

Product Family Overview

Introduction







Timers are used in applications where time itself is the main focus. These include simple knowledge of how long a machine has been running to determine machine maintenance, for example, (elapsed time) to knowing when to change an elevator cable (cable life and safety). Timers generally have the ability to stop and then to continue on from the point at which they stopped. Timer Relays are used in applications where an output is required to make something happen at a predetermined point in time (to stop or start the process).

Application Examples

- Elapsed time indication for interval maintenance of construction and agricultural equipment
- Usage metering for determining charges on rental equipment
- Controlled process timing for adhesive application/curing equipment

Timers/Hour Meters Product Family Overview

Table 62. Product Family Overview

Product Family	Characteristics	Panel Cutout in Inches (mm)	Page Number
 E5-224-C	<ul style="list-style-type: none"> ■ Non-replaceable battery (min. 8-yr. life) ■ Compact, low cost and high efficiency ■ 8-Digit LCD timer ■ Manual or electrical reset ■ Various timing modes (Hr/Min/Sec) 	0.870 x 1.772 (22 x 44)	63
 E5-24-E	<ul style="list-style-type: none"> ■ Compact device with bright, LED display ■ Multiple functions available: count, time, rate, multifunction, double-function ■ 24V DC Power 	0.870 x 1.772 (22 x 44)	24
 E5-248-C	<ul style="list-style-type: none"> ■ Panel-mount, battery powered time relay ■ 8 timing modes, 9 time ranges ■ 3 programmable activation modes ■ 8A relay contacts (N.O. or N.C.) 	1.772 x 1.772 (45 x 45)	68
 E5-496-E	<ul style="list-style-type: none"> ■ Economical, multifunction display ■ Large, LED characters ■ AC or DC power options 	1.772 x 3.622 (45 x 92)	27
 Hour Meters	<ul style="list-style-type: none"> ■ Compact, low-cost LCD and electromechanical elapsed time meters ■ Various power options for almost any power supply 	Various	65
 E42DP55	<ul style="list-style-type: none"> ■ DIN Rail-mount, battery-powered time relay ■ 8 timing modes ■ 1 million operations or 10 years ■ 10A contact rating 	N/A	70

Contents

<i>Description</i>	<i>Page</i>
Timers/Hour Meters — Electronic	
1/32 DIN LCD — Timers . . .	63
E42DI24/E42DIR Series . . .	65
Timers/Hour Meters — Electromechanical	
1/16th DIN Hour Meters . . .	66
71.1 Round Hour Meter . . .	67
Time Controls	
Battery-Powered LCD	68
E42DP55 Battery Powered	70



Cat. No. E5-224-C0440

Features

- Low price and high efficiency
- Large 8-digit LCD display, height of the figures 0.31 Inch (8 mm)
- Different time ranges from 0.1 second to 100,000 hours
- 0.1 second synchronization makes it suitable for very short activation times
- High voltage input for 10 – 260V AC/DC voltage pulses
- IP65
- Screw terminals, RM 5 mm
- Lifetime of the battery approximately 8 years
- Locking of the reset key
- Operating temperature 14 to 140°F (-10 to 60°C)

Standards and Certifications

- UL Recognized
- CE Marked

Technical Data and Specifications

- Power Supply: Non-replaceable lithium battery (lifetime approximately 8 years at 68°F (20°C))
- Display: LCD, 8-digits, height of the figures 0.31 Inch (8 mm)
- Counting Direction: Adding
- Display Range —
 - Time Range: 99999 h 59 m (134) Display:



- Time Range: 99999.99 h (134) Display:



- Time Range: 9999 h 59 m 59 s (135) Display:



- Time Range: 9999999.9 s (135) Display:



- Reset: Manual and electrical
- Timer Inputs, DC versions (max. 30V DC) —
 - Timer input: NPN or PNP depending on the type
 - Switching level —
NPN Low: 0 – 0.7V
NPN High: 3 – 30V DC
PNP Low: 0 – 0.7V
PNP High: 4 – 30V DC
 - Counting start —
NPN: For low signal at the timer input
PNP: For high signal at the timer input

