



DRIVES (VFD) & PLC CONTROLS

Facility:

38,000 sq ft manufacturing



Engineering:

Full staff of control panel engineers and PLC/VFD automation engineers.

Safety Certifications:

UL 508A (*File E214788*)

UL 698A Industrial control panels with intrinsically safe control circuits. (*File E220432*)

Market Served:

North America

Application Industries:

Water and waste water; residential, commercial, municipal and industrial.

Agriculture; General control and irrigation.

Industrial; General process control.

Strategic vendor partnerships:

Schneider Electric, PLC's, Variable Frequency Drives, Circuit Breakers, Motor Starters and Control Equipment.

Year Founded:

2000

1-218-483-3034

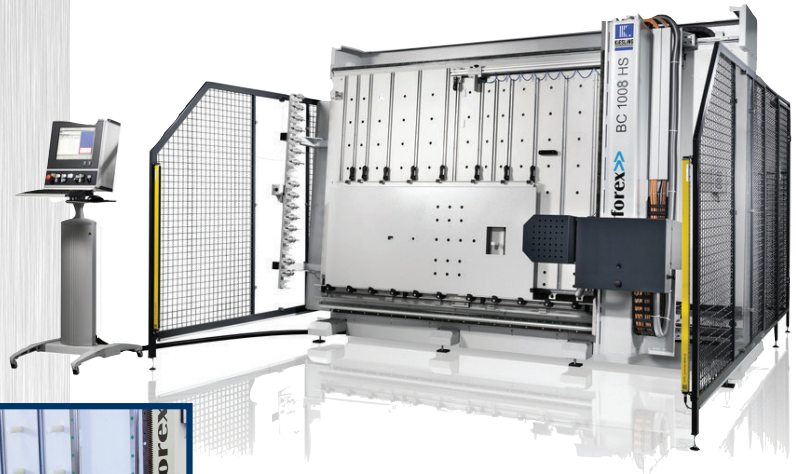
1-218-483-3036 (fax)

151 16th St S Hawley MN 56549

alderonind.com

AUTOMATED MANUFACTURING

- Accurate machining of Backplates, Inner Doors and Enclosures
- Easily machines: Plastic, Fiberglass, Steel and Stainless Steel
- Stored programs for high volume production



- Easily machines round, square or any shape
- Machines complex patterns for cooling fans and air conditioners
- Precise machining means better performance against water intrusion

QUALITY 100% TESTED

- Panels tested with Rated Voltage
- Three Phase Voltages: 208, 230, 460, 575 VAC
- Single Phase Voltages: 120, 208, 230 VAC
- All Voltages have independent Neutrals and Grounds
- Allows for full test of panels equipped with VFD's, Soft Starts, PLC's, etc.



INTRODUCTION

Alderon's team of control panel and VFD/PLC automation engineers work together to build a control panel to meet and exceed our customer's requirements.

Our goal is to manufacture a high quality control panel that makes the installation and setup as simple as possible.

Our PLC programmers strive to create touchscreen graphics and menu's that make for fast and easy setup of transducer level or pressure settings and VFD control parameters that will get your system up and operating in the fastest time.

All information including alarms and pump and motor information are easily accessible. PLC programs can also be written with Modbus registers accessible for SCADA monitoring applications.

All programs designed by Alderons automation engineers can be easily field modified with memory cards. Phone support for all Alderon products is included with purchase.



Wastewater/Gray Water

1. Simplex Level Control, Submersible Transducer
2. Duplex Level Control, Float Switches
3. Duplex Level Control, Submersible Transducer
4. Duplex Level Control, Submersible Transducer, VFD Flow Paced
5. Triplex Level Control, Submersible Transducer
6. Quadraplex Level Control, Submersible Transducer

