

ABC13 Intelligent Compact Controller

Features

- Temperature control for 2-pipe, 4-pipe HVAC systems. Temperature range from -40 to 140 °C.
- 4 independent PI sequences
- 6 independent binary sequences
- 1 modulating output for DC $0...10V$ or $0...20$ mA actuators.
- 2 TRIAC controlled binary outputs $24V$ AC, option for floating output
- 1 Input for DC $0...5V$, $0...10V$ or $0...20$ mA sensors
- 1 internal temperature sensor, external sensor input available
- Monitoring of low and high limits on all inputs. Programmable reaction in case of alarm.
- Optional connection for external NTC temperature sensor
- Temperature sensor feedback
- Special functions for dehumidifying, set point shift, fan and VAV control
- Transformation of display value according to analog sensor range
- Password protected programmable user and control parameters
- Display and operation unit available in various designs and materials.

Applications

- Air Only Systems: Constant or Variable Air Volume systems for single or dual duct systems with options of:
 - up to two reheat stages
 - supply air, extract air cascade control
 - humidity control
 - Control for variable speed fans
- Air/Water Systems:
 - Fan Coil units for 2-pipe or 4-pipe systems with options of:
 - Humidity control
 - Pressure control
 - radiator control, chilled ceiling
- Water Only Systems: Radiator, floor heating or chilled ceilings
- Individual room control for hotel rooms, meeting rooms, etc.

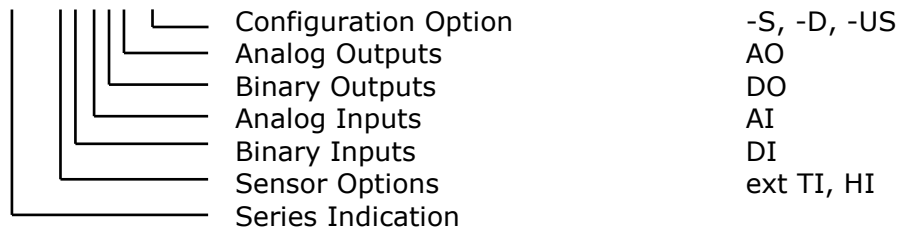
General Description

The ABC13 is a stand-alone electronic universal controller with two autonomous control loops. Each control loop may use up to 2 PI sequences and 4 binary sequences. The ABC13-T0121 features 1 NTC temperature sensor input and 1 analog input. Each input is assigned to a specific control loop.

The ABC13-T0121 features 2 binary outputs (TRIAC) and one analog output. The outputs need to be assigned to the control sequences by software. A detailed parameterization is possible with the use of a simple configuration routine. The ABC13 can be configured using the standard operation terminal. No special tools or software is required.

Name convention of T13 Series

ABC13-T0121-S



Selection of actuators and sensors

Temperature Sensors: Use only our approved NTC sensors to achieve maximum accuracy.

Humidity, pressure and temperature sensors with analog outputs: Use standard sensors with 0-10V or 4-20 mA output signals. The minimum and maximum signal may be parameterized; the signal type is selected with jumpers.

Modulating Actuators: Choose actuators with an input signal type of 0-10V DC or 4-20mA. Minimum and maximum signal limitations may be set in software

Floating Actuators: Any actuators within 24 VAC, 1A. Use actuator with constant running time for optimum function.

Binary auxiliary devices: E.g. pumps, fans, on/off valves, humidifiers, etc. Do not directly connect devices that exceed 24 VAC, 1A.

Control Applications

Single Loop applications:

1. Universal or temperature PI control
2. Single or Dual stage universal or temperature control
3. Universal or temperature PI control with additional single or dual stage devices
4. VAV PI control to CAV controller

Dual Loop applications

5. Universal and temperature PI control
6. Single stage universal and temperature control
7. Universal PI control and single or dual stage temperature control
8. Temperature PI control and single or dual stage universal control
9. VAV PI control

Control Functions

Each input is assigned to a control loop.

Temperature Input 1 TI1 = Control Loop 1

Analog Input 1 AI1 = Control Loop 2

Each control loop may utilize 4 digital **and** 2 PI sequence control functions. The sequence will be activated once it is assigned to a physical or logical output.