Hays Cleveland
Division of UniControl Inc.

AC Station Series of Freely Programmable Controllers

Standard Features

- Multiple programmable loops.
- RS485 Modbus / J-Bus communications.
- **AC15**, **AC20**, and **AC30** models are **UL/CUL/CE** listed.
- Multiple analog inputs/outputs.
- Multiple digital inputs/outputs.
- Multiple manual/auto stations.
- Transmitter power supply.
- Highly visible LCD display.
- Multiple bar graph, trend, and alphanumeric display panels.
- Alarm display panels.
- Engineering unit display.
- Up to 4 PID loops.
- Superior operator interface.
- Auto-tune, natural frequency type.
- Process variable bar graph has 200 steps.
- Extensive computation ability.
- Boiler and combustion efficiency; mass flow computation and totalization possible.
- Output and M/A bar graph have 100 steps.
- Password and access control.
- Diagnostic I/O and system displays.
- Tuning and calibration displays.

Optional Features

- Digital and analog I/O expansion.
- LAN, peer to peer.
- Hard manual/automatic stations.

The **AC Station** family of freely programmable multiple-loop controllers is unsurpassed in terms of useful features, control capability, and return on investment. When used with **AC-Prograph**, the user-friendly function block software, **AC Station** controllers provide control and operator interface tailored to the needs of any facility.

AC Station controllers are used frequently for chillers, cooling towers, boiler control loops (including oxygen trim, metering and parallel positioning), and process applications. The I/O with front panel display offers an economical alternative to programmable logic controllers and digital control systems.

AC15 Series

The **AC15** provides 2 PID loops with 2 or 4 analog inputs and 2 analog outputs, and 8 digital inputs and outputs. The **AC15** is the most economical solution when the application requires a minimum number of I/O's for data display and monitoring. Common applications include basic boiler combustion control loops such as master pressure, feed water and tank level, oxygen trim and draft control.

AC20 Series

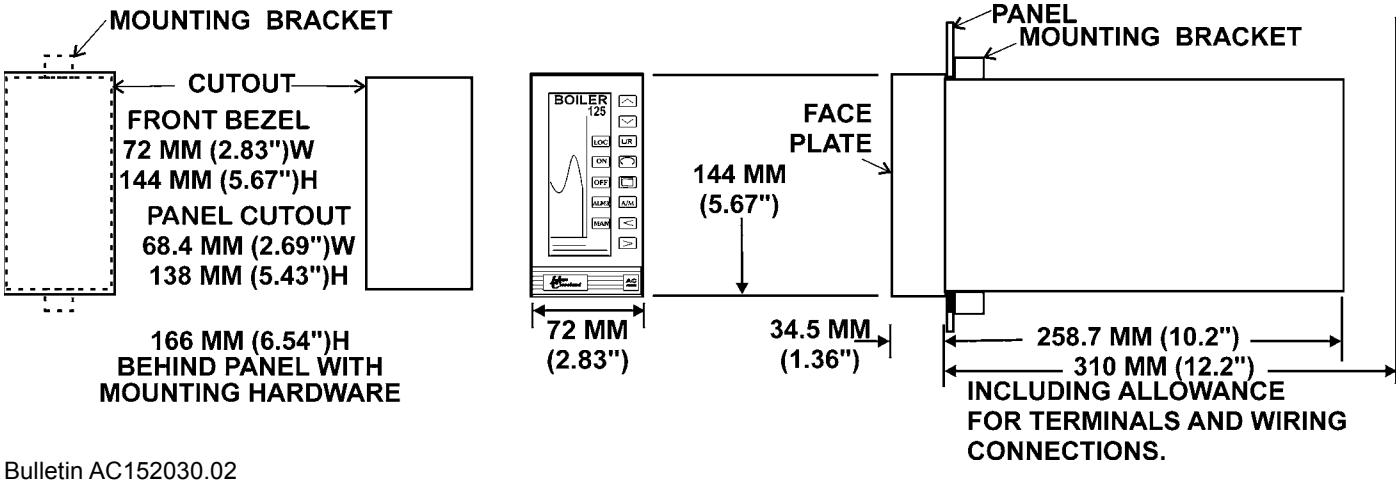
The **AC20** provides 4 PID loops with 8 analog and digital inputs, 4 analog outputs, and 8 digital outputs (standard) with optional expansion capability to 32 digital inputs and outputs and 8 analog outputs. **AC20** also includes programmable control strategies with computational capability. Common applications include full metering control with boiler and combustion efficiency computation, pressure and temperature compensation of fuels, and monitoring of unit operations such as economizers. Peer to peer communication is available as an option.