On-Site Wastewater

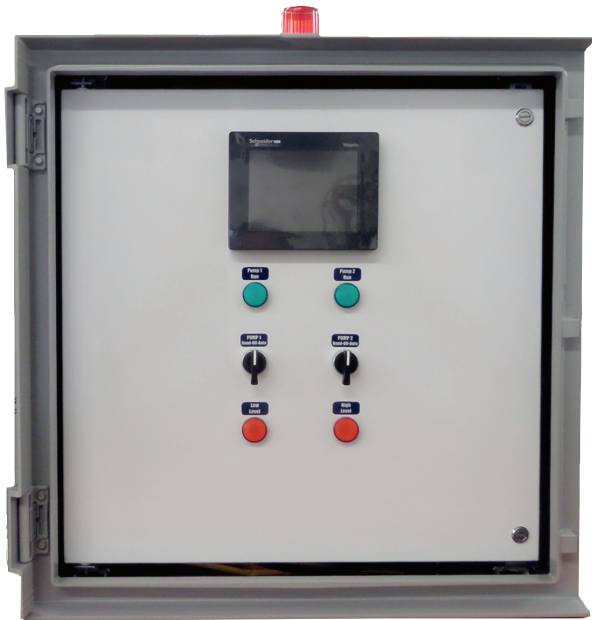
1. Simplex Timed Dose, Float Switches, Motor Starters
2. Simplex Timed Dose, Submersible Transducer, Motor Starters
3. Duplex Timed Dose, Float Switches, Motor Starters
4. Duplex Timed Dose, Submersible Transducer
5. Triplex Timed Dose, Float Switches
6. Triplex Timed Dose, Submersible Transducer
7. Quadraplex Timed Dose, Float Switches
8. Quadraplex Timed Dose, Submersible Transducer

Water Pressure Boost Systems

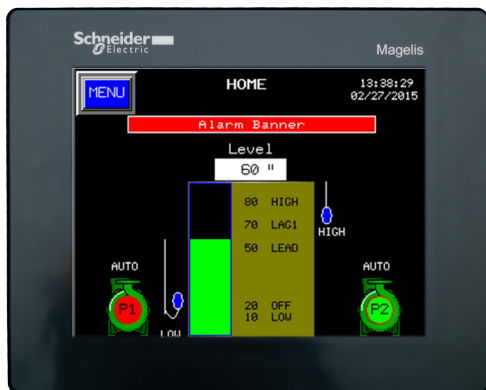
1. Simplex Pressure Boost – Modbus or Analog Control
2. Duplex Pressure Boost – Modbus or Analog Control
3. Triplex Pressure Boost – Modbus or Analog Control

LEVEL EXAMPLE

DUPLEX LEVEL CONTROL SUBMERSIBLE LEVEL TRANSDUCER, TWO FLOAT BACKUP CONTROL



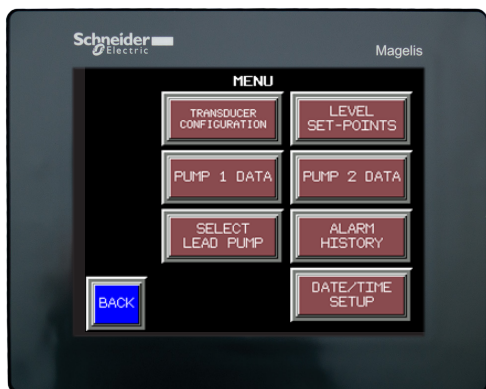
- Main Level Control – Submersible Level Transducer
 - Backup Control – 2 Floats
 - High Level – Both Pumps ON, Alarm Activation
- Low Level – Redundant Off, Alarm Activation
- 5.7" Color Touchscreen for Level Settings and Pump/Alarm History
- Programmable Logic Controller (PLC)
- Optional tex/email alerts and remote monitor/control with internet connection.



1

Home Screen

- Alarm Banner – Text Scrolls stating alarm condition
- Displays current Liquid Level in Inches or Feet
- Displays Graphic of Current Liquid Level and Displays Level Setpoints
- Displays Status of Backup Floats
- Displays pump Run Status – Red (off), Green (run)



2

Menu Screen

- Convenient selection of desired monitoring or setup selections
 - Transducer Calibration
 - Level Set-points (Low, Off, Lead, Lag, High)
 - Pump and Alarm History
 - Clock Setup

Transducer Calibration Screen

- Enter Transducer Maximum Range (Convert PSI to Inches),
10 PSI = 277 Inches
- Enter Transducer Offset (Inches from Bottom of Tank to Transducer Diaphragm)
- Enter Height of Tank(Inches) Displays Graphic Accurately

