



Feedwater Center JC-FWC-NVS — & — JC-FWC-NVS-OIT

Quick Start Guide

Feedwater Center

Model JC-FWC-NVS

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INTRODUCTION

This guide is designed to simplify the commissioning process by detailing the initial parameters required to properly setup a Preferred Instruments Feedwater Center - with no VSD or surge tank/transfer pump operation. This guide is to be used in conjunction with the Installation and Operation Manual, SDI-JC-FWC-NVS.

SDI-FWC-NVS-QS
Revision 0.0
2/13/2019

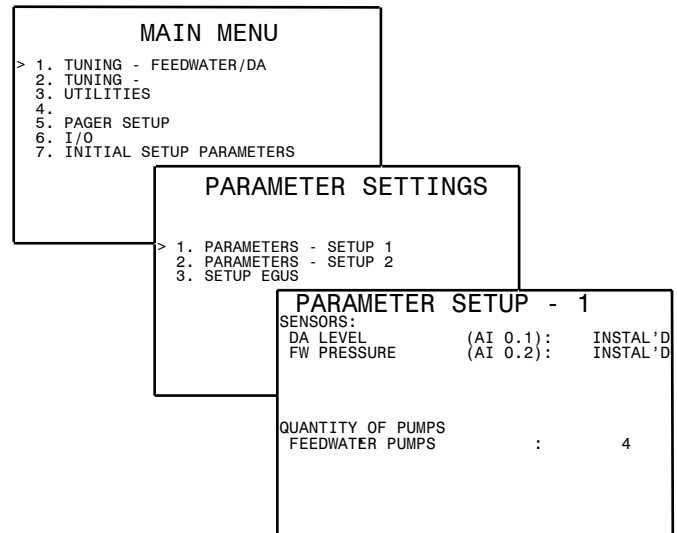
QUICK START GUIDE

INITIAL PARAMETER SETUP

The Preferred Instruments Feedwater Center - with no feedwater pump VSD or suge tank/transfer pump operation is designed to be field adjustable for multiple applications. In order to customize to your installation some preliminary settings must be entered.

After initial powerup, the homepage should be displayed. To set initial parameters, Press the MAIN MENU button, and then “7” for Initial Parameter Menu

There is a detailed list of these parameter values found in the operation and instruction manual SDI-JC-FWC-NVS that provides an area to record each setting for future use in case the unit must be replaced.

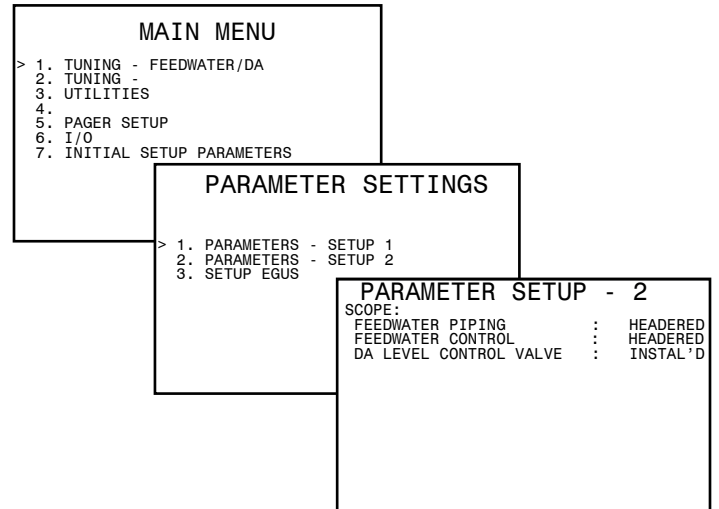


PARAMETERS - INSTALLED DEVICES

PARAMETER - SETUP 1 deals with the installed devices.
Set each sensor to INSTAL'D if it is included in this application.

FACTORY VALUE	DESCRIPTION	HELP/COMMENTS
NOT USED	DA TANK LEVEL	If the system being setup has a level sensor on the DA tank, turn the 'NOT USED' to 'INSTAL'D'
NOT USED	FW PRESSURE	If the system being set up has a Pressure sensor on the Feedwater Header, turn the 'NOT USED' to 'INSTAL'D'
0	FEEDWATER PUMPS	Enter the number of Feedwater Pumps installed in the system (up to four), the JC-FWC-NVS will only run that number of pumps in the program.

PARAMETERS - INSTALLED DEVICES



PARAMETERS - SCOPE

PARAMETER - SETUP 2 deals with the scope and type of control being used. A description of the effect of each parameter are provided.

