



Feedwater Center JC-FWC-ND

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JC-FWC-ND-OIT

Quick Start Guide

Feedwater Center

Model JC-FWC-ND-OIT

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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 - Transfer Pump/Surge Tank Control. This guide is to be used in conjunction with the Installation and Operation Manual, SDI-JC-FWC-ND.

SDI-JC-FWC-ND-QS
Revision 0.0

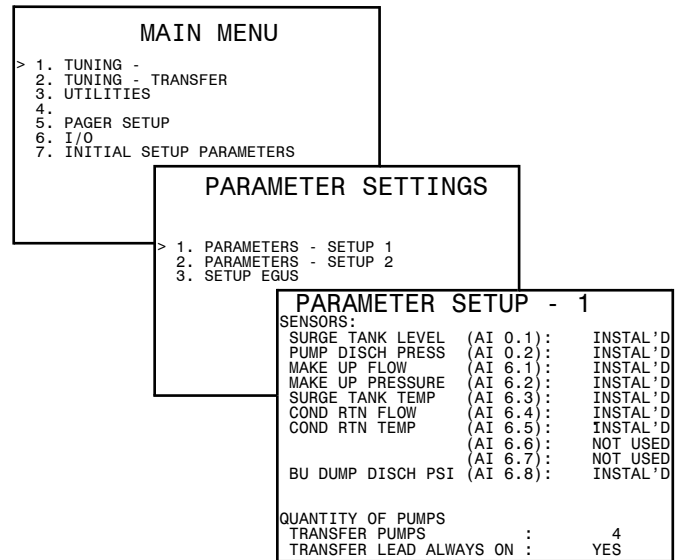
QUICK START GUIDE

INITIAL PARAMETER SETUP

The Preferred Instruments Feedwater Center - Transfer Pump/ Surge Tank Control 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 that provides an area to record each setting for future use in case the unit must be replaced.



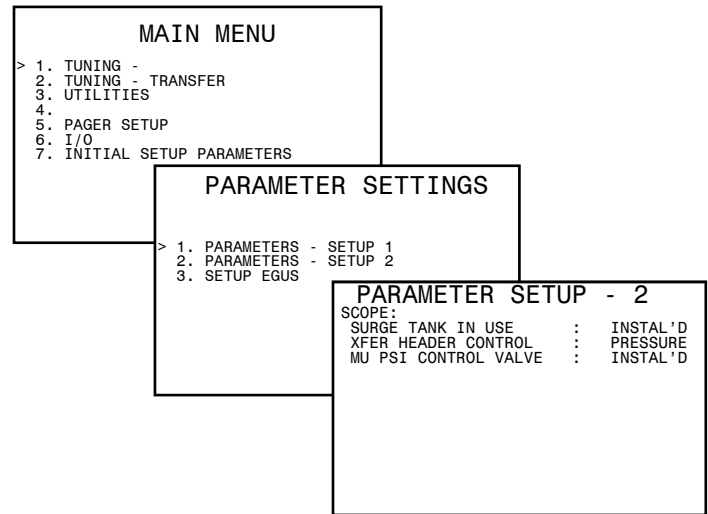
PARAMETERS - INSTALLED DEVICES

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	SURGE TANK LEVEL	If the system being set up has a Level sensor on the Surge Tank, turn the 'NOT USED' to 'INSTAL'D'
NOT USED	TRANSFER PUMP DISCH PRESSURE	If the system being set up has a Pressure sensor on the Transfer Pump Header, turn the 'NOT USED' to 'INSTAL'D'
NOT USED	MAKE UP FLOW	If the system being set up has a Flow sensor on the Make Up water line going into the Surge tank, turn the 'NOT USED' to 'INSTAL'D'
NOT USED	MAKE UP PRESSURE	If the system being set up has a Pressure sensor on the Make Up water line going into the Surge tank, turn the 'NOT USED' to 'INSTAL'D'
NOT USED	SURGE TANK TEMPERATURE	If the system being set up has a temperature sensor in the Surge tank, turn the 'NOT USED' to 'INSTAL'D' by using the UP and DOWN arrow keys and highlighting the 'NOT USED' and pressing enter.
NOT USED	COND RTN FLOW	If the system being set up has a Flow sensor on the Condensate return line, turn the 'NOT USED' to 'INSTAL'D'
NOT USED	COND RTN TEMP	If the system being set up has a Temperature sensor on the Condensate return line, turn the 'NOT USED' to 'INSTAL'D'
NOT USED	BACKUP PUMP HEADER PSI	If the system being set up has a Pressure sensor in the Transfer Pump Header, turn the 'NOT USED' to 'INSTAL'D'

