

# 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

<b>Instrument Type:</b>	Digital, panel-mount PID closed loop controller
<b>Display:</b>	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
<b>Accuracy:</b>	±0.1% full scale
<b>Sampling Time:</b>	50mS, typical

### INPUT

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

### ALARM OUTPUTS

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

### OUTPUTS

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

<b>Resolution:</b>	±0.1% of output span
<b>Accuracy:</b>	±0.1% of output span

### CONTROL FUNCTION

<b>Type:</b>	PID with integral preload and anti-reset windup with an adaptive auto-tuning algorithm
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### SERIAL COMMUNICATION INTERFACE

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

### MECHANICAL & PACKAGING CHARACTERISTICS

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

### APPROVALS & CERTIFICATIONS

<b>CE Mark:</b>	Self-certified to applicable standards
<b>Agency Approvals:</b>	UL, cUL

### POWER SUPPLY (MAINS)

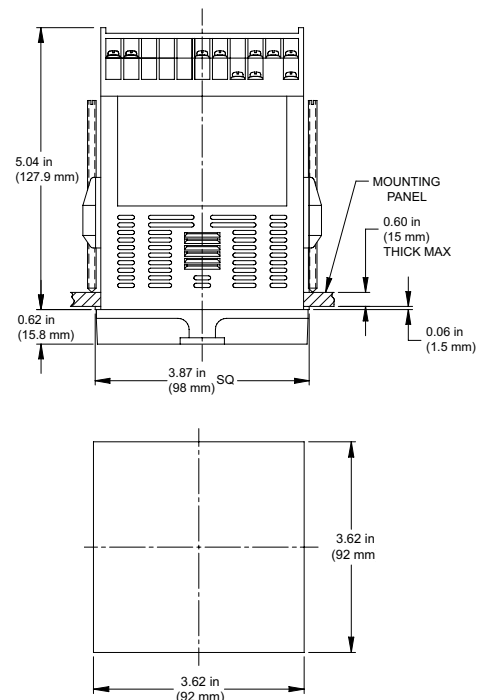
<b>Input Power:</b>	100 to 240Vac, 50/60Hz switching 24Vac/dc option available (pending)
<b>Power Consumption:</b>	15VA, max
<b>Transmitter Supply:</b>	24Vdc for 2-or 4-wire mA transmitters

## 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 (availability pending)

Shaded sections refer to standard configurations that are offered.



All dimensions are inches (mm) unless otherwise specified.  
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Refer to [www.dynisco.com](http://www.dynisco.com) for access to Instruction Manual and other support documentation.