

Chief Dispatcher

Product Overview

59

The Chief Dispatcher boiler plant master provides lead lag control for up to ten boilers. It monitors a common steam header pressure or hot water temperature transmitter and provides on/ off, and modulating control of burner firing rate. The Chief Dispatcher combines innovative ease of operation, communication and expansion capabilities with boiler application expertise. Off-the-shelf, standard modulating lead/lag applications can be expanded to control circulating water variable speed pumps and isolation valves while monitoring the flame safeguard and boiler control systems. Multiple communication protocols allow simultaneous communication to alphanumeric pagers and the Building Automation System or local devices.

Better Steam or Hot Water System Control

- Models available for steam, hot water, and condensing boilers
- “Smart” boiler sequencing to improve response time
- Steam boiler “Base Load Auto-Shift” reduces cycling
- Hot water boiler “Header” or “Boiler” pump sequencing
- Firetube boiler thermal shock protection using blend valves
- Condensing boiler logic maximizes lower firing rate operation to increase efficiency

Easy to Use

- “Plant Overview,” “Alarm,” and “Setup” displays enable informed initial setup and process assessment
- In a single wall-mounted enclosure, the Chief Dispatcher integrates a modem for off-site monitoring, RS485 Modbus communications, 24VDC power supplies and outdoor reset functions. No external control devices are required

Easy to Order, Stock and Field Upgrade

- Complete system is ordered using a single part number
- “Plug In” option boards can be used to upgrade a system in the field

“Smart” Boiler Sequencing

Boilers are automatically sequenced on/off to ensure that the number of boilers in service meets steam or hot water demand. If any boiler fails to start when called, or if a boiler trips during operation, the chief dispatcher immediately starts another boiler to replace the “faulted” boiler.

“Hard Manual” Backup

Hardwired control switches and dials provide simple manual control for easy troubleshooting and service. Each boiler has an individual firing rate bargraph, “manual” firing rate output knob, and “Auto/Manual” switch.

Modbus Communication Interface

A factory configured RS485 Modbus interface is available for Building Automation or SCADA system monitoring and control.

Building Automation System (Option ‘-BAS’)

A remote Hot Water Supply (HWS) temperature setpoint is set by either a Modbus or 4-20 mADC Building Automation System (BAS) outdoor reset input signal.

Firing Rate Output (Option “-I” or “-P”)

Boiler Firing Rate Analog Output Cards may be ordered as ‘-P’ = 0-135 ohm or ‘-I’ = 4-20 mADC.



Chief Dispatcher in standard NEMA 4 Case

Specs found here



Chief Dispatcher Modulating Lead/Lag Controllers

60

Specifications

Specifications

Mechanical

Case Size: 21 1/8" H x 18" W x 8 1/2" D

Enclosure Type: Wall mounted

Case: 7 Slot, (CPU + 6 I/O Slots)

Weight: 55 lbs.

Environmental

Operating Temp: 32° to 122° F (0° to 50° C)

Storage Temp: -20° to 150° F (-28° to 65° C)

Humidity Limits: 15% to 95% (noncondensing)

Enclosure: NEMA 1

Performance

Accuracy: 0.025% Analog I/O

Resolution: 16 bit input/12 bit output

Microprocessor: 32 bit, 128k EEPROM

Execution Cycle: Five per second

Time/Date Clock: (battery backed)

Operator Control Panel

LCD Graphic Display: 2.9" H x 5.1" W

Keyboard: Membrane, tactile feedback

Configuration

Standard Lead/Lag:

Menu style

"Fill-In-The-Blanks" setup.

Control Language:

Function block style, 60 functions, 600 Blocks

Security:

2 password levels Custom Blockware

Configuration Software:

PWC_Edit™ spread sheet based or PWC_Draw™ graphical editor. (Windows PC Required)

Communication

Control Network:

Protocol:

Modbus (ASCII or RTU mode)

Speed:

1200 to 38,400 baud

Type:

RS485, optically isolated

Programming Port:

Speed:

38,400 baud

Type:

RS232, DB9F connector

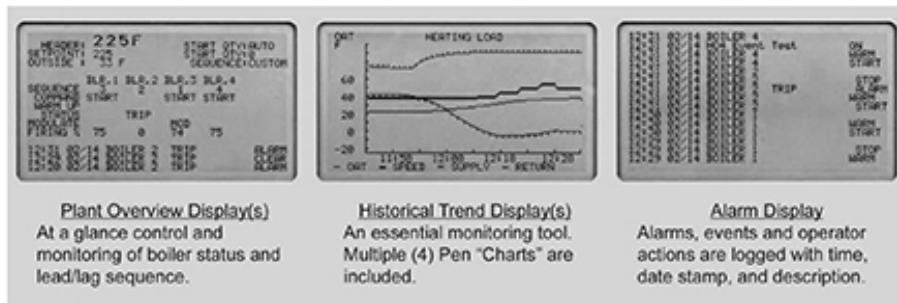
Electrical

Input Power:

