



FLECK NXT2 TIMER

SERVICE MANUAL

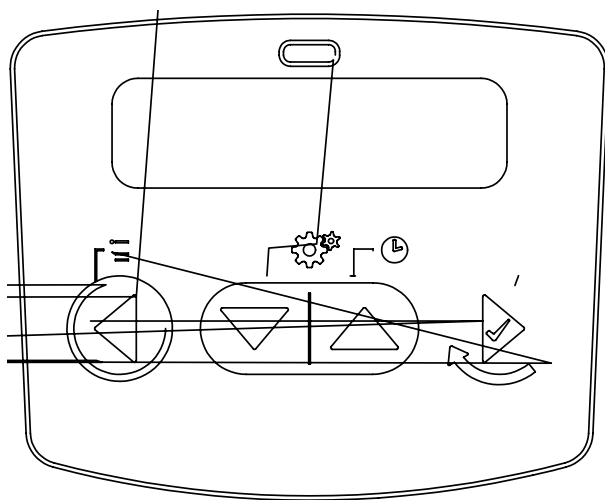


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IMPORTANT PLEASE READ:

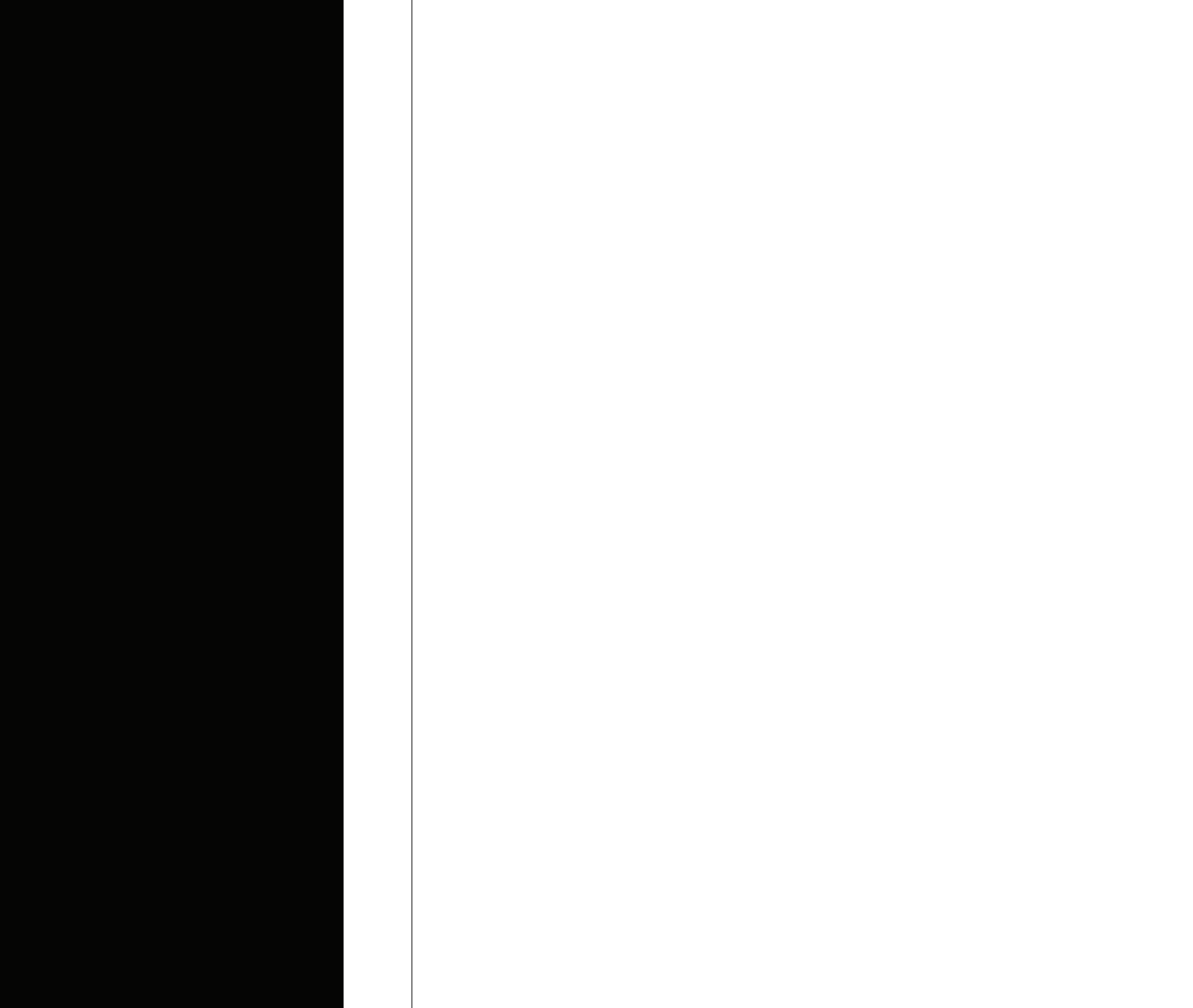
7 -/41ALIFORNIA PROPOSITION 65 WARNING

⚠ WARNING: This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

FEATURES

- On-screen multilingual support: English, Francais, Deutsch, Italiano, Espanol, Nederlands, Portugues
- Time of day super capacitor backup for 12-hour power loss
- 2 to 4 line scrolling text OLED display, high contrast easy to read in low light conditions and at a distance
- Full functional user interface with easy programming allowing forward and backwards menu navigation
- Network two to eight valves via CAT5 or better cables
- LED Status Indicator
 - Blue: In Service
 - Flashing Blue: Regeneration Queued
 - Green: Regeneration
 - Flashing Green: Standby
 - Red: Error condition present
-

System Type	4 - Single Unit
	5 - Parallel Interlock (2-8 Unit)
	6 - Parallel Series Regeneration (2-8 Units)
	7 - Alternating Interlock (2 Units)
	8 - Alternating Delayed (2 Units)
	9 - Alternating with Standby Units (2-8 Units)
	14 - Demand Recall (2-8 Units)
