

# CTF5

## Features

- 5 Digit Counter, Timer or Frequency Meter
- Input Scaling (0.001 to 9.999) Multiplier
- Bright LED Display .295" (7.5 mm) High
- Count & Preset Range of -19999 to 99999
- Add or Subtract Count Control
- AC or DC Operation
- 10 Year Data Memory
- 24VDC to Power Peripherals

## Applications:

Preset batch counting, length measuring, simple positioning, time control, speed control, rate control.

## Description:

The CTF5 is a LED preset counter, timer or frequency meter. The following features are programmable: operating mode (output at 0 or preset, with or without autoreset), decimal point, polarity of input (NPN or PNP), output signal latched or timed, gate time (frequency meter), time resolution (Hrs., Min., Sec; timer)

## Inputs:

**Input A, Input B:** Count inputs. Max. count speed is 30 Hz or 10 kHz separately selectable for both inputs.

**Gate:** Voltage level gate input;

Counter & Freq. Mode - inhibits counts when activated.

Timer Mode - Starts timing when activated.

**Reset:** Edge triggered reset input; it is connected in parallel with the front reset key and resets the counter to 0 (add) or preset (sub).

**Latch:** Voltage level input for display hold; when activated, the display "freezes" the current count value while counting continues in the background. The display updates when this input is de-activated.

**Key:** Voltage level keyboard lock input; when activated, all front keys are disabled.

## Selection of Basic Function:

1. Impulse Counter
2. Frequency Meter
3. Timer

## IMPULSE COUNTER

**Decimal Point:** 0 to 3 (for display only)

**Scaling Multiplier:** 0.001 to 9.999

**Output Signal:** Timed signal (0.01 to 99.98 sec) or Latched signal (00.0) selectable. (99.99 setting gives inverted latched output- output activates at power on and deactivates when preset is reached)

## LED Preset Add/Subtr. Counter, Timer, Frequency Meter



**Polarity:** Negative (NPN) or positive (PNP) polarity of inputs. Polarity selected applies to all inputs.

## Input Modes:

**E1:** One count input (Input A) and one count direction input (Input B). If direction input is open, the counter adds, if it is activated the counter subtracts.

**E2:** Separate inputs, one up input (Input A) & one down input (Input B).

**E3:** Quadrature input, accepts two pulse inputs 90° ( $\pm 15\%$ ) out of phase for direction control.

**E4:** Quadrature (x2) input, counts leading and falling edge of input A.

## FREQUENCY METER

**Gate:** Gate time selectable from (0.01 to 99.99 sec) All pulses counted during this time will be displayed for one gate time (i.e. gate time of 1 will display Hz).

**Decimal Point:** 0 to 3 (for display only)

**Polarity:** Negative (NPN) or positive (PNP) polarity of inputs. Polarity selected applies to all inputs.

**Input Modes:** As described under Impulse Counter.

**Scaling Multiplier:** 0.001 to 9.999

**Output Signal:** Output activates for selected time (0.01 to 99.98 sec) when display reaches or exceeds preset value; If output time setting is 00.00, the output will activate when display reaches or exceeds the preset and deactivate when below preset. (99.99 output setting gives inverted latched output- output activates at power on and deactivates when preset is reached)

## TIMER

**Time Resolutions:** Times in sec., min. or hrs. with resolution in 0.001, 0.01, 0.1 or 1.0 (depending on decimal).

**Polarity:** Negative (NPN) or positive (PNP) polarity of inputs. Polarity selected applies to all inputs. (Gate controls timing)

**Output Signal:** Timed signal (0.01 to 99.98 sec) or Latched signal (00.0) selectable. (99.99 output setting gives run time control latched output- output activates only while timer is running and deactivates when preset is reached.)

### Specifications:

#### Operating Voltage: (All voltages ± 10%)

- A: 115VAC 50/60Hz
- B: 220VAC 50/60Hz
- C: 11 to 30 VDC
- D: 24VAC 50/60Hz

#### Power Consumption:

- DC: 100 mA max.
- AC: 4 VA max.

#### Display: 7 segment LED 5 digit 0.295" (7.5 mm) high.

#### Count Speed: 30 Hz or 10 kHz (7.5 kHz for input mode E4 "Quad x2"); 1 kHz for autoreset without count loss (600 Hz for input mode E4 "Quad x2") separately dip-switch selectable for both inputs.

#### Min. Pulse width for Control Inputs: 5 msec

#### Input Impedance: Approx. 10 kOhm

#### Input Sensitivity:

- Logic "0": 0 to 1 VDC
- Logic "1": 4 to 30 VDC

#### Control Output:

Relay: SPDT 3A relay, 250 VAC / 300 VDC max. Switching current for DC min. 30 mA

Opto-Isolated Output: Open collector and emitter.