120 VAC (+/- 15%), 12 A total, 0.7A internal Built in surge suppressors

Internal Power Supply:

24 VDC @ 300 mADC for external use



Chief Dispatcher Modulating Lead/Lag Controller

61

JC-	CDST	CDHW	CDHWF	CDHWBP	CDHWHP	CDHWTSP	Field Device
Features							
Boilers, up to	10	10	10	7	5	4	
Warm Standby	X						
Steam Boilers	X						
Hot Water Boilers		X	X	X	X	X	
Condensing Boilers		X	X	X	X	X	
Outdoor Reset		X	X	X	X	X	
Domestic Hot Water Priority		X	X	X	X	X	
Header Pump Control			X				
Boiler Pump Sequencing				X			X
Header Pump Sequencing					X		
Thermal Shock protection							X
Time Of Day / Week Setback		X	X	X	X	X	
Digital Inputs							
BAS, Boiler Disable	X	X	X	X	X	X	120 VAC - Optically Isolated
Limits	X	X	X	X	X	X	120 VAC - Optically Isolated
Boiler Lockout	X		X	X	X	X	120 VAC - Optically Isolated
Warm Standby	X						120 VAC - Optically Isolated
Hot Water Temp		X	X	X		X	Thermister
Outdoor Air Temp		X	X	X	X	X	Thermister
Domestic HW Priority		X	X	X	X	X	120 VAC - Optically Isolated
Fuel			X				120 VAC - Optically Isolated
Hot Water Header					X		Thermister
Pump Flow Proven					X		120 VAC - Optically Isolated
Outlet Water						X	Thermister
Return Water						X	Thermister
Analog Inputs							
Steam Pressure	X						4-20mA
BAS Reset Setpoint		X	X	X	X	X	4-20mA
Digital Outputs							
Boiler Start	X	X	X	X	X	X	Dry Contact, 8 FLA, 1/2 HP. 120 VAC
Domestic HW Circulation Pump		X	X	X	X	X	Dry Contact, 8 FLA, 1/2 HP. 120 VAC
Pump Start				X	X	X	Dry Contact, 8 FLA, 1/2 HP. 120 VAC
Valve Open					X		Dry Contact, 8 FLA, 1/2 HP. 120 VAC
Analog Outputs							
Boiler Modulation	X	X	X	X	X	X	Isolated 4-20mA Output or 0-135 ohm
Balancing Valve						X	Isolated 4-20mA Output

Chief Dispatcher Modulating Lead/Lag Controller

62

Chief Dispatcher

There are several Chief Dispatcher versions to choose from depending on the functionality required in the control system.

Ordering Information

JC - _ - _ - _ - _

Chief Dispatcher Model	Catalog Number
Steam Boiler Modulating Lead/Lag 2 - 10 Steam Boiler Modulating Controller	CDST
Hot Water Boiler Controller, 2 - 10 Hot Water Modulating Controller	CDHW
Hot Water Boiler Controller, 2 - 10 Hot Water Modulating Controller, Header Pump Control	CDHWF
Hot Water Boiler Controller with Boiler Feed Pumps 2 - 7 Hot Water Modulating Controller	CDHWBP
Hot Water Boiler Controller with Header Pump Sequencing, 2 - 5 Hot Water Modulating Controller	CDHWHP
Hot Water Boiler Controller with Thermal Shock Protection, 2 - 4 Hot Water Modulating Controller	CDHWTSP

Analog Output	Catalog Number
4-20 mADC	I
0-135 Ohm	P

Boiler Quantity	Catalog Number
See chart above	

Optional Features	Catalog Number
Building Automation System (BAS) 4-20 mADC Setpoint	BAS
Condensing Boiler Logic	C
Header Pump Control	H

Order Sensors Separately (Quantity as Required)	Catalog Number
Hot Water Thermistor Temperature Sensor 0° to 300° F, 4½" depth	70610
Thermowell, SS, 4½" x ½" NPT	70610W
Outside Air Thermistor Temperature Sensor with weather-proof cover	70612
Steam Pressure Sensor 0-25 PSI with syphon loop	70600-V2
Steam Pressure Sensor 0-200 PSI with syphon loop	70601-V2
Steam Pressure Sensor 0-500 PSI with syphon loop	70602-V2