Valve Type	2510
	2750
	2815
	2850
	2900
	3150
	3900
Regeneration Type	Softener/Filter Meter Delayed
	Softener/Filter Meter Immediate
	Time Clock
	Day of the Week
Regeneration Flow	Remote Regeneration
	Downflow
	Upflow
Electrical Rating	Filter
	24V DC



TIMER OPERATION

Setting the Time of Day

NOTE: Set Time of Day on any unit and the rest of the units in the system will update the Time of Day automatically.

1. Press and hold the Up button for 2 seconds. The "Time" value is displayed. Press the Up or Down buttons to adjust as desired.
2. Press the Extra Cycle button to advance to the "Year" field. Press the Up or Down buttons to adjust as desired.
3. Press the Extra Cycle button to advance to the "Month" field. Press the Up or Down buttons to adjust as desired.
4. Press the Extra Cycle button to advance to the "Calendar Day" field. Press the Up or Down buttons to adjust as desired.
5. Press the Extra Cycle button to return to the normal display screen.

NOTE: Press and hold the Left button to exit without saving.

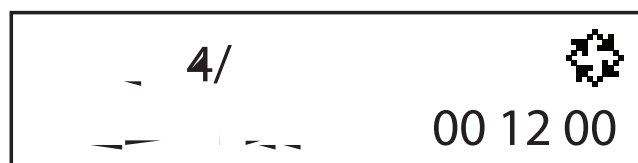
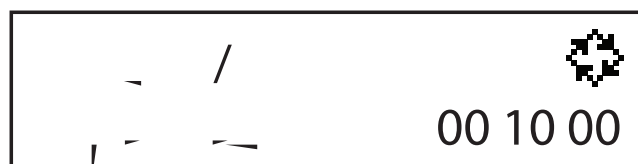
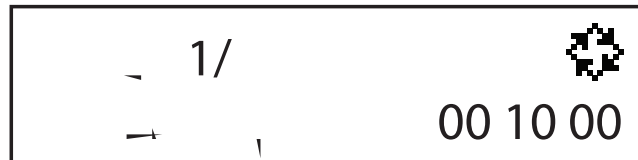
Manually Initiating a Regeneration