FACTORY VALUE	DESCRIPTION	HELP/COMMENTS
PER BLR	FEEDWATER PIPING	Piping must be set to 'PER BLR' or 'HEADERED'
PER BLR	FEEDWATER CONTROL	If Piping is set to 'PER BLR' then control MUST be 'PER BLR'. In that setup, each boiler has its own specific pump that runs any time the BLR RUN input is turned on. If Piping is Headered, then the control setting can be 'PER BLR' or 'PSI'. In Headered/per blr, the number of boilers running determines the number of pumps. In Headered/PSI, the number of pumps running is determined by the Lead/Lag control.
NOT USED	DA LEVEL CONTROL VALVE	If the system being set up has a control valve on the DA Tank, change 'NOT USED' to "INSTAL'D" This enables the Level Control Valve output.

PARAMETERS - ENGINEERING UNITS

The ability to field adjust engineering units has been added to the Feedwater Controller in order to allow each installation to accommodate the installed field sensors. Each Engineering unit listed is editable from the "Set EGU's" page. For details on how to work with the Global Engineering Unit Editor, please reference the Operation and Installation manual SDI-JC-FWC-NVS.

ID	NAME	VALUE 0%	VALUE 100%	DECPT	HELP/COMMENTS
A1	DA LVL	0.0	100.0	1	DA Tank Level in "WC
A2					
A3					
A4					
A5	FW PSI	0	200	0	Feedwater Pressure in PSI (Must be same as Steam Header if using Steam PSI to generate feedwater setpoint)
A6					
A7					
A8					
A9					
A10					
A11					
A12					
A13	DEMAND	0	100	0	Demand (it is not recommended to change this value)

MODBUS ADDRESSING

MODBUS ADDRESSING NUMBERS

MODBUS: The following information applies to all JC-FWC-NVS Feedwater Center-Full Control.

NOTE:

MODBUS addresses below are for the NON-OIT version, this does not include points that are used on the touch screen.

	Default:	Options:
Device Address:	1	1-31
Baud:	19200	1200, 2400, 4800, 9600, 19200, 38400
Parity:	ODD	ODD, EVEN
Data Format:	RTU	RTU, ASCII
Wiring Interface:	RS485, 2 wire, isolated	

MODBUS ADDRESSING

MODBUS ADDRESSING NUMBERS

Modbus Register Address	Description	Read/ Write Allowed	EGU for register = 10000	EGU for register = 0	Units	Notes:
40001	FeedWater PID gain	Y	100	0		
40002	Feedwater PID Repeats	Y	100	0	rpts/min	
40003	Feedwater PSI Set point	Y	200	0	psi	
40004	Feedwater PSI Low Alarm Set point	Y	200	0	psi	
40005	Feedwater PSI Low Alarm Time Delay	Y	100	0	secs	
40006	Feedwater PSI High Alarm Set point	Y	100	0	psi	
40007	Feedwater PSI High Alarm Time Delay	Y	100	0	secs	
40008	Feedwater Pump Demand	Y	60	0	8FP Hz	
40009	Feedwater Pump Start Lag SP Deviation	Y	200	0	psi	
40010	Feedwater Pump Demand % Add a lag	Y	100	0	%	
40011	FeedWater Pump Add a lag delay seconds	Y	100	0	secs	
40012	Feedwater Pump Stop Lag SP Deviation	Y	200	0	psi	
40013	Feedwater Pump Demand % stop a lag	Y	100	0	%	
40014	Feedwater Pump Stop a lag delay seconds	Y	100	0	secs	
40015	Feedwater Pump Add'l start delay	Y	100	0	secs	
40016	Feedwater Pump Add'l stop delay	Y	100	0	secs	
40017	Feedwater Pump Qty called to start	Y	100	0	pumps	
40018	Feedwater Pump Rotate Run Time	Y	10000	0	secs	
40019	Number of FW pumps in System	Y	100	0	pumps	
40020						
40021						
40022						
40023	Feedwater Pump Rotate Overlap Time	Y	100	0	secs	
40024	Feedwater Pump Lead	Y	100	0	pump #	
40025	Feedwater Pump Fault Delay Seconds	Y	100	0	sec	
40026	DA Level PID Gain	Y	100	0		
40027	DA Level PID Repeats	Y	100	0	rpts/min	
40028	DA Level Set point	Y	66.6	0	"WC	
40029	DA Level Valve Demand	Y	100	0	%	
40030	Softener Regeneration Duration	Y	1.67	0	sec	
40031	Time Between Regenerations	Y	10000	0	hours	
40032	DA Level Low Alarm Set point	Y	66.6	0	"WC	
40033	DA Level Low Alarm Time Delay	Y	100	0	Secs	
40034	DA level High Alarm Set point	Y	66.6	0	"WC	
40035	DA level High Alarm Time Delay	Y	10000	0	Secs	
40036				0	%	
40037				0	%	
40038						
40039						
40040						
40041						
40042						
40043						
40044						
40045						
40046						

