



Mining



Oil and Gas



Power and Utility



Rotating Equipment



Semiconductor



Water & Wastewater

# EXPANDABLE PAD CONTROL

## WHY AUTOMATE?

Winn-Marion, in its Denver, Colorado office, was commissioned in 2016 to design an innovative solution for complete pad control of an oil and gas production location. While this was not the first time being tasked with this same problem, the industry has changed along with the needs of customers. It was now time to provide a one-unit solution that could expand to meet future demands.

In oil and gas operations, automation and flow measurement are essential to control costs and maintain profitable operations.

## THE PROBLEM

Winn-Marion designed a one-unit solution to provide the control and measurement needs of customers throughout the Oil and Gas Industry. It is now common-place for E&P companies to use multiple platforms to complete what now can be done with one individual product. Multiple variations have been used in the past, whether it is:

- Allen Bradley PLC for controls using ROC for measurement
- Allen Bradley PLC for controls using TotalFlow for measurement
- SCADAPak for controls using TotalFlow for measurement
- TotalFlow for both controls and measurement, using a multiple-board solution

There are numerous problems to solve with these options: Inter-device communications, SCADA setup and deployment, local on-site setup and support, and most definitely a cost-effective way to operate and manage a facility. Today, all of these various models can be solved with one innovative device.

## THE SOLUTION



The answer was the newly released RMC (Remote Modular Controller) offered by ABB TotalFlow. The unit comes in two variations - a 300 MHz processor; and 720 MHz processor. Both units have been deployed in the field with various customers and have replaced some of the designs listed below that deal with multiple devices. This has cut implementation costs immensely for both new construction and rebuilding of the facilities. Instead of adding on more units as the pads get larger, more applications are turned on to accommodate pad growth.

- **Case 1: 7 Wells with Plunger, AGA3, API**  
Old Design-(2) ROC 800 - New Design-(1) ABB RMC
- **Case 2: 12 Wells with Plunger, AGA3, API**  
Old Design-(3) ROC 800 - New Design-(1) ABB RMC
- **Case 3: 24 Wells with Plunger, AGA3, API**  
Old Design-(11) ABB G4 XRC - New Design-(1) ABB RMC
- **Case 4: 5 Wells with Plunger, AGA3, API**  
Old Design-(8) SCADA Pak; (2) ABB G4 XRC  
New Design-(1) ABB RMC
- **Case 5: 40 Wells with Plunger, AGA3, API**  
Old Design-(4) ROC 107 (1) Allen Bradley PLC  
New Design-(1) ABB RMC
- **Case 6: 32 Wells with Plunger, AGA3, API**  
Old Design-(5) ROC 800 (8) ROC 107  
New Design-(1) ABB RMC



**Winn-Marion**  
Companies

**Denver, CO – (303) 778-6767**

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Phoenix, AZ – (480) 968-9344  
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Midland, TX – (432) 563-8151



[winn-marion.com](http://winn-marion.com)



# Meet the Winn-Marion Companies

for more information visit [www.winn-marion.com](http://www.winn-marion.com)

## SERVICE



WM Automation Service, LLC

**Turnkey Automation** - Oil & Gas Wellheads • Tank Batteries Separators • Multi-Well Pad Plunger Lift Control

**Communications** - Spread Spectrum & Licensed Frequency • Radio Systems • Network Design • Radio Path Studies • Ethernet Radios • Satellite

**Troubleshooting** - Gas Measurement • SCADA • Radio Communications • Automation Systems

**Calibrations** - Gas Sampling • Flow Calibrations

**Industrial Control Electricians** - Certified ABB VFD Start-up • Field Electrical Installations • Heat Trace



**Analyzers** - Gas Chromatographs • Continuous Gas Analyzers

BTU Analyzers • pH, Silica, Conductivity • Trace Oxygen • H<sub>2</sub>S

**Heat Tracing Instruments** - Steam • Electric • Pre-Insulated Tubing Bundles

**Transmitters** - Differential Pressure • Gauge • Absolute Fully Welded Remote Seals • Multivariable • SIL 2 & SIL 3

**Flow Meters** - Coriolis • Magnetic Flow Meters • Precision DP Flow

**Controllers** - Single Loop Controllers • DCS • PLC • RTU

**Recorders** - Circular Chart • Videographic • Strip Chart

**Valves** - On/Off • Control Valves

**Governors** - Mechanical & Electric • Catalysts & Air Fuel Ratio

## SALES



Winn-Marion Barber, LLC



**Plant Control Systems** - Human Machine Interface (HMI) Design & Integration • Protection System Design • Remote I/O • PLC • DCS

### Field Service

#### Training

**Engine Control** - Emissions Control • Speed Control • Protection Systems • Mechanical Governor Upgrades

**Turbine Control** - Speed Control • Load Control • Protection Systems Steam • Valve Actuation • Mechanical Governor Upgrades

**Generator Control** - Start/Stop Sequencing • Load Control • Remote Monitoring • Protection Systems

**Turnkey Design, Installation and Commissioning of All**

## CONTROLS



Winn-Marion, Inc.