AC30 Series

The **AC30** has a standard real-time clock in addition to all the features and options of the **AC20**. As many as 56 events per week can be programmed. Common applications include control of reactors and batch processors, and scheduling the pressure or temperature set points for a boiler master controller.

Auxiliaries

Hays Cleveland offers a full line of meters, oxygen analyzers, and actuators to provide a single source for your engineered system needs.



AC STATION SERIES
FREELY PROGRAMMABLE MULTI-LOOP CONTROLLERS

Inputs and Outputs		AC15	AC20	AC30
Analog inputs	1–5 Vdc; 0–5 Vdc, (impedance >10MΩ); 4–20 mA; 0–20 mA (with external shunt). 0.1% accuracy; 16-bit resolution.	2 or 4	8	8
Digital inputs	Passive opto-isolated. Voltage: 8–36 Vdc (ON); 0–1.5 Vdc (OFF).	8	8–32*	8–32*
	Frequency input. Configurable range 200 Hz, 2 kHz, 20 kHz.	–	●	●
Analog outputs	Galvanically isolated from the inputs. 1–5 Vdc; 0–5 Vdc; 4–20 mA; 0–20 mA (impedance > 500Ω). 13-Bit Resolution.	2	4–8*	4–8*
Digital outputs	Opto-isolated, solid state relay. Max load: 300 mA @ 30 Vdc / Vac. Protected with auto-reset fuses	8	8–32*	8–32*
Expansion Unit(s)	Provides additional: 4 analog outputs, 24 digital inputs, 24 digital outputs	–	○	○
Control Functions				
Cycle time	0.1–10 sec., adjustable.	●	●	●
PID management	Multiple independent loops;	2	4	4
	Advanced PID algorithm, two degrees of freedom type with feedforward gain-scheduling;	●	●	●
	Advanced “In Tune”, natural frequency type	●	●	●
Control strategies	Resident and preprogrammed	–	12	12
	Preprogrammed and available on disk	–	●	●
	Freely programmable using a PC and AC-PROGRAPH™ software.	●	●	●
Sequence	Max number of active Sequence Modules	–	–	4
	Max steps per Sequence Module	–	–	100
	Max stored Sequences per Module	–	–	16
	Analog output per Sequence Module	–	–	2
	Digital output per Sequence Module	–	–	16
Real Time Clock	Hardware with battery backup	–	–	●
	Events on a weekly basis	–	–	●
	Max number of events	–	–	56
Communications				
RS 232 port	Configuration and Programming	●	●	●
RS 485 port	Modbus and J-bus protocols (slave)	●	●	●
RS 485 port	I/O Expansion Units	–	○	○
2.5 Mb/s Network	Peer-to-peer Communication	○	○	○
Physical and Environmental				
Weight	Max. 3.75 lbs. (1700 g.)	●	●	●
Front Panel Protection	IP 54	●	●	●
Supply Voltage	90 to 264 V. 48-63 Hz.	●	●	●
Power Consumption	20 VA max.	●	●	●
Auxiliary Supply	24 Vdc / max 300 mA for field transmitters.	●	●	●
Electromagnetic Compatibility	EN 55011, EN 50081-2, EN 50082-2.	●	●	●
Operating Conditions	KWF for DIN 40040	●	●	●
Operating Temperature	32 TO 122F. (0 to 50C.)	●	●	●
Storage Temperature	-4 TO 140F. (-20 to +60C.)	●	●	●
Humidity	10–90%, non-condensing.	●	●	●

* With optional Expansion Unit(s) ●=standard o= option – = not available

Visit us on the World Wide Web at www.hayscleveland.com

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