MODBUS ADDRESSING

Modbus Register Address	Description	Read/ Write Allowed:	EGU for register = 0	EGU for register = 10000	Units	Notes:
40047						
40048						
40049						
40050						
40051						
40052						
40053						
40054						
40055						
40056						
40057						
40058						
40059						
40060						
40061						
40062						
40063						
40064						
40065						
40066	Synchronize Time Value		0	100		
40067						
40068						
40069						
40070						
40071						
40072						
40073						
40074						
40075	Deaerator Level		0	66.6	"WC	
40076						
40077						
40078						
40079						
40080						
40081						
40082						
40083						
40084						
40085						
40086						
40087						
40088						
40089	Feedwater PSI		0	200	PSI	
40090						
40091						

MODBUS ADDRESSING

Modbus Register Address	Description	Read/Write Allowed:	EGU for register = 0	EGU for register = 10000	Units	Notes:
40093	Condensate Return Temperature		-50	300	°F	
40094	Condensate Return Flow		0	100	GPM	
40095	Surge Tank Pump 1 Elapsed Time		0	10000	Hrs	2
40096	Surge Tank Pump 2 Elapsed Time		0	10000	Hrs	2
40097	Surge Tank Pump 3 Elapsed Time		0	10000	Hrs	2
40098	Feedwater Pump 1 Elapsed		0	10000	Hrs	
40099	Feedwater Pump 2 Elapsed		0	10000	Hrs	
40100	Feedwater Pump 3 Elapsed		0	10000	Hrs	
40101	Feedwater Pump 4 Elapsed		0	10000	Hrs	
40102	Chemical Pump Retransmit		0	100		
40103	Softener Regen. Time Remaining		0	100		
40104	Hours Between Regeneration		0	100	Hrs	
40105						
40106	Controller Version					
40107						
40108						
40109						
40110						
40111						
40112						
40113						
40114						
40115						
40116						
40117						
40118						
40119						
40120						
40121						
40122						
40123						
40124						
40125						
40126						
40127						
40128						

MODBUS ADDRESSING

Note: Modbus address “00xxx” means Holding Register xxx

Modbus Coil Address		Read/Write Allowed	coil = 0	coil = 1		
00001	Feedwater Fault Pump Reset	Y	Reset	True		
00002	DA Level Control Valve Auto/Manual	Y	Auto	Manual		
00003	ST Level Control Valve Auto/Manual	Y	Auto	Manual		
00004						
00005	Feedwater Pump Quantity Auto Manual	Y	Auto	Manual		
00006	Feedwater Pump Lead Rotate Auto Manual	Y	Rotate	Manual		
00007	DA Pressure Control Valve Auto/Manual	Y	False	True		
00008	Transfer Pump Quantity Auto/Manual	Y	Auto	Manual		
00009	Transfer Pump Lead Select Auto/Manual	Y	Rotate	Manual		
00010	Transfer Pump Fault Reset	Y	Reset	True		
00011	Remote Alarm Silence	Y	False	True		
00012	Water Softener Manual Regen Pushbutton	Y	Start	ACKNOWL		
00013	Water Softener Schedule Enable/Disable	Y	Enabled	DISABLED		
00014	Has DA Temperature	Y	NOT USED	INSTAL'D		
00015	Has DA Pressure	Y	NOT USED	INSTAL'D		
00016	Has Feedwater Header Pressure	Y	NOT USED	INSTAL'D		
00017	Has Steam Pressure	Y	NOT USED	INSTAL'D		
00018	Has Makeup Water Flow	Y	NOT USED	INSTAL'D		
00019	Has Makeup Water Pressure	Y	NOT USED	INSTAL'D		
00020	Has Condensate Return Temperature	Y	NOT USED	INSTAL'D		
00021	Has Condensate Return Flow	Y	NOT USED	INSTAL'D		
00022	Has Surge Tank Installed	Y	Valve	PUMP		
00023	Has Feedwater Headered	Y	Per BLR	HEADERED		
00024	Feedwater Header is Pressure Based	Y	Per BLR	PSI		
00025	Has DA Pressure Control Valve	Y	NOT USED	INSTAL'D		
00026	Send Makeup Flow to CFP	Y	False	True		
00027						
00028	Has DA Level Control	Y	False	True		
00029	Synchronize Time	Y	FALSE	TRUE		
00030						
00031	Feedwater Pressure Setpoint Auto/Manual	Y	Auto	Manual		
00032	Softener Regen Cancel	Y	CANCEL	ACKNOWL		
00033						
00034						
00035						
00036						
00037						
00038						
00039						
00040	Common Alarm		False	True		
00041	Feedwater Pressure High Alarm					
00042	Feedwater Pressure Low Alarm					
00043	Feedwater Pump 1 Lead		False	True		
00044	Feedwater Pump 2 Lead		False	True		

