



Electronics

1600/1700 Series Delay On Operate Timers Fixed/Adjustable Timing, Relay Output



Product Facts

- AC/DC input delay on operate timer offered in fixed (1600) and adjustable (1700) types
- Up to 10A loads
- **■** CMOS digital design
- Hermetic package
- Built to MIL-R-83726 environmentals
- Many customizing options
 - **■** Extended timing ranges
 - Tighter timing tolerances
 - Header and mounting
 - 115Vac, 60 Hz. input types



Timing Range:

1600 series (fixed): 50 ms to 600 s. **1700** series (adjustable): 50 ms to 240 s

Tolerance: ±10% or 10 ms, whichever is greater

Recycle Time: 10 ms (DC input),

50ms (AC input).

Recovery Time: 10 ms (DC input), 50ms (AC input).

Input Voltage: 18 to 31Vdc, 105 to 125Vac, 400 Hz.

Current Drain (at 25°C, 28Vdc): DC Coil, 10A contacts:

1- and 2-pole: 135mA maximum. AC or DC Coil, 4A contacts: 1-pole: 100mA maximum. 2-pole: 150mA maximum.

2-pole: 150mA maximum. **3- and 4-pole:** 200mA maximum.

Contact Ratings: DC Coil, 10A contacts: 10A resistive @ 30Vdc. 5A inductive @ 30Vdc.

5A resistive @ 115 Vrms, 400 Hz 3A inductive @ 115 Vrms, 400 Hz

AC or DC Coil, 4A contacts:

4A resistive @ 30Vdc. 1A inductive @ 30Vdc. 2A resistive @ 115 Vrms, 400 Hz 1A inductive @ 115 Vrms, 400 Hz

Environmental Specifications

Temperature Range:

-55°C to +85°C or - $\bar{5}$ 5°C to +125°C. **Vibration:** 20 G's, 10 - 2,000 Hz. **Shock:** 50 G's, 11 \pm 1ms duration.

Insulation Resistance: 1,000 megohms, min., at 500Vdc, all terminals

to case.

Dielectric Strength: 1,000Vrms, 60 Hz., at sea level, all terminals to case. **Sealing:** Hermetic, 1.3 in. (33.0mm) of

mercury.

Life: 100,000 operations, min.

Weiaht

4A units: 4.5 oz (127.6g) max. **10A units:** 8.5 oz (240g) max.



CII 1600/1700 series delay on operate timers combine solid state timing circuits with electromechanical output relays in robust hermetically sealed enclosures. The 1600 types are fixed timers, while the 1700 models are adjustable via an external resistor. Numerous output options include 4A rated

contacts in 1-4 form C (SPDT - 4PDT) arrangements and 10A rated contacts in 1-2 form C (SPDT-DPDT) arrangements.

Specifications by Model Number – 4 Amp Contact Versions

Fixed Timer	Adjustable Timer	Input	Temperature	Housing Length	Contact
Model Number	Model Number	Voltage	Range	(Dim. "A")	Arrangement
1601	1701	DC	-55°C to +85°C	1.656 [42.06]	1 Form C (SPDT)
1602	1702	DC	-55°C to +85°C	1.656 [42.06]	2 Form C (DPDT)
1603	1703	DC	-55°C to +85°C	2.0 [50.8]	3 Form C (3PDT)
1604	1704	DC	-55°C to +85°C	2.0 [50.8]	4 Form C (4PDT)
1621	1721	DC	-55°C to +125°C	1.656 [42.06]	1 Form C (SPDT)
1622	1722	DC	-55°C to +125°C	1.656 [42.06]	2 Form C (DPDT)
1623	1723	DC	-55°C to +125°C	2.0 [50.8]	3 Form C (3PDT)
1624	1724	DC	-55°C to +125°C	2.0 [50.8]	4 Form C (4PDT)
1651	1751	AC	-55°C to +85°C	2.0 [50.8]	1 Form C (SPDT)
1652	1752	AC	-55°C to +85°C	2.0 [50.8]	2 Form C (DPDT)
1653	1753	AC	-55°C to +85°C	2.375 [60.33]	3 Form C (3PDT)
1654	1754	AC	-55°C to +85°C	2.375 [60.33]	4 Form C (4PDT)
1671	1771	AC	-55°C to +125°C	2.0 [50.8]	1 Form C (SPDT)
1672	1772	AC	-55°C to +125°C	2.0 [50.8]	2 Form C (DPDT)
1673	1773	AC	-55°C to +125°C	2.375 [60.33]	3 Form C (3PDT)
1674	1774	AC	-55°C to +125°C	2.375 [60.33]	4 Form C (4PDT)

