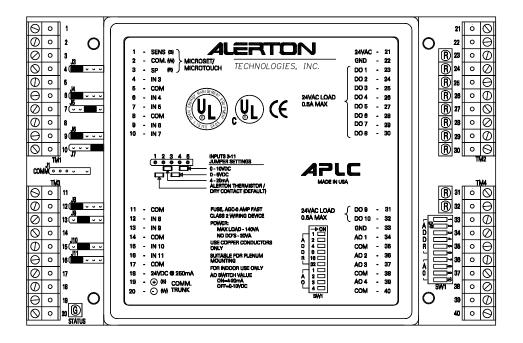The Alerton® APLC™ is a high performance, programmable logic controller designed for control of HVAC and industrial equipment. Applications include central plant systems, air handling units, clean rooms, fume hoods and other systems. It operates either as a stand-alone controller or as part of a site-wide Alerton DDC system.

All APLC control logic is programmed using Alerton's easy-to-learn block programming language. This self documenting software includes a complete library of control functions and provides totally flexible strategies to be implemented. A single APLC may contain multiple control loops for control of various parts or multiple pieces of equipment.

The APLC is designed for high-speed data processing, with an internal DDC loop cycle time of 100 msec. Programmable timers have a resolution of 100 msec. Analog inputs are high resolution 10-bit inputs. Each is field adjustable for thermistor, dry contact, 0–5 VDC, 0–10 VDC or 4–20 mA.

The APLC supports the Alerton Microset™, a wall sensor that allows convenient data display and setpoint adjustment. The Microset contains a digital display with push-button actions that are under APLC control. All input and output values can be viewed at the Microset.

The APLC offers CMOS circuitry, a four-layer circuit board with separate ground plane, hardware and software input filtering and power supply noise filters to ensure reliable and stable operation. The communication trunk is optically isolated to prevent ground loop problems. The CMOS processor incorporates an internal watchdog monitor. The power supply voltage is monitored to provide automatic shutdown and data backup. All program data is stored in non-volatile EEPROM.

The APLC communicates with the Alerton global controller over a 2-wire communication trunk at 9600, 4800 or 1200 baud. Additionally, a portable computer running Alerton development software can connect directly to the APLC for programming.

Product Number

TX-APLC

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Specifications

TX–APLC™

Power	24 VAC at 20 VA min., plus digital output loads (140 VA max.). Utilizes a half-wave rectifier, which allows multiple TUXs to be powered from a single transformer. One leg of 24 VAC connects to earth (panel) ground.
Inputs	11 inputs with 10-bit resolution. Inputs 1 and 2 accept thermistor, potentiometer, 0–5 VDC or Microset/Microtouch. Inputs 3–11 are jumper selectable for dry contact, thermistor, potentiometer, 0–5 VDC, 0–10 VDC or 4–20 mA signals.
Digital Outputs	10 outputs, each rated 24 VAC @ 0.5 A. The outputs utilize optically coupled triacs, which have a common connection to the fused 24 VAC supply.
Analog Outputs	4 outputs with 8-bit resolution. Each is switch selectable for 0–10 VDC or 4–20 mA. 4–20 mA outputs are sourced by the APLC. Connected loads must return to the APLC ground. Maximum 4–20 mA load resistance is 1000Ω. Minimum 0–10 VDC load resistance is 500Ω.
24 VDC Supply	Up to 250 mA of 24 VDC power is provided to power transducers or other devices.
Processor	Motorola (MC68HC705) CMOS processor, with Internal RAM and ROM.
EEPROM	2048 bytes of non-volatile program and data storage.
Maximum Dimensions	4.60"(117mm) H X 7.00"(178mm) W X 1.45"(37mm) D.
Environmental	32–150°F (0–70°C). 0-95% RH, non-condensing.
Communications	Optically isolated TUX trunk operates at 9600, 4800 or 1200 baud. Access port for laptop computer using AC-2650 cable.
Ratings	• Listed Underwriters Laboratory for Open Energy Management Equipment (PAZX) under the U.L. Standard for Safety 916. Listing includes U.S. and Canadian certification. • FCC Part 15, Subpart J, Class A. • EMC Directive 89/336/EEC (European CE Mark).

Specifications subject to change without notice.

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