



COUNTER

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Display, Indicators and Keys



LCD Display and Indicators				
RST 1/2	Light on when reset signal is detected	BATCH	"Batch Counting Mode" in Counter	
K/P 1/2	Light on when key-protected mode is enabled	SET 1 2	SV1, SV2 display	
OUT 1/2	Light on when output is executing	CNT	Light on in Counter function	
TOTAL	"Total Counting Mode" in Counter function	CNT		
	Ке	y Operation		
	Increase and decrease SV or change paramter settings			
	Left move 1 digit of the selected digit. The indicator of the selected digit will flash.			
MODE	Save the set parameters or switch among functions.			
LOCK	Prevent settings from being changed. Key-protected mode still works after the power is switched off. Press LOCK to enter key-protected mode. In non-key-protected status, press LOCK to enter Lock 1, press LOCK again to enter Lock 2. Press were and at the same time to disable key-protected mode. In con-key-protected status, ables the functions of all keys. Lock 2) allows users to change SV and functions of RESET remain. LOCK only functions in non-key-protected status.			
RESET	Clear and reset PV.			
Modes: Operation Mode and Configuration Mode				
Operation	When the power is on, the timer/counter/tachometer is in the operation mode. Press Note: to change SV, or SV to select digit to change. The indicator of the selected digit will flash. After the change is made, press to save the setting. If SV or parameters are not changed, press core to switch between SET1 and SET2.			
Configuration	Press 🚥 in operation mode for more than 3 seconds to enter configuration mode. Press 🚥 once to switch among parameters. To return to operation mode, press			

Getting Started with Counters

Step 1: Determine Required Counter Function

Counter Functions

1-Stage Counting (ELEE I)

A single count setting value SV is available in 1-Stage Counting. Both Outputs 1 and 2 operate concurrently and will turn ON momentarily or will be maintained ON depending on the Output Mode selected.

2-Stage Counting (EFEE 2)

In 2-Stage Counting, count setting value SV1 controls Output 1 and count setting value SV2 controls Output 2. Outputs will turn ON momentarily or will be maintained ON depending on the output mode selected.

Batch Counting (BALEH)

In Batch Counting, count setting value SV controls Output 2 which will turn ON momentarily or will be maintained ON depending on the output mode selected. Count setting value BATCH SV controls Output 1 which will be maintained ON.

Total Counting (EDERL)

A single count setting value SV is available in Total Counting. Both Outputs 1 and 2 operate concurrently and will turn ON momentarily or will be maintained ON depending on the Output Mode selected.

Dual Counting (

A single count setting value SV is available in Dual Counting. Both Outputs 1 and 2 operate concurrently and will turn ON momentarily or will be maintained ON depending on the Output Mode selected.

Step 2: Determine Required Counter Input Mode

Counter Input Modes:

Counting Up ()*

With the input signal OFF at input CP2, each leading edge of the input signal at CP1 will increment the count present value PV by 1. Turning ON the input signal at CP2, will prohibit the input signal at CP1 from incrementing the PV.

With the input signal ON at input CP1, each trailing edge of the input signal at CP2 will increment the count present value PV by 1. Turning OFF the input signal at CP1, will prohibit the input signal at CP2 from incrementing the PV.

Counting Down (

With the input signal OFF at input CP2, each leading edge of the input signal at CP1 will decrement the count present value PV by 1. Turning ON the input signal at CP2, will prohibit the input signal at CP1 from decrementing the PV.

With the input signal ON at input CP1, each trailing edge of the input signal at CP2 will decrement the count present value PV by 1. Turning OFF the input signal at CP1, will prohibit the input signal at CP2 from decrementing the PV.

Counting Up / Command Counting Down (III 3)*

With the input signal OFF at input CP2, each leading edge of the input signal at CP1 will increment the count present value PV by 1.

With the input signal ON at input CP2, each leading edge of the input signal at CP1 will decrement the count present value PV by 1.

Counting Up / Counting Down (E B)*

Each leading edge of the input signal at CP1 will increment the count present value PV by 1.

Each leading edge of the input signal at CP2 will decrement the count present value PV by 1.

Quadrature (

When the quadrature input signal at CP1 changes before the input signal at CP2, the trailing edge of CP2 will increment the count present value PV by 1.

When the quadrature input signal at CP2 changes before the input signal at CP1, the leading edge of CP2 will decrement the count present value PV by 1.

Addition (Red)**

Each leading edge of the input signal at CP1 will increment the count present value PV by 1.

Each leading edge of the input signal at CP2 will increment the count present value PV by 1.

Subtraction (5115)**

Each leading edge of the input signal at CP1 will increment the count present value PV by 1.

Each leading edge of the input signal at CP2 will decrement the count present value PV by 1.