Max. Voltage: 30 VDC

Max. Current (ON state): 5 mA @ 0.4 V drop; 15mA @ 2.0 V drop

#### Response Time:

Relay: Approx. 6 msec

Opto-Isolated: Approx. 1 msec

#### Output Power (AC powered units): 24 VDC -40% / +15%, 80mA, unregulated

#### Memory: min. 10 years or 10<sup>6</sup> memory cycles

#### Operating Temperature: 32° F to + 122° F (0° C to +50° C)

#### Noise Immunity: EN 55011 class B and prEN 50082-2

#### Storage Temperature: - 13° F to + 158° F (-25° C to +70° C)

#### Weight: Approximately 9 oz. (240g) (AC version with relay)

#### Protection: NEMA 4 /IP65 (front)

#### Approvals: UL File# E167238, CE Pending

### Terminal Designations:

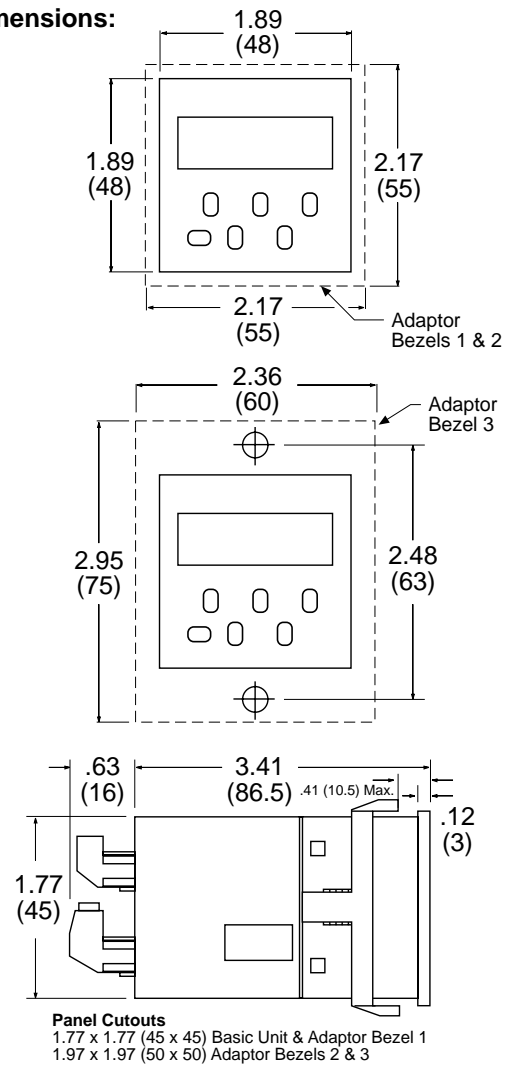
#### AC Supply Wiring

TB-1		TB-2	
Term. #	Description	Term #	Designation
1	+24 VDC Output	1	INPUT A
2	0 VDC (Ground)	2	INPUT B
3	Relay - C (Opto Emitter)	3	GATE INPUT
4	Relay - NO	4	RESET
5	Relay - NC (Opto Collector)	5	LATCH
6	AC Input	6	KEY
7	AC Input		

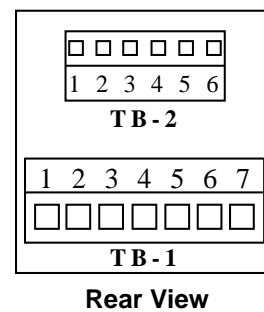
#### DC Supply Wiring

TB-1		TB-2	
Term. #	Description	Term #	Designation
1	No Connection	1	INPUT A
2	No Connection	2	INPUT B
3	Relay - C (Opto Emitter)	3	GATE INPUT
4	Relay - NO	4	RESET
5	Relay - NC (Opto Collector)	5	LATCH
6	(+) 11-30 VDC Supply	6	KEY
7	(-) 0VDC Supply (Ground)		

### Dimensions:



### Adaptor Bezels 1, 2 & 3 Supplied



### How To Order:

<b>EXAMPLE</b>	<b>CTF5</b>	<b>A</b>	<b>1</b>
<b>Series</b>	_____		
<b>Operating Voltage</b>	_____		
	A = 115 VAC		
	B = 230 VAC		
	C = 11 to 30 VDC		
	D = 24 VAC		
<b>Outputs</b>	_____		
	0 = Relay		
	1 = Opto-Isolated collector and emitter		