Level Set Points Screen

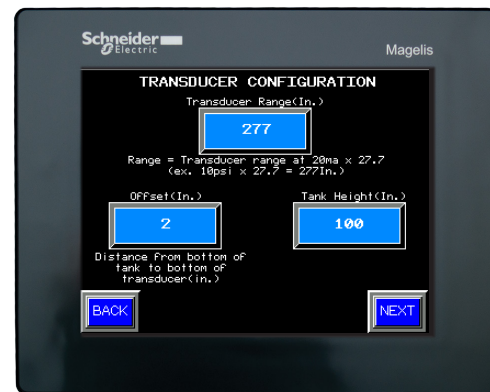
- Enter Level Settings: Low, Off, Lead, Lag, High

Pump Data Screen

- Displays Elapsed Time Meter and Run Cycles

Alarm History Screen

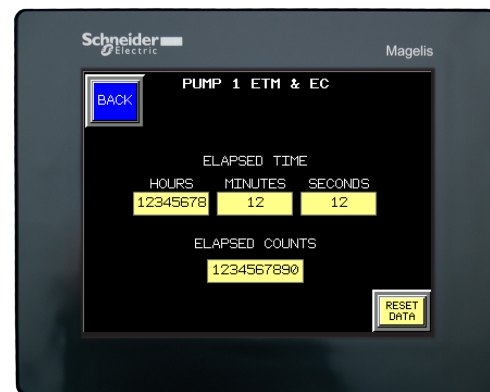
- Display Alarm Type and Time/Date Stamped
- Shows current alarms and past Acknowledged Alarms



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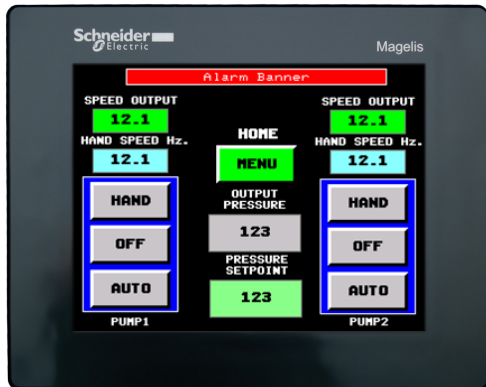
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CONSTANT PRESSURE EXAMPLE

DUPLEX CONSTANT PRESSURE CONTROL



- Duplex Constant Pressure Control
- 5.7" Color Touchscreen for Pressure Settings and Pump/Alarm History
- Programmable Logic Controller (PLC)
- ¼" NPT Pressure Transducer in Multiple Ranges: 0-100 PSI, 0-150 PSI, Etc.
- Standard Field Connection of Low Suction Pressure Switch
- Optional Suction Side Pressure Transducer



1

Home Screen

- Hand-Off Auto Switches
- Hand Speed Frequency Set-Point
- Pump Run and Frequency Display
- Alarm Banner



2

Menu Screen

- Convenient selection of desired Alarm History
- Trend Graphs
- VFD Status
- Transducer Range
- Pressure Set-Points
- PID Loop
- Wake/Sleep/Alternate
- Alarm Set-Points
- Time/Date

Transducer Range Setting Screen

- Enter Range of Transducer (I.E. 100 PSI)

Pressure Set-points Screen

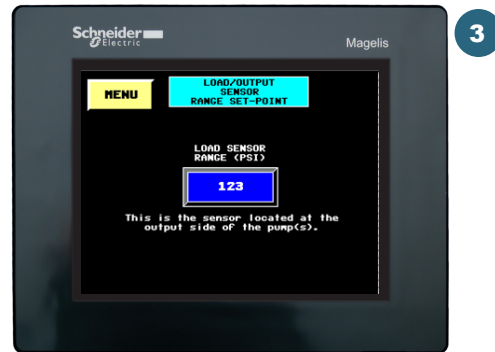
- Enter Maintain Pressure

Wake/Sleep/Alt Control Screen

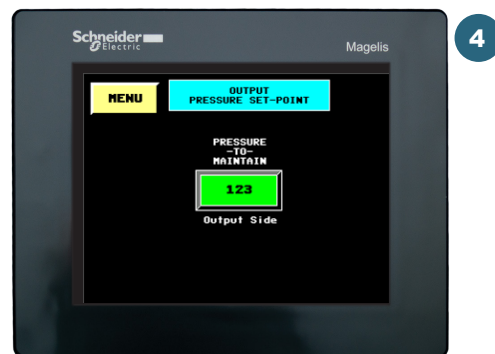
- Set Wake – Enter Pressure value to restart VFD's when in Sleep Mode
- Sleep – VFD Frequency Setting which the PLC monitors to turn off VFD's if Pressure set-point is maintained for certain time duration(user enter time)
- Alternation – User set-point (in minutes) to alternate pumps based on pump run time

