



PI Controller (LCD type)

TF13 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 controller features 1 NTC temperature sensor input and 1 analog input. Each input is assigned to a specific control loop.

The controller 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 controller can be configured using the standard operation terminal. No special tools or software is required.



Features

- 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

Water Only Systems:

- Radiator, floor heating or chilled ceilings

Air/Water Systems:

- Fan Coil units for 2-pipe or 4-pipe systems with options of:
Humidity control
Pressure control
- Radiator control, chilled ceiling

Individual room control for hotel rooms, meeting rooms, etc.

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

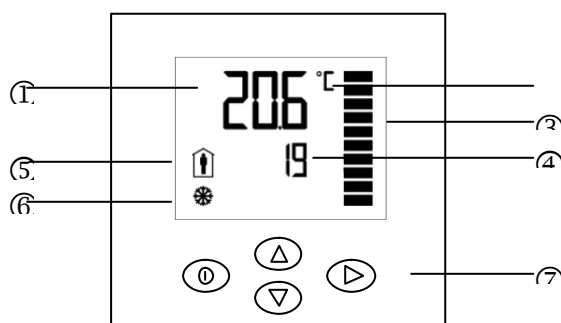
Single Loop applications:

- Universal or temperature PI control
- Single or Dual stage universal or temperature control
- Universal or temperature PI control with additional single or dual stage devices
- VAV PI control to CAV controller

Dual Loop applications:

- Universal and temperature PI control
- Single stage universal and temperature control
- Universal PI control and single or dual stage temperature control
- Temperature PI control and single or dual stage universal control
- VAV PI control

Display and Operation



Legend

- 4-digit display of current value, time, control parameter or setpoint
- Unit of displayed value, °C, ° F, % or none
- Graphical display of output or input value with a resolution of 10%
- 4-digit display of current value, time, control parameter or setpoint

Operation modes

Comfort mode, Standby mode, Energy Hold Off

● Symbols

Heating Active	Cooling Active	Schedule Set	Direct Acting Active	Reverse Acting Active	Cascade Override

- Buttons for operating the controller

- Ⓜ POWER button: Pressing the button less than 2 sec toggles standby and comfort mode. Pressing the button for more than 2 seconds switches the unit off.
- △ ▽ UP and DOWN buttons: change setpoints and parameters
- ▷ OPTION button: used for accessing different control modes and advanced setup. Acts as Enter in parameter changing menu.

Dimensions