PARAMETERS - INSTALLED DEVICES

FACTORY VALUE	DESCRIPTION	HELP/COMMENTS
0	TRANSFER PUMPS	Enter the number of Transfer pumps installed in the system (up to four)
NO	TRANSFER LEAD ALWAYS ON	Enabling this, changing 'NO' to 'YES', will ensure that the Lead Transfer pump runs continuously.



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
NOT USED	SURGE TANK IN USE	If the system being set up has a Surge tank installed, turn the 'NOT USED' to 'INSTAL'D' by using the UP and DOWN arrow keys and highlighting the 'NOTUSED' and pressing enter.
NOT USED	MAKE UP PSI CONTROL VALVE	If the system being set up has a control valve on the Surge Tank Tank, change 'NOT USED' to "INSTAL'D' This enables the Pressure Control Valve output.
NOT USED	SURGE TANK LEVEL CONTROL VALVE	If the system being set up has a control valve on the Surge 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-ND-OIT.

ID	NAME	VALUE 0%	VALUE 100%	DECPT	HELP/COMMENTS
A1	PDH_PR	0.0	200	0	Pump Discharge Hdr. Pressure
A2	ST LVL	0.0	7.2	1	Surge Tank Level in "WC
A3	SRG TMP	-50	300		Surge Tank Temperature in °F
A4	CR F	-50	300	0	Condensate Return Temperature in °F
A5	CR FLO	0	100	0	Condensate Return Flow in GPM
A6	MU PSI	0.0	25.0	1	Makeup Pressure in PSI
A7	MU FLO	0	100	0	Makeup Flow in GPM

MODBUS ADDRESSING

MODBUS ADDRESSING NUMBERS

MODBUS: The following information applies to JC-FWC-ND-OIT Feedwater Center-Transfer Pump/Surge Tank Control.

NOTE:

MODBUS addresses below are for the 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	

NOTE:

Modbus can only change this if the point is in 'Manual'

