

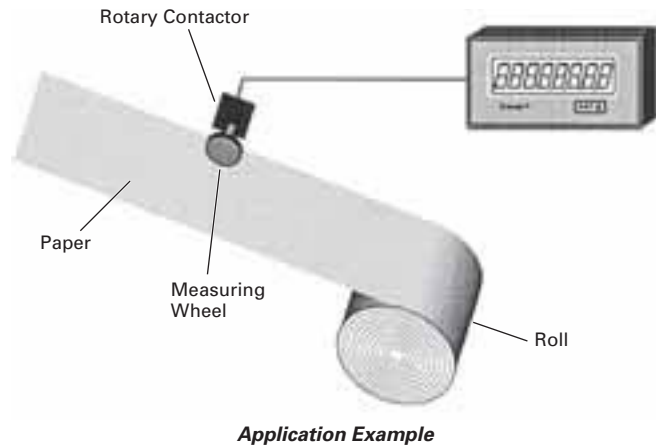
## Product Family Overview

## Introduction

Count controls are counters that provide output signal(s) at preset count value(s). Typical applications include cut-to-length, batching, filling, mixing and dispensing. Available from Eaton are a variety of count controls in different sizes, display types and feature sets.







## Application Example

The illustration shows a simple cut-to-length application. The roll of paper is measured using a measuring wheel and rotary contactor (or encoder). Once the desired length is reached, an output signal may be directed to a shear for activation. Following the cut-off, the count control will reset to zero and begin measurement of the next piece. Options such as batch counting, where the number of cut pieces is counted, are also typical of this application.



## Count Control Product Family Overview

Table 36. Product Family Overview

Product Family	Characteristics	Panel Cutout in Inches (mm)	Page Number
 <b>E5-148-C</b>	<ul style="list-style-type: none"> <li>■ Low cost, simple count control</li> <li>■ Various power options: battery, AC, DC</li> <li>■ Easy-to-change preset values</li> <li>■ 2-line display: input and preset values</li> </ul>	1.772 x 1.772 (45 x 45)	37
 <b>Eclipse</b>	<ul style="list-style-type: none"> <li>■ 6-digit, super bright LED display</li> <li>■ Multiple models available: totalizers, ratemeters, count controls, digital panel meters and flow controls</li> </ul>	1.772 x 1.622 (45 x 92)	41
 <b>Ambassador</b>	<ul style="list-style-type: none"> <li>■ 6-digit, high-visibility, 2-line LCD display</li> <li>■ User-configurable control inputs</li> <li>■ Highly flexible control/display</li> </ul>	2.667 x 2.667 (68 x 68)	43
 <b>President</b>	<ul style="list-style-type: none"> <li>■ Bright LED display w/14 mm characters</li> <li>■ Simple configuration with 14-button tactile keypad</li> <li>■ Many different versions fit almost any application</li> </ul>	2.667 x 5.433 (68 x 138)	46
 <b>Fusion</b>	<ul style="list-style-type: none"> <li>■ Integrated controller combines operator interface, ladder logic and high-speed counting</li> </ul>	2.667 x 5.433 (68 x 138)	79
 <b>Electromechanical</b>	<ul style="list-style-type: none"> <li>■ Various price, voltage and size ranges for different duty cycles and environments</li> <li>■ Long life and always readable display</li> </ul>	Various Mounting Configurations	50



Cat. No. 57700481

## Features

- 1/8 DIN cutout
- NEMA 4X front panel
- Universal AC power supply (85 – 265V AC)
- DC power models (9 – 30V DC)
- Removable screw terminals
- Short Depth: 3.6 inch (91 mm)
- Front panel programming

## Standards and Certifications

- UL and cUL Listed, CE Marked

## Technical Data and Specifications

### Mechanical

- Cutout Dimensions:  
3.62" W x 1.77" H (92 mm x 45 mm)  
DIN standard
- Outline Dimensions:  
4.04" W x 2.19" H x 3.87" D  
(103 mm x 56 mm x 98 mm)  
3.60" (92 mm) maximum depth in panel
- Enclosure: Plastic with polyester front label
- Connectors: Up to six depluggable terminal blocks

### Environmental

- Operating Environment: Indoor use to 2000 meters
- Temperature —
  - Operating: 32 to 122°F (0 to 50°C)
  - Storage: -4 to 158°F (-20 to 70°C)
- Humidity: 0 to 85% RH, non-condensing
- Vibration: 2.5 Gs, 30 to 200 Hz
- Shock: 30 Gs, 11 mS half sinewave
- EMC —
  - Immunity to EN 50082-2 (Heavy Industrial)
  - Emissions to EN 50081-2 (Heavy Industrial)
- Front Panel: NEMA 4X when mounted with gasket provided
- CE EMC immunity and emissions requirements were met using shielded wiring on the RS-485, analog output and pulse input/power lines. The shields were connected to earth ground at the Eclipse end of the shields.
- Pollution Degree 2: Overvoltage category II

### Input Power

- AC Powered Models (57701-4XX) —
  - Input Power: 85 – 295V AC, 47 – 63 Hz, 20V A
  - External Fuse: 0.2A, 250V AC, Time Delay (T200 mA, 250V)
  - Isolation Dielectric Strength: 2300V AC
- DC Powered Models (57700-4XX) —
  - Input Power: 9 – 30V DC, 12V A
  - External Fuse: 2.0A, 50V DC, Time Delay (T2A, 50V)
  - Reverse Voltage Protection: Yes
  - Isolation Dielectric Strength: 2300V AC to signal outputs and relays, 500V AC to RS-485 and analog outputs

