Dual Process Input Meter

Model PAXDP

- Accepts two separate analog input signals
- High-speed math functions
- Displays inputs individually
- User-selectable update rates up to 105/sec.
- Hundreds of applications

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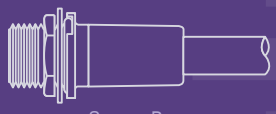
PAXDP displays and performs math functions on two input signals for enhanced process monitoring and control

Red Lion's versatile PAXDP Dual Process Input Meter performs an array of high-speed math functions, comparing and calculating a new value from two separate input signals.

Sensor A

Typical Applications Include:
- Pressure
- Voltage
- Temperature
- Flow
- Dimensional
- Levels
- Process Time

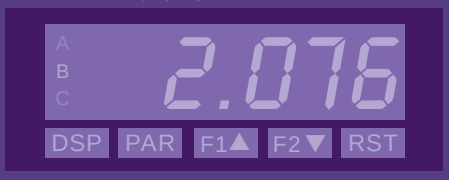


Sensor B

Display Input "A" Value

Performs and displays results of these math functions :
- A + B
- A – B
- A x B
- A ÷ B
- c – (A + B)
- (c=constant value)

Display Input "B" Value



Display Results "C" Value

0101 Comms

Standard 0101-Comms Format:
- Modbus

Optional 0101 Comms Format:
- RS232/485
- DeviceNet™
- Profibus-DP

~ Re-transmitted analog output

4-20 mA
0-10 VDC

Relay
Solid State

One meter that does the math. Fast. The two-in-one process meter solution that performs high-speed calculations on two separate input signals.

Now a single 1/8 DIN meter can monitor the tolerances and ranges of your process. The PAXDP Dual Process Input Meter is the high-speed solution that lets you monitor, scale and display two separate input sources, perform a math function on the input values, and display the results at user-selectable update rates from 5 to 105 updates per second. With optional plug-in output cards, PAXDP offers high-speed, robust process monitoring and control capabilities, including alarms, re-transmitted analog output, and output data to comms via a choice of industrial communication protocols.

The most functional, most versatile process meter.

Available in either AC or DC models, the PAXDP Dual Process Input Meter is a flexible, powerful and efficient performer for a wide variety of industrial applications. By adding a second input to our reliable, industry-standard PAX metering platform, PAXDP offers a flexible means of monitoring, comparing and calculating from two independent input sources.

PAXDP performance:

- *Accepts two 4–20 mA or 0-10 VDC input signals*
- *Programmable conversion rate of 5 to 105 readings per second*
- *16-point scaling for non-linear processes*
- *9-digit totalizer (integrator) with batching*
- *A+B, A-B, AxB, A/B or c-(A+B) math functions*
- *Modbus communication protocol standard*
- *Includes powerful, intuitive Crimson software*

PAXDP features:

- *NEMA 4X/IP65 sealed front bezel*
- *1/8 DIN; AC or DC power models available*
- *5-digit red, sunlight-readable display*
- *Flash capability; software upgradable*
- *Programmable function keys/user inputs*
- *Variable intensity display with 0.56" LEDs*
- *Noise rejection to CE requirements*

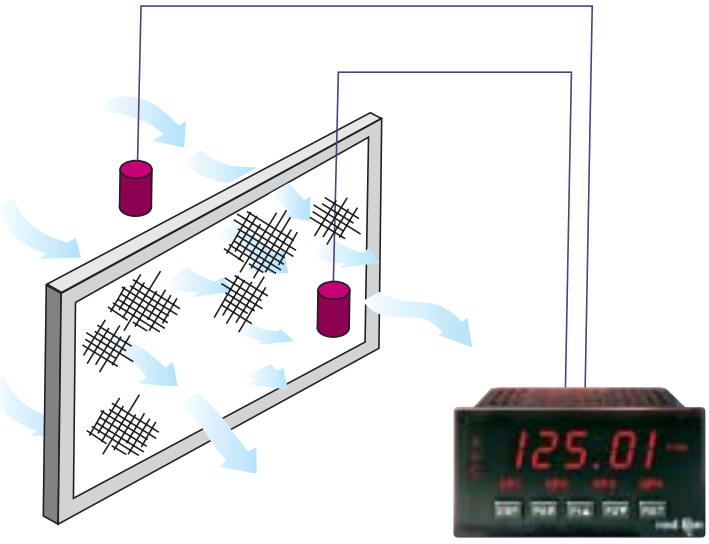
PAXDP options:

