VacTrac® ATLAS Series
Central Loading Controls

VACTRAC® ATLAS

Technical Specifications

VacTrac® ATLAS Series

Advanced Transfer & Loading Automation System

Sterling has been an industry leader in conveying system control technology since 1957. Our Bulk Material Unloading Systems provide automated control, allowing your process to run smoothly with less downtime. The VacTrac® ATLAS Series control will meet your application needs and provide reliable control of your bulk material handling systems. This innovative control platform will provide improved efficiency and operator safety while providing reduced downtime. The VacTrac® ATLAS control platform allows for ultra-flexible configurations with seamless upgrade options. Each control panel is easily configured to match the processor's needs.

Features

Standard Features

- Nema 4 rated enclosure designed for indoor use
- 115/1/60 @ 8 Amp
- Control rated for 32°F (0°C) min – 122°F (50°C) max
- 24 vdc control voltage
- Keyed on/off switch for lock out
- Mechanical E-Stop
- Panel mounted audible/visual alarm
- Allen Bradley Micro 850 PLC
- HMI - High Resolution Touchscreen (10") Color
- Icon Based Graphical Interface
  - Ability to have personalized labeling (Pumps, Silos)
  - Built in Web Server
  - Control of system through easy-to-follow graphics and symbols
- Control setup screens for:
  - Pumps
  - Diverter valves
  - Silos
  - Blowback
  - Low vacuum
- Designed for single blower or dual blower bulk unloading systems
- Control of vacuum pump and filter cleaning functions
- Control of rotary valve and rotary valve high level sensor
- Control of pressure pump
- Control of air pre-cooler on pressure side of system
- Purge start/stop feature
- Individual system stop for each pump group
- High- and Low-Level indication for multiple silos
- Standard Protocols – Ethernet, Ethernet I/P, TCP/IP, ModBus/TCP
- VNC remote monitoring/control capability
- Ethernet connection to remote level and weigh system control panels
- Ability to connect to plantwide data acquisition systems via Ethernet
- Multiple level password protection for Operator or Supervisor

Optional Features

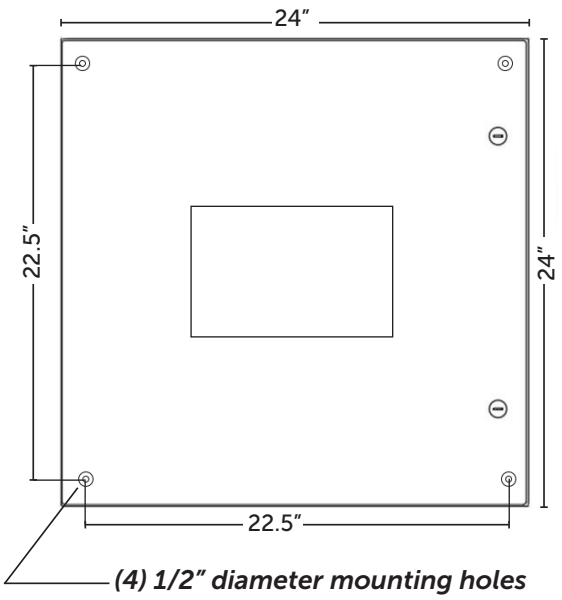
- 230/1/60 Power
- Remote Audible/Visual alarm assembly
- Outdoor rated enclosure – NEMA 4
- Low vacuum – system shut off
- Secondary Remote HMI display
- Protocol converter – Modbus RTU to Modbus/TCP
- MiVue (consult factory)

