

AC-PAC™
 ADVANCED CONTROL-
 PROGRAMMABLE AUTOMATION
 CONTROLLER

MULTIPLE LOOP, TOUCH SCREEN

STANDARD FEATURES

- Highly visible 4.3 inch, color HMI with 16:9 Ratio
- Multiple programmable loops
- 2 RS485 Modbus communications & TCP/IP Modbus
- VNC Connectivity
- 8 analog inputs & 4 analog outputs
- 8 digital inputs/8 digital outputs
- Multiple manual/auto stations
- Transmitter power supply
- Multiple bar graph, trend, & alphanumeric display panels
- Alarm display panels
- Engineering unit display
- Superior operator interface
- Auto-tune, natural frequency type
- Extensive computation ability e.g., BTU meter
- Boiler and combustion efficiency; mass flow computation & totalization possible
- Password & access control

OPTIONAL FEATURES

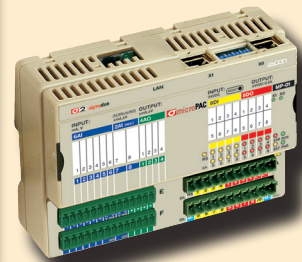
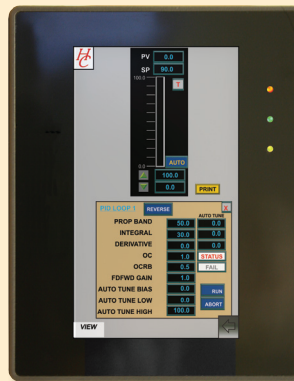
- **Optional** 7" & 10" 16:9 ratio HMI Touchscreens
- **Optional** 12.1 inch, 4:3 ratio HMI Touchscreen
- Digital I/O expansion modules
- Digital & analog I/O expansion up to 28 Analog inputs, 12 Analog Outputs, & 40 Digital Inputs & Outputs

AC-PAC™:NEXT GENERATION MULTIPLE LOOP CONTROLLER

Hays Cleveland is proud to introduce the AC-PAC™, our high-tech, low-cost, single solution for projects ranging from complete new systems to individual controller replacements. AC-PAC™ offers powerful PAC technology and an HMI capable of replacing any other loop controller technology in any typical application--but at an unexpectedly economical price point.

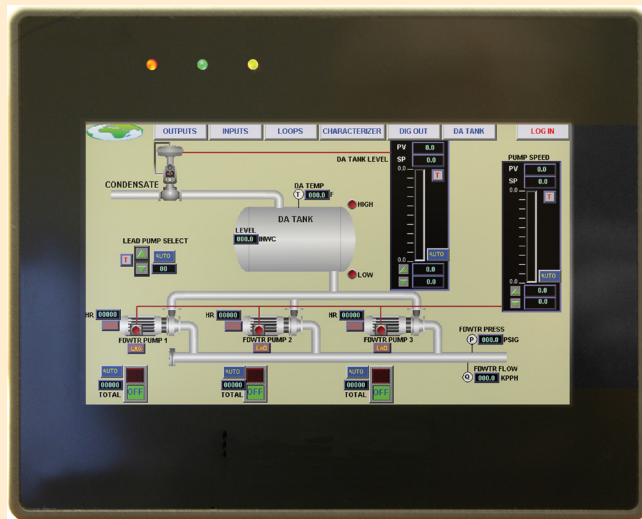
AC-PAC™ controllers provide control options and operator interface features suitable for any facility. The platform is based on **programmable automation controller (PAC) technology**, known to provide the most responsive PID control possible. The programming software is OpenPCS, the user-friendly IEEE-61133 language suite. The standard components include the CPU Control Unit, 4.3 inch TFT touch screen, power supply and cable to connect the CPU to the HMI. Also included are function libraries for general purpose control applications. Hays Cleveland offers custom applications for a fee. Typical AC-PAC™ applications include chillers, cooling towers, boiler control loops (including oxygen trim, pump sequencers, drum level control, DA tank level control, etc.), economizer monitoring and control, BTU meters, boiler efficiency computers and other general purpose process

Hays Cleveland's C-07010-A0 AC-PAC™:CPU Control Unit and 4.3 inch TFT touch screen.



applications such as vulcanizers, plating tanks, and autoclaves. While the AC-PAC™ I/O with touchscreen front panel HMI is an economical alternative to any programmable logic controller and digital control system, it is a particularly valuable resource when older multiple loop microprocessor-based controllers must be maintained or replaced. Often, outright replacement with AC-PAC™ is less expensive than maintaining the out of date technology. In addition, AC-PAC™ provides superior control capability and greatly enhanced performance compared to the old units.

