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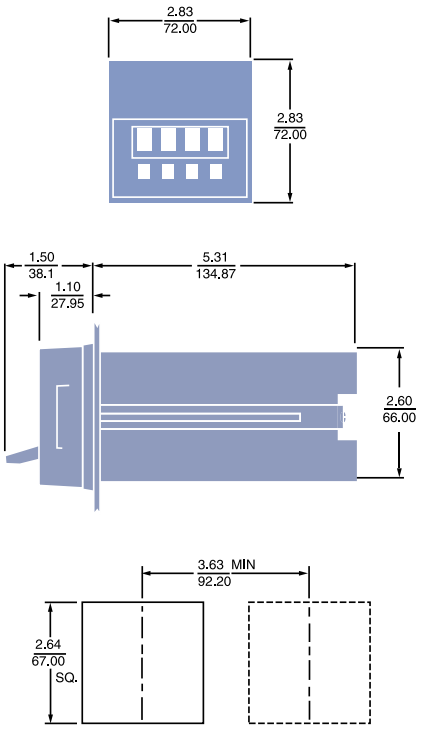
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DIMENSIONS:
INCHES
MILLIMETERS



PANEL CUTOUT
SHOWING DISTANCE BETWEEN
ADJACENT CUTOUTS.

Series 365

LONG-RANGER
The Computing Timer



WIDE RANGE
Each 365 Long-Ranger covers the overall span of 0.01 *sec* to 999 *hrs,* in nine switch-selected ranges of 0 to 9.99,99.9 or 999 *sec, min* or *hrs.* The timer can be optimized within any selected range simply by removing appropriate selector knobs (e.g. with the timer in the 9.99 *sec* range, you can obtain a tamper-proof span of 0.99 by setting the left selector at 0 and removing the knob).

PROGRAMMABLE DISPLAY
Depending on the position of an internal jumper, the 365's three-digit cycle progress display will time UP to or DOWN from the set point; after time-out, it will either STOP or GO (i.e. display the time elapsed *after* time-out). To the right of the three-digit display, a timing bar (-) blinks once per second during the timing cycle and rapidly after time-out. At left, a marker (▼) turns **on** when the delayed relay is energized. The 365 is also available without display but with a pilot light that blinks once per second during the cycle and rapidly after time-out.

NOISE IMMUNITY
The 365 has formidable defenses against noise: transformer power supply, full-wave bridges, buffered logic. Furthermore its microcomputer detects--and rejects--noise pulses that manage to penetrate its defenses. No industrial timer has ever offered greater noise immunity.

RELIABILITY AND RUGGEDNESS
ATC firmly believes that no industrial timer has ever achieved a higher level of reliability and ruggedness. The 365's electronic components have no moving parts and are assembled, virtually without hand wiring, from computer-tested circuit boards. Its few mechanical components have been selected for reliable service; the two load relays have a life expectancy of 100,000,000 operations and heavy-duty contacts rated at 7 amps; and the three rotary set point selector switches exhibit extremely low wear.

COMPACT, PLUG-IN AND DUST-TIGHT
Packaged in a 72 mm^2 DIN housing, the 365 occupies 40% less panel space than conventional timers. It is a true plug-in timer that can be replaced in seconds without disturbing housing or wiring. The 365 is also fully gasketed and O-ring sealed to be dust and water-tight.

SELF DIAGNOSTICS
A built-in diagnostic program lets you verify -- without test instruments -- that the timer's functional circuits are operating properly. Just follow the instructions on the flip-up card, using the timer's own display for the test readout. If all self-test displays are correct, you can be sure that almost any malfunction is due to external circuits or to the relays, not the timer.

PRODUCT HIGHLIGHTS

WIDE RANGE
Each 365 Long-Ranger covers the overall span of 0.01 *sec* to 999 *hrs,* in nine switch-selected ranges of 0 to 9.99,99.9 or 999 *sec, min* or *hrs.* The timer can be optimized within any selected range simply by removing appropriate selector knobs (e.g. with the timer in the 9.99 *sec* range, you can obtain a tamper-proof span of 0.99 by setting the left selector at 0 and removing the knob).

COMPUTATION
Through its internal microcomputer, the 365 keeps track of the set point throughout the time cycle. Whenever there is a change in set point, even *during* a cycle, it instantly re-computes the time remaining and accurately determines time-out. This unique capability is especially valuable in the *time-down* modes as it allows you to shorten a cycle without loss of accuracy.

POSITIVE RESET TIME AND PULSE LENGTH
Digitally clocked by the microcomputer, the 365's reset time is consistently of the same duration, regardless of variations in line voltage, power supply or time cycle. As a result, the 365 is not subject to false reset from momentary power interruptions (less than 30 ms). When the 365 operates in repeat-cycle mode, the output pulse is also digitally clocked so that both its occurrence and duration are consistent.