MODBUS ADDRESSING

MODBUS ADDRESSING NUMBERS

Modbus Register Address	Description	Read/ Write Allowed	EGU for register = 10000	EGU for register = 0	Units
40001	Surge Tank Level For 100% MU Valve	Y	0	100	%
40002	Surge Tank Level For 0% MU Valve	Y	0	100	%
40003	Surge Tank Level Valve Demand	Y	0	100	%
40004	Surge Tank Low-Low Level Alarm Setpoint	Y	0	100	%
40005	Surge Tank Low-Low Level Alarm Delay	Y	0	10000	sec
40006	Surge Tank Low Level Alarm Setpoint	Y	0	100	%
40007	Surge Tank Low Level Alarm Delay	Y	0	10000	sec
40008	Surge Tank High Level Alarm Setpoint	Y	0	100	%
40009	Surge Tank High Level Alarm Delay	Y	0	10000	sec
40010	Surge Tank Low Temp. Alarm Setpoint	Y	-50	300	°F
40011	Surge Tank Low Temp. Alarm Delay	Y	0	10000	sec
40012	Surge Tank High Temp. Alarm Setpoint	Y	-50	300	°F
40013	Surge Tank High Temp. Alarm Delay	Y	0	10000	sec
40014	Transfer Discharge Pressure PID Gain	Y	0.10	100	%
40015	Transfer Dishcharge Pressure PID Integral	Y	0.0	60.00	%
40016	Transfer Pump Speed Command	Y	0.0	60	Hz
40017	Transfer Pump Minimum Speed	Y	0.0	60	Hz
40018	Transfer Discharge PSI Low Alarm SP	Y	0	200	psig
40019	Transfer Dishcharge PSI Low Alarm delay	Y	0	10000	sec
40020	Transfer Discharge PSI High Alarm SP	Y	0	200	psig
40021	Transfer discharge PSI High Alarm Delay	Y	0	10000	secs
40022	Duel Transfer Discharge PSI Deviation Alarm SP	Y	0	200	psig
40023	Duel Transfer Discharge PSI Deviation Alarm Delay	Y	0	10000	sec
40024	Spare				
40025	Transfer Pump Lag Start Deviation SP	Y	0	200	psig
40026	Transfer Pump Lag Start Speed Demand SP	Y	0	60	Hz
40027	Transfer Pump Lag Start Delay	Y	0	100.00	sec
40028	Transfer Pump Lag Stop Deviation SP	Y	0	200	psig
40029	Transfer Pump Lag Stop Speed Demand SP	Y	0	60	Hz
40030	Transfer Pump Lag Stop Delay	Y	0	10000	sec
40031	Additional Transfer Pump Start Delay	Y	0	10000	sec
40032	Additional Transfer Pump Stop Delay	Y	0	10000	sec
40033	Transfer Pump Lead Rotation Time	Y	0	10000	Hrs
40034	Transfer Pump Lead	Y	0	100	
40035	Transfer Pump Quantity	Y	0	100	
40036	Transfer Pump Rotate Overlap Time	Y	0	10000	sec
40037	Transfer Pump Fault Delay	Y	0	10000	sec
40038	Softener Regen Frequency	Y	0	10000	Hrs
40039	Softener Regen Period	Y	0	166.67	min
40040	Number of Transfer Pumps Configured	Y	0	100	
40041	Synchronized Time Value	Y	0.00	100.00	hh:mm/100
40042	Surge Tank Level Low EGU	Y	0	10000	"WC
40043	Surge Tank Level High EGU	Y	0	10000	"WC
40044	Transfer Pump Discharge Pressure Low EGU	Y	0	10000	psig
40045	Transfer Pump Discharge Pressure High EGU	Y	0	10000	psig
40046	Surge Tank Temp. Low EGU	Y	0	10000	°F

MODBUS ADDRESSING

Modbus Register Address	Description	Read/ Write Allowed:	EGU for register = 0	EGU for register = 10000	Units	Notes:
40047	Surge Tank Temp. High EGU	Y	0	10000	°F	
40048	Cond. Return Temp. Low EGU	Y	0	10000	°F	
40049	Cond. Return Temp. High EGU	Y	0	10000	°F	
40050	Cond. Return Flow Low EGU	Y	0	10000	gpm	
40051	Cond. Return Flow High EGU	Y	0	10000	gpm	
40052	Make Up Flow Low EGU	Y	0	10000	gpm	
40053	Make Up Flow High EGU	Y	0	10000	gpm	
40054	Make Up Pressure Low EGU	Y	0	10000	psig	
40055	Make Up Pressure High EGU	Y	0	10000	psig	
40056	Transfer Discharge Pressure Setpoint	Y	0	200	psig	
40057						
40058						
40059						
40060						
40061						
40062						
40063						
40064						
40065						
40066						
40067						
40068						
40069						
40070	Transfer Discharge PSI Transmitter Status		0	100	%	
40071	Transfer Discharge PSI PU-SP Delta		0	100	%	
40072	Transfer Pump 1 Elapsed Time		0	10000	Hrs	
40073	Transfer Pump 1 Speed Demand Output		0	60	Hz	
40074	Transfer Pump 2 Elapsed Time		0	10000	Hrs	
40075	Transfer Pump 2 Speed Demand Output		0	60	Hz	
40076	Transfer Pump 3 Elapsed Time		0	10000	Hrs	
40077	Transfer Pump 3 Speed Demand Output		0	60	Hz	
40078	Transfer Pump 4 Elapsed Time		0	10000	Hrs	
40079	Transfer Pump 4 Speed Demand Output		0	60	Hz	
40080	Time Until Next Softener Regen		0	10000		
40081	Softener Regen Time Elapsed		0	100		
40082	Current PWC Time		0	100		
40083	Surge Tank Level		0	72.0	"WC	
40084	Primary Transfer Pump Discharge PSI		0	200	psig	
40085	Back Up Transfer Pump Discharge PSI		0	200	psig	
40086	Make U Flow		0	100	gpm	
40087	Make Up Pressure		0	25	psig	
40088	Surge Tank Temperature		-50	300	°F	
40089	Condensate Return Flow		0	100	gpm	
40090	Condensate Return Temp		-50	300	°F	
40091	Spare Analog Input AI. 6.6		0	100	%	
40092	Spare Analog Input AI. 7.7		0	100	%	