1. When timer is In Service or Standby, press and hold the Extra Cycle button on the main screen.
2. The timer advances to Regeneration Cycle Step #1, and begins programmed time count down.
3. Press the Extra Cycle button once to advance valve to Regeneration Cycle Step #2 (if active).
4. Press the Extra Cycle button once to advance valve to Regeneration Cycle Step #3 (if active).
5. Press the Extra Cycle button once to advance valve to Regeneration Cycle Step #4 (if active).
6. Press the Extra Cycle button once to advance valve to Regeneration Cycle Step #5 (if active).
7. Press the Extra Cycle button once more to advance the valve back to In Service.

NOTE: A manually initiated or queued regeneration can be cleared by pressing and holding the Back button. A system queued regeneration can only be cleared by stepping through a manual regeneration. If regeneration occurs for any reason prior to the delayed regeneration time, the manual regeneration request shall be cleared. Pressing the Extra Cycle button while in regeneration will cause the upper drive to advance to the next step immediately.

Timer Operation During Regeneration

In the Regeneration Cycle step display, the timer shows the current regeneration cycle name the valve is in, or has reached, and the time remaining in that step. Once all regeneration steps are complete, the timer returns to In Service and resumes normal operation.



Re note Lock

The timer does not allow the unit/system to go into Regeneration until the Regeneration Lockout Input signal to the unit is cleared. This requires a contact closure to activate the unit. The recommended gauge wire is 16 AWG with a maximum wire length run of 50 feet.

Regeneration Day Override Feature

If the Day Override option is turned on and the valve reaches the set Regeneration Day Override value, the Regeneration Cycle starts if no other unit is in Regeneration. If other units are in regeneration, it is added to a regeneration queue. This occurs regardless of the remaining volume available.

Lock Settings (access to Master Programming)

Lock Settings prevents the user from accessing Master Programming. In Master Programming, select the desired Lock Settings option (Off, Time Based, Delayed, or Enter Code).

Time Based - User must set clock to 12:01 pm to unlock

Delayed - User must press and hold the Left and Down buttons for 60 continuous seconds to unlock

Enter Code - User must input code "1201" to unlock

Capacitive Buttons

Capacitive button entry warrant different consideration than tactile button entry. Do not wear gloves. Be sure to keep your hands and the capacitive buttons free of debris, grease, rqrt(t)5 (e)805 (. Butt)5.1 (ona ma)5 (yb(ec)15 (o(e t)5 empoe)r10 (rtil)30.1 yo uir)30 (ep(onsiv)10 (e if)J JTEnvsir)30 onm(ent)5 nal codiatiois hagBe tasure hagBsn. If buttonsb(ec)15 (o(e uir)30 (ep(onsiv)10.1 (.qwt)5 (it5r)JTJ0 -1.167 TD[t)5 (o 0 mmiunt)5.1 (s (f)15 (or the butt)5.1 (ons(t)5 (oir)30 (ed- ErPrrG withec de.

Auxiliary Relays

The NXT2 has two auxiliary relays available based on cycle, time, or volume.

