

red lion Counters and Timers

CUB3 and CUB3T



The CUB3 is a battery-powered up counter for counting dry contact closures from switches or relay contacts. Built-in debounce circuitry ensures accurate counts up to 100 Hz. It can also be used with transistor closures and has a reset button on the front of the counter.

CUB3T

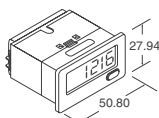
The CUB3T is a time display that will count the length of time that the inputs are connected together. Inputs are triggered using a dry contact switch to start the timing circuit. Time indicators require a supply voltage of 10 - 300VAC or DC. Rear reset only.

Description	Digi-Key Part No.	Price Each	Red Lion Part No.
CUB3 Count Indicator, 100 Hz, Replaceable N Cell Battery.....	RLC03-ND◆	23.52	CUB3000
CUB3 Count Indicator, 100 Hz, Built-in Lithium Battery.....	RLC04-ND	28.23	CUB3L000/A
Alkaline N Cell Battery for RLC03-ND	P147-ND◆	.78	AM5X
CUB3T Time Indicator, 1 Hour or 60 Min., 10-300VAC or DC Input.....	RLC3TR-30-ND	34.50	CUB3T300
CUB3T Time Indicator, .1 Hour or 6 Min., 10-300VAC or DC Input.....	RLC3TR-31-ND	34.50	CUB3T310
CUB3T Time Indicator, .01 Hour or 60 Sec., 10-300VAC or DC Input.....	RLC3TR-32-ND	34.50	CUB3T320
CUB3T Time Indicator, .1 Min. or 6 Sec., 10-300VAC or DC Input.....	RLC3TR-33-ND	34.50	CUB3T330

◆ RoHS Compliant

CUB7 Series Counters and Timers

CUB7/CUB7W



The CUB7 and CUB7W are 8-digit miniature counters with large 0.35" (8.89 mm) high digits. The LCD read-out is available in Positive Image Reflective, Negative Image Transmissive with yellow/green or red LED backlighting. The backlight version requires an external 9 - 28VDC power supply. The CUB7 series is housed in 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. The CUB7W accepts most machine control voltage signals. The input accepts AC or DC control voltages from 10 - 300V at count speeds up to 30 counts per second (cps).

Features:

- Replaceable internal lithium battery provides up to 7 years of uninterrupted operation
- Front panel reset or remote reset
- Connections: Wire clamping screw terminals • Fits DIN standard cut-out 1.77" (45 mm) x 0.874" (22.2 mm) • Low speed count to 30 Hz from switch closure or O.C. transistor; High speed count to 10 kHz (CUB7)

CUB7T

Features:

- 10 programmable timer ranges
- 8-digit LCD reflective display with "Timer Active" annunciator
- 0.35" (8.89mm) high digits
- Available in either contact or voltage versions
- Replaceable internal lithium battery provides up to 6 years of uninterrupted operation
- Both front panel program and reset buttons are individually enabled
- Connections: Wire clamping screw terminals
- Front panel and remote reset inputs
- NEMA 4X/IP65 sealed front bezel

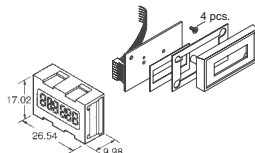
Description	Digi-Key Part No.	Price Each	Red Lion Part No.
CUB7 Counter, Reflective LCD, Dry-contact Input.....	RLC700-ND◆	37.64	CUB7000
CUB7 Counter, Yellow/Green Backlight LCD, Dry-contact Input.....	RLC701-ND◆	53.32	CUB70010
CUB7 Counter, Red Backlight LCD, Dry-contact Input.....	RLC702-ND	53.32	CUB70020
CUB7 Counter, Reflective LCD, 10-300VAC or DC Input.....	RLCW70-ND◆	40.77	CUB7W000
CUB7 Time Indicator, Reflective LCD, Dry-contact Input.....	RLC7T0-ND◆	35.28	CUB7T000
CUB7 Time Indicator, Reflective LCD, 10-300VAC or DC Input.....	RLC7T1-ND	35.28	CUB7T100

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SUB-CUB 1 and 2 Counters

SUB-CUB 1 and 2

SUB-CUB 1 and 2 are component-type up counters designed to be snapped down onto a standard 1/16" PCB. Solderless elastomeric pads contact copper pads on the PCB for inputs, reset and display latch and test functions. Solderless connections are corrosion-proof, gas-tight interface contacts for high reliability. Ultra low power (5V at 15µA typical) and latching display with automatic leading zero blanking. Ideal in applications for register status and usage, maintenance, diagnostics, time-duration or period readouts.