MODBUS ADDRESSING

Modbus Register Address	Description	Read/ Write Allowed:	EGU for register = 0	EGU for register = 10000	Units	Notes:
40093	Current Discharge Pressure		0	200	psig	
40094	Surge Make Up Valve Demand Output		0	100	%	
40095	Transfer Pump 1 HOA Status		0	100		
40096	Transfer Pump 2 HOA Status		0	100		
40097	Transfer Pump 3 HOA Status		0	100		
40098	Transfer Pump 4 HOA Status		0	100		
40099						
40100						
40101						
40102						
40103						
40104						
40105						
40106	Controllr Version					
40107						
40108						
40109						
40110						
40111						
40112						
40113						
40114						
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40128						

MODBUS ADDRESSING

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

Modbus Coil Address		Read/ Write	Coil=0	Coil=1	
00001	Transfer Pump Fault Reset	Y		Reset	
00002	Transfer Demand Auto/Manual	Y	Auto	Manual	
00003	Srg Level Control Valve Auto/Manual	Y	Auto	Manual	
00004	Transfer Pumps Lead Select Auto/Manual	Y	Auto	Manual	
00005	Transfer Pump Quantity Auto/Manual	Y	Rotate	Manual	
00006	Softener Manual Regen PB	Y		Start	
00007	Softener Schedule Enable /Disable PB	Y	Enable	Disable	
00008	Softener Regen Cancel	Y		Cancel	
00009	Modbus Remote Alarm Silence	Y	False	True	
00010	Lead Transfer Pump Always On	Y	Yes	No	
00011	Make Up Flow Installed	Y	NOT USED	INSTAL'D	
00012	Make Up Pressure Installed	Y	NOT USED	INSTAL'D	
00013	Cond Return Temp Installed	Y	NOT USED	INSTAL'D	
00014	Cond. Return Flow Installed	Y	NOT USED	INSTAL'D	
00015	Surge Tank Temp Installed	Y	NOT USED	INSTAL'D	
00016	Back Up Transfer Discharge PSI Installed	Y	NOT USED	INSTAL'D	
00017	PWC Time Sync Bit	Y	False	True	
00018					
00019					
00020					
00021					
00022					
00023					
00024					
00025					
00026					
00027					
00028					
00029					
00030					
00031					
00032					
00033					
00034					
00035					
00036					
00037					
00038					
00039	Common Alarm		Clear	Alarm	
00040	Srg Tank Level Signal out of Range		Clear	Alarm	
00041	Srg Tank Low-Low Level Alarm		Clear	Alarm	
00042	Surge Tank Low Level Alarm		Clear	Alarm	
00043	Surge Tank High Level Alarm		Clear	Alarm	
00044	Surge Tank Low Level Sw. (Pump Cutoff)		Clear	Alarm	
00045	Surge Tank Low Temp. Alarm		Clear	Alarm	

MODBUS ADDRESSING

MODBUS ADDRESSING NUMBERS (CONTINUED)

