

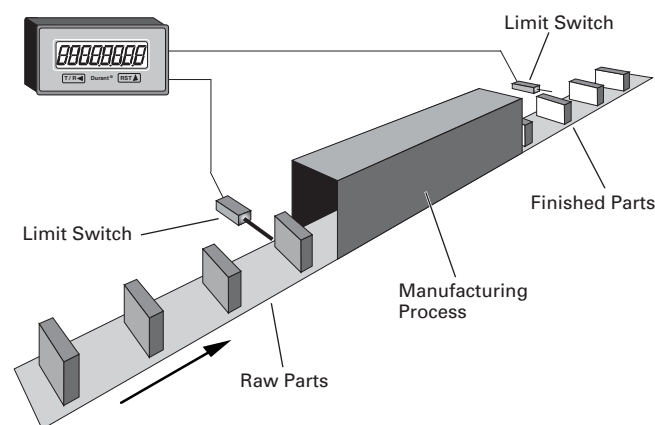
Product Family Overview

Introduction

Totalizers are used in a wide variety of applications where accurate totals are needed. Typical applications include counting the number of parts produced, amount of material used, or the number of machine cycles occurring. Totalizers are the simplest and most common type of counter. As an added bonus, some models can perform both totalizing and ratemeter functions.

Application Example

Parts are fed into a machine or process, an operation is performed, and the finished parts exit the machine or process. The subtract totalizer is used to indicate the number of parts in process.



Application Example

Totalizer Product Family Overview

Table 1. Product Family Overview

Product Family	Characteristics	Typical Applications	Panel Cutout in Inches (mm)	Page Number
 E5-024-C	<ul style="list-style-type: none"> ■ Non-replaceable battery (min. 8-yr. life) ■ Compact, low cost and high efficiency ■ 8-Digit LCD totalizers ■ Manual or electrical reset ■ Various counting modes/inputs 	<ul style="list-style-type: none"> ■ Replacement for mechanical counters ■ Transaction counting ■ Parts counting ■ Position indication or measurement 	0.870 x 1.772 (22 x 44)	22
 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 	<ul style="list-style-type: none"> ■ Count, measure, time where small package and easy-to-read display required ■ Position display ■ Motor/pulley RPM 	0.870 x 1.772 (22 x 44)	24
 E5-496-E	<ul style="list-style-type: none"> ■ Economical, multifunction display ■ Large, LED characters ■ AC or DC power options 	<ul style="list-style-type: none"> ■ Large, easy-to-read display ■ Position display ■ Motor/pulley RPM 	1.772 x 1.622 (45 x 92)	27
 Courier	<ul style="list-style-type: none"> ■ Replaceable lithium battery ■ 8-digit, high-visibility LCD display ■ Optional backlighting ■ Various input options available 	<ul style="list-style-type: none"> ■ Portable/mobile/remote flow monitoring (e.g. sewer pumping, pesticide application) ■ Position display, RPM ■ Length measurement (e.g. carpet, cable) 	1.299 x 2.677 (33 x 68)	25
 Eclipse	<ul style="list-style-type: none"> ■ 6-digit, super bright LED display ■ Multiple models available: totalizers, ratemeters, count controls, digital panel meters and flow controls 	<ul style="list-style-type: none"> ■ Length measurement and control ■ Flow monitoring and control ■ Process monitoring and display ■ Voltage and current monitoring and display 	1.772 x 1.622 (45 x 92)	28
 Ambassador	<ul style="list-style-type: none"> ■ 8-digit, high-visibility, 2-line LCD display ■ User-configurable control inputs ■ Highly flexible control/display 	<ul style="list-style-type: none"> ■ Flow control where simultaneous total and rate display are required ■ Cut-to-length and other simple processes where flexibility of inputs/outputs required 	2.667 x 2.667 (68 x 68)	34
 President	<ul style="list-style-type: none"> ■ Bright LED display w/14 mm characters ■ Simple configuration with 14-button tactile keypad ■ Many different versions fit almost any application 	<ul style="list-style-type: none"> ■ Cut-to-length machinery with batching ■ Parts batching/palletizing ■ Die press positioning control ■ Applications where parameter changes are required 	2.667 x 5.433 (68 x 138)	30
 Electromechanical	<ul style="list-style-type: none"> ■ Various price, voltage and size ranges for different duty cycles and environments ■ Long life and always readable display 	<ul style="list-style-type: none"> ■ Coin-operated equipment ■ Gaming machines ■ Printing presses ■ Secondary machines (e.g. punch press) 	Various Mounting Configurations	16
 Mechanical	<ul style="list-style-type: none"> ■ Various size ranges for different duty cycles and environments ■ No power supply needed ■ Long life and always readable display 	<ul style="list-style-type: none"> ■ Winding and spooling equipment ■ Position display ■ Mechanical piece/cycle counting 	Various Mounting Configurations	3



