

A compact version of the 335 Timer, the **ATC 355B** is its exact functional duplicate, packaged in a 72mm<sup>2</sup> DIN-Size housing, it occupies 40% less panel space and costs proportionately less. Modern production and assembly techniques have all but eliminated hand wiring, enhancing the reliability and life expectancy of the 355B.

**COMPUTER TESTED RELIABILITY:** The Solid-State 355B is manufactured from a series of computer-tested plug-in circuit boards and assembled virtually without hand wiring. Because it has no moving parts in its logic circuits, its life expectancy is practically unlimited. Even the load relay — the 355B's only significant mechanical component — has a life expectancy of 100,000,000 operations (no load). As a result, the 355B achieves an overall reliability that surpasses even the high level achieved by previous Shawnee timers.

**CYCLE PROGRESS INDICATION:** The Shawnee indicating timer provides cycle progress indication on a four-digit display located immediately above the digital setting number wheels.

**PLUG-IN AND DUST-TIGHT:** All 355B timers feature true plug-in design and can be replaced in seconds without disturbing the housing or disconnecting the wiring. The dial assembly is gasketed so that the timer body is dust-tight from the front of panel.

**WIDE RANGE:** Each Shawnee 355B timer covers the overall span of 0.01 SEC to 999.9 MIN in two field-convertible ranges. The 355B indicating timer also offers two additional field-convertible ranges of 0.1-999.9 SEC or MIN

**EASY TO SET AT ALL TIMES:** The Shawnee timer is easily and accurately set even with work gloves on. Push any of its four toggle levers in any sequence until the number you want appears above it. You can decrease as well as increase each number by pushing the levers up or down. You can change the setting at any time, even during a cycle.

**SAVE 40% IN PANEL SPACE AND COST:** Packaged in a 72mm<sup>2</sup> DIN-size housing, the 355B occupies 40% less panel space than previous IC timers. Modern production and assembly techniques have substantially reduced manufacturing costs and resulted in a 45% cost saving.

**OUTSTANDING REPEAT ACCURACY:** Unsurpassed among industrial timers regardless of cost, the Shawnee has a repeat accuracy of ±10 milliseconds on any setting within its overall range of 999.9 MIN, even in the face of wide swings in temperature or voltage and regardless of the amount of reset time between cycles.

**NOISE IMMUNITY:** The 355B does not have to be shielded: its transformer power supply, full-wave bridges, buffered logic and other design characteristics render it immune to the electrical noise that is encountered in typical industrial environments.



Shawnee II Digital Reset Timer

MODEL NUMBER >>>>>	355B	30 P
Range		
999.9 SEC	346	
999.9 MIN	347	
99.99 SEC	351	
99.99 MIN	352	
Special	000	
Voltage & Frequency		
120/60	A	
240/60	B	
120/50	C	
240/50	D	
Arrangement		
With Display (on Delay)	30	
Features		
Basic plug-in unit	p	
Standard unit	X	
Special	K	
ACCESSORIES		
0353-260-27-00:	Surface mounting bracket kit	
0305-265-61-70:	Retrofit kit	

THE 355B DIRECTLY REPLACES 355A.

## SPECIFICATIONS

RANGES	0.01 - 99.99 SEC	
	0.01 - 99.99 MIN	
	0.1 - 999.9 SEC	
	0.1 - 999.9 MIN field-convertible	
TIMING MODES POSSIBLE	Single Cycle	interval or delay
	Repeat Cycle	pulse (fixed at approx. 50 mSEC)
CYCLE PROGRESS INDICATOR	4 digit, 0.3 inch, high intensity, blue display	
REPEAT ACCURACY	±0.01 SEC on all ranges	
RESET TIME	75 milliseconds	
MINIMUM SETTING	99.99 SEC of MIN ranges: 0.01 SEC or MIN, respectively	
	999.9 SEC or MIN ranges: 0.1 SEC or MIN, respectively	
LOAD RELAYS	Number	two, one instantaneous and one delayed; both plug-in DPDT
	Operate Time	20 mSEC, max.
	Release Time	instantaneous — 20 mSEC, max. delayed — 75 mSEC, max.
	Contact Rating	5 A at 120 VAC,
	Life	100 million operations (no load)
TEMPERATURE RATING	32° to 140°F (0 to 60°C)	
POWER REQUIREMENTS	120V	95-132V at 50 or 60 Hz inrush — 0.2 A running — 0.04 A
	240V	190-264V AT 50 OR 60 Hz inrush — 0.1 A running — 0.02 A
		Clock Input
	Voltage	95-132V rms (120V Model) 190-264V rms (240V Model)
	Current	20 mA max.
	Frequency	0 to 1000 Hz (sinusoidal)
TERMINALS	16 screw terminals accessible at rear; integral wiring diagram on housing	
HOUSING	Plug-in design; completely gasketed, dust-tight when panel-mounted	
MOUNTING ACCESSORIES <small>See Accessory section of catalog</small>	Standard	Hardware is provided to mount timer so that it is dust-tight from front of panel
	Optional	Surface mounting without and with front-facing terminals
	NEMA 12 case (1 timer)	
WEIGHT	NET: 1 lb., 7 oz.	SHIPPING: 2 lbs

## OPERATION

The Shawnee 355B operates on a digital logic circuit with three main elements: a clock which uses utility line frequency of 50 or 60 Hz as its time base; a read-only-memory (ROM) whose output is set by the timer's digital setting number wheels; and a comparator that continuously examines the outputs of the clock and ROM.