APPROVALS
See Agency Listing on inside back cover of catalog.

OPERATION

As soon as power is applied to terminals 1 & 2 of the timer, the instantaneous relay is energized and changes the states of its associated contacts (8-6-7 & 9-14-10). The timer then looks for terminal 15 (the clock terminal) to receive power. When terminal 15 is powered, the internal clock circuit is enabled and the timer starts to time. When the internal clock time equals the time set on the front face, the delayed relay energizes and changes the states of its associated contacts (3-4-5 & 13-11-12). The timer is reset by removing power from terminal 1 for at least 60 msec. At reset, both relays revert back to their shelf (without power) state.

SPECIAL NOTE FOR UNITS WITHOUT DISPLAYS

On non-display units, terminals 1 & 15 are jumpered together internally. As soon as power is applied, the instantaneous relay energizes and the timer starts to time immediately.

DISPLAY INFORMATION

The digital display can be set to operate in any of 4 modes by simply moving a jumper on the circuit board.

MODE:

- **UP & STOP** (Time up to time set, transfer delayed relay, and stop timing).
- **UP & GO** (Time up to time set, transfer delayed relay, and continue timing until unit is reset).
- **DOWN & STOP** (Time down to zero from time set, transfer delayed relay, and stop timing).
- **DOWN & GO** (Time down to zero from time set, transfer delayed relay, and continue timing up from zero giving a direct overshoot reading. Timing will continue until unit is reset). All 365 timers are shipped from the factory in the UP & STOP mode.

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 7 amperes.

ON DELAY Reset on power failure.

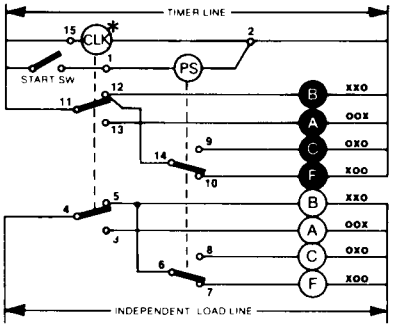
DELAYED CONTACTS

Contacts transfer simultaneously when unit “times out”.

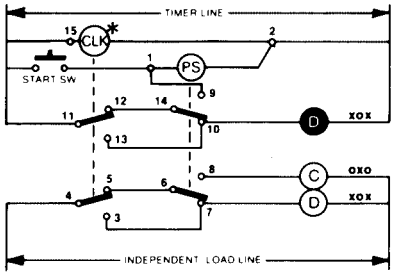
INSTANTANEOUS CONTACTS

Contacts are transferred when power supply is energized, transferred back as shown when de-energized.

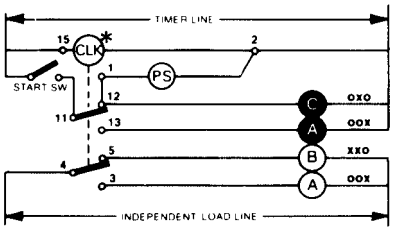
SUSTAINED START



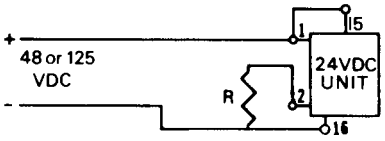
MOMENTARY START



REPEAT CYCLE PULSE



Load A pulses **on** for approximately 50 ms.



VDC	R	ATC PT. NO
48	150 Ω 20w	3652602500
125	650 Ω 20w	3652602600

SPECIFICATIONS

MODELS
Choice of two:
Arrangement 30, with digital display
Arrangement 10, without display
Both available for **on delay** operation at 120, 240 or 24V AC; and 24, 48 or 125V DC.

RANGES
Switch-selectable ranges of 0-9.99, 0-99.9 and 0-999 sec, min or hrs.

REPEAT ACCURACY
AC ±0.01 sec on all ranges, synced to AC
line.
DC better than ± .010% by crystal controlled oscillator after warm up.

RESET TIME
Clocked at 60 ms.

TIMING MODES
SINGLE CYCLE: interval or delayed.
REPEAT CYCLE: pulse-clocked at 50 to 80 ms (will be constant for a given unit).

DISPLAY (Arr. 30 only)
CYCLE PROGRESS:
3 digit display, 0.3 inch, high-intensity, blue programmable: DOWN and STOP, DOWN and GO, UP and STOP or UP and GO.
TIME-OUT: ▼ display (left); energized at time-out.

TIMING BAR: - display (right); blinks once per second during cycle, rapidly after time-out.

PILOT LIGHT (Arr. 10 only)
Blinks once per second during cycle, rapidly after time-out.