AUX.1: CYCLE BASED
SP BW BD RR RF SB

Activates during selected cycle step

Activates upon selected start time
(Range: 0-91 minutes)

Deactivates upon selected end time
(Range: Start Time plus 1 minute)

Activates when selected volume (gallon)
is reached (Range: 0-99999)

Selected Duration in Seconds
(Range: 0-9999 seconds)

SYSTEM DEFINITIONS

System 4 - Single Unit

Single Tank configuration
Time Clock: No Meter
Immediate: One Meter
Delayed: One Meter
Remote Signal Start

System 5 (2-8 Units) Parallel Interlock

All tanks in parallel supplying treated water. Each unit in the system will have its own flow meter/sensor input. The control will delay the start of Regeneration if another unit is already in Regeneration. Once that unit has completed a Regeneration cycle, and has returned to Service, the unit with the longest regeneration queue time will begin Regeneration. No more than one unit will be in Regeneration at a time.

System 6 (2-8 Units) Parallel Series Regeneration

All tanks in parallel supplying treated water. Only #1 control will monitor flow meter/sensor input. When a regeneration is required for the system, it will regenerate valve address #1 first, immediately followed by #2, then #3, then #4 if installed. No more than one unit will be in Regeneration at a time.

System 7 (2 Units) Alternating Immediate

One tank online supplying treated water, one tank in Standby. Only #1 control will monitor its flow meter/sensor input. Regeneration of a unit will begin after the other control has left Standby and returned to Service. When the Regeneration cycle is complete, the regenerated unit will enter Standby. Standby on each tank is controlled by the relay on the NXT2 circuit board.

System 8 (2 Units) Alternating Delayed

Immediate Transfer Delayed Regeneration
One tank online supplying treated water, one tank in Standby. Only #1 control will monitor its flow meter/sensor input. Online unit depletes its volume. Once this occurs the offline unit comes online. The previously online unit goes offline and delays its regeneration until the programmed regeneration time has been reached.

System 9 (2-8 Units) Alternating with Standby Units

Up to 7 tanks online supplying treated water, one tank in Standby. Meter/sensor input is required on each tank. Regeneration of a unit will begin after the other control has left Standby and returned to Service. When the Regeneration cycle is complete, the regenerated unit will enter Standby. Standby on each tank is controlled by the relay on the NXT2 circuit board.

System 14 (2-8 Units) Demand Recall

Meter input is required on each tank. Unit #1 will begin In Service with #2, #3, and #4 (if installed) will begin in Standby. At least one unit is In Service at all times. When flow rate to the Primary Service Unit increases to a user specified rate, the next unit in sequence will move from Standby to Service. As the flow rate falls below the user specified rate, subsequent tanks will return to Standby. When the Primary Service Unit regenerates, the next unit in sequence will become the new Primary Service Unit. As each unit's capacity is reached, the controller will initiate a Regeneration of that unit. Depending on the number of units in the system and flow rate demand, the regenerated unit will then be placed either into Standby or Service. Only one unit will be in Regeneration at a time.

	SETTINGS REVIEW ON OFF	Example: On: View settings without the ability to alter settings. Off: User has ability to alter settings.
	LANGUAGE PORTUGUES ENGLISH FRANCAIS	Example: English, Francais, Duetsch, Italiano, Espanol, Nederlandse, Portugues
	ASSISTANCE NAME 1	Example: 12 characters maximum.
	ASSISTANCE NAME 2	Example: 12 characters maximum.
	ASSISTANCE PHONE	Example: 14 characters maximum.
	SYSTEM SYSTEM SYSTEM 4 SYSTEM 5 SYSTEM 6	Example: 4, 5, 6, 7, 8, 9, 14
	VALVE 2815 2850 2900	Example: 2510, 2750, 2815, 2900, 3150, 3900
	REGEN - FLOW UPFLOW DOWNFLOW FILTER	Example: Upflow Downflow Filter
	REGEN - TYPE SOFTENER METER DEL SOFTENER METER IMM TIME CLOCK	Example: Softener Meter Delayed Softener Meter Immediate Time Clock Day of the Week.
	UNITS METRIC US	Example: Metric US
	CAPACITY - GRAINS 0823828	Example: Range: 0-9,999,999 grains
		Example: Range: 0-199 GPG
	RESERVE FIXED VOLUME WEEKLY RESERVE VARIABLE RESERVE	Example: Fixed Volume Weekly Reserve Variable Reserve Fixed %

MASTER PROGRAMMING MODE
FLOW CHART *continued...*



1. Press the [F] key to enter the Master Programming Mode.



2. Press the [P] key to enter the Programming Mode.

PTY

Example:
Record of error events chronologically.

