

ATC880 Process Controller

1/4 DIN Auto-Tuning Control and Display of Process or Differential Pressure



Features

- Auto-tuning control in a discrete 1/4 DIN package
- Display and control differential pressure is available
- Easily configure locally or remotely by optional Modbus without jumpers
- Two assignable alarms, third alarm optional
- Bright, dual 5-digit LCD with bar graph display
- Digital security to prevent unauthorized use
- IP65/NEMA 4X rated for harsh environments

Description

The ATC880 is a compact 1/4 DIN auto-tuning process controller that employs an acclaimed PID algorithm. The ATC880 is a cost-effective way to control a single process parameter, such as for a plastics extruder. Reliably auto-tune and alarm on strain gage, DC voltage or current inputs. The ATC880 can also control differential pressure when an optional secondary strain gage input is used. The bright 5-digit LED is accompanied by a helpful, quick view 35-segment analog bar graph. Other useful display information includes alarm set points, peak values, error conditions, and engineering unit beacons. The ATC880 is easily field-configured or programmed remotely via optional Modbus/Jbus without annoying mechanical jumpers. An optional 24Vdc input supply is also available.



Specifications

PERFORMANCE CHARACTERISTICS

Instrument Type: Digital, panel-mount PID closed loop controller
Display: 5 red LED digits 0.52" (13.2mm) high
 5 green LED digits 0.44" (11.3mm) high
 35-segment bar graph scaled to value
Accuracy: $\pm 0.1\%$ full scale
Sampling Time: 50mS, typical

INPUT

Input: Strain gage or linear (Vdc, mA)
Strain Gage: 350 to 5000 Ω , 1 to 4mV/V, excitation 10V $\pm 7\%$
Linear Input: 0 to 5Vdc and 0 to 10Vdc,
 0 to 20mA and 4 to 20mA
Input Signal: -25 to 125% full scale
Input Impedance: <10 Ω for linear current input
 >165k Ω for linear voltage input
Shunt Calibration: With or without resistor (40 to 100%)
Digital: 1 programmable voltage-free contact closure
 Optional: 4 opto-isolated for control

ALARM OUTPUTS

Alarm Type: SPDT 2A max @ 240Vac resistive load
Alarm Number: 3 standard
Alarm Update Time: 50mS, typical

OUTPUTS

Type (Retransmission): 0-5Vdc and 0-10Vdc; 0-20mA and 4-20mA
Type (Control): 0-5Vdc, -10/+10Vdc, and 0-10Vdc;
 0-20mA and 4-20mA

Resolution: $\pm 0.1\%$ of output span
Accuracy: $\pm 0.1\%$ of output span

CONTROL FUNCTION

Type: PID with integral preload and anti-reset windup with an adaptive auto-tuning algorithm

SERIAL COMMUNICATION INTERFACE

Type: Isolated RS-485
Protocol: Modbus RTU/Jbus, selectable

MECHANICAL & PACKAGING CHARACTERISTICS

Termination: Screw terminals on rear with safety covers
Front Panel: IP65/NEMA 4X with gasket
Operating Temp: 32 to 122°F (0 to 50°C)
Storage Temp: -4 to 158°F (-20 to 70°C)
Humidity: 85% relative humidity, non-condensing
Weight: 1.43 lbs. (650g)

APPROVALS & CERTIFICATIONS

CE Mark: Self-certified to applicable standards
Agency Approvals: UL, cUL

POWER SUPPLY (MAINS)

Input Power: 100 to 240Vac, 50/60Hz switching
 24Vac/dc option available
Power Consumption: 15VA, max
Transmitter Supply: 24Vdc for 2-or 4-wire mA transmitters

Ordering Guide

ATC880-X-X-X (Process Controller + Strain Gage or mA/V input
 + 3 Alarms + Analog Control Output)

External Set Point:
0 = No External Set Point
1 = Analog Remote Set Point or Secondary Input for Differential (selectable)
Options:
2 = 24Vdc Auxiliary Power Supply + Analog Retransmission
3 = 24Vdc Auxiliary Power Supply + Analog Retransmission + RS-485 + 4 Digital Inputs
Power Supply:
3 = 100 to 240Vac, Switching
5 = 24Vac/dc, Switching