MODBUS ADDRESSING

MODBUS ADDRESSING NUMBERS (CONTINUED)

Modbus Coil Address		Read/ Write Allowed	coil = 0	coil = 1		
00045	Feedwater Pump 3 Lead		False	True		
00046	Feedwater Pump 4 Lead		False	True		
00047	Feedwater Pump 1 Fault		False	True		
00048	Feedwater Pump 2 Fault		False	True		
00049	Feedwater Pump 3 Fault		False	True		
00050	Feedwater Pump 4 Fault		False	True		
00051	DA Low Level Alarm					
00052	DA High Level Alarm					
00053	DA Low Pressure Alarm					
00054	DA High Pressure Alarm					
00055						
00056						
00057						
00058						
00059						
00060						
00061						
00062						
00063						
00064	Softener Regenerating		False	True		
00065	Feed Water Pump 1 Active		False	True		
00066	Feed Water Pump 2 Active		False	True		
00067	Feed Water Pump 3 Active		False	True		
00068	Feed Water Pump 4 Active		False	True		
00069						
00070						
00071						
00072	Feed Water Pump 1 On		OFF	ON		
00073	Feed Water Pump 2 On		OFF	ON		
00074	Feed Water Pump 3 On		OFF	ON		
00075	Feed Water Pump 4 On		OFF	ON		
00076	DA Low-Low Level		OFF	ON		
00077						
00078						
00079						
00080						
00081	Boiler 1 On		OFF	ON		
00082	Boiler 2 On		OFF	ON		
00083	Boiler 3 On		OFF	ON		
00084	Boiler 4 On		OFF	ON		
00085	Water Softener Alarm		OFF	ON		
00086	Disable All		OFF	ON		
00087	Feedwater Pump 1 Start		OFF	ON		
00088	Feedwater Pump 2 Start		OFF	ON		
00089	Feedwater Pump 3 Start		OFF	ON		

MODBUS ADDRESSING

MODBUS ADDRESSING NUMBERS (CONTINUED)

Modbus Coil Address		Read/ Write Allowed	coil = 0	coil = 1		
00090	Feedwater Pump 4 Start		OFF	ON		
00091						
00092						
00093						
00094	Softener Start		False	True		
00095						
00096						
00097						
00098						
00099						
00100						
00101						
00102						
00103						
00104						
00105						
00106						
00107						
00108						
00109						

TROUBLESHOOTING

INPUT/OUTPUT BLOCK NUMBERS

Input and output block numbers are assigned according to the physical hardwired address. Knowing the signal channel number and I/O board slot number will allow you to determine the block number. The following table provides block numbers for all Feedwater Center Models. Disregard block numbers above the number of pumps in each model.

[illegible]

TROUBLESHOOTING

INPUT/OUTPUT BLOCK NUMBERS (CONTINUED)

Block Numbers	Wiring Location		Description
	Board/Slot	I/O Channels	
660	A/M-AOUT/4	AM.4.1	Deaerator PSI Control Valve
661	A/M-AOUT/4	AM.4.2	Surge Tank Make Up Water Valve
662	A/M-AOUT/4	AM.4.3	Make-Up Flow Retransmit to Chemical Feed Pump
663	A/M-AOUT/4	AM.4.4	DA Level Valve Demand
664	A/M-AOUT/4	AM.4.5	

NOTES:

NOTES:

REVISION HISTORY

REV	Description
0.0	FIRST ISSUE (02/13/2019)



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