Series 427

1/16 DIN Multi-Mode Bar Graph Display Timer

FIELD SELECTABLE MODES OF OPERATION

An 8 position tamper proof mode switch allows easy selection of any one of eight different timing modes.

- On Delay
- Repeat Cycle
- Signal Interval/Off Delay
- Signal Off Delay
- Interval
- Cycle One Shot
- Signal On Delay/Off Delay
- Signal Off Delay (2)

UNIVERSAL POWER SUPPLY

The 427 can be powered using 24-240 VAC or 24 VDC power, greatly simplifying ordering and inventory management of replacement units.

48mm² DIN HOUSING

The 48mm^2 (1/16 DIN) housing is compact. The 427 is mounted in an 11 pin round socket. With an optional mounting clip, the 427 can be panel mounted.

Positive indication of the setpoint is shown on the front of the 427. Each digit can be changed by rotating the setting knobs. The decimal point and sec./min./hr. range are also clearly displayed.

The decimal point and sec./min./hr. select switches are located on the side of the unit, so that when panel mounted, these switches are not accessible to the operator. This tamper proof feature prevents unauthorized or hazardous changes to the timing range from being made.

CYCLE PROCESS INDICATION

The 427 LED bargraph indicator provides a unique and effective method of cycle progress indication. Off before timing, the first five LED's blink for the first 20% of the timing cycle. After the first 20%, this LED stays on and the next LED blinks. This operation continues for all 5 LEDs until the timing cycle is complete. When timed out, all 5 LEDs remain on providing positive indication to the operator.

APPROVALS

See Agency Listing on inside back cover of catalog.

PRODUCT HIGHLIGHTS

- Digital Setting with 0.1% Accuracy
- Unique LED Bargraph Indicates Time Cycle in 20% Increments
- 8 Field Selectable Modes of Operation
- Output Contacts Rated 10A at 120/240 VAC and 30 VDC
- Timing Ranges: 0 to 9.99, 99.9 and 999 sec., min., and hours
- Universal Power Supply; 24-240 VAC and 24 VDC
- 48mm² DIN Standard Housing
- 11-pin Socket Mount or Panel Mount
- Range & Mode Switches are Tamper Proof when Panel Mounted
- EEPROM Memory Available as an Option for Applications Requiring Memory
- 3 Separate Control Inputs: Start, Gate, Reset

DIGITAL SETTING

The 427 is set digitally by rotating each setting knob. This digital setting allows exact, accurate and repeatable timing cycles.

HIGH ACCURACY

The 427 utilizes a crystal controlled oscillator which provides 0.1% timing accuracy across all rated voltages and temperatures.

OPERATION

Operating Power is applied to terminals (10) & (2). Depending upon the Mode of Operation selected and the wiring of the three Control terminals (START, RESET, GATE) the 427 can be started by wiring the START terminal (6) to (3). The 427 can be reset by wiring the RESET terminal (7) to (3). The timing can be temporarily stopped by wiring the GATE terminal (5) to (3).

When wiring the Control terminals: (5), (6), (7), the use of high quality signal relay or switch is recommended. Do not apply power to any of these terminals or the 427 may be damaged. Keep the leads to the Control terminals as short as possible and do not route in the same conduit or wiring bundles as load carrying wires.

Do not wire external loads in parallel with these Control terminals.

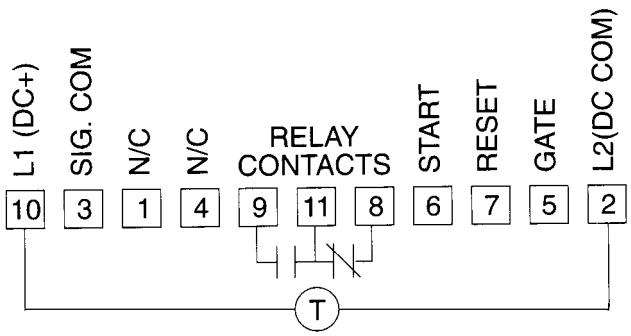
See modes of Operation

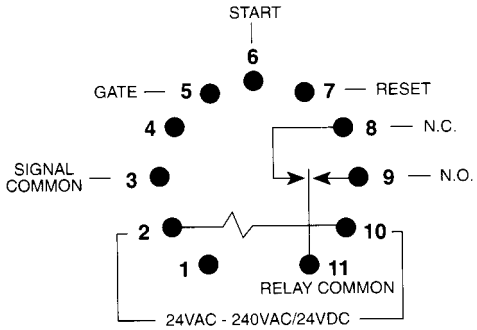
Before starting your design, read the safety statement in the back of the ATC catalog

Concerning safety... ATC makes every effort to build a safe product. We try to state specifications accurately, but every product made will eventually fail, so design our products into equipment so they fail safely.