LOAD RELAYS
NUMBER: one instantaneous and one delayed.
TYPE: DPDT, Form C.
OPERATE TIME:P 13 ms, max.
RELEASE TIME: 10ms, max.
CONTACT RATINGS:
7A at 120, 240 or 24V AC, 1/6 HP.
3A at 24V DC, 1-1/2 A at 48V DC, 1/2 A at 125V DC.
LIFE: 100 million operations (no load).

TERMINALS
16 screw terminals accessible at rear; integral wiring diagram.

HOUSING
72 mm² DIN size; plug-in design; fully gasketed, dust and water-tight in panel mounted installations.

POWER REQUIREMENTS
120V AC: 95-132V AC, 50 or 60 Hz.
Inrush -- .3A.
Running -- 0.06A at 120V AC.
240V AC: 190-264V AC, 50 or 60 Hz.
Inrush --.15A.
Running -- 0.03A at 240V AC.
24V AC: 19.2-26.4V AC, 50 or 60 Hz
Inrush -- 1A.
Running -- 0.25A at 24V AC.
24V DC: 19.2-26.4V DC, 5% ripple
Running -- .120A AT 24V DC.

CLOCK INPUT (terminal 15)
VOLTAGE MODEL
120VAC Model: 95-132V AC, 10mA max. current at 120V
240V AC Model: 190-264V AC, 10 mA max. current at 240V
24V AC Model: 19.2-26.4V AC, 20 mA max. current at 24V
24V DC Model: 19.2-26.4V DC (5% ripple), 5 mA max. current at 24V

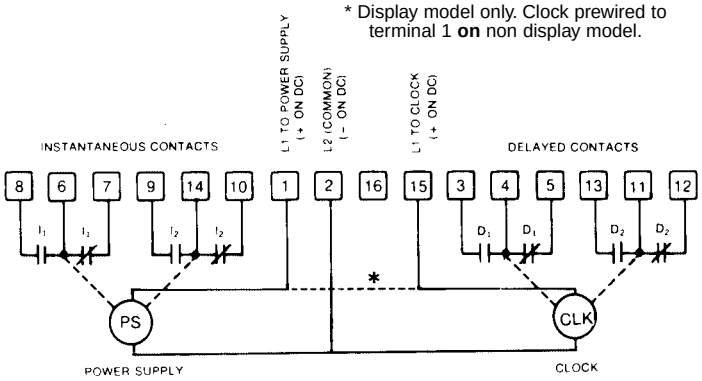
TEMPERATURE RATING
32 to 140°F (0 to 60°C).

WEIGHT
NET: AC 1 lb., 6 oz.
DC 14 oz.

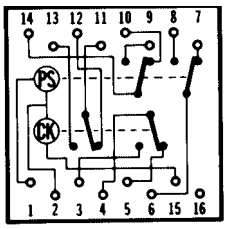
SHIPPING: AC 2 lbs.
DC 1 lb., 8 oz.

ACCESSORIES
STANDARD: hardware is provided for front-of-panel mounting.
OPTIONAL: Surface-mounting brackets with front-facing terminals. NEMA 12 molded case (1 timer).
(See Accessory section of catalog.)

WIRING



TERMINAL WIRING



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

SERIES 365 THE COMPUTING TIMER

WITHOUT DISPLAY

ORDERING CODE

365A 300 Q 10 P X

BASIC TYPE

RANGE
300 0 to 9.99, or 99.9 or 999 sec., min., or hr.
000 Special

VOLTAGE & FREQUENCY
Q – 120VAC, 50-60 Hz
R – 240VAC, 50-60 Hz
T – 24VAC, 50-60 Hz
K – Special

ARRANGEMENT
10 – Without display, on-delay
(reset on power failures cannot integrate time)

FEATURES
P – Basic plug-in unit
X – Standard unit
K – Special

WITH DISPLAY

ORDERING CODE

365A 300 Q 30 P X

BASIC TYPE

RANGE
300 0 to 9.99, or 99.9 or 999 sec., min., or hr.
000 Special

VOLTAGE & FREQUENCY
Q – 120VAC, 50-60 Hz
R – 240VAC, 50-60 Hz
T – 24VAC, 50-60 Hz
N – 24V DC**
K – Special

ARRANGEMENT
30 – With display, on-delay
(reset on power failure)

FEATURES
P – Basic plug-in unit
X – Standard unit
K – Special

ACCESSORIES

0353-260-27-00	Surface mounting bracket kit
0305-265-61-70	Retrofit kit
0365-260-25-00	Resistor Kit for 48VDC
0365-260-26-00	Resistor Kit for 125VDC

For prices and further information, consult factory.
**Operation on 48VDC or 125 VDC can be obtained by using one of the resistor kits listed under accessories

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