SAGE

Example:
Average usage from past Sunday.

SAGE

Example:
Average usage from past 3 Sundays.

SAGE

Example:
Average usage from past Monday.

SAGE

Example:
Average usage from past 3 Mondays.

SAGE

Example:
Average usage from last Tuesday.

SAGE

Example:
Average usage from past 3 Tuesdays.

SAGE

Example:
Average usage from last Wednesday.

SAGE

Example:
Average usage from past 3 Wednesdays.

SAGE

Example:
Average usage from last Thursday.

SAGE

Example:
Average usage from past 3 Thursdays.

SAGE

Example:
Average usage from last Friday.

SAGE

Example:
Average usage from past 3 Fridays.

SAGE

Example:
Average usage from last Saturdays

SAGE

Example:
Average usage from past 3 Saturdays.

TIME OF DAY PROGRAMMING MODE

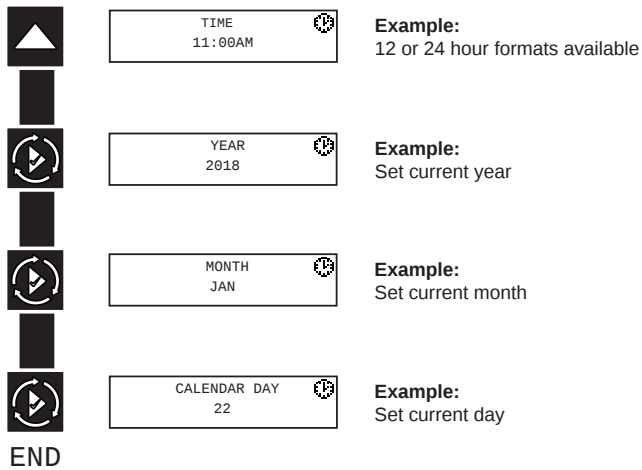
FLOW CHART

Setting the Time of Day

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NXT2 TIMER ASSEMBLY
(2510, 2750, 2850, 2900, 3150, 3900 VALVES)

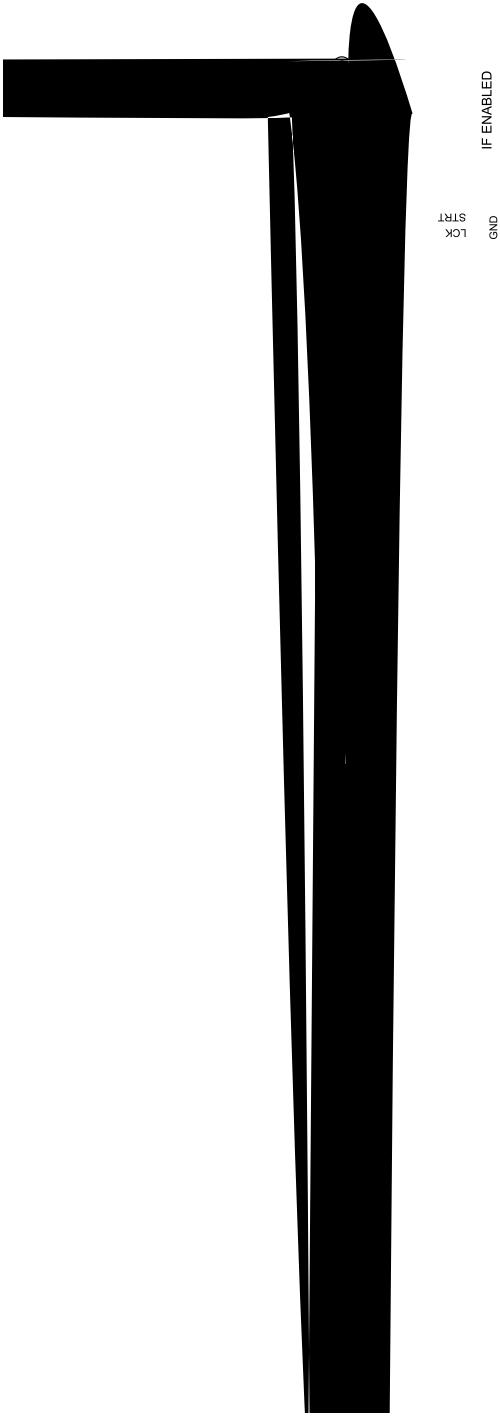
Item No.	QTY	Part No.	Description
1.....	1.....	62115	Timer Assy, NXT2
Service Assemblies			
2.....	1.....	62120	Control Panel Assy, NXT2, Programmed
3.....	1.....	40941	Wire Harness, Upper Drive