Cat. No. 57600400

Features

- AC/DC powered, 2-line LCD display
- 8-digit totalizer
- 1/Tau ratemeter
- Totalizer and ratemeter scaling
- Four user-configurable control inputs
- Two solid-state outputs
- RS-485 Serial communications

Standards and Certifications

- UL Listed
- CE Marked

Technical Data and Specifications

Power Input

- AC Operation —
 - 115V AC ($\pm 15\%$) std., 50 to 60 Hz, 7W
 - 230V AC ($\pm 15\%$) opt., 50 to 60 Hz, 7W
- DC Operation: 10 – 15V DC opt., 300 mA maximum

DC Power Output

- 12V DC ($\pm 25\%$), 100 mA maximum (includes all line and load variations)

Environmental

- Operating Temperature: 32 to 131°F (0 to 55°C)
- Storage Temperature: -4 to 158°F (-20 to 70°C)
- Operating Humidity: 85% Relative, non-condensing
- NEMA 4 rating when mounted with gasket provided

Totalizer

- Type: Bi-directional
- Digits: 8
- Scaler Range: 0.00001 to 9.99999
- Decimal Point: 5 positions, programmable

Totalizer Count Speeds

The maximum count speed depends on the selected count mode. All maximum speeds are shown with square waves (50% duty cycle) input.

- Maximum Speed — Solid-State (High Speed)
 - Mode Input A/ Input B —
 - Add/Sub: 20 kHz
 - Add/Add: 20 kHz
 - Count/Direction: 15 kHz
 - Count x 2/Direction: 7.5 kHz
 - Quadrature x 2: 6.5 kHz
- Maximum Speed — Contact (Low Speed)
 - Mode Input A/ Input B —
 - Add/Sub: 40 kHz
 - Add/Add: 40 kHz
 - Count/Direction: 40 kHz

Count Inputs

- Sink —
 - Impedance: 4.6k ohms to +5V DC
 - Voltage —
 - High: 3.5 to 34.0V DC
 - Low: 0.0 to 1.9V DC
- Source (high) —
 - Impedance: 2.3k ohms to common
 - Voltage —
 - High: 3.5 to 17.0V DC (100% duty cycle)
 - Low: 0.0 to 1.9V DC
- Source (low) —
 - Impedance: 2.3k ohms to common
 - DC Voltage —
 - High: 0.6 to 17.0V DC
 - Low: -17.0 to -0.6V DC
 - AC Voltage: 17V AC (48V Peak-Peak) maximum

Control Inputs

- Impedance: 4.7k ohms to +5V DC
- Voltage —
 - High: +3.7 to +24V DC
 - Low: 0.0 to 0.9V DC
- Response: Minimum low 15 mS, minimum high 15 mS

Transistor Outputs (2)

- Type: NPN open collector with transient protection
- Maximum Voltage (OFF state): 30V DC
- Maximum Current (ON state): 200 mA @ 1.3V DC

Communication

- Type: RS-485
- Format: 1 start bit, 7 data bits (ASCII), 1 parity bit, 1 stop bit
- Protocol: Opto-22 compatible
- Speed: 300, 1200, 2400, 4800, 9600 and 19200 baud
- Parity: Odd, Even, None (space transmitted, ignore received)

Count Accuracy

- 100% when operated within the specified count speeds and count signal high and low times