Specifications

System Flexibility & Seamless Upgrade Path

Model number	VacTrac RCU Relay Control Panel	VacTrac ATLAS Level 1	VacTrac ATLAS Level 2	VacTrac ATLAS Level 3
Panel Configuration (Capability) and Type	Relay - Mechanical	PLC/HMI 10"		
Pump Group - One Pump group is: One CVP and One CPP or One Pressure Pump or One Vacuum Pump or one Single Blower Combination Vacuum Pressure Pump)	One (1) pump group	Two (2) pump groups	Three (3) pump groups	Four (4) pump groups
Diverter Valve Control (dual solenoid - (2 Output / 2 Input)	N/A	Two (2)	Five (5)	Twelve (12)
Silo Level Indication inputs (one high level/one low level per silo)	N/A	10 high/10 low	18 high/18 low	26 high/26 low
System is capable of interfacing with silo inventory sensor(s), requires remote level control panels, or weigh system control **interface via Ethernet and stand alone control panels)	N/A	Yes		
Length (L) inch (mm)	20 (508)	24 (609.6)		
Width (W)	20 (508)	24 (609.6)		
Depth (D)	10 (254)	8.8 (223.5)		
Full Load Amps 115/1/60	2	8		
Control Output Power*	24vdc			
Panel weight – lbs (kg)	50 (22.7)	65 (29.5)	69 (31.3)	73 (33.1)

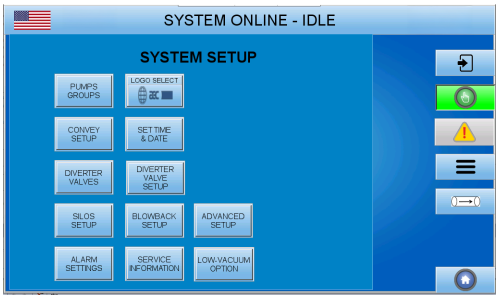
Note: Panel interface with other equipment may require the purchase of additional components including remote junction boxes and communication capability.



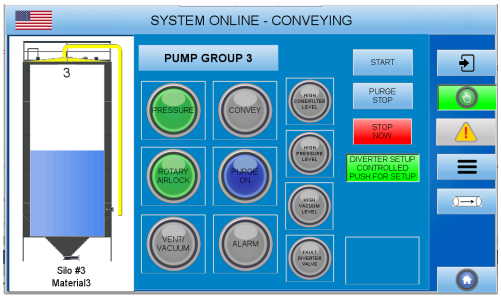
Product diagram & photograph shown with standard 10" color touchscreen

Advanced Controller

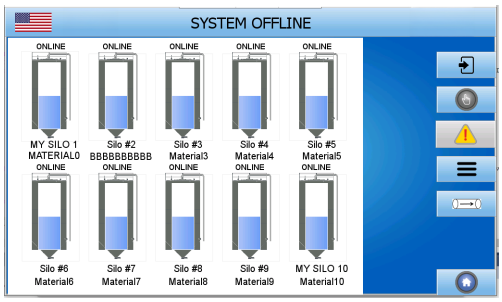
Robust, Easy-to-Use Touch Screen



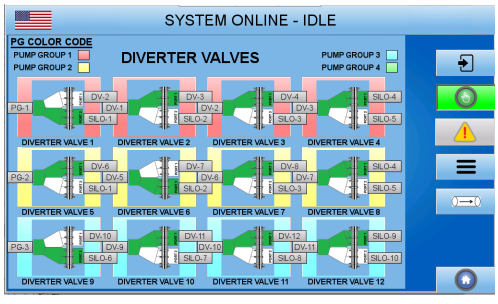
System Setup
The System Setup screen is the main interface for configuring system parameters for all major components. It provides access to setup screens for individual pumps, silos, diverter valves, and other installed components.



Convey Control System Status
The Convey Control screen is the primary interface for system operation. From this screen, operators can start the convey system and monitor the status of system components for each pump group.



Home
The Home screen displays the current fill levels of each silo. Silos can be equipped with high- and low-level sensors, and continuous level indication is available when supported components are installed and connected via Ethernet.
This screen also shows the convey status for each pump group, along with silo details such as silo ID and assigned material name. Some features require additional components to be installed.



Diverter Valve Setup
The Diverter Valve Setup screen displays the status and routing of all installed diverter valves within the system. Operators can access this screen by selecting the diverter valve icon.