VFD Status Screen

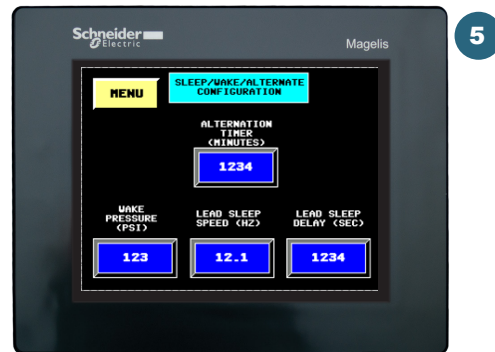
- Displays
 - Incoming Voltage
 - Motor Amps
 - Output Frequency
 - Run Time
 - Low/High Speed Settings
 - Acceleration/Deceleration Times



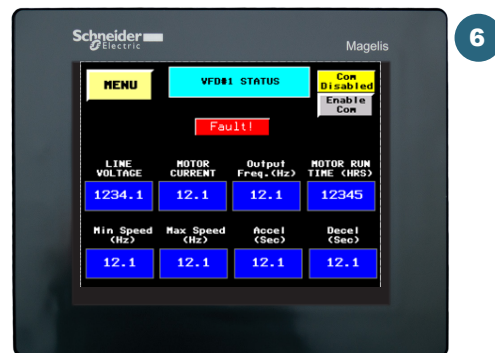
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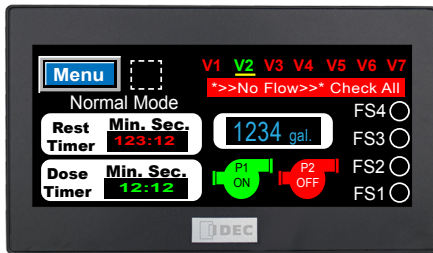
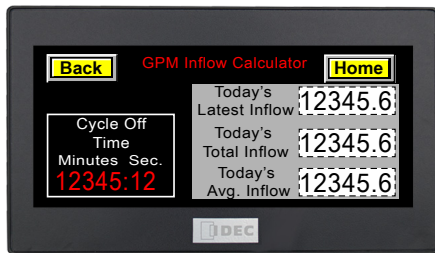
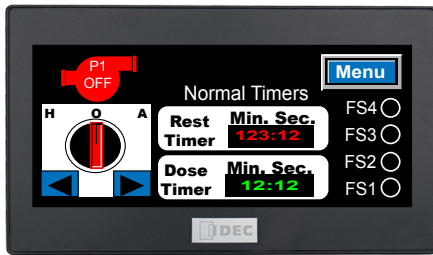


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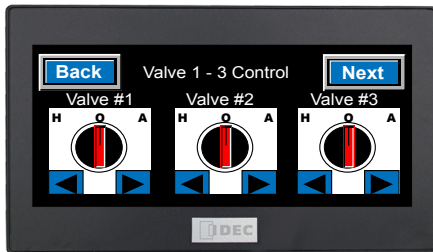
Screens not shown:
Alarm Set-points, Trend Graph, Time/Date Set, PID Setup

**LOW COST SOLUTION
FOR MANY APPLICATIONS**

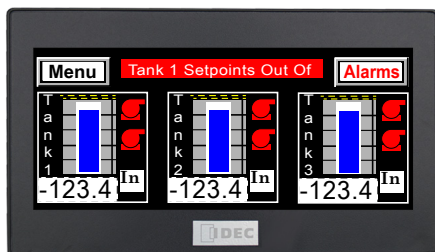
IDEC SmartAXIS COMBINATION PLC/TOUCHSCREEN CONTROLLER -3.8"