Rate Indicator

- Type: 1/Tau
- Digits: 6
- Scaler Range: 0.00001 to 99999
- Decimal Point: 5 positions, programmable
- Accuracy: $\pm 0.015\%$ of reading
- Update Time: 1 second, fixed
- Zero Time: 10 seconds, fixed

Connections

- Type: Dual depluggable screw terminal strips
- Conductor Size: 14 – 22 AWG (2.1 – 0.38 mm²), 600V, solid, stranded or fused (preferred)

Product Selection

Table 35. Product Selection — Ambassador Series Totalizers

Description	Catalog Number	*
10 – 15V DC LCD	57600400	
115V AC LCD	57601400	
230V AC LCD	57602400	

Dimensions

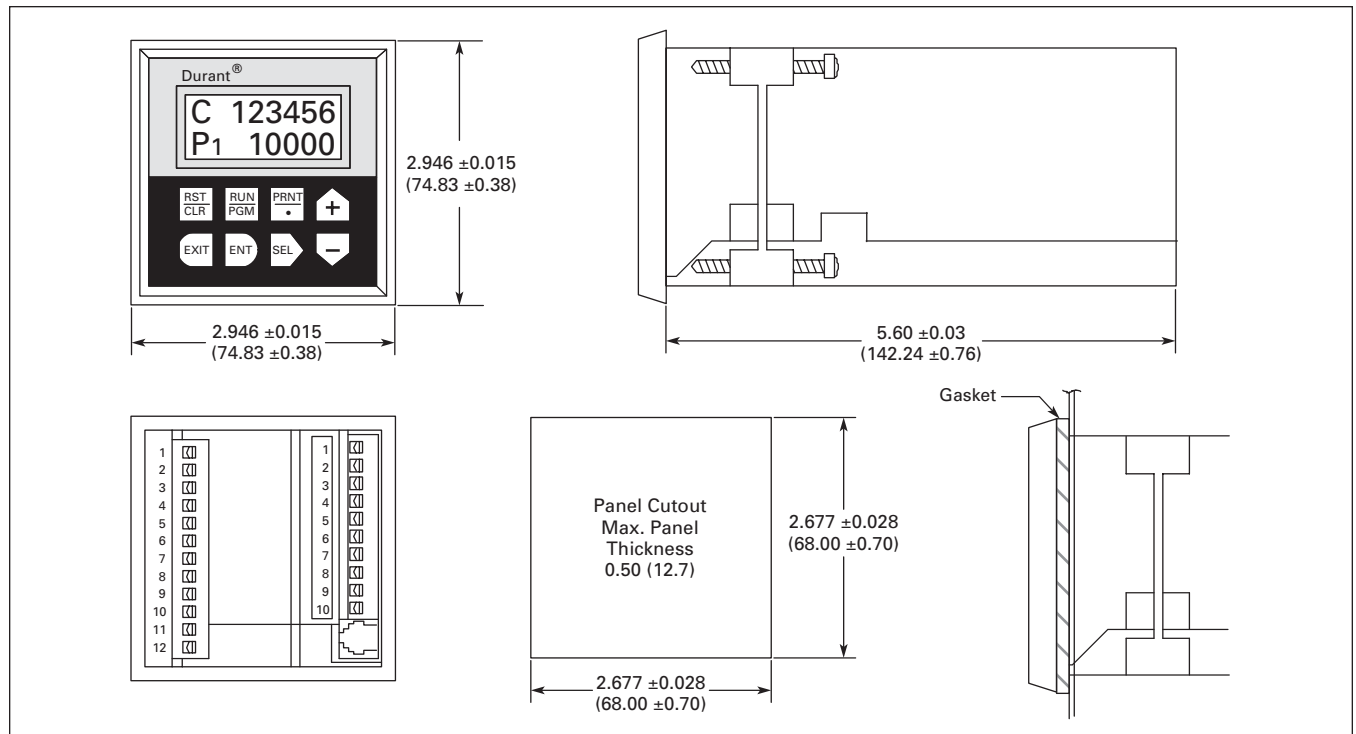


Figure 44. Ambassador Series Totalizers — Approximate Dimensions in Inches (mm)