Alarm Screen / Alarm History
The alarm history screen displays all control alarms, including active and inactive, as well as critical and non-critical events. It provides a list of alarms with details such as the date and time each alarm occurred and when the alarm condition was cleared.

Specifications

Panel Electrical & Mechanical Specifications

The panel operates on **115/1/60 volts at 8 amps** and is control rated for temperatures ranging from **32°F (0°C) to 122°F (50°C)**. It uses a **24 VDC control voltage** and includes a **keyed on/off switch for lockout** and a mechanical **emergency stop (E-Stop)** for safety. Additionally, the panel features a panel-mounted **audible and visual alarm** to alert operators of system conditions.

Control System Components

The panel incorporates an **Allen Bradley Micro 850 PLC** and a **10-inch high-resolution color touchscreen HMI**. The HMI uses an **icon-based graphical interface** that allows for **personalized labeling** of system components such as pumps and silos. It also includes a **built-in web server** and supports **email alerts**, facilitating remote monitoring and notifications.

The user interface provides easy-to-follow graphics and symbols for system control, including setup screens for:

- Pumps
- Diverter valves
- Silos
- Blowback
- Low vacuum

The system is designed to support **single or dual blower bulk unloading systems**. It controls vacuum pump and filter cleaning functions, rotary valve and its high-level sensor, pressure pump, and air pre-cooler on the pressure side. Additional features include a **purge start/stop function** and a **"stop now" immediate system pump group stop**.

Monitoring & Connectivity

The panel provides **high and low-level indication for multiple silos** and supports **Ethernet connections** to remote level and weigh system control panels. It can also connect to plantwide data acquisition systems via Ethernet, enhancing integration and data sharing across facilities.

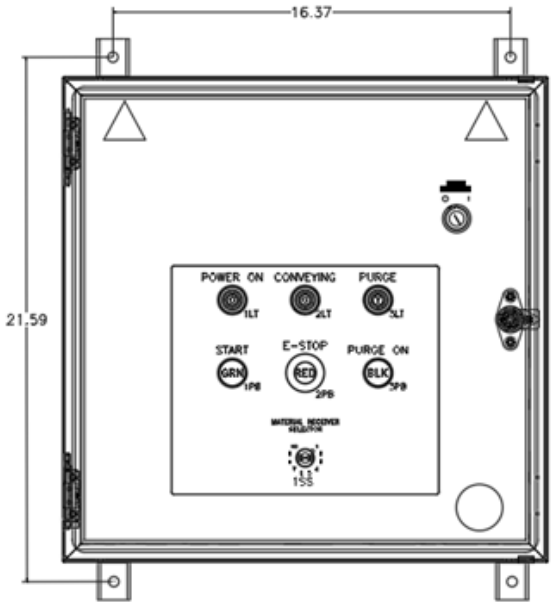
Security & User Access

Multiple levels of password protection are implemented, including distinct access for **operators** and **supervisors**, ensuring controlled and secure operation of the system.

Specifications

ATLAS RCU Basic Relay Panel

The VacTrac ATLAS RCU basic relay panel is a non-plc, non-HMI traditional relay control panel which provides basic and reliable operation of a single bulk material handling system. The panel works in conjunction with remote junction boxes assemblies (quote separately – not included).

The ATLAS RCU Basic Relay Panel Features:

- Nema 4 rated enclosure
- 115/1/60 Power
- 24 VDC control output
- On/Off Key switch
- Emergency stop
- System Indicator lights with labels
- Control of (specify on quote and at time of order)
  - o Pump System
    - One CPP pressure pump/One CVP vacuum pump
    - One SVP single blower/single motor vacuum pressure pump
    - One CPP pressure pump
    - One CVP vacuum pump
  - o One Rotary Air lock with cyclone and high level indicator
  - o One connection for central filter chamber – (separate filter control required)
  - o One pre-cooler for pressure pump
  - o Selector switch for connection (up to) ten (10) silo high level indicators
- Individual system components quoted and sold separately
- Requires remote junction box assemblies to connect to each external component