WIRING

Model: 0427A300F80XX



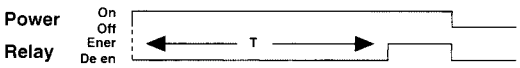


Bottom View of Timer

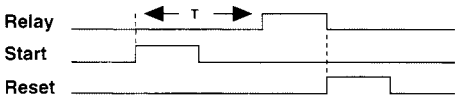
MODES OF OPERATION

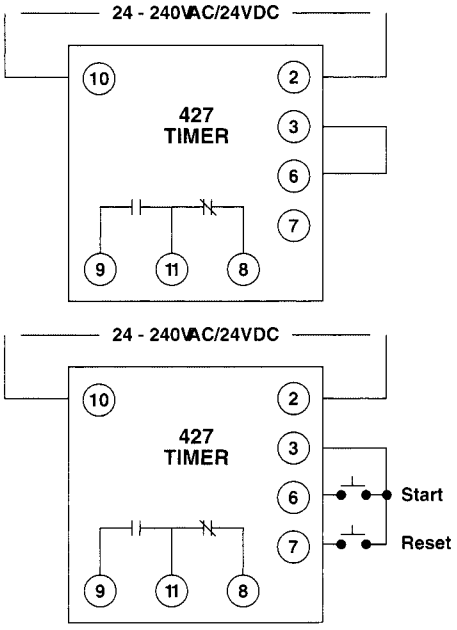
On-Delay Operation (Mode A)

When operating power is applied, the time-delay begins. At the end of the time-delay, the output relay energizes and remains energized until reset by removing the operating power.



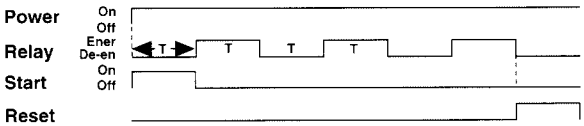
Using the **START** and **RESET** control terminals: With operating power applied, timing starts at the leading edge of the **start** signal. At the end of the timing, the output relay energizes and remains energized until reset by the leading edge of the **reset** signal, or removal of operating power.

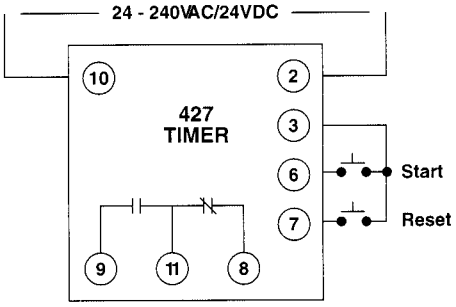




Signal Interval/Off Delay (Mode B)

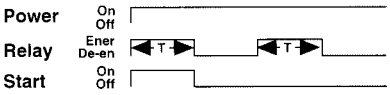
When operating power is applied, the preset off time begins. When the off time ends, the output relay energizes and the on time begins. When the on time ends, the relay de-energizes and a new cycle begins. The timer recycles until the operating power is removed, or momentarily enabling the reset.

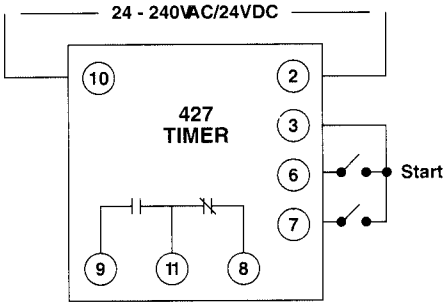




Signal Interval/Off Delay (Mode C)

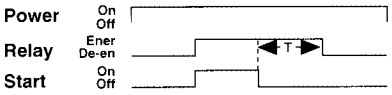
When operating power is applied, the output relay energizes and timing starts when the start switch is opened or closed. When the time setting is reached, the output relay de-energizes. The timer restarts from zero if the start switch transitions during the timing cycle.

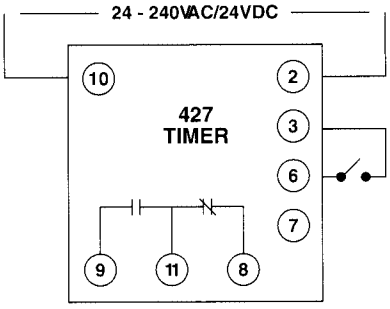




Signal Off Delay 1 (Mode D)

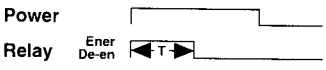
With power applied, the output relay energizes when the start switch is closed. Timing starts when the start switch is opened. At the end of the time delay, the relay de-energizes and the timer resets.