- Timer Inputs, High voltage version (10 – 260V DC/V AC) —
 - Timer input: Optocoupler input max. 30 Hz
 - Min. pulse time: 16 mS
 - Switching level —
Low: 0 – 2V DC/V AC
High: 10 – 260V DC/V AC
 - Counting start: For high signal at the timer input
- Time Range Change (Mode) —
 - Contact input —
Open collector (switching at 0V)
NPN Low: 0 – 0.7V
NPN High: 3 – 5V DC
 - Time Range: Depending on the circuit
- Reset Input (Only DC and High Voltage) —
 - Minimum pulse time—
DC: 50 mS
High Voltage: 10 mS
 - Contact input (DC) —
NPN Low: 0 – 0.7V
NPN High: 3 – 30V DC
 - High voltage input:
10 – 260V DC/V AC
- Reset Locking Input (For DC and AC), Electrical Reset Key Locking —
 - Input not active: Reset key locked
 - Contact input: Open collector NPN (switching at 0V)
 - Switching level —
NPN Low: 0 – 0.7V
NPN High: 3 – 5V DC
- Interference Emissions: EN 55011 Class B, EN 61 000-6-2, EN 61010 Section 1 (only AC versions)
- Housing; Dark gray RAL 7021
- Operating Temperature: 14 to 131°F (-10 to 55°C)
- Ambient Temperature: 14 to 140°F (-10 to 60°C)
- Storage Temperature: -4 to 158°F (-20 to 70°C)
- Protection: IP65 (from front)
- Weight: Approx. 1.76 oz (50 g)

1/32 DIN LCD — Timers

Product Selection

Table 63. Product Selection — 1/32 DIN LCD, Timers

Description	Catalog Number	*
8-digit LCD Timer, Battery Power		
Hours/Minutes, 0.94 x 1.89 Inch (24 x 48 mm)	E5-224-C0440	
Hours/Minutes, 10 – 260V Input, 0.94 x 1.89 Inch (24 x 48 mm)	E5-224-C0448	
Minutes/Seconds, 0.94 x 1.89 Inch (24 x 48 mm)	E5-224-C0450	
Minutes/Seconds, 10 – 260V Input 0.94 x 1.89 Inch (24 x 48 mm)	E5-224-C0458	

Dimensions

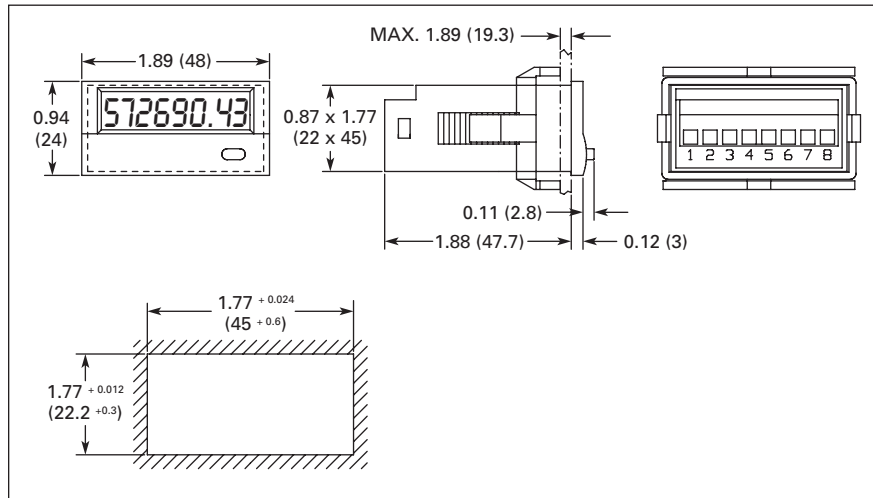


Figure 56. 1/32 DIN LCD, Timers — Approximate Dimensions in Inches (mm)

Discount Symbol CC-4