

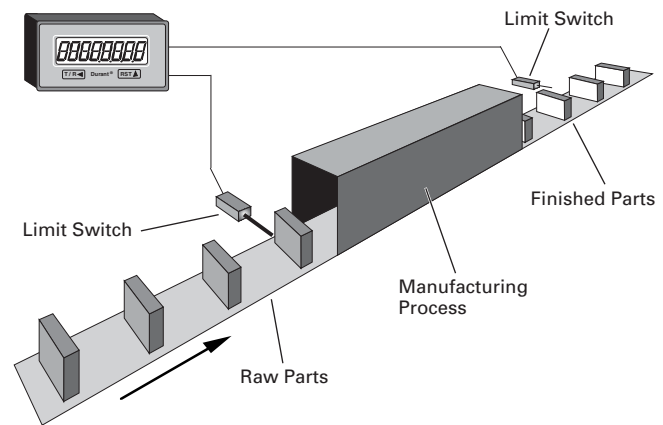
Product Family Overview

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
 <i>E5-024-C</i>	<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
 <i>E5-24-E</i>	<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
 <i>E5-496-E</i>	<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
 <i>Courier</i>	<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
 <i>Eclipse</i>	<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
 <i>Ambassador</i>	<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
 <i>President</i>	<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
 <i>Electromechanical</i>	<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
 <i>Mechanical</i>	<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

President Series — Durant®



Cat. No. 58831400

Features

- 5- or 6-digit, LED display, 0.56" (14 mm)
- 1, 2 or 3 presets
- 15V DC @ 100 mA output power
- Rear panel screw terminals
- 20 mA current loop communications
- 2 Form C relays
- Tactile keypad NEMA 4 front panel

Standards and Certifications

- UL Listed, CSA marked
- CE Marked

Technical Data and Specifications

Table 45. President Series — Count Control Specifications

Description	Model				
	57820400	57820401	58821400	58825400	58831400
AC Power Requirements	120V ±10%	240V ±10%	120V/240V +10%/-20%, 47 – 63 Hz		
DC Power Requirements	11 – 30V DC		11 – 28V DC		
Power Consumption	8 Watts max.		18 Watts maximum		
DC Power Output ①	15V DC +1/-2 @ 85 mA max.		15V DC +1/-2; 150 mA if powered from AC or less than 24V DC, 100 mA if powered from 24V DC or greater		
Operating Temperature	32 to 130°F (0 to 55°C)				
Operating Humidity	85% relative, non-condensing				
Storage Temperature	-10 to 160°F (-40 to 71°C)				
Front Panel Rating	NEMA 4 rating when mounted with gasket provided				
Main Counter Scaler Range	N/A		5 Digits (0.0001 to 9.9999)		
Count Input Frequency	10 kHz (5 kHz in Quadrature)		See Table 46	See Table 52	See Table 47
Count Input Impedance	6.8 kΩ to 15V DC when control is powered by AC line; 6.8 kΩ to 10V DC when control is powered by DC line				
Control Input Threshold	High 10.5 to 24.5V DC; Low 0.0 to 4.5V DC when powered by AC				
Control Input Impedance	4.5 kΩ to +5V DC				
Control Input Response Time	Min. High 5.3 mS; Min. Low 3.9 mS				
Relay Contact Output Ratings	SPDT Form C; 10 amps resistive @ 24V DC or 230V AC; 1/3 hp @ 115V AC or 230V AC; 150V DC max switched voltage; 5,000,000 operations mechanical life, 100,000 operations at resistive rating				
Transistor Output Ratings	Open collector NPN transistor with Zener diode transient surge protection; 30V DC max. load; 300 mA max. per transistor; 480 mA total for all transistors. Use 5 mA per relay coil when calculating total transistor current				
Communications	N/A		Dual Port 20 mA current loop, Standard ASCII code		

① DC power output is only regulated if unit is powered by AC or greater than 18.5V DC.

President Series — Durant®

Table 49. 58827400 Count Frequency

Scale Factor	Count Speed (Pulses per Second)		
	Count Up	Count Down	Quadrature
0.999	4,000	2,250	2,000
1.000	5,000	3,500	3,500
1.999	3,500	2,000	1,250
2.000	4,000	3,000	2,750
9.000	1,500	1,500	1,500
9.999	1,250	1,000	1,000

Table 50. 58867400 Count Frequency

Count Mode	Count Speed (Pulses per Second)		
	X1	X2	X3
High Speed	30,000	15,000	7,500
Low Speed	200	200	200

Note: The maximum count input frequency depends only on the selected count mode (doubled or quadrature x4). The maximum input frequencies shown are with square wave (50% duty cycle) input.

Table 51. 58827410 Count Frequency

Sample Scale Factor	Count Speed (Pulses per Second)				
	Typical Combinations of Features ^①				
	C1 = ON C2 = OFF C3 = OFF RM = OFF	C1 = ON C2 = ON C3 = OFF RM = OFF	C1 = ON C2 = ON C3 = ON RM = OFF	C1 = ON C2 = ON C3 = OFF RM = ON	C1 = ON C2 = ON C3 = ON RM = ON
0.0001 – 0.9999	6,000	3,000	2,300	2,600	2,000
1.0000	9,000	4,500	3,500	4,000	3,000
5.0000	4,500	2,250	1,000	2,000	750
9.9999	1,500	1,000	500	750	550

^① C1: Counter #1; C2: Counter #2; C3: Counter #3; RM: Ratemeter.