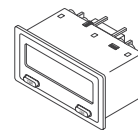
SUPER SUB-CUB

SUPER SUB-CUB provides all the capabilities of SUB-CUB 1 and 2, plus four operating modes capable of bi-directional counting, quadrature counting, coincidence counting and anti-coincidence adding and subtracting. Optional bezel mounting kit provides a crisp, clean panel-mount option for panel-mounted applications.

Description	Digi-Key Part No.	Price Each	Red Lion Part No.
SUB CUB I and II			
Evaluation Kit for Counter Testing (Counter Sold Separately).....	RLC01-ND	41.56	DM-OSC-B01/A
Mounting PCB for Display Counter to Evaluation Kit.....	RLC02-ND◆	7.84	DM-OSC-B02/A
Display Counter, 2" (5.08mm) High Digits.....	RLC1000-ND◆	18.03	SCUB-1000
Display Counter, .35" (8.89mm) High Digits.....	RLC2000-ND◆	22.74	SCUB-2000
Panel Bezel Kit with PCB and Cable for RLC2000-ND.....	RLC40-ND	16.47	HWK-40-000/A
SUPER SUB CUB — RoHS Compliant			
SUPER SUB-CUB Prototype PCB.....	RLC08-ND	10.98	DM-OSC-B03/A
Panel Bezel Kit without PCB or Cable for RLC05-ND, RLC07-ND, RLC2-8A-ND, RLC200A-ND and RLC2000-ND.....	RLC30-ND	8.62	HWK-30-000/A
Panel Bezel Kit with PCB and Cable for RLC200A-ND.....	RLC50A-ND	19.60	HWK-50-000/A

◆ RoHS Compliant

CUB5 Series



The CUB5 provides the ultimate in flexibility, from its complete user programming to the optional relay output capability. The meter can be programmed as a single or dual counter with rate indication capability. As a dual counter, each counter has a separate scale factor and decimal point. In the counter/rate indicator mode, each has its own scaling and decimal point read-out in different engineering units. The display can be toggled either manually or automatically between the selected displays. The CUB5 can be powered from an optional Red Lion Micro-Line/Sensor Power Supply (RLC124-ND) which attaches directly to the back of the CUB5. The RLC124-ND is powered from 85-250VAC and provides up to 400mA to drive the unit and sensors.

Features: • 0.46" (11.7mm) high digits • Reflective and backlight LCD versions: backlight version user selectable for green or red backlighting with variable display intensity • Counter programmable for one of 8 different count modes, including bi-directional and quadrature • Non-volatile EPROM memory retains all programming parameters and count values when power is removed • Meters can be fitted with an optional plug-in relay card which can be installed initially or at a later date

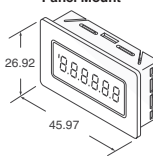
Specifications: • Display: 0 - 999999 • Over Range Display: "R OL0L0L" • Maximum Frequency: 20kHz; Minimum Frequency: 0.01Hz • Accuracy: ±0.01% • Operating Temperature: -35°C - 85°C • Connections: Wire clamping screw terminals • Count/Rate Signal Input A: DIP switch selectable to accept pulses from variety of sources; Input B: Logic signals only

Description	Digi-Key Part No.	Price Each	Red Lion Part No.
CUB5 Dual Counter and Rate Indicator, Reflective Display.....	RLC121-ND	73.99	CUB5R000
CUB5 Dual Counter and Rate Indicator, Red-Green Backlight Display.....	RLC122-ND	82.30	CUB58000
Setpoint Relay Option Card, SPDT, 1A Output.....	RLC123-ND	18.88	CUB5RLY0
Micro-Line/Sensor Power Supply.....	RLC124-ND	31.15	MLPS1000

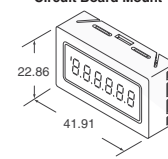
MDMU Counter/Timer/Tach

The MDMU is a complete 6-digit counter/timer/tach in a small panel mounted or printed circuit board (PCB) mounted package. It is designed to operate from a 5VDC power supply. It has a 6-digit LCD with 0.35" (8.89mm) high digits and 5 selectable decimal points. In the timer mode, a flashing annunciator is supplied to indicate that the signal input of the MDMU is active. The displays are available in Positive Image Reflective (black digits, reflective background) or Negative Image Transmissive (illuminated digits, dark background) with red or yellow/green backlighting.

