

FAIL-SAFE PUMPING WITH 4-20mA PACING

PUMP SET-UP

- Both pumps will need to be set to “External, mA”.
- Response to the mA signal should be programmed to the desired settings.
- “Flow Monitoring” should be enabled, and the number of “missed” strokes should be programmed to the desired setting at which the alarm output/back-up pump is activated.
- The primary pump is defined as the one that has only the 8 pin connector in use. The back-up pump will have both the 4 pin and 8 pin connectors in use. (If it is desired to alternate the use of the pumps as primary and back-up, the wiring harness must be reversed so that the opposite pump now uses only the 8 pin connector.)



START-UP AND OPERATION

- Initial priming of the pump is accomplished by pressing and holding the “Start/Stop” button for approximately 3 seconds after which the pump will run at a rate of 60 strokes per minute for a period of 1 minute. Continue until both pumps are primed.
- Start-up is accomplished with both pumps powered up (displays working), and turned off (**no pump** symbol visible on display). Next press the “Start/Stop” button of the primary pump to turn it on (**pump** symbol visible on display). The pump will operate at the pace dictated by the 4-20mA signal. The back-up pump will not be turned “On” until the primary pump fails and the alarm output circuitry of the primary pump activates the back-up pump.
- If the primary pump “fails” (fails to pump solution for the programmed number of strokes) it will stop, display an error code and the alarm circuitry will be activated thus turning on the back-up pump via the remote on/off circuit through the 4 pin connector.
- To clear the error code press the “Start/Stop” button once. Press it again to turn the pump on.

OTHER INFORMATION

- An “Alarm Output” connection has been provided for an external alarm should the second pump fail.
- If it is desired to operate both pumps at the same time, then, with the primary pump already running, simply press the “Start/Stop” button to turn on the back-up pump and it will run at the speed dictated by the 4-20mA signal as well.
- If the two pumps need to operate at different rates of output you can adjust the 4-20mA response differently, adjust the stroke length differently or vary your solution concentration.
- Refer to the LMI Series 9 Instruction Manual for complete information regarding features, programming and operation of Series 9 metering pumps.