AC-PAC™ Communications RS 485 Modbus and Virtual Network Computing (VNC) Connectivity are standard. VNC is platform-independent – a VNC viewer on one operating system (Windows, Mac, Android, iOS) can connect to a VNC server on the AC-PAC™. This makes it possible to interact and view the performance of the AC-PAC™ over the internet or on the Facility Network, using a PC or other VNC compatible device much like Windows remote desktop applications. The PC or Tablet must have a VNC Viewer Client installed (a free internet download).



At right, a typical horizontal (landscape) format HMI screen.

SPECIFICATIONS

CPU

Standard 8 analog and digital inputs, 4 analog and 8 digital outputs, expandable to 24 digital inputs and outputs. Has 32 bit, ARM processor with 4 Mb flash memory for programming, 16MB DRAM, 64kB redundant retentive memory.

4.3" TFT Touch Screen

NEMA4/IP65, 480 X 272 pixel resolution, 128 MB Flash memory and 64 MB Ram.

Auxiliary Components

Power supply and interconnect cable, CPU/touch screen.

Packaging

Open mount for instrumentation panels and for retrofit applications, Surface Mount NEMA 4 enclosure model for stand alone Applications.

Approvals

UL/cUL Approved, UL 508.

Communications

Standard - RS 485 Modbus RTU, Modbus TCP/IP, & VNC Connectivity. Optional -LonWorks or BACnet gateways.

Panel Cutout (Standard)

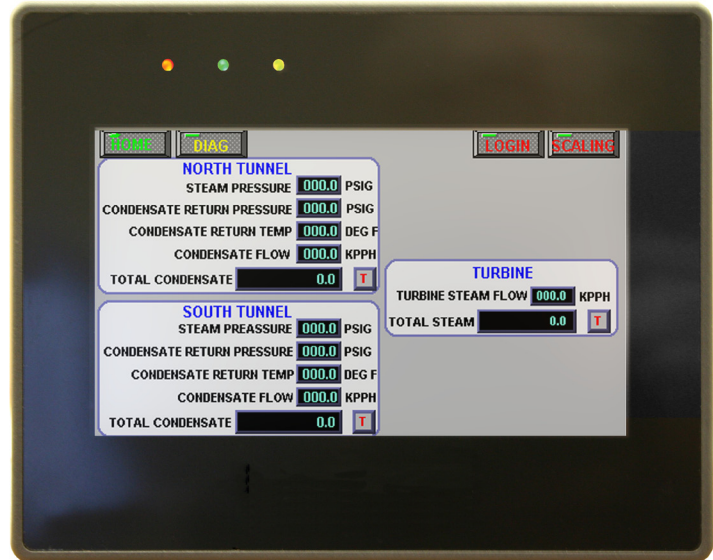
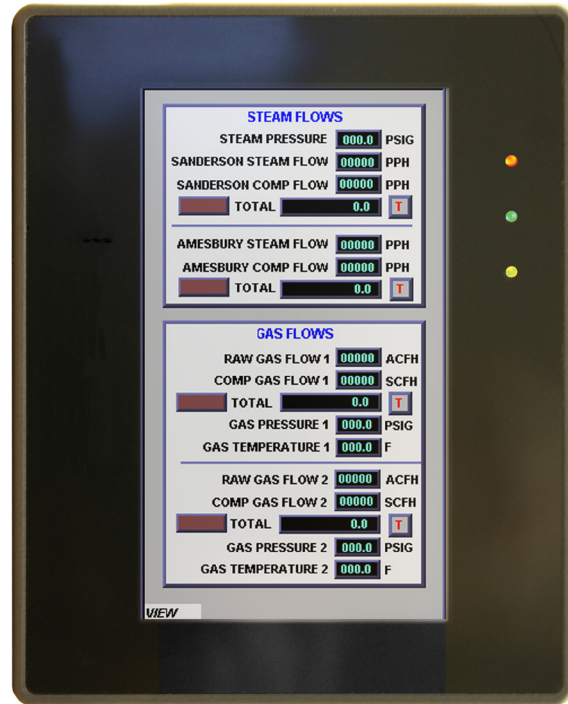
4.7" x 3.2" (4.3" touch screen)

OTHER PAC TECHNOLOGIES FROM HAYS CLEVELAND

UPAC™ Plant Wide System is a powerful system for a wide range of industrial applications. Capabilities include full metering control, parallel positioning control, O₂ trim control, feed water control, draft control, DA and Condensate tank control, plant master functions with nearly unlimited analog and digital I/O. Request Bulletin **UPAC.02**.

UPAC LT™ Prepackaged Combustion Control System combines the power of the AC-PAC™ and the HMI of the UPAC™ to provide a system that is pre-programmed for the industrial or institutional boiler combustion control application. Control loops include boiler master selection, parallel positioning with fuel (two fuels), air, O₂ trim and VFD with optional feed water control. Request Bulletin **LTUPAC.00**.

MORE TYPICAL HMI VIEWS



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