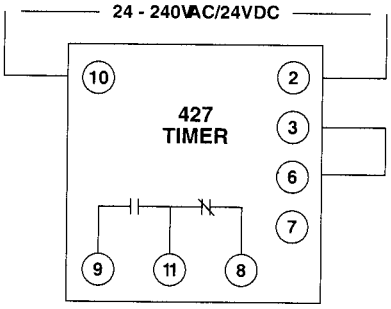




Interval (Mode E)

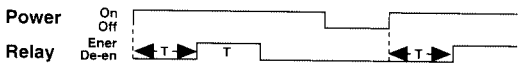
When operating power is applied, the output relay energizes and timing starts. At the end of timing, the relay de-energizes and timing stops. The reset, remove the operating power or enable the reset terminal momentarily.

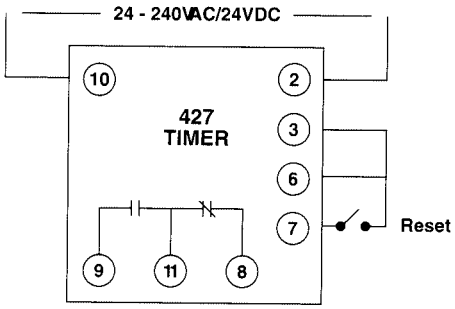




Cycle One Shot (Mode F)

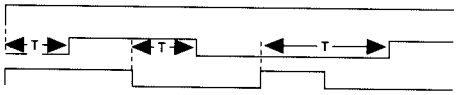
When operating power is applied, the timing cycle starts. When the time setting is reached the output relay energizes and remains energized. If the operating power is still applied, the timer continues timing and when the time setting is reached again, the output relay de-energizes. Reset is accomplished by removing operating power or closing the reset switch.

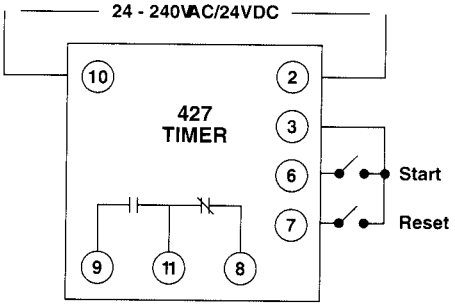




Signal On Delay/Off Delay (Mode G)

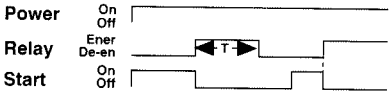
When operating power is applied, the timing cycle starts with the opening or closing of the start switch.
A. Closing a normally open switch, the timing cycle starts and when the time setting is reached the output relay energizes. Opening the start switch, timing restarts and the relay de-energizes when the time setting is reached.
B. Using a normally closed start switch, when operating power is applied, the timer begins the above timing cycle immediately

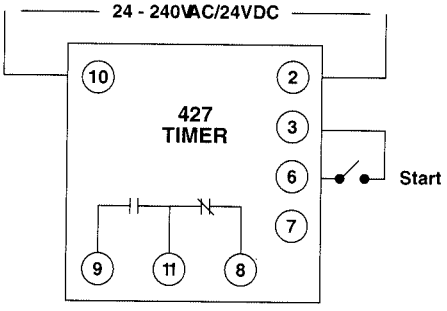




Signal Off Delay 2 (Mode H)

With operating power applied, the timing cycle starts and the output relay energizes when the start switch opens. When the time setting is reached, the output relay de-energizes.





SPECIFICATIONS

MODEL: 427A300F80XX
8 Switch selectable Modes of Operation:
A - On Delay
B - Repeat Cycle
C - Signal Interval/Off Delay
D - Signal Off Delay 1
E - Interval
F - Cycle One Shot
G - Signal On Delay/Off Delay
H - Signal Off Delay 2

CONTACT RATING
Rated 10 AMPS resistive at 30 VDC or 250 VAC (or less)
1/8 HP @ 120 VAC
1/4 HP @ 240 VAC
240 VA @ 240 VAC

LIFE: 10 million operations with no load
100,000 operations with:
10 AMPS at 30 VDC (or less) or
10 AMPS at 250 VAC (or less) @ 50°C
CONTACT MATERIAL
Cadmium Silver Oxide

TEMPERATURE RATING
-18°C to 60°C. (0 to 140°F.)

