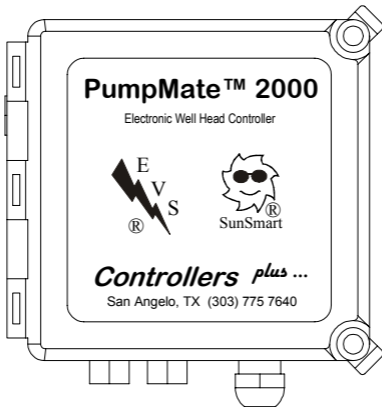


“Set and Go” Options



FramMate™ Software Programmable Options

Synchronization

Standard Feature

The external synchronization provides a logic output (SYNC) to allow signaling another well head controller or automation type equipment when the OPEN timing cycle begins.

OPEN cycle synchronization is a standard feature and does not need to be activated. To simulate a switch closure, the logic signal is at a normally High (+5 Vdc) level during the inactive (CLOSE cycle) state and transitions to a Low (0 Vdc) active level at the beginning of the OPEN cycle.

The synchronization output is shared with the Power connector's +VO output pin. To select the SYNC output for this pin, set jumper JP3 in the VOUT/+5V position and change the jumper JP7 from the +5V/VOUT position to the +VOUT/SYNC position. Advanced Option – 4 allows inverting the SYNC logic output for use as a CLOSE cycle synchronization signal.

Plunger PopUp

Software Option - 7

The plunger “PopUp” option allows recovery of a plunger stalled in an oversized master valve.

The PopUp option assumes the plunger is stalled in the master valve if no plunger arrival is sensed before the user entered PopUp time elapses.

To recover the stalled plunger, PopUp will close the well to let the plunger drop out of the master valve. PopUp will then open the well to allow the plunger to clear the master valve and reach the lubricator for plunger arrival sensing. This process will be repeated until either the plunger arrival is sensed or the OPEN time elapses.

The PopUp control is only active during the OPEN cycle and is deactivated in DELAY. The PopUp option is available in both the 1-Valve and 2-Valve configurations.

Flow Control

Software Option - 5

The Flow Control option uses a differential pressure (dp) switch to control the duration and timeout of the DELAY cycle.

A dp switch on the SP input is used to sense the flowing differential across an orifice plate in the gas flow line. The dp switch is configured for a closed contact at or above the switch's High flow set point.

The afterflow or DELAY time is held fixed (no timeout) until a Low flow (open switch) signal is sensed from the dp switch. As long as the Low flow signal persists, the DELAY time will timeout. If the gas flow increases above the High flow set point before the DELAY cycle times out, the Flow Control feature will reset and hold the DELAY cycle timeout, otherwise the DELAY cycle will timeout and terminate the flow cycle.

Shut-In/Hold Control

Software Option - 1

The Shut-In and Hold option uses the SP sales line switch input to either shut in to or hold in the CLOSE cycle on a High sales line (closed switch) pressure signal.

When the DELAY time feature is used, the SP Shut-In control is active during the DELAY cycle only. If DELAY is not used, the SP Shut-In control is active during the OPEN cycle.

This option extends the standard SP Hold option with the Shut-In feature. Once the SP switch sense causes the controller to shut in, it will override all other optional controls to remain in the CLOSE cycle until the SP switch input (open switch) releases control.

This feature works just as well as a Tank level control, or to synchronize production timing in multiple well collection systems.

V1 On Control

Hardware Option - 0

The V1 (Sales) On control modifies the normal one valve only open function to allow both the V1 (Sales) and V2 (TANK) valves to open at the same time during the OPEN flow cycle.

Without V1 On Control

OPEN	V1 = On	V2 = Off
TANK	V1 = Off	V2 = On
DELAY	V1 = On	V2 = Off

With V1 On Control

OPEN	V1 = On	V2 = Off
TANK	V1 = On	V2 = On
DELAY	V1 = On	V2 = Off

The V1 (Sales) On control interacts only with the standard 2nd (TANK) valve operation during the OPEN flow cycle and does not affect or modify Equalization and PURGE valve control operations.

Equalization

Software Option - 3

The Equalization option activates the 2-Valve control during the missed plunger BakUp cycle. This feature is primarily intended to allow the 2nd (TANK) valve to be used as a casing/tubing equalization valve in the event the plunger arrival is not sensed during the OPEN cycle.

Equalization does not require any user time inputs as the Equalization option activates the 2nd (TANK) valve during the entire BakUp time only cycle. The BakUp or alternate missed plunger shut-in cycle is only active when a plunger arrival is not sensed by the end of the OPEN cycle.

The Equalization option is independent of the TANK and PURGE 2-Valve options and may be used in conjunction with these other options. Note that the PURGE option also interacts with the BakUp cycle and, if both Equalization and PURGE are active, the Equalization will override the PURGE in the BakUp cycle.

Line Purge

Software Option - 2

The line Purge option allows use of the 2nd (TANK) valve to purge liquids from the well head at the start of the CLOSE shut-in cycle for the user entered PURGE time. Since BakUp is an alternate, missed plunger shut-in cycle, the line Purge feature will also operate the 2nd (TANK) valve during the BakUp cycle.

A user entered PURGE time of 00:00:15, for example, would cause the 2nd (TANK) valve to open during the first 15 seconds of the CLOSE or BakUp shut-in cycle. The user entered PURGE time should not exceed the CLOSE or BakUp cycle time.

The line Purge option is independent of the TANK and Equalization 2-Valve options and may be used in conjunction with these other options. Note that the Equalization option also interacts with the BakUp cycle and, if both options are active, the Equalization will override the PURGE in the BakUp cycle.