CTF16/17

6 Digit LED Preset Add/Subtr. Counter, Timer, Frequency Meter

Features

- 6-Digit Preset Counter with Sign & Scale Factor

- Available with One or Two Presets

- Programmable as a Pulse Counter, Frequency Meter or an Operating Time Counter

- Wide-Range Power Supply 90-250 VAC

- Counting Speed up to 20 kHz

- Extremely Simple Use and Programming by Means of Only 4 Keys

- RS-232, RS-422 or RS-485 Serial Interface

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

Description:
The CTF16/17 is a LED preset counter, timer or frequency meter. The following features are programmable:
- Operating mode (counter, timer or ratemeter)
- Polarity of the inputs (NPN or PNP)
- Scale factor
- Output signals :continuous or pulse signal
- Frequency meter display mode : 1/s or 1/min
- Resolution in s, min, h or h:min:s
- Start and Stop for the time counter/hours meter

Inputs
2 counting inputs
The maximum frequency is 20 kHz (12 kHz for Quad Input); 30 Hz debounce setting for contact closure inputs.

GATE
Inhibits count, controls timer

RESET
Edge triggered, Resets the counter to zero when counting up, and sets it to the preselected value when counting down. (Same as front reset button)

KEY
The keys are locked as long as this input is ON. The P preselection display key remains active.

Outputs
1 or 2 potential-free relay or optocoupler outputs as ordered.

Programming
The CTF16/17 are programmed by means of the 4 front keys. The display prompts simple and intuitive programming.

Programmable are:
Input polarity
Positive (PNP) or negative (NPN). The selection is valid for all inputs.

Pulse or time counting modes
- Adding with counting start at 0
- Subtracting with set to preset (CTF16) (preset 2 for CTF17)
- Adding with automatic reset
- Subtracting with automatic set to preset (preset 2 for CTF17)

Input types in pulse counter mode
Cnt. Dir	1 counting input; 1 counting direction input
uP. Dn	1 adding input; 1 subtracting input
quad	Phase discriminator to connect pulse sources with 2 signals shifted by 90°
quad2	Phase discriminator with double pulse processing, to connect pulse sources with 2 signals shifted by 90°

Decimal places
Select one, two or three decimal places.

Scale factor
Multiplying scale factor between 0,0001 and 99,9999.

Output signal
Each output can be selected as an opening signal, a closing signal or as a positive or negative pulse signal.

Time counter
Select time base of h, min, s or h:min:s. Set the resolution by selecting up to 3 decimal places.

Frequency meter/Tachometer/Speed indicator
Display in 1/min or 1/s with automatic conversion.

Interfaces
The devices can be fitted with the optional RS 232, RS 422 or RS 485 interfaces. These interfaces can be used to program the devices as well as for remote reading. They are simply controlled by ESC sequences.

Explosion Proof Housing Option
- All functions corresponding to type 717 with relay output
- Sturdy, hard-coated aluminium housing with insert moulded connection cables (2 x 3 m)
- Protection type: EEx d IIC T6
- PTB approval no.: Ex-96. D. 1024

Specifications

Display:	6 digits, 7 segment LED's, height 8 mm
Presets:	2 preset values for model CTF17
	1 preset value for model CTF16
Counting inputs:	2 counting inputs, 4 types of programmable inputs
Polarity of the inputs:	programmable, common to all inputs
Input resistance:	Approximately 10 kΩ
Maximum counting frequency:	
	20 kHz, can be set to 30 Hz for contact closure inputs
Minimum pulse duration for control inputs: 5 ms	
Input switching level:	Log ''0'': 0 to 1V
	Log ''1'': 4 to 30V
Pulse shape:	any shape (Schmitt-trigger)
Output :	Programmable output state (energised (N.C.) or de-energised (N.O.))
	NOTE: When high to low output selected (⌐⌐ ⌐⌐), the output is activated when unit is powered and display is below preset. This may appear reversed.
Relay:	CTF16: 1 SPDT
	CTF17: 1 SPDT; 1 SPST
Switching power:	250 V @ 3A Max
	DC Max 50 Watts, Min 30mA
Optocoupler:	Off: 30 VDC max
	On: 2V @ 15mA, 0.4V @ 5mA
Supply voltage:	90 to 250 VAC, 5VA max, or
	10 to 30 VDC, 1W max
Supply voltage output for external sensors:	
	24 VDC, 100mA (AC versions)
Accuracy of speed indicator mode: < 0,1 %	
Accuracy of timer mode: ± 50 ppm	
Output response time:	Relay: approximately 7 ms
	Optocoupler: approximately 2 ms
Data storage:	at least 10 years or 10^6 recording cycles
Interference immunity:	EN 61000-3-3, EN 55011 class B and EN 50082-2 with shielded control lines
Operating temp.:	-10°C..+50°C
Storage temp.:	-25°C..+70°C
Weight:	approximately 200 g. (AC version & relay)
Protection:	NEMA4 (IP 65) Front Panel

