



MODEL CUB4L, CUB4L8 & CUB4L8W - MINIATURE ELECTRONIC COUNTERS



UL Recognized Component,
File # E179259

- LCD, POSITIVE REFLECTIVE OR NEGATIVE TRANSMISSIVE WITH YELLOW/GREEN OR RED LED BACKLIGHTING
- INTERNAL LITHIUM BATTERY PROVIDES UP TO 6 YEARS OF UNINTERRUPTED OPERATION
- NEMA 4X/IP65 SEALED FRONT BEZEL
- FRONT PANEL RESET, REMOTE RESET, OR BOTH
- COUNT SPEEDS UP TO 5 KHz (Model Dependent)
- COUNT INPUT FROM 10 to 300 VAC/DC (CUB4L8W)
- WIRE CONNECTION MADE VIA SCREW CLAMP TYPE TERMINALS

DESCRIPTION

The CUB4 offers a large display in a miniature package. There are three CUB4 counters to choose from; the CUB4L (6-digit counter), CUB4L8 (8-digit counter), and the CUB4L8W (8-digit counter with voltage input). You also have a choice of three displays; reflective, red backlight or green backlight.

The backlight versions require power from an external 9–28 VDC supply. The optional power supply (MLPS1000) is designed to be attached directly to the rear of the CUB4 and is powered from an 85–250 VAC source. The power supply provides 12 VDC @ 400 mA to power the backlight and sensor, if required.

The CUB4 series has a lightweight, high impact plastic case with a clear viewing window. The sealed front panel with the silicone rubber reset button meets NEMA 4X/IP65 specifications for wash-down and/or dusty environments, when properly installed.

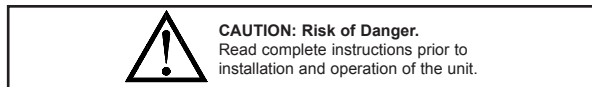
ORDERING INFORMATION

MODEL NO.	DESCRIPTION	PART NUMBERS
CUB4L (6-digit)	Counter Positive Image Reflective	CUB4L000
	Counter w/Yel-Grn Backlighting	CUB4L010
	Counter w/Red Backlighting	CUB4L020
	Counter Positive Image Reflective w/V+ Terminal	CUB4LM00
CUB4L8 (8-digit)	Counter Positive Image Reflective	CUB4L800
	Counter w/Yel-Grn Backlighting	CUB4L810
	Counter w/Red Backlighting	CUB4L820
	Counter Positive Image Reflective w/V+ Terminal	CUB4L80M
CUB4L8W (8-digit w/VCM)	Counter Positive Image Reflective	CUB4L8W0
	Counter w/Yel-Grn Backlighting	CUB4L8W1
	Counter w/Red Backlighting	CUB4L8W2
	Counter Positive Image Reflective w/V+ Terminal	CUB4L8WM
MLPS	Micro Line/Sensor Power Supply	MLPS1000

For more information on Pricing, Enclosures & Panel Mount Kits refer to the RLC Catalog or contact your local RLC distributor.

SAFETY SUMMARY

All safety related regulations, local codes and instructions that appear in the manual or on equipment must be observed to ensure personal safety and to prevent damage to either the instrument or equipment connected to it. If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