### Human Interface

- Display: +6, -5 digits
- Type: 0.56" (14.2 mm) high, seven segment, red LED

### Data Retention

- Memory Type: EEPROM, no batteries required
- Duration: 100 years

### Count Signal Input

- Sensor Type: Sink or source, DIP switch selectable
- Input Impedance: 4.75k ohms to +5V DC or 34.9k ohms to ground
- Thresholds —
  - High: 3.5 – 28V DC
  - Low: 0 – 1.9V DC, for single ended signals
- Magnetic Pickup Range: 200 mV p-p to 65 VRMS into 34.9k ohms
- Slow Response: 200 Hz max. (DIP switch 2 and/or 5 ON)
- Fast Response — Count Mode: A or B
  - Add/Add, Add/Subtract, Add w/ Inh: 8250/8250
- Fast Response — Count Mode: A and B
  - Add/Add, Add/Subtract, Add w/ Inh: 3000/3000
  - Quad x1, Quad x2: 3250
  - Quad x4: 2000

### Control Inputs

- Sensor Type: Sink only
- Input Impedance: 4.75k ohms to +5V DC
- Thresholds —
  - High: 3.5 to 28V DC
  - Low: 0 – 1.9V DC
- Response: 25 mS maximum (5V signal)

### Accessory Power Output

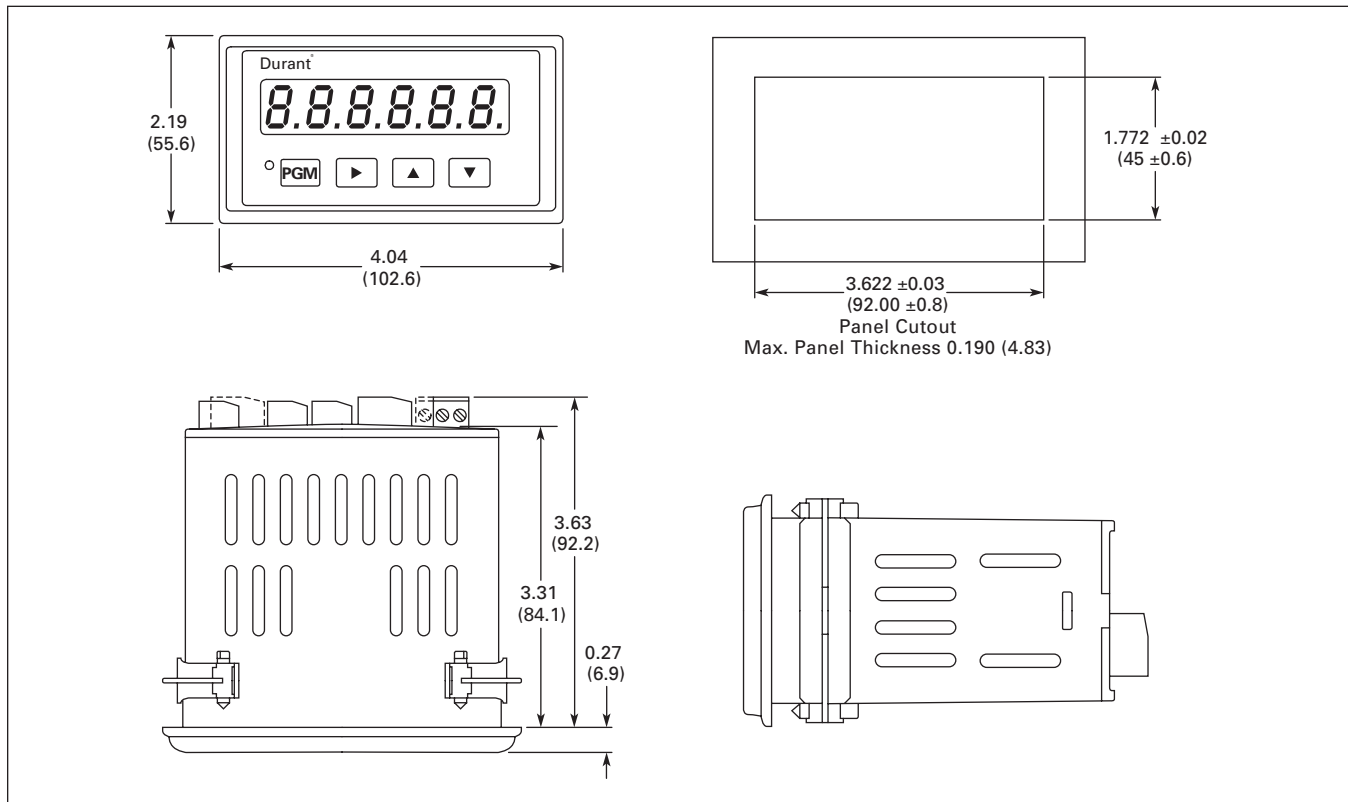
- Voltage: 12V DC +10%/-13%
- Current: 75 mA max.
- Protection: Short circuit protected

**Product Selection**

**Table 39. Product Selection — LED Count Control, 6-digit**

Description	Catalog Number	*
Relay Out, 9 – 30V DC Power Relay Out, 85 – 265V AC Power	57700481 57701481	
Relay & Analog Out, 9 – 30V DC Power Relay & Analog Out, 85 – 265V AC Power	57700483 57701483	
Relay & RS-485 Out, 9 – 30V DC Power Relay & RS-485 Out, 85 – 265V AC Power	57700485 57701485	
Relay, Analog & RS-485 Out, 9 – 30V DC Power Relay, Analog & RS-485 Out, 85 – 265V AC Power	57700487 57701487	

**Dimensions**



**Figure 47. Eclipse Series Count Control — Approximate Dimensions in Inches (mm)**

Discount Symbol ..... **CC-1**