

Power Flame Incorporated



DIRECTOR[®] PLUS FIRST OUT ANNUNCIATION SYSTEMS OPERATING AND MAINTENANCE MANUAL

THE POWER TO MANAGE ENERGY

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DPLUS-0404

MANUAL DPLUS-0404

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SOFTWARE VERSION: _____

REVISION DATE: _____

SYSTEM SERIAL NO.: _____

JOB FACILITY: _____

IMPORTANT NOTE: THIS MANUAL IS PROVIDED FOR REFERENCE ONLY. THE DIRECTOR PLUS FIST OUT ANNUNCIATOR CAN BE CONFIGURED FOR A VARIETY OF ANNUNCIATION FEATURES. FOR OPERATION OF SPECIFIC SYSTEM, PLEASE CONSULT THE DIRECTOR PLUS MANUAL(S) SHIPPED WITH THE SYSTEM.

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1. Introduction

The Power Flame Director Plus System is a first out annunciation system designed around a programmable logic controller, to monitor and report the operation of Power Flame burner systems. Each system includes a specially Modified Director graphic annunciation display, modified to reflect the annunciated points in the burner/boiler system. An alarm buzzer is standard with a n.o. pushbutton to provide alarm silencing, and system reset after failures. The pushbutton will also initiate a test sequence of the signal lights provided with the Director Plus Annunciator System. The system is packaged in the standard Power Flame panel box mounted on the burner. The Power Flame Director Plus System uses the Siemen's S7 programmable logic controller. The optional Siemen's TD200 Backlit Text Display is used to monitor system operations.

2. Theory of Operation

The Director Plus program constantly monitors the operation of the burner/boiler system and annunciates boiler failures. The system also tracks the total number of each type of lockout that has occurred, and stores in order of occurrence the last 50 failures the system has recorded. In addition to the annunciation capabilities, the system also monitors burner/boiler operation and stores the elapsed time on line the system has operated, and the elapsed time on line for each fuel (dual fuel systems only). The system also counts and records the number of cycles of operation of the system.

The Director Plus is a true first out annunciation system. The first failure that occurs is indicated by a fast flashing light, flashing 2.5 times per second. A second failure condition is indicated by a slower flashing light, flashing one time per second. The only exception to this is a main flame failure condition, which is indicated by a sporadically flashing light. In all instances, the alarm buzzer is energized continuously until the system is reset.

3. Monitoring Systems Operations

The stored information in the PLC is retrievable via the TD200 Text Display. Use ↑ and ↓ arrow key to scroll through elapsed time values, failure occurrences history, number of cycles of operation, etc. The listing below

shows the type of information stored in the PLC. Certain features listed below may not be included in all systems.

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DESCRIPTION OF DATA STORED IN MEMORY

FLAME SAFEGUARD LOCKOUT
BURNER CYCLE
HIGH GAS 1ST FAILURE
LOW GAS 1ST FAILURE
LOW WATER 1ST FAILURE
LOW LOW WATER 1ST FAILURE
HIGH LIMIT 1ST FAILURE
AIR FLOW 1ST FAILURE
PILOT FLAME FAILURE 1ST
MAIN FLAME RUN FAILURE 1ST
MAIN FLAME INGNITION FAILURE 1ST
ELAPSED HOURS, MINUTES, SECONDS
HIGH GAS 2ND FAILURE
LOW GAS 2ND FAILURE
LOW WATER 2ND FAILURE
LOW LOW WATER 2ND FAILURE
HIGH LIMIT 2ND FAILURE
ELAPSED LOCKOUT HOURS, MINUTES, SECONDS
LOW OIL PRESSURE 1ST FAILURE
LOW DRAFT 1ST FAILURE
HIGH PILOT GAS 1ST FAILURE
SMOKE 2ND
HIGH TEMPERATURE 2ND
LOW PILOT GAS PRESSURE 1ST FAILURE
LOW PILOT GAS PRESSURE 2ND FAILURE
TEMORARY FAILURE CODE STORAGE
FAILURE HISTORY TABLE OF LAST 50 FAILURES

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4. Operation of the RESET pushbutton

Once the failure condition is corrected, the system reset pushbutton is used to clear error conditions and also to test the signal lights in the Director Plus System.

1. If a failure has occurred, indicated by a fast flashing light, depressing the reset button will clear the indication and silence the alarm.
2. If two failures have occurred, the first indicated by the fast flashing light, the second failure indicated by a slower flashing light, depressing the reset button will clear the second failure indication. Depressing the reset pushbutton a second time will clear the first failure condition and silence the alarm.
3. Depressing the reset button for five seconds will cause all red failure indication lights to be energized, and the alarm buzzer will sound briefly (for approximately 0.2 seconds).

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