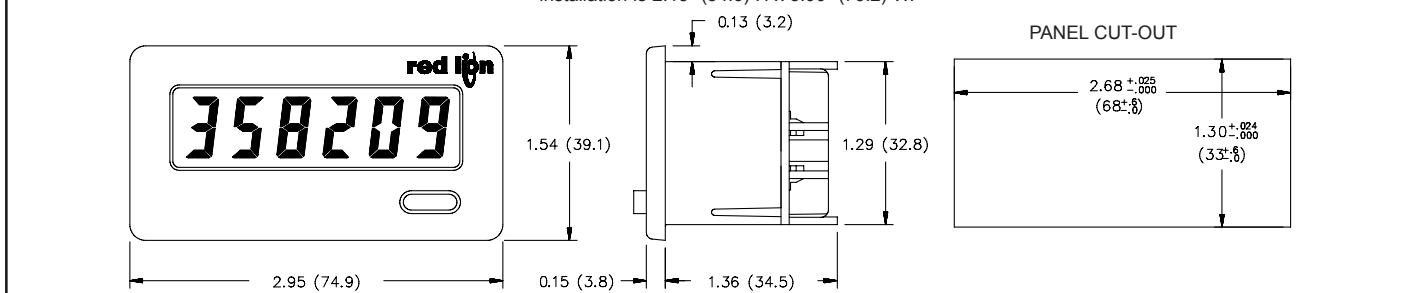


SPECIFICATIONS

- DISPLAY:**
CUB4L: 6-Digit, LCD, 0.48" (12.2 mm) high digits.
CUB4L8 & CUB4L8W: 8-Digit, LCD, 0.46" (11.7 mm) high digits.
- POWER SOURCE:** Internal 3.0 V lithium battery to provide up to 6 years of continuous operation. Battery life is dependent upon usage. Count and reset contacts that remain closed for long periods of time will reduce battery life.
- BACKLIGHT POWER REQUIREMENTS:** 9 to 28 VDC, 35 mA typical, 50 mA max. Above 26 VDC, derate operating temperature to 50°C. Must use the MLPS or a Class 2 or SELV rated power supply.
- INPUTS:**
All Inputs: $V_{IL} (low) = 0.5 V$ max.
Low Speed Input (CUB4L & CUB4L8): 30 Hz from switch contact or open collector transistor with a 50% duty cycle.
Low Speed Input (CUB4L8W): 10 to 300 VAC/DC, 50/60 Hz, 30 cps max. $V_{IL} = 0.5 VDC$ max. Unit counts on positive going edge. Will not operate with Triac outputs.
High Speed Input (CUB4L): 5 KHz from 4.0 V to 28.0 V bipolar output with a 50% duty cycle.
High Speed Input (CUB4L8): 5 KHz at 2.0 V (3 V max) bipolar output with a 50% duty cycle.
Remote Reset:
CUB4L: 15 msec min. pulse width (active low) from 4.0 V to 28.0 V bipolar output or an open collector transistor or a switch contact to common.

DIMENSIONS In inches (mm)

Note: Recommended minimum clearance (behind the panel) for mounting clip installation is 2.15" (54.6) H x 3.00" (76.2) W.



CUB4L8 & CUB4L8W: 15 msec min. pulse width (*active low*) from 3.0 V bipolar output or an open collector transistor or a switch contact to common.

5. ENVIRONMENTAL CONDITIONS:

Operating Temperature: 0 to 60°C (above 50°C, derate backlight operating voltage to 26 VDC max.).

Storage Temperature: -30 to 85°C

Operating and Storage Humidity: 85% max. (non-condensing) from 0°C to 50°C.

Vibration According to IEC 68-2-6: 5 to 500 Hz, in X, Y, Z direction for 1.5 hours, 5g's.

Shock According to IEC 68-2-27: Operational 30 g, 11 msec in 3 directions.

Altitude: Up to 2000 meters

6. CERTIFICATIONS AND COMPLIANCES:

SAFETY

UL Recognized Component, File # E179259, UL 61010-1, CSA C22.2 No. 61010-1

Recognized to U.S. and Canadian requirements under the Component Recognition Program of Underwriters Laboratories, Inc.

Type 4X Enclosure rating (Face only), UL50

IECEE CB Scheme Test Certificate # US/9257/UL,

CB Scheme Test Report # E179259-V01-S02

Issued by Underwriters Laboratories, Inc.

IEC 61010-1, EN 61010-1: Safety requirements for electrical equipment for measurement, control, and laboratory use, Part 1.

IP65 Enclosure rating (Face only), IEC 529

ELECTROMAGNETIC COMPATIBILITY

Immunity to EN 50082-2

Electrostatic discharge	EN 61000-4-2	Level 2; 4 Kv contact Level 3; 8 Kv air
Electromagnetic RF fields	EN 61000-4-3	Level 3; 10 V/m 80 MHz - 1 GHz
Fast transients (burst)	EN 61000-4-4	Level 4; 2 Kv I/O Level 3; 2 Kv power
RF conducted interference	EN 61000-4-6	Level 3; 10 V/rms 150 KHz - 80 MHz
Power frequency magnetic fields	EN 61000-4-8	Level 4; 30 A/m
Simulation of cordless telephone	ENV 50204	Level 3; 10 V/m 900 MHz ± 5 MHz 200 Hz, 50% duty cycle

Emissions to EN 50081-2

RF interference	EN 55011	Class B
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Refer to the EMC Installation Guidelines section of this bulletin for additional information.

7. CONSTRUCTION:

This unit is rated for NEMA 4X/IP65 indoor use. Installation Category I, Pollution Degree 2

8. WEIGHT: 3 oz. (85 grams)