NXT TO NXT2 CONVERSION KITS

Item No.	QTY	Part No.	Description
	1.....	62121-01.....	Conversion Kit, NXT2, US
	1.....	62121-02.....	Conversion Kit, NXT2, Euro
	1.....	62121-03.....	Conversion Kit, NXT2, Aust
	1.....	62121-04.....	Conversion Kit, NXT2, Japan

**NOTE: Conversion Kits do not include wiring harness; save and reuse existing NXT wiring harness.
Region-specific power supply is included.**

NXT2 WIRING DIAGRAM



POWER SUPPLY CONNECTIONS

Installing the Power Supply:

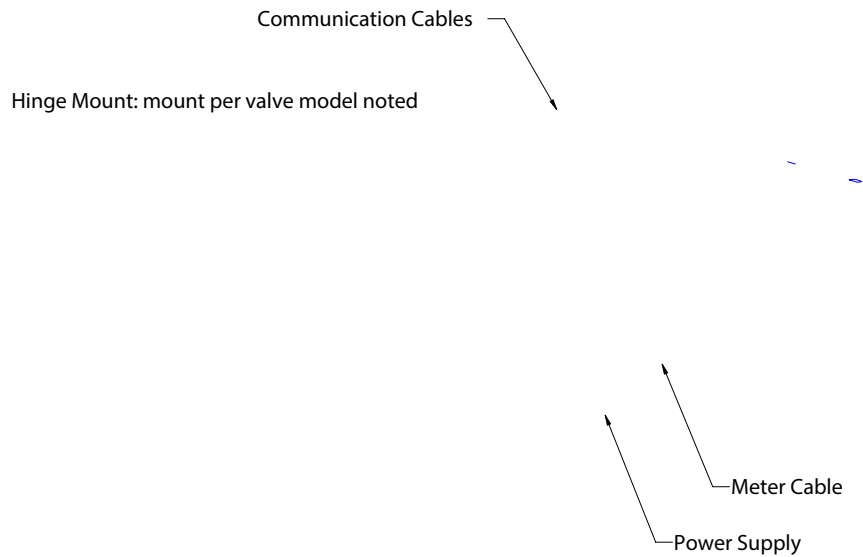
NOTE: Power Supply includes a harness with 2 black wires that connect to circuit board, see page 15.

- 1. Insert black and black transformer wires into 24VDC input of control.

2510/2750/2815/2850/2900 Valves:

44404 Rev A

3150/3900 Valves:



44403 Rev A

Detected Errors

- All units In Service remain in the In Service position.
- All units in Standby go to In Service.
- Any unit in Regeneration when the error occurs completes Regeneration and goes to In Service.
- No units are allowed to start a Regeneration Cycle while the error condition exists, unless they are manually forced into Regeneration.
- When an error is corrected and the error no longer displays (it may take several seconds for all of the units in a system to stop displaying the error message), the system returns to normal operation.

[illegible]

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