

322B Timer



INSTALLATION
INSTRUCTIONS
February, 2001

3-G01299-00-001-00

Reinke P/N/ 322B-G01299-02/03

ORDERING CODE **322B 114 A 1 2 CS**

BASIC TYPE

RANGE - 60Hz, 120V

114	5 Sec.
003	10 Sec.
005	20 Sec.
115	40 Sec.
007	60 Sec.
009	150 Sec.
012	5 Min.
014	10 Min.
050	20 Min.
056	40 Min.
017	60 Min.
113	5 Hrs..

RANGE - 50Hz, 120V

101	6 Sec.
116	12 Sec.
117	24 Sec.
118	48 Sec.
073	72 Sec.
119	180 Sec.
029	6 Min.
047	12 Min.
052	24 Min.
058	48 Min.
061	72 Min.
030	6 Hrs..
000	Special

VOLTAGE AND FREQUENCY

A	120/60
B	240/60
C	120/50
D	240/50
K	Special

ARRANGEMENT

- 1 On-Delay reset on power interruption
- 2 Off-Delay non-reset on power interruption

SWITCH DIFFERENTIAL

- 2 2-1/2%-5% of dial range
- 0 Special

FEATURES

- CS Standard Surface-mounting unit, Clutch Contact
- CK Special



AUTOMATIC TIMING & CONTROLS

1827 Freedom Road, P.O. Box 12500, Lancaster, PA 17605
Phone: (717) 295-0500 • Fax: (717) 481-7240
1-800-441-8245 • www.automatictiming.com

Printed in the U.S.A

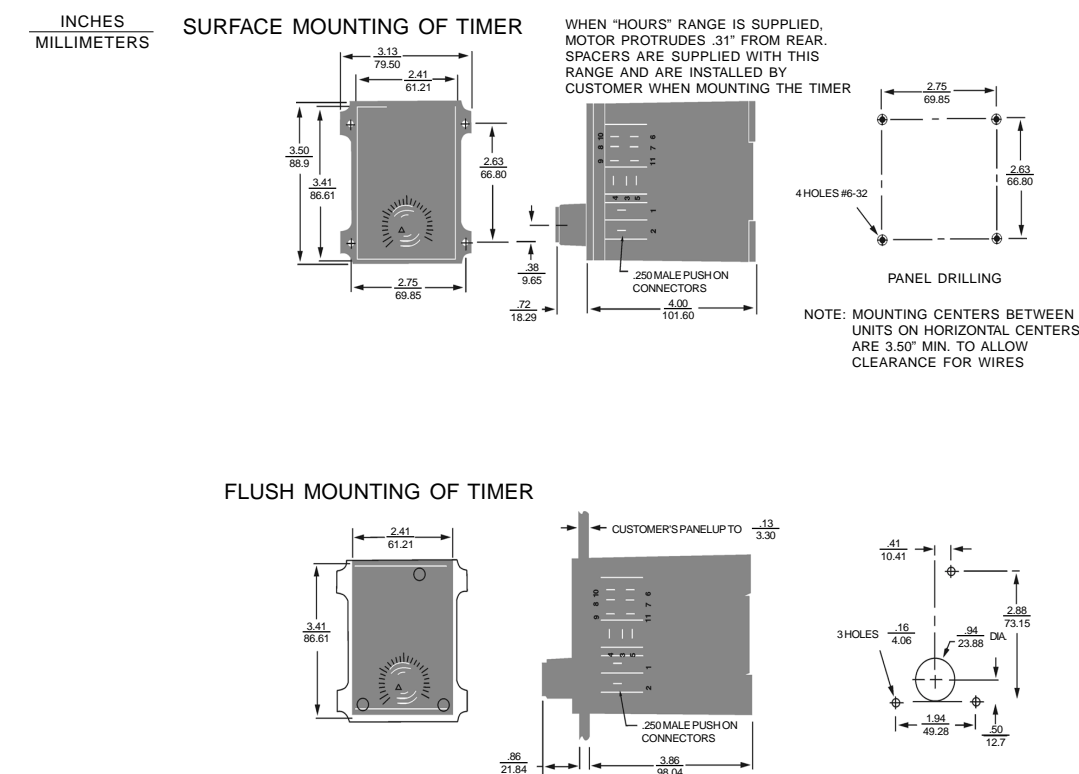
DESCRIPTION:

A dial-adjustable TDR with cycle progress indication, the ATC 322 can also be used as a low-cost automatic reset timer for a wide range of interval, delay and pulse timing functions, in either *on delay* or *off delay* operation.