Panel Mount



Circuit Board Mount



Counter Mode: It can be selected by setting the Mode Select Inputs to the appropriate levels (Hardware selection). A rate multiplier of 0.0001 - 1.9999 and a decimal point of 0 through 0.00000 can be selected using the Program mode. Decimal points may also be set using the DP Inputs (Hardware selection). Both the Count (CNT) and LSC inputs can be used. (Using the Program mode option causes the counter to increment on the opposite edge of the Input signal.)

Timer Mode: This mode and range can be selected by either setting the Mode Select Inputs to the appropriate levels (Hardware selection) or by selecting the range in the Program mode. The available timing range increments are 1 msec, 10 msec, 100 msec, 1 second, 0.1 minute, 1 minute, 0.01 hour, 0.1 hour, 1 hour, and hr:min:sec. The Timer Active annunciator will flash at a 2 Hz rate when the input to the timer is activated. Both the CNT and the LSC inputs can be used. The Inhibit (INH) input can be used to enable or disable Leading Zero Blanking (LZB).

Tach Mode: It can be selected by setting the Mode Select Inputs to the appropriate levels (Hardware selection). In the Tach mode, the MDMU operates as a fixed 1 second time base tachometer. In the Program mode, the time base can be set 1 through 7 seconds (in whole second increments). The rate multiplier can also be programmed from 0.0001 through 1.9999. Decimal points can be set from 0 through 0.00000. Decimal points may also be set using the DP inputs. Both the CNT and the LSC inputs can be used.

Features: • LCD: Positive Image Reflective or Negative Image Transmissive with yellow/green or red LED backlighting • Counter, timer and tach all in a single unit • Rate multiplier/prescaler from 0.0001 - 1.9999 in count and tach modes • 10 ranges in timer mode • Selectable decimal points • 5VDC powered • Panel mount or PCB mount

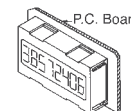
Description	Digi-Key Part No.	Price Each	Red Lion Part No.
Counter/Timer/Tach, Reflective Display, Panel Mount.....	RLCU00-ND◆	28.23	MDMU0000
Counter/Timer/Tach, Yellow Backlight Display, Panel Mount.....	RLCU01-ND	36.07	MDMU0010
Counter/Timer/Tach, Red Backlight Display, Panel Mount.....	RLCU02-ND	36.07	MDMU0020
Counter/Timer/Tach, Reflective Display, PCB Mount.....	RLCU10-ND	25.87	MDMU0100
Counter/Timer/Tach, Yellow Backlight Display, PCB Mount.....	RLCU11-ND	33.72	MDMU0110
Counter/Timer/Tach, Red Backlight Display, PCB Mount.....	RLCU12-ND	33.72	MDMU0120
MDM Cable Assembly.....	RLC70-ND	10.19	HWK70000

◆ RoHS Compliant

SUB-CUB 2-8A, D and T

SUB-CUB 2-8A

The SUB-CUB 2-8A is a completely self-contained 8-digit counter module for high speed counting, with counting rates to 750 kHz. Counters are designed to be snapped down onto a standard 1/16" PCB. Solderless elastomeric pads contact copper pads on the PCB for inputs, reset and display latch and test functions. Solderless connections are corrosion-proof, gas-tight interface contacts for high reliability.



SUB-CUB D

The SUB-CUB D is a 6-digit up/down counting, true quadrature counter. Mode select inputs and add, subtract, multiply and divide functions make this counter extremely flexible for different frequencies.

SUB-CUB T

The SUB-CUB T is a selectable counter/timer display. Counter mode is selectable for either low count input (with debounce) or high speed inputs (without debounce). In the timer mode, the unit is selectable in 4 timer modes from hours down to .1 minute resolution. Optional bezel mounting kit provides a crisp, clean panel-mount option for panel-mounted applications.

Description	Digi-Key Part No.	Price Each	Red Lion Part No.
SUB-CUB 2-8A			
8-Digit LCD component up counter.....	RLC2-8A-ND	32.15	SCUB28A0
Panel Bezel Kit with PCB and Cable for RLC2-8A-ND.....	RLC28-ND	18.03	HWK-28-000/A
SUB-CUB D — RoHS Compliant			
8-Digit Bi-directional Module with 6-Digit LCD Display.....	RLC05-ND	24.31	SCUBD-200/A
SUB-CUB D Prototype PCB.....	RLC09-ND	10.98	DM-OSC-B04/A
SUB-CUB T			
5 Digit Timer/Counter.....	RLC07-ND◆	23.52	SCUBT-200/A
Panel Bezel Kit without PCB or Cable for RLC05-ND, RLC07-ND, RLC2-8A-ND, RLC200A-ND and RLC2000-ND.....	RLC30-ND	8.62	HWK-30-000/A

◆ RoHS Compliant

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