

PumpMate™ 2000

Transducer Installation Guide

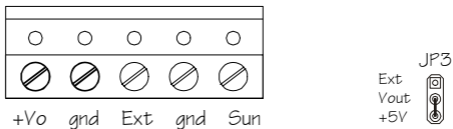
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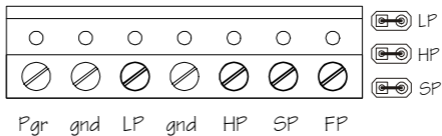
fax: 303-772-7402

U.S. Patent Nos. 6,194,793 and 6,462,507
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PumpMate Connections

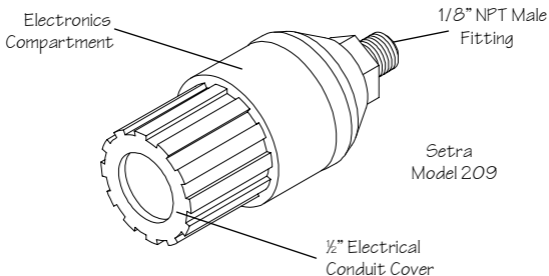


External pressure transducers or DP transmitters are powered from the J2 Power +Vo terminal with the J3 jumper set to the Vout / +5V position to supply +5 Vdc. The use of rechargeable D-cell batteries with external solar panel is recommended when more than one transducer is being powered by the PumpMate 2000.



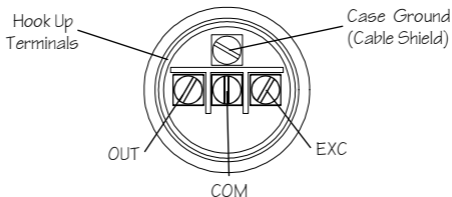
Each pressure transducer or a DP transmitter output (OUT) is connected to one or more of the J5 I/O LP, HP, SP or FP (DP transmitter) input terminals. Since these inputs are dual use switch gage and pressure transducer inputs, the respective jumper to the right of the terminal block (LP, HP or SP) must be removed or cut when a pressure transducer is installed.

Pressure Transducer



Hook-Up Connections

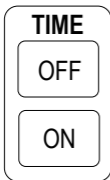
(Conduit Cover Removed)



EXC	---- to ----	PumpMate 2000	J2 Power (+Vo)
COM	---- to ----	PumpMate 2000	J2 Power (gnd)
OUT	---- to ----	PumpMate 2000	J5 I/O (HP)

Transducers may be connected to any one or all the LP, HP or SP inputs.

Pressure Set Points



OFF psi
shut-in

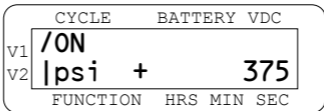
ON psi
open

Use SET
keys to
adjust the
psi value

The yellow TIME ON key is used to enter the OFF or shut-in pressure (psi) set point. Press the yellow TIME ON key until "OFF psi" is displayed.

The yellow TIME OFF key is used to enter the ON or open pressure (psi) set point. Press the yellow TIME OFF key until "ON psi" is displayed.

A single pressure sensor on the hp input provides both OFF and ON control.



Use the grey SET keys to adjust the displayed psi value. The SET + - key adds or subtracts 100, 10 or 1 psi from the displayed psi value. A zero (0) psi value disables the respective OFF or ON psi control.

Gage Display

DATA

WELL

SET

+ -
PAGE

The gage display provides real time pressure sensor data that is updated on a second-by-second basis. The transducer gage display is accessed for real time viewing by pressing the green WELL DATA key and then by pressing the SET PAGE key twice.

The display format is automatically adjusted to accommodate the current number of sensors used and whether pressure (psi) or flow (InH2O) is the current measured parameter.

*Single sensor
gage display*

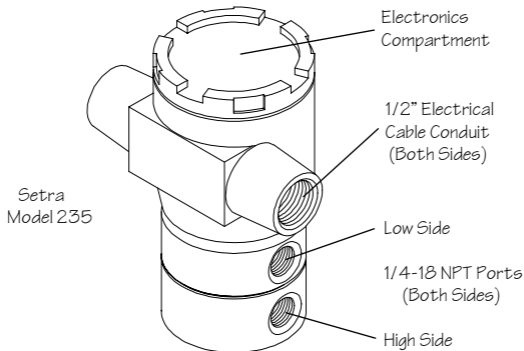
	CYCLE	BATTERY	VDC
V1	/Case		
V2	psi		582
	FUNCTION	HRS	MIN SEC

*Multi-sensor
gage display*

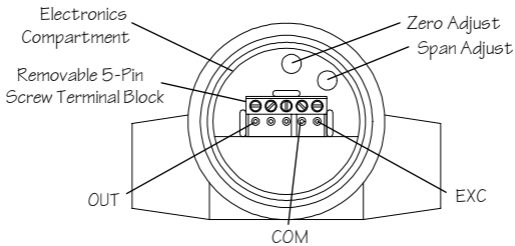
	CYCLE	BATTERY	VDC
V1	/ C	582 T	534
V2	CT	48 S	531
	FUNCTION	HRS	MIN SEC

The multi-sensor gage display shows Casing, Tubing, Casing – Tubing differential, and Sales measurements for three pressure transducers.

DP Transmitter



Hook-Up Connections



- | | | | |
|-------|----------------|---------------|-----------------|
| + EXC | ----- to ----- | PumpMate 2000 | J2 Power (+Vo) |
| - EXC | ----- to ----- | PumpMate 2000 | J2 Power (gnd) |
| + OUT | ----- to ----- | PumpMate 2000 | J5 I/O (FP) |

Gas Meter Display

DATA
WELL

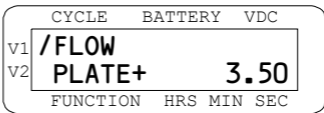
SET

+ -
PAGE

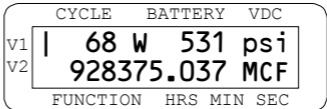
The Gas Meter provides real time, total produced gas volume updated on a second-by-second basis. The Gas Meter display is accessed for viewing by pressing the green WELL DATA key and then by pressing the SET PAGE key three times.

Press the yellow TIME OFF key until the FLOW PLATE display appears. Then use the grey SET keys to enter the plate factor that is associated with the orifice plate's diameter.

*Plate factor
calibrates flow
to MCF*

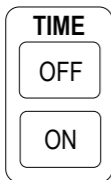


*Accumulated,
total gas flow
volume in MCF*



The flowing differential (W) in InH₂O, the sales line pressure in psi and the orifice plate factor (PLATE) are used to calculate the flow volume.

Flow Set Point



Flowing DP
transmitter
InH₂O

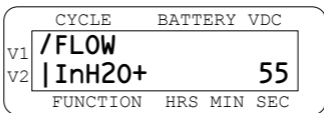
Enter high
flow set
point value

High flow
set point
entry

The flow set point is used with DELAY cycle flow control feature when a DP transmitter is used as the differential flow sensor.

The yellow TIME ON key is used to enter the FLOW control set point in InH₂O. Press the yellow TIME ON key until "FLOW InH₂O" is displayed.

Use the gray SET keys to adjust the DP sensor's set point to the desired flow control value in InH₂O.



The flow control feature only uses the numeric set point entry of InH₂O when a DP flow transmitter is used in place of a DP switch sensor. The flow control feature is only active during the DELAY timing cycle. See also "Set and Go" Options.