- *Four setpoint plug-in output cards: dual FORM-C relays, quad FORM-A, quad sinking or quad sourcing*
- *Communication/Bus cards: RS232, RS485, DeviceNet, Profibus-DP*
- *Re-transmitted analog output, 0-10 VDC input signals*

PAXDP typical applications:

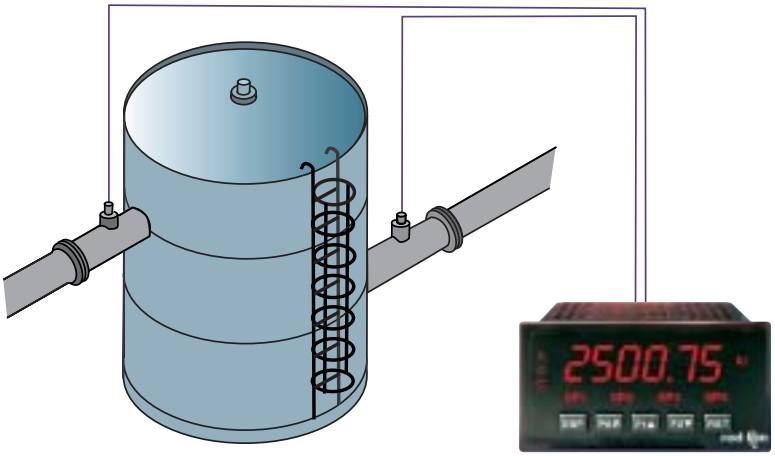
Maximizing Filter Performance.

Whether air, water or oil, replacing filters at the proper time can lead to improved performance. In this example, an air filter is monitored with the PAXDP Meter using pressure sensors to measure the air pressure both before and after the filter. Connecting both sensors to the PAXDP provides a display of the difference (A-B) of the two inputs, indicating the condition of the filter. Monitoring this value allows for the filter to be replaced only when necessary, saving resources and labor, while maintaining the proper air quality. In addition, adding an optional communication card allows remote, online monitoring of the filter's condition from the maintenance or manager's office.



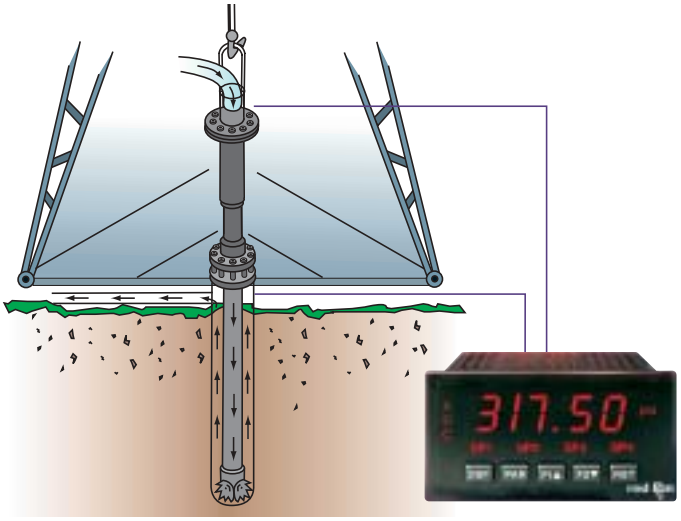
Tank Level Management

The applications for tank level monitoring in industry are almost endless. In this example, gasoline levels of storage tanks are being monitored via two flow meters that measure the input and the output to each tank. The PAXDP Meter calculates the difference (A-B) of the two sensors, displaying a real-time total gallons reading. In addition to the total display, each flow meter can be displayed independently for a real-time display of incoming and outgoing gasoline.



Pressure Monitoring for Safety.

Monitoring pressures during well drilling, especially gas wells, is extremely important for safety. It is critical to confine the gas in the well until drilling is completed and the well is capped. To accomplish this, an increasing amount of mud is added to the drilling process to offset the building pressure of the gas below. Using pressure sensors above and below the drill assembly, pressure ratios (A/B) of both gas and mud can be maintained using the PAXDP Meter. Additional control is available by adding an optional setpoint card to set upper and lower operating limits and trigger an alarm if limits are exceeded.

