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.

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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: ±0.1% full scale
Sampling Time: 50mS, typical

INPUT

Input: Strain gage or linear (Vdc, mA)
Strain Gage: 350 to 5000Ω, 1 to 4mV/V, excitation 10V ±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: <10Ω for linear current input
>165kΩ 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: ±0.1% of output span
Accuracy: ±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

Shaded sections refer to standard configurations that are offered.

5.04 in (127.9 mm)
MOUNTING PANEL
0.60 in (15 mm) THICK MAX
0.62 in (15.8 mm)
0.06 in (1.5 mm)
3.87 in (98 mm) SQ

3.62 in (92 mm)
3.62 in (92 mm)
CUTOUT

All dimensions are inches (mm) unless otherwise specified.