The Series 322 Timer is built to meet NEMA 1 (semi-dust tight) environment requirements and should be mounted in a relatively dust- and dirt-free location.

It is designed for either panel- or surface-mounting.

DIMENSIONS:



MOUNTING: (Maximum panel thickness 1/8")

Remove the knob by loosening two #6 Allen set screws. Remove the dial by lifting out of the recessed bezel. Next remove the bezel, held in place by three flat head screws.

Using the bezel as a template, drill 11/16" diameter shaft-hub clearance hole, and three 6-32 screw clearance holes.

Place the timer behind the panel and reassemble the bezel, dial, and knob on the front of the panel. The top of the dial fits under the small plastic projection in the bezel. Be sure to align the cycle-progress arrow on the timer shaft with the reference mark on the knob.

CAUTION: Do not over-tighten the Allen set screw or you'll strip the threads.

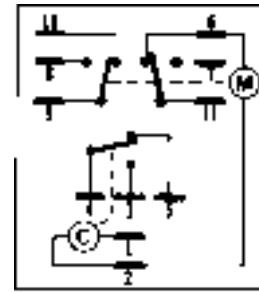
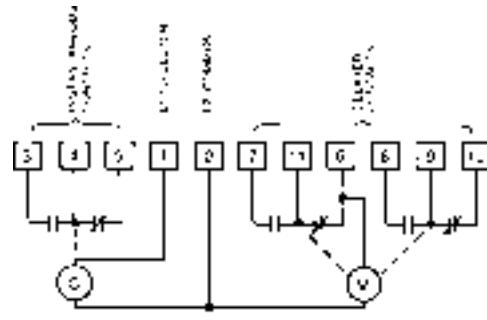
WIRING:

Wiring terminals are located in the barrier-separated recesses in the right-hand side of the timer housing, and are clearly numbered. Terminals, 1, 2, 9, 11 and 4 will accept one .250" or two .110" push-on connectors. All other terminals will accept one .250" push-on connector only. See the drawings on the following pages for circuits suitable for your application.

CAUTION: Be sure that the line voltage agrees with the electrical rating of the timer.

WIRING:

TERMINAL WIRING:



OPERATION:

The 322 is a synchronous motor-driven timer with an electrically-operated clutch equipped either for **on delay** or **off delay** operation.

ON-DELAY

When power is applied (start signal sustained **on**), the clutch engages, the motor begins to drive a cam toward its zero position, and the instantaneous switch transfers from one set of contacts to the other.

At the end of the timed period, the cam trips one of the delayed switches, but the motor continues to run. A brief time later (about 2 1/2% to 5% of full scale), the cam trips the second delayed switch, stopping the motor but leaving the clutch engaged. The 322 resets when power is removed from the clutch.

OFF DELAY

Timing begins when power is removed (start signal **off**) from the spring-loaded, normally-engaged clutch. The timer resets when power is restored to the clutch, thus disengaging it and transferring the instantaneous switch from one set of contacts to the other. Action of the delayed contacts is the same as with the **on-delay** timer.

A power outage stops the motor but does not reset the **off delay** 322; the timer completes the interrupted cycle when power is restored.

SWITCH	CONTACTS	ON DELAY TIMING SEQUENCE**		
		Before Start	During Cycle	End of Cycle
INSTANTANEOUS (I)	4-3	Gray	White	White
	4-5	White	Gray	White
DELAYED (D ₂)	11-6	White	White	Gray
	11-7	White	White	Gray
DELAYED (D ₁)	9-10	White	White	Gray
	9-8	White	White	Gray

* D₂ trips approximately 2 1/2% to 5% of range after end of cycle.
 ** Assumes a sustained closed start signal (i.e. longer than the dial-set time).