Modbus Coil Address		Read/ Write	Coil=0	Coil=1	
00046	Surge Tank High Temp. Alarm		Clear	Alarm	
00047	Transfer Discharge Pressure Low Alarm		Clear	Alarm	
00048	Transfer Discharge Pressure High Alarm		Clear	Alarm	
00049	Pri. Discharge Pressure Signal Out of Range		Clear	Alarm	
00050	B/U Discharge Pressure Signal Out of Range		Clear	Alarm	
00051	Pri./BU Discharge Pressure Deviation Alarm		Clear	Alarm	
00052	Add 1 Transfer Pump Event		False	True	
00053	Drop 1 Transfer Pump Event		False	True	
00054	Lead Rotation Event		False	True	
00055	Pump 1: PWC Request		Stop	Start	
00056	LEAD		False	True	
00057	Fault		False	True	
00058	Configured		False	True	
00059	Start Relay Output		OFF	ON	
00060	Running Status		OFF	ON	
00061	Demand A/M Status		Auto	Manual	
00062	Pump 2: PWC Request		Stop	Start	
00063	LEAD		False	True	
00064	Fault		False	True	
00065	Configured		False	True	
00066	Start Relay Output		OFF	ON	
00067	Running Status		OFF	ON	
00068	Demand A/M Status		Auto	Manual	
00069	Pump 3: PWC Request		Stop	Start	
00070	LEAD		False	True	
00071	Fault		False	True	
00072	Configured		False	True	
00073	Start Relay Output		Off	ON	
00074	Running Status		OFF	ON	
00075	Demand A/M Status		Auto	Manual	
00076	Pump 4: PWC Request		Stop	Start	
00077	LEAD		False	True	
00078	Fault		False	True	
00079	Configured		False	True	
00080	Start Relay Output		OFF	ON	
00081	Running Status		OFF	ON	
00082	Demand A/M Status		Auto	Manual	
00083	Water Softener Alarm		Clear	Alarm	
00084	Water Softener Regen Status		IDLE	ACTIVE	
00085	System Disable Input		ENABLE	DISABLE	
00086	MU Water Valve A/M Status		Auto	Manual	
00087	Water Softener Relay Output		OFF	ON	

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.

Block Numbers	Wiring Location		Description
	Board/Slot	I/O Channels	
600	CPU/0	AI.0.1	Surge Tank Level
601	CPU/0	AI.0.2	Pump Discharge PSI
602	CPU/0	RO.0.1	Common Alarm Relay
615	DIN/1	DI.1.1	Transfer Pump 1 On
616	DIN/1	DI.1.2	Transfer Pump 2 On
617	DIN/1	DI.1.3	Transfer Pump 3 On
618	DIN/1	DI.1.4	Transfer Pump 4 On
619	DIN/1	DI.1.5	
620	DIN/1	DI.1.6	Surge Tank Level LoLo
621	DIN/1	DI.1.7	
622	DIN/1	DI.1.8	
623	DIN/1	DI.1.9	
624	DIN/1	DI.1.10	
625	DIN/1	DI.1.11	
626	DIN/1	DI.1.12	
627	DIN/1	DI.1.13	
628	DIN/1	DI.1.14	
629	DIN/1	DI.1.15	Disable All (BAS Contact)
630	HOA- ROUT/2	HO.2.1	Transfer Pump 1 Start Circuit
631	HOA- ROUT/2	HO.2.2	Transfer Pump 2 Start Circuit
632	HOA- ROUT/2	HO.2.3	Transfer Pump 3 Start Circuit
633	HOA- ROUT/2	HO.2.4	Transfer Pump 4 Start Circuit
634	HOA- ROUT/2	HO.2.5	
635			
636			
637			
645			
646			
647			
648			
649			

TROUBLESHOOTING

INPUT/OUTPUT BLOCK NUMBERS (CONTINUED)

Block Numbers	Wiring Location		Description
	Board/Slot	I/O Channels	
660			
661			
662			
663			
664			
675	A/M-AOUT/5	AM.5.1	Transfer Pump 1 Speed
676	A/M-AOUT/5	AM.5.2	Transfer Pump 2 Speed
677	A/M-AOUT/5	AM.5.3	Transfer Pump 3 Speed
678	A/M-AOUT/5	AM.5.4	Transfer Pump 4 Speed
679	A/M-AOUT/5	AM.5.5	Transfer Make Up Water Valve
690	AIN/6	AI.6.1	Make Up Water Flow
691	AIN/6	AI.6.2	Make Up Water Pressure
692	AIN/6	AI.6.3	Surge Tank Temperature
693	AIN/6	AI.6.4	Condensate Return Temperature
694	AIN/6	AI.6.5	Condensate Return Flow
695	AIN/6	AI.6.6	Spare
696	AIN/6	AI.6.7	Spare
697	AIN/6	AI.6.8	Backup Pump Discharge Pressure

NOTES:

REVISION HISTORY

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



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