When power is applied (start signal on), two things happen simultaneously; the instantaneous DPDT relay is energized transferring both sets of contact, and the clock circuit begins to count each cycle of the utility line frequency. Translating this count into hundredths of a second, the clock accumulates it and feeds it continuously to the comparator. When clock output exactly equals the output of the ROM, the comparator causes the 355B to time out.

At this point, (1) the DPDT delay relay is energized, immediately transferring both sets of contacts and (2) the clock turns itself off automatically. Since the clock stops counting even if the start signal remains on, it is not necessary to tie up one of the 355B's delayed contacts to do this job.

To reset the Shawnee 355B, power must be removed from terminal 1 (L1) for 75 milliseconds or more. The 355B operates in the On-Delay mode only, always resetting whenever there is a power outage and starting a new cycle when power is restored.

**CYCLE PROGRESS INDICATION:** When the timer is in the reset condition, the LED display is blank. During the timing cycle, the display counts up from zero, thus always indicating the amount of time that has elapsed since the start of cycle. At time-out, the display shows total elapsed time and exactly equals the numbers on the digital setting wheels.

		Switching Sequence: Assumes a sustained closed start signal (i.e. longer than the setting on the digital display.)		
RELAY	CONTACTS	Before Start	During Timing	End of Cycle
Instantaneous	14-9/6-8	BLACK	GRAY	GRAY
	14-10/6-7	GRAY	BLACK	GRAY
Delayed	11-12/4-5	BLACK	GRAY	GRAY
	11-13/4-3	GRAY	BLACK	GRAY

BLACK-Circuit Closed
  GRAY-Circuit Open

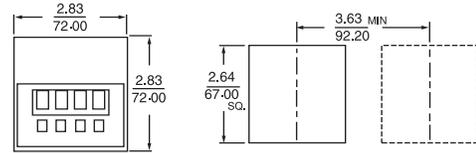
TYPICAL INSTALLATIONS

KEY SYMBOLS

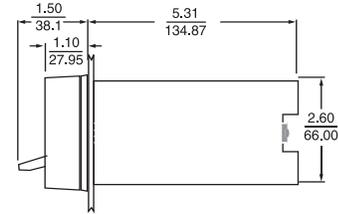
- POWER SUPPLY
  - CLOCK
  - INDEPENDENT LOADS
  - DEPENDENT LOADS
  - MOMENTARY STARTING CONTACT
  - SUSTAINED STARTING CONTACT
  - LOAD ENERGIZED
  - LOAD DE-ENERGIZED
- All timers shown in "before start" position. Diagrams shown with power off unless otherwise marked.
- Maximum load current through any load carrying contact is 5 amperes. Pilot lights leads are brought out to terminal block. Pilot light can be wired to show practically any desired function timer energized, cycle running instantaneous or delayed switch closed. etc.

- DELAYED CONTACTS  
Contacts transfer simultaneously when unit "times out" and all digits are zero.
- INSTANTANEOUS CONTACTS  
Contacts are transferred when power supply is energized, transferred back as shown when de-energized.

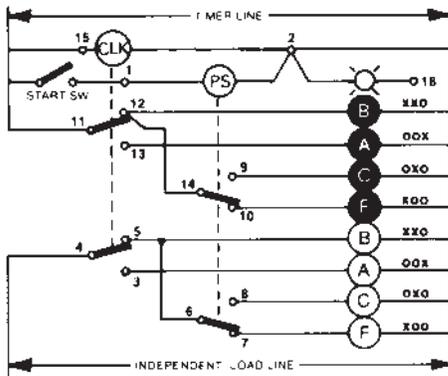
DIMENSIONS (INCHES/MILLIMETERS)



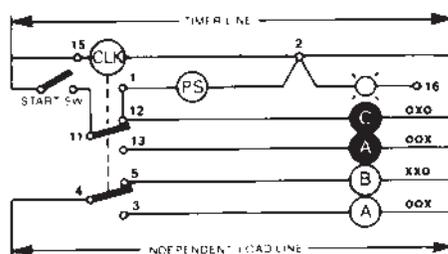
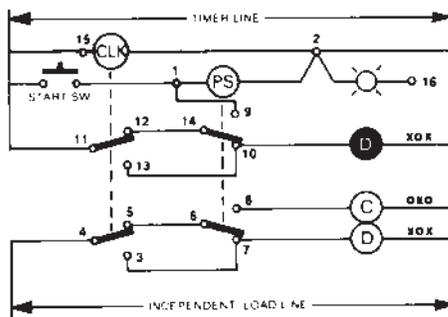
PANEL CUTOUT SHOWING DISTANCE BETWEEN ADJACENT CUTOUTS.



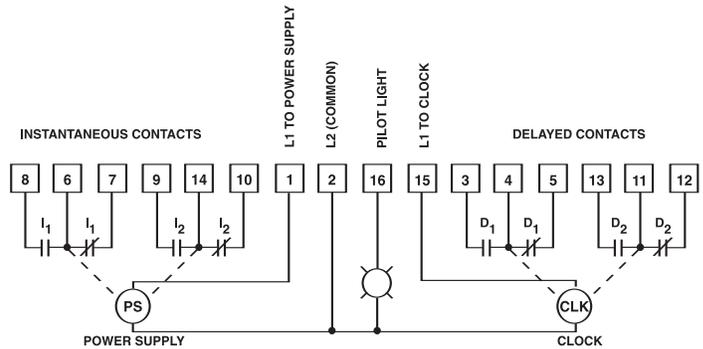
SUSTAINED START



MOMENTARY START



WIRING



Pilot light only on unit without display

TERMINAL WIRING: INDICATING MODEL

