



# Control Systems

## Custom System Controls

Pan America provides standard and custom integrated electrical controls with our treatment systems where stand alone options are used or a complete, integrated treatment system design is provided. Our standard electrical provision consists of NEMA 4 designs. We also offer separate control panels for your existing component control needs.

Each order begins with electrical logic design, component selection, internal/external panel layout followed by professionally organized and clean assembly with shop testing prior to installation and wiring on your piece of equipment. Once installed on the treatment equipment we perform functional testing and setup of each device to verify proper operation.

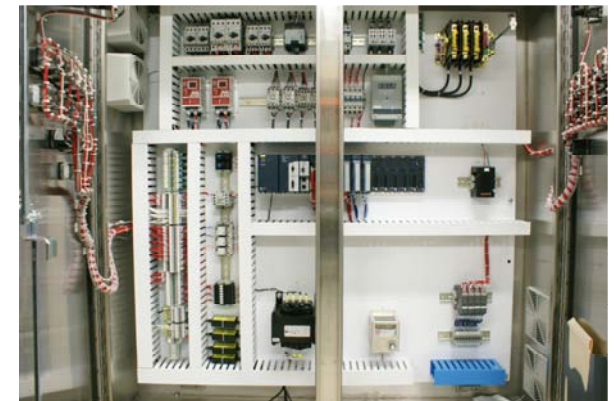
Customization, modifications & options are available to tailor the system to your project.

## Standards

- Nema 12, 4, 4X steel, polymeric & FRP enclosures
- IEC, UL, CSA & other listed components, UL 508 panel construction
- Slotted Wireway
- Local Disconnects
- All wiring meets NFPA79 standards, THHN oil resistant stranded wiring
- General purpose, heavy duty and intrinsically safe control relays
- Fused and/or circuit breaker supplemental device protection
- Programmable AC drives
- Class rated: type 4 outdoor environments
- EMT, rigid & liquid tight conduit & fittings
- Typical Power: 115/230V/1pH/50/60Hz.  
208/230/460V/3pH/50/60Hz.
- All Panels wired to comply to N.E.C. or C.E. in good practice.

## Options Offered

- Motor Control Centers, UL845 design standards
- Explosion Proof Control Systems: Nema 7 or purge panel designs for class 1 div 1 or 2 group D environments
- NEMA components
- PLC based design
- UL Construction with UL inspection & Labeling



## PLC Systems

### *Small Project*

PLC: Unitronics Vision series or Allen Bradley Micro820-850 with HMI, hardware & software by standard, other PLC manufacturers by quote.

### *Medium Project*

PLC Medium Unitronics and Allen Bradley hardware & software by standard, other PLC manufacturers by quote.

### *Large Project*

PLC Large platform Allen Bradley hardware & software by standard, other PLC manufacturers by quote.

## Quality Control

- Full Inspection check-off
  - Wire pull tests
  - Continuity Testing
  - Conformance to Prints/BOM
- Functional Testing as required
- PLC I/O Function Testing
- PAE Certification and Conformance Documentation

## Options

- Motor Control Centers, UL845 design standards
- Explosion Proof Control Systems: NEMA 7 or purge panel designs for class 1 div 1 or 2 group D environments
- NEMA components
- PLC based design
- HMI
- UL Construction with UL inspection & Labeling
- Integration with customer existing devices
- Free standing enclosure
- Enclosure weather shield
- Walk in control system shed
- 50 Hz design



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