Oil and Gas Flow-Control Module

Solutions in Action
ProSoft In-Chassis Oil and Gas Flow Computer

Challenge
In an effort to cut costs and increase efficiencies, many oil and gas producers are transitioning from single-well pad fields to multi-well pad sites. These more complex operations have much greater data and control requirements, which can make measurement difficult and lead to higher capital spend for producers.

Solution
ProSoft Technology developed the In-Chassis Oil and Gas Flow Computer to reduce the cost and complexity of well pad automation systems. The solution effortlessly integrates with Rockwell Automation® PLCs to help oil and gas producers overcome the obstacles of traditional RTU sites, all while providing greater efficiencies and lower costs.

With the In-Chassis Oil and Gas Flow Computer, producers now have one architecture for control and measurement (figure 1). This can help them reduce their hardware, software and licensing costs, optimize operations, and simplify deployment and scalability for future well site or system expansions.

Background
Using a standalone PLC and flow computer in a well pad site typically requires additional hardware so the two devices can share information. This additional hardware – such as a gateway module, Modbus interface card or separate RTU – adds cost. And the mix of all these devices can complicate revision control, introduce more programming environments and require additional employee skill sets (figure 2).

The ProSoft flow computer connects seamlessly with Rockwell Automation® Logix controllers to support a ConnectedProduction™ solution. Consolidating to an integrated solution for control and measurement can help producers simplify their architecture and realize substantial cost savings (figure 1). The higher the well count, the more a producer can save through reduced spare parts, engineering, cabling and personnel training. One producer using an integrated solution saved an estimated $50,000 in equipment costs per pad.

Also, when data moves from one system to another, integrity is at risk. An integrated solution helps producers maintain data integrity. Furthermore, an integrated solution can provide a more granular level of data, including flow information down to the millisecond, to help protect data accuracy at custody transfer. Producers can also send transmitter data wirelessly to avoid downtime associated with cable maintenance.

For more information, contact your local sales office or distributor.
Gain the Benefits of a Single Architecture

Lower Cost and Complexity
• One architecture for control and measurement
• Elimination of integrated RTUs and standalone flow computers for each well site
• Decreased control house size and minimized cabinet space
• Reduced support and maintenance costs
• Reduced wiring with distributed I/O support
• Elimination of licensing fees for flow computer configuration and additional measurement points
• Easier and cost-effective scalability for future production and system expansions

Optimized Production
• Single high-speed connection to a SCADA system
• Improved data integrity and data accuracy at custody transfer
• Integration with the Rockwell Automation ConnectedProduction solution for visualization and optimization of production, from wellhead to point of transfer

Compliance and Compatibility
• Compliant with AGA and API standards
• Independently certified by NMi for OIML, WELMEC and MID-type approval
• Compatible with all Rockwell Automation PLC systems

Figure 1 - Modern well site with integrated flow computer

Figure 2 - Traditional well site with external flow computer(s)
## Product Specifications

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<th>Specification</th>
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| Backplane Current Load | 800 mA @ 5 VDC  
3 mA @ 24 VDC                                                     |
| Operating Temperature  | 32˚F to 140˚F (0˚C to 60˚C)                                               |
| Storage Temperature    | -40˚F to 185˚F (-40˚C to 85˚C)                                             |
| Shock Vibration        | 30g operational, 50g non-operational  
5g from 10 to 150 Hz                                                |
| Relative Humidity      | 5% to 85% RH, with no condensation                                         |
| LED Indicators         | Module Status, Backplane Transfer Status, Application Status, Serial Activity |
| Ethernet port          | 10/100 Mbps, RJ45  
Link and Activity LED  
Auto crossover (Auto MDIX)                                         |
| Serial Application Ports (P1 & P2) | RJ45 (DB-9M with supplied cable)  
RS-232, RS-485, RS-422 jumper selectable  
RS-232, handshaking configurable  
500V optical isolation from backplane  
Full hardware handshaking control, providing radio, modern and multi-drop support |
| Shipped with Unit      | RJ45 to DB-9M cables for each port  
6-foot DB-9F to DB-9F null modem cable                                   |

Archive records: 1,440 hourly (60 days) and 1,440 daily (4 years)
Temperature rating 0°C to 60°C