NOISE IMMUNITY
Showering ARC per NEMA ICS 2-230. In addition, the 427 will withstand a voltage surge of 4500 volts for 50 usec.without damage.

MOUNTING
11-pin plug-in base; mounts in any position with retaining clips.
Options: Surface mounting
DIN mounting socket
Panel-mounting adapter kit
Plug-on socket

POWER REQUIREMENTS
Universal power supply - reverse polarity protected
24 to 240VAC, 50/60 Hz; (+10%, -20%)
24VDC (+20%,-20%)

AC: Inrush - 1.5 Amps
Power required - 1.2 watts

DC: Maximum ripple @ 100 Hz - 10%
Current required - 50 mA
Power required - 1.2 watts
"F" option - Peak inrush current= 2 Amps @ 24 VDC

REPEAT ACCURACY
+/-0.1% over all rated voltages (crystal controlled)

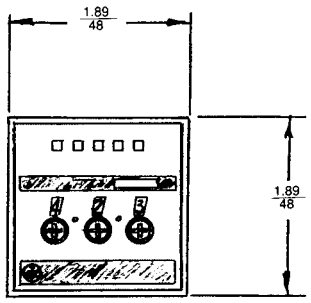
POWER RESET TIME
a. 0 to 20 msec power interruption; guaranteed no reset.
b. 20 to 65 msec; it may reset (40 msec typical reset)
c. Over 65 msec guaranteed to reset

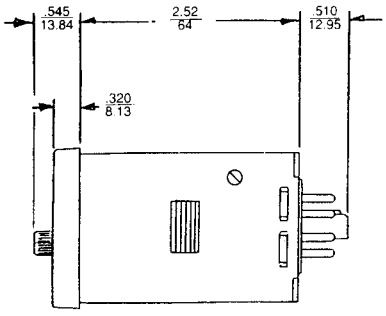
WEIGHT
5 oz. (140 g)

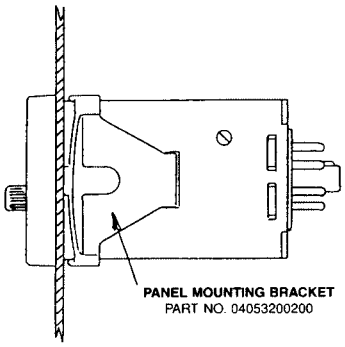
CONTROL RESET TIME
a. Start: 50ms
b. Reset: 50ms
c. Gate: 50ms

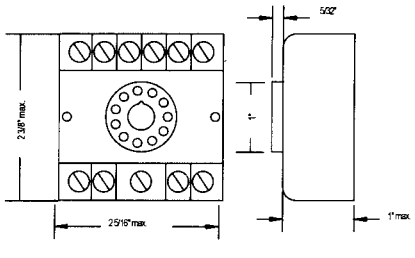
DIMENSIONS:

INCHES
MILLIMETERS

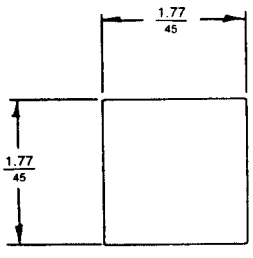


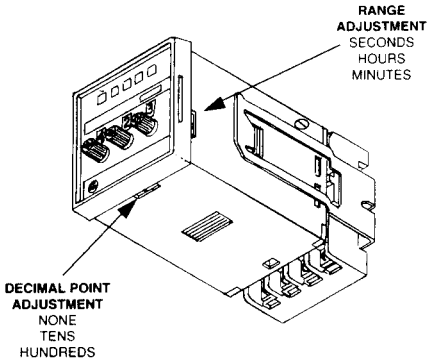






11 PIN OPTIONAL SOCKET NO. 00008258600





Before starting your design, read the safety statement on the inside back cover of the ATC catalog.

SERIES 427A TIMER

ORDERING CODE

427A 300 F 80 XX

BASIC TYPE

RANGE
300 0 to 9.99, 99.9, 999 sec., min., hrs.

VOLTAGE & FREQUENCY
F 24 to 240 VAC and 24 VDC

ARRANGEMENT
80 8 operating modes

FEATURES
XX Standard plug-in, 11-pin round
XK Special

ACCESSORIES
0000-825-86-00 11 Pin surface/DIN rail socket
0405-025-07-00 Hold down for above socket
0405-320-02-00 Panel mounting bracket
0314-260-07-00 11-pin plug on socket kit
0000-825-88-00 11 Pin panel socket w/rear facing terminals

For prices and further information, consult factory.