashing water, hose-directed water, and corrosion; and that will be undamaged by the external formation of ice on the enclosure.

NEMA 12: These enclosures are constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, against circulating dust, lint, fibers, and flyings; against dripping and light splashing of non-corrosive liquids; and against light splashing and consequent seepage of oil and non-corrosive coolants.



Design of these enclosures have passed the following tests as part of design approval from UL:

- NEMA 4X:**
- External icing test
 - Hose down test
 - Outdoor corrosion protection test
 - Additional corrosion protection test
 - Gasket test
 - Misalignment test

- NEMA 12:**
- Indoor (circulating) dust test
 - Indoor corrosion protection test
 - Gasket test
 - Misalignment test



BASIC CONSTRUCTION FEATURES

ENCLOSURE SERIES : NF-ENC-1000	
Door or Cover Construction	One Door
Sheet Metal Thickness of Enclosure Body	2 mm
Sheet Metal Thickness of Door(s)	2 mm
Number of Locking(s) up to a max width of 600 mm and height of 800 mm	1 Quarter turn lock (Lock with spring inside)

ENCLOSURE SERIES : NF-ENC-2000	
Door or Cover Construction	One Door
Sheet Metal Thickness of Enclosure Body	2 mm
Sheet Metal Thickness of Door(s)	2 mm
Number of Locking(s) up to a max width of 1200 mm and height of 1700 mm	Multi-point-latch-system with min. 3 interlocking points

MOUNTING

Standard Design : Without Legs (Surface Mounted)

Optional Addition : With Legs (Self Standing)

BASIC ENCLOSURE FEATURES

NEMA 12

Application : Indoor

- Protection against Hazardous Parts
- Protection against Oil and Coolant seepage
- Protection against ingress of solid foreign objects such as:
 - » Circulating Dust
 - » Lint
 - » Fibers
 - » Flyings
 - » Falling Dirt
 - » Settling Airborne Dust
- Protection against Ingress of water such as:
 - » Dripping
 - » Light Splashing

NEMA 4x

Application : Indoor & Outdoor

- Protection against Hazardous Parts
- Protection against Oil and Coolant seepage
- Protection against ingress of solid foreign objects such as:
 - » Circulating Dust
 - » Lint
 - » Fibers
 - » Flyings
 - » Falling Dirt
 - » Settling Airborne Dust
 - » Windblown Dust
- Protection against ingress of water such as:
 - » Dripping
 - » Light Splashing
 - » Rain
 - » Snow
 - » And Sleet
 - » Hosedown
 - » Splashing Water



Serving Over 100 Countries Worldwide

NAFFCO

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In line with NAFFCO policy for continuous product development,
NAFFCO has the right to change specifications without prior notice.

CAT. NO. : NF/MPBFPC/08/21

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