1



2



Timed Dosing Application

- Hand-Off-Auto Switch
- Display Time for Resting and Dosing
- Pump Run Status – Pump Red (OFF) Pump Green (Run)
- Float Status Indication

Application Requiring Calculated Flow Data

- Displays Last Inflow Into Tank Before Pumping (In Gallons)
- Displays Daily Totalized Inflow (In Gallons)
- Displays Daily Average Totalized Inflow (In Gallons)

Timed Duplex Pump Alternating with Alternating 6 Discharge Valve Control Application

(Screens 1 and 2)

- Settings and Display for Dose and Rest Timers
- Pump Run Status and Pump History
- Valve HOA Switches (3 Shown Per Screen)
- Pump Run Status – Pump Red (OFF) Pump Green (Run)

Multiple Tank Monitoring Application

- Displays Level on 3 Tanks
- Each Tank has Independent Submersible Level Transducer
- Each Tank has Duplex Pump Control

Combination Well Pump & Duplex Booster Pump Control Application

(Screens 1 through 5)

Home Screen

- Pump Run Status – Run (Green), Off (Red) Each Pump
- Displays Voltage Incoming to Well Pump and Amperage
- VFD Booster Control Displays Frequency and Amperage Each Pump
- Displays Alarm Conditions

Well Pump Level Set-Points Screen

- Enter Low Alarm Level
- Enter Pump On Level
- Enter Pump Off Level
- Enter Low Level Restart Level

Booster Pump Level Set-Point Screen

- Enter Lead On & Off Set-Points
- Enter Lag On & Off Set-Points
- Enter Low & High Set-Points
- Enter High Level Restore Set-Point

Pump Cycle Counter History Screen

- Display Daily Cycle Counts – All Pumps
- Display accumulated Year to Date Counts – All Pumps
- Display Total Counts – All Pumps

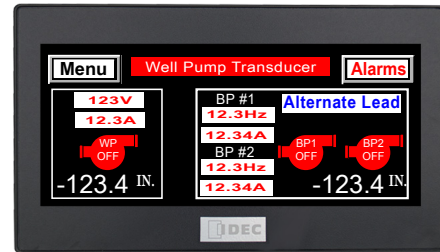
Pump Elapsed Time Meter History Screen

(Booster Pump Screen Shown)

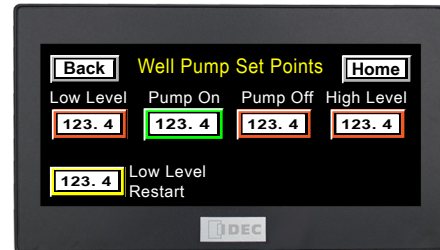
- Display Daily Elapsed Time – All Pumps
- Display Accumulated Year to Date Elapsed Time – All Pumps
- Display Total Elapsed Time – All Pumps

Triplex Pump Control Application

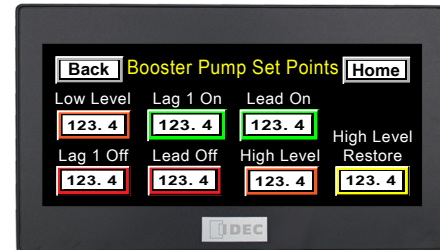
- Hand-Off-Auto Switches – All Pumps
- Pump Run Status – All Pumps
- Not Shown: Pump & Alarm History, Level Set-point control



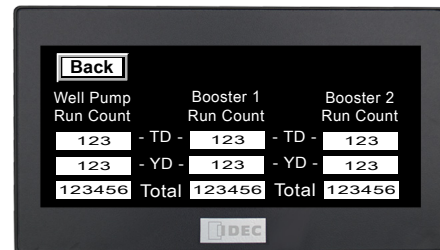
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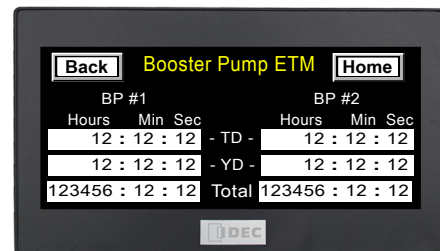
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**Contact Alderon for
your next application
using programmable
logic controllers, VFD's
and Soft Starts.**