TERMINAL X1

Terminal No.	AC Version	DC Version
1	No Connection; Relay Com (C) (emitter)*	
2	No Connection; Relay N.O. (collector)*	
3	Relay Output Common (C) †	
	(Emitter for optocoupler output version)	
4	Relay Output N.O.†	
5	Relay Output N.C.†	
	(Collector for optocoupler output version)	
6	90 to 250 VAC	10 to 30 VDC
	Supply Voltage	Supply Voltage
7	90 to 250 VAC	0 VDC (ground)
	Supply Voltage	Supply Voltage

* CTF17 Preset #1

† CTF17 Preset #2

TERMINAL X2

Terminal No.	AC Version	DC Version
1	+ 24VDC Out	No Connection
2	0 VDC (ground)	No Connection
3	Input A	
4	Input B	
5	Reset	
6	Gate	
7	Key	

Dimensions:

Panel Mount
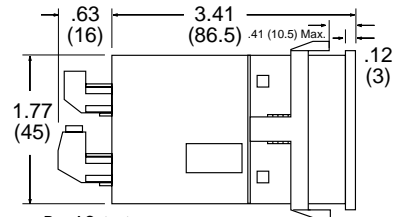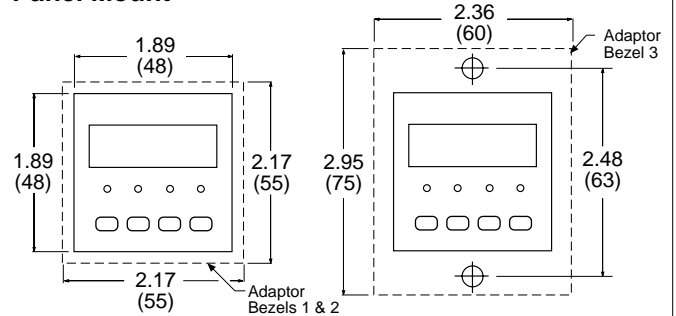
Adaptor Bezels 1, 2 & 3 Supplied

Panel Cutouts
1.77 x 1.77 (45 x 45) Basic Unit & Adaptor Bezel 1
1.97 x 1.97 (50 x 50) Adaptor Bezels 2 & 3

Rear View

Standard   With Serial Comm. Option
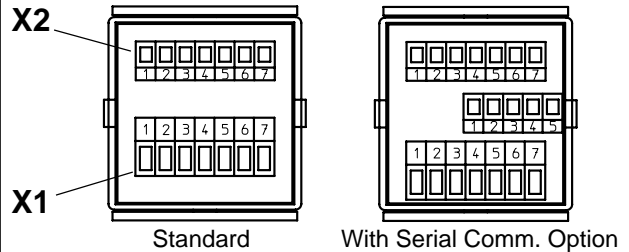
Explosion Proof Housing
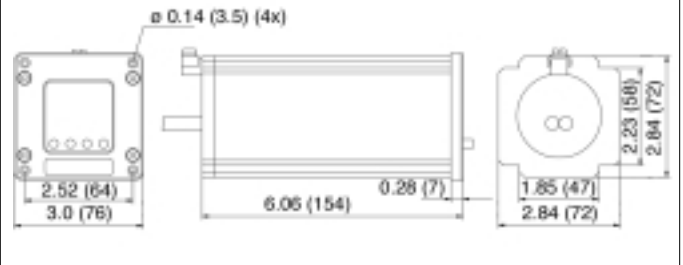
How To Order:

EXAMPLE	CTF	16	A	0	5

Series

No. of Outputs
16 = 1 Output
17 = 2 Outputs

Operating Voltage
A = 90 to 250 VAC
B = 10 to 30 VDC

Outputs
0 = Relay(s)
1 = Opto Coupler(s)

Otions
Blank = none
5 = RS-232 Serial Interface
6 = RS-422 Serial Interface
7 = RS-485 Serial Interface
X = Explosion Proof Housing