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.
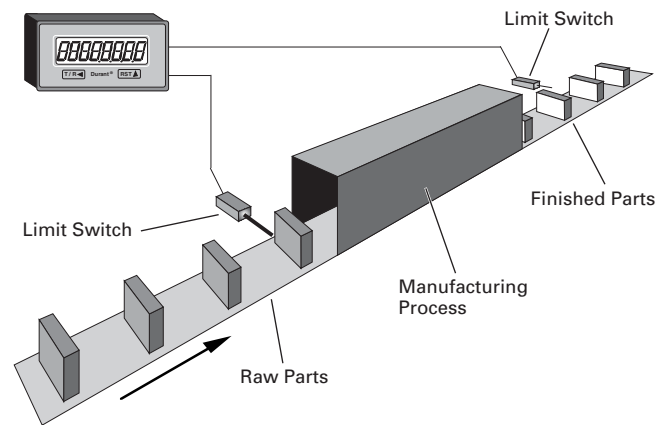
Application Example

Totalizer Product Family Overview

Table 1. Product Family Overview

Product Family	Characteristics	Typical Applications	Panel Cutout in Inches (mm)	Page Number
E5-024-C	■ 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	■ Replacement for mechanical counters ■ Transaction counting ■ Parts counting ■ Position indication or measurement	0.870 x 1.772 (22 x 44)	**22**
E5-_24-E	■ Compact device with bright, LED display ■ Multiple functions available: count, time, rate, multifunction, double-function ■ 24V DC Power	■ 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	■ Economical, multifunction display ■ Large, LED characters ■ AC or DC power options	■ Large, easy-to-read display ■ Position display ■ Motor/pulley RPM	1.772 x 1.622 (45 x 92)	**27**
Courier	■ Replaceable lithium battery ■ 8-digit, high-visibility LCD display ■ Optional backlighting ■ Various input options available	■ 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	■ 6-digit, super bright LED display ■ Multiple models available: totalizers, ratemeters, count controls, digital panel meters and flow controls	■ 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	■ 8-digit, high-visibility, 2-line LCD display ■ User-configurable control inputs ■ Highly flexible control/display	■ 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	■ Bright LED display w/14 mm characters ■ Simple configuration with 14-button tactile keypad ■ Many different versions fit almost any application	■ 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	■ Various price, voltage and size ranges for different duty cycles and environments ■ Long life and always readable display	■ Coin-operated equipment ■ Gaming machines ■ Printing presses ■ Secondary machines (e.g. punch press)	Various Mounting Configurations	**16**
Mechanical	■ Various size ranges for different duty cycles and environments ■ No power supply needed ■ Long life and always readable display	■ 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.

Table 45. President Series — Count Control Specifications (Continued)

Description	Model				
	58841400	58851400	58827400	58827410	58867400
AC Power Requirements	120V/240V +10%/-20%, 47 – 63 Hz				
DC Power Requirements	11 – 28V DC				
Power Consumption	18 Watts max.				
DC Power Output ①	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	5 Digits (0.0001 to 9.9999)				6 Digits (0.00001 to 9.99999)
Count Input Frequency	See **Table 47**	See **Table 48**	See **Table 49**	See **Table 51**	See **Table 50**
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	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.

Table 46. 58821400 Count Frequency

Scale Factor	Count Speed (Pulses per Second)	
	Nominal Count	Quadrature and/or Doubled Count
< 1.0000	6,250	3,125
1.0000	7,500	3,750
1.9999	5,000	2,500
2.0000	6,250	3,125
9.0000	2,500	1,250
9.9999	2,000	1,000

Table 47. 58831400, 58841400, 58861400 Count Frequency

Scale Factor	Count Speed (Pulses per Second)	
	Nominal Count	Quadrature and/or Doubled Count
< 1.0000	5,000	2,500
1.0000	7,500	3,750
1.9999	4,000	2,000
2.0000	6,000	3,000
9.0000	2,000	1,000
9.9999	1,500	750

Table 48. 58851400 Count Frequency

Scale Factor	Count Speed (Pulses per Second)			
	Function 61 value = "0"		Function 61 value = "1"	
	Nominal Count	Quadrature and/or Doubled Count	Nominal Count	Quadrature and/or Doubled Count
< 1.0000	5,000	2,500	3,500	1,750
1.0000	7,500	3,750	4,500	2,250
1.9999	4,000	2,000	2,400	1,200
2.0000	6,000	3,000	3,600	1,800
9.0000	2,000	1,000	1,100	550
9.9999	1,500	750	1,000	500