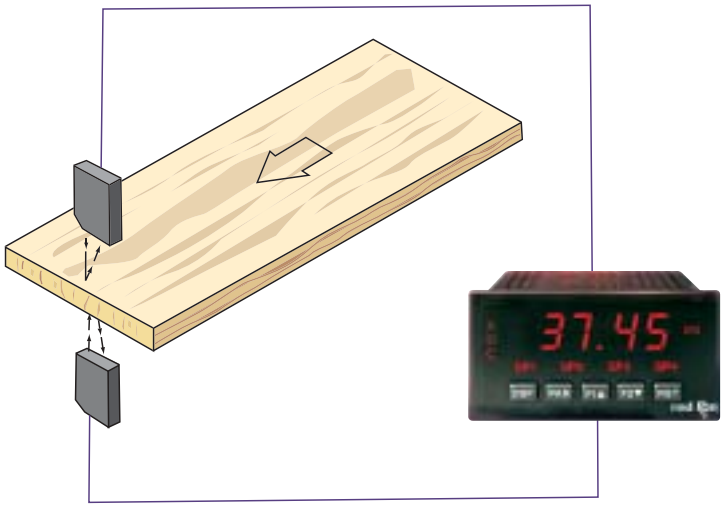


tions.

PAXDP typical applications:

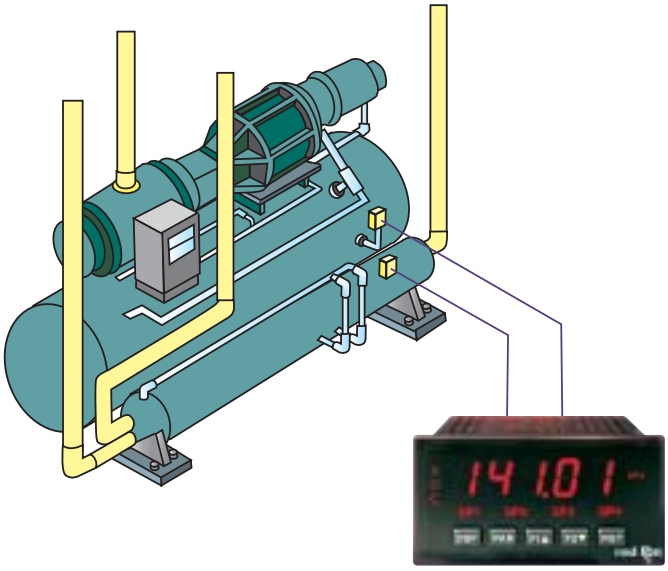
Material Gauging

Providing inline measurement of a process can provide immediate feedback to the machine operators. For the lumber industry, measuring board thickness inline can help reduce rework or waste. Due to the process, there can be no direct contact with the material. Measurement is handled instead by two laser sensors positioned above and below. PAXDP provides the actual thickness measurement by calculating the sum of these two measurements less the known distance between sensors (c) using the formula c-(A+B). In addition, by adding an optional communication card and printer, measurements could be sampled at certain points, providing printed reports for customers.



Differential Pressure Monitoring

Monitoring machine pressures can improve efficiency and life, reduce waste and prevent costly downtime. An example is found in rotary screw compressors, used in many industrial refrigeration systems such as those in food processing plants where failure can prove extremely costly. Two pressure sensors, one for the oil and another for the refrigerant, can provide the signals. The PAXDP can take the two sensors and calculate the correct ratio (A/B) to maintain an efficiently running system. In addition, an optional setpoint card can be added to provide an output alarm which could notify a manager or operator of a change in the operation of the machine.



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CUB4, CUB5, CUB7 Miniature Displays

Small on size and cost, but big on capability. Six, seven or eight-digit models include:

- Counter
- Counter/rate
- Dual counter
- Rate indicator
- Current meter
- Process meter
- RTD meter
- Thermocouple meter
- Timer
- Volt meter

PAX Lite Indicators

High-quality, low-cost indicators. A full range of meters for dedicated application tasks:

- Digital— count, rate, process time
- Analog— voltage, current, process, temperature, strain gage, timer
- Simple field setup
- Bright .56" LED display

PAX Panel Meters

Versatile intelligent process meters. Ten models available and many options:

- Digital— count, rate, timer, real time clock, counter/rate
- Analog— voltage, current, process, temperature, strain gage
- Analog outputs 4-20 mA; 0-10 VDC
- Up to 4 alarm setpoints
- Customizable Comms: RS232/485, DeviceNet, Modbus, Profibus
- Programmable scaling
- Programmable function keys/user inputs
- Bright, 5-6 digit variable intensity display with .56" LEDs
- Green or sunlight-readable red LEDs
- UL Listed (UL 508)

1.5" LPAX and 4" EPAX Large Displays

Wide choice of capability, display format and input. Models include:

- Counter, Rate indicator, Current meter, Counter/rate, Elapsed timer, Temperature meter, Real time clock, Volt meter, Strain gage meter

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For your local representative, call (717) 767-6511, or go to www.redlion.net/panelmeters.

*** "Best Panel Meter" 2001, 2002 and 2003 Control Design Reader's Poll**

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