Specifications by Model Number - 10 Amp Contact Versions

Fixed Timer Model Number	Adjustable Timer Model Number	Input Voltage	Temperature Range	Housing Length (Dim. "A")	Contact Arrangement
1610	1710	DC	-55°C to +85°C	2.419 [61.44]	1 Form C (SPDT)
1620	1720	DC	-55°C to +85°C	2.419 [61.44]	2 Form C (DPDT)

Adjustable Timing Formula (1700 types)

The resistance required to obtain timing within this range is determined by using the formula:

Rx = 400K (T/Tmax.) - 40K, where Rx = External Resistance in Ohms,

T - Desired Time in Seconds, and Tmax. = Maximum Time (Code).

A high quality deposited carbon ±1%, 0.1W (min.) resistor is recommended for external resistance.

Part Numbering System

Typical Part Numbe	r	1722	-c	- 1102		
Model Number: Four digit code from table above.						
Mounting (see outline dimension drawings): A = Studs on bottom B = Studs on top C = Studs on side						

Timing Code:

Four-digit code for any value between 50ms and 600s for fixed (1600) timers, and 50ms and 240s for adjustable (1700) timers.

The timing code consists of four digits and gives the time in ms. The first three digits are the significant figures and the last digit is the number of zeros following the significant figures; thus 50 ms would be coded 0500, 1.1 s would read 1101, and 1 m (60 s) would be 6002.

Adjustable timers cover one decade, e.g., 62 ms to 620 ms. The upper decade limit is Tmax. in the timing formula and is the the value defined by the timing code in the part number.

A typical part number for an adjustable timer would be 1722–C–1102. This is a DC unit in the -55°C to +125°C temperature range with a 2 form C (DPDT) contact arrangement in a style "C" mounting, with a maximum time delay of 11s.

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Catalog 7-1773439-7 Revised 4-05

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752 Canada: 1-905-470-4425 Mexico: 01-800-733-8926 C. America: 52-55-5-729-0425 South America: 55-11-3611-1514 Hong Kong: 852-2735-1628 Japan: 81-44-844-8013 UK: 44-141-810-8967



Electronics



1600/1700 Series Delay On Operate Timers (Continued) **Outline Dimensions** - .31 [7.87] .625 [15.875] .375 [9.53] #6-32 THD 4 PLACES .063 MAX [1.60] 2 357 [59.88] MAX. 2.419 2.419 [61.44] MAX. SEATED [61.44] MAX. 1.25 [31.75] 10 Amp Units SEATED HEIGHT .625 HEIGHT [15.875] .063 MAX. [1.60] .530 [13.46] .297 [7.54] .375 [7.54] J [9.53] #6-32 THD 4 PLACES #6-32 THD INDEX DOT .375 INDEX DOT 4 PLACES [9.53] .062 MAX. 1.284 .750 [1.575] [32.61] 1.284 750 [19.05] 1.813 [32.61] [19.05] [46.05] MAX. SEATED [23.11] 1 250 🗵 [31.75] HEIGHT 1.790 [31.75] [45.47] [45.47 INDEX DOT 1.284 **Mounting Option A Mounting Option B Mounting Option C** #4-40 THD 4 PLACES .063 MAX. 375 [1.60] [9.53] 625 [15.875] \bigcirc "A" MAX. 4 Amp Units "A" MAX MAX. 1.25 [31.75] 625 [15.875] .063 MAX. [1.60] .250 MAX [6.35] .375 .438 MAX [9.53] [11.12] #4-40 THD 4 PLACES #4-40 THD -INDEX DOT -INDEX DOT .375 1.0 MAX [25.4] 1 0 MAX INDEX .062 MAX .81 DIA. [50.57] MAX. 75 DIA 1.0 MAX [19.05] MAX. [25.4] 78 DIA. 1.25 MAX. [22.22] 1.25 MAX. [22.22] [19.8] MAX. 1.25 MAX [31.75] **Mounting Option A Mounting Option B Mounting Option C Wiring Diagrams** 1600 Series (Fixed) INDEX DOT INDEX DOT 1 Form C 2 Form C 3 Form C 4 Form C 1700 Series (Adjustable) TIMING RESISTOR INPU 0 INDEX TIMING RESISTOR DOT INDEX DOT TIMING RESISTOR

2 Form C

INDEX DOT

1 Form C

3 Form C

TIMING RESISTOR

South America: 55-11-3611-1514 Hong Kong: 852-2735-1628 Japan: 81-44-844-8013 UK: 44-141-810-8967

4 Form C