Table 52. 58825400 Count Frequency

Scale Factor	Count Speed (Pulses per Second)	
	Nominal Count	Quadrature and/or Doubled Count
< 1.0000	4,200	2,100
1.0000	7,500	3,750
1.9999	3,450	1,720
2.0000	6,250	3,120
9.0000	2,500	1,250
9.9999	1,800	900

Product Selection

Table 53. Product Selection — President Series Count Control

Description	Features								Catalog Number	*
	Totalizer	Batch Counter	Rate	Scaler	Crop-Cut	Main Counter	Presets	Digits		
120V AC, No Communications	—	—	✓	—	—	1	1	5	57820400	
240V AC, No Communications	—	—	✓	—	—	1	1	5	57820401	
Single Preset	—	—	—	✓	—	1	1	5	58821400	
Single Preset with Rate	—	—	✓	✓	—	1	1	5	58825400	
Dual Preset	—	—	—	✓	—	1	2	5	58831400	
Dual Preset with Batch	—	✓	—	✓	✓	1	2	6	58841400	
Dual Preset with Totalizer or Batch Counter	①	①	—	✓	✓	1	2	6	58851400	
Three Preset with Floating Pre-Warn	②	②	—	✓	—	1	3	6	58861400	
Main Counter, Batch and Totalizer Presets	③	③	✓	✓	—	3	1 ea.	6	58827400	
Two Independent Count Registers	③	③	✓	✓	—	3	1 ea.	6	58827410	
High-Speed Count Control — 30 kHz Max.	—	✓	✓	✓	—	1	2	6	58867400	

- ① These models have, in addition to the main count register, a register that may be configured to be used as either a totalizer or single preset batch counter. These two functions are mutually exclusive.
- ② The Model 58827-400 has both a totalizer and a batch counter, each with a single preset. In addition, the batch counter may be configured as an additional totalizer with control instead of batch counter.
- ③ The Model 58827-410 has two completely independent count input channels feeding two independent, single preset count registers. In addition, a third single preset register may be used as either a totalizer or a batch counter for one or both of the two main counters.

Dimensions

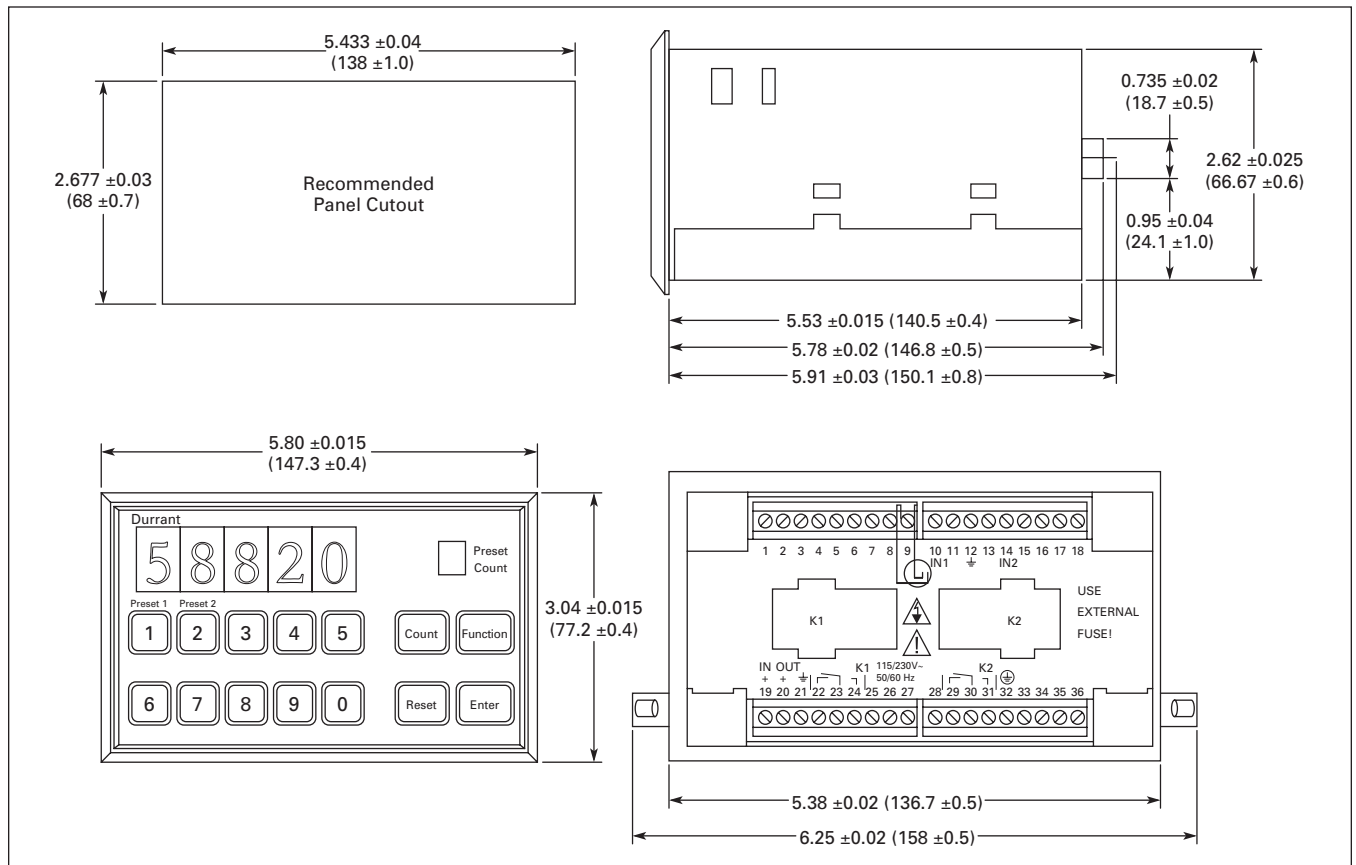


Figure 49. President Series Count Control — Approximate Dimensions in Inches (mm)

Discount Symbol **CC-1**