SWITCH	CONTACTS	OFF DELAY TIMING SEQUENCE**		
		Before Start	During Cycle	End of Cycle
INSTANTANEOUS (I)	4-3	White	White	Gray
	4-5	White	White	Gray
DELAYED (D ₂)	11-6	White	White	Gray
	11-7	White	White	Gray
DELAYED (D ₁)	9-10	White	White	Gray
	9-8	White	White	Gray

* D₂ trips approximately 2 1/2% to 5% of range after end of cycle.
 ** Assumes a sustained open start signal (i.e. longer than dial set time).

GRAY - Circuit Open
 WHITE - Circuit Closed

SWITCH REPLACEMENT:

The complete switch assembly, including the instantaneous and the delayed switches, may be removed by removing the two flat-head screws from the left side of the timer housing and lifting the rectangular section out. The replacement switch assembly is installed in this space, *as it is received*. Replacement switches are adjusted at the factory to provide the required 2% differential between their operating points, and attempts to change this adjustment in the field may result in faulty timer operation and permanent damage to that particular switch assembly.

SPECIFICATIONS:

MODELS

Choice of **on delay** or **off delay** operation (*not* field-convertible).

RANGES

12 standard ranges, from 5 sec to 5 hrs at 60 Hz (6 sec to 6 hrs at 50 Hz) as listed in Price Sheet.

REPEAT ACCURACY

± 2% of dial range.

RESET TIME

150 ms.

MIN. SETTING

5% of dial range.

LIFE EXPECTANCY

MECHANICAL: 2,500,000 cycles (average).
 CONTACTS: 2,500,000 operations under resistive or inductive load of 1 A.

TIMING MODES

SINGLE CYCLE: interval, delay, or pulse.

LOAD SWITCHES

INSTANTANEOUS: one, SPDT, precision type.
 DELAYED: two, SPDT, precision type.
 CONTACT RATINGS (non-inductive):
 10 A at 120V AC
 5 A at 240V AC.

TERMINALS

11-point terminal block on side of housing; all terminals accept .250" push-on connectors. Terminals 1, 2, 4, 9 and 11 are split connectors for use with either one .250" or two .110" push-on connectors.

POWER REQUIREMENTS

120 or 240V, 50 or 60 Hz.
 RUNNING CURRENT: 121 mA (14.5VA) at 120V.
 INRUSH CURRENT: 157 mA (18.9 VA) at 120V.

TEMPERATURE RATING

32° to 120°F (0 to 50°C).

WEIGHT

NET: 1 lb., 8 oz
 SHIPPING: 2 lbs.

A WORD ABOUT SAFETY

Most of ATC's products are designed for general and not for specific applications. Because of this, we usually are not aware of how they eventually will be used. However, they are frequently employed in controlling automatic machinery or processes. Although ATC makes products of high reliability, every product, given enough time, can be expected to fail. Statistically, devices can fail after a short period of time or a long period of time or anything in between. In essentially all cases, failure means failure to provide a logic signal or power to an electric load when it should or to provide it when it should be absent. Less often, failure means failure to meet some other specification. But, in all cases, it means to do something unwanted or unexpected.

Since the failure of automatic machinery or processes can create hazardous conditions for personnel or property, whatever the definition of failure might be, it is necessary to consider the consequences of failure and design in such a way that failure will not create a hazard to personnel or property. The design must insure that any failure will result in a fail safe condition and there will be no danger to personnel and/or property involved in the use of the product.

Designs incorporating controls of any kind should be carefully considered to provide for their eventual failure.

IMPORTANT NOTICE

Our recommendations, if any, for the use of this product are based on tests believed to be reliable. The greatest care is exercised in the selection of our raw materials and in our manufacturing operations. However, since the use of this product is beyond the control of the manufacturer, no guarantee or warranty, expressed or implied is made as to such use of effects incidental to such use, handling or possession or the results to be obtained, whether in accordance with the directions or claimed so to be. The manufacturer expressly disclaims responsibility therefore. Furthermore, nothing contained herein shall be construed as a recommendation to use any product in conflict with existing laws and/or patents covering any material or use.

*Warranties of Sale, disclaimer thereof and limitations of liability and covered exclusively by Automatic Timing and Controls printed warranty statement for the controls. These instructions do not expand, reduce modify or alter Automatic Timing and Controls warranty statement and no warranty or remedy in favor of a customer or any other person arises out of these instructions.