*Available only with counter functions 1-stage, 2-stage, batch, total

**Available only with counter function dual

Step 3: Determine the Counter Output Mode by Visiting the Page Numbers Shown for Your Desired Counter Function and Input Mode

Counter Output Modes:

Counter Function	Counter Input Mode	Page Number
	Counting Up (UP)	2-5
	Counting Down (हहान)	2-9
1-Stage	Counting UP/Command Counting Down (2-13
	Counting UP/Counting Down (2-18
	Counting Quadrature (Lata)	2-23
	Counting Up (2-28
	Counting Down (हहान)	2-33
2-Stage	Counting UP/Command Counting Down (LER)	2-38
	Counting UP/Counting Down (2-45
	Counting Quadrature (2-52
	Counting Up (2-59
	Counting Down (BBC-)	2-64
Batch	Counting UP/Command Counting Down (2-69
	Counting UP/Counting Down (2-75
	Counting Quadrature (Lata)	2-81
	Counting Up (2-87
	Counting Down (हहान)	2-92
Total	Counting UP/Command Counting Down (2-97
	Counting UP/Counting Down (2-103
	Counting Quadrature (2-109
Dual	Addition (Raa)	2-115
Duai	Subtraction (585)	2-120



Click on the above thumbnail or go to <u>https://www.automationdirect.com/VID-RL-0004</u> for a short Counter demo video.

= art. Counter Timer	Search unclose There are 4 modes in CTT, just to right inner, counter, techning there is counter.
=, 27 Counter-Timer-	aon How to Set up the Counter Function S 🖉
AUTOMATIONDIRECTS CTT	Belect counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
	1942 (C-0) (S1951) (C-0) (S1951) (C-0) (S1951) (C-0) (S1951)
t outd =	Select input modes: counting up, counting down.counting up/command.counting down.counting up/counting do substatem input.
<u>الم</u>	Select output modes: CTT offer 11 output modes, among which mode 8. T and D are only wild with input mode: Wight No.p. and Dig.C. There is the model in the select in the model in the select in the se
X RESET	
	Select counter range arrays 39kpg; athen 55, 16, 200, 20 and 5pg.
	 Pulse wide choosed 1: The delautic output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON. STERE CP-01 BRIDE CP-02 BRIDE
utomation =	Public width of colout 2: This parameter is adjustable according to different output modes selected. If the output if the default subject time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be
uirect	Concerning and the position of decimal points of the bind decimal points, 1 (since digit after decimal points, 2 (two digits after decimal points, 2 (two digits after decimal points).
- V	
	*

Click on the above thumbnail or go to <u>https://www.automationdirect.com/VID-RL-0003</u> for a Counter Set-up video.



CTT Counter Functions 1-Stage Counting (55555 1) Counting Up (556)

1-Stage Counting (54755)

A single count setting value SV is available in 1-Stage Counting. Both Outputs 1 and 2 operate concurrently and will turn ON momentarily for the time set in the output pulse width parameter (EGUEZ) or will be maintained ON depending on the Output Mode selected.

Input Mode:

Counting Up (III)

With the input signal OFF at input CP2, each leading edge of the input signal at CP1 will increment the count present value PV by 1. Turning ON the input signal at CP2, will prohibit the input signal at CP1 from incrementing the PV.

With the input signal ON at input CP1, each trailing edge of the input signal at CP2 will increment the count present value PV by 1. Turning OFF the input signal at CP1, will prohibit the input signal at CP2 from incrementing the PV.

Counting up









Output Modes:

Mode F (E)

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON. The count PV will continue to increment with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode N ()

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode C ()

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EOUER**) and the count PV will reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn both outputs OFF, reset the count PV to 0 and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUE2).

The count PV is prohibited from incrementing until the end of the output pulse time (Fourse) when the outputs turn OFF and the count PV is reset automatically to 0. The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing the count PV.

The trailing edge of the "reset" signal at RST1 enables counting to begin. The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode K (🖪)

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EDUFE**). The count PV will continue to increment with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

Mode P (2)

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**Loued**). The count PV display is prohibited from incrementing until the end of the output pulse time, when both outputs turn OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing the count PV.

The trailing edge of the "reset" signal at RST1 enables counting to begin. The "reset" signal minimum pulse width is set by reset pulse width parameter (**rE5r**) or DIP Switch 8.



RESET

999999

sv

Input Mode UP Output Mode K





Mode Q (🗐)

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUEE). The count PV will continue to increment with each input signal until the end of the output pulse time, when the outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FE5F**) or DIP Switch 8.

Mode A (🗐)

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EDUE2**). The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Input Mode UP Output Mode A

Counter Wiring Examples



DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1			
Switch	Function	Off	On
1	Dip switch	Disabled	Enabled
2	Counting mode	Counting up	Counting down
3	Output mode	See Output Mode Table - Table 2	
4		Oce Output Int	
5	Counting speed	30cps	10Kps
6	Reserved	-	-
7	Input signal	NPN	PNP
8	Reset signal pulse width	20 ms	1 ms

Output Mode - Table 2			
Switch 3 Switch 4 Output Mode			
OFF	OFF	F	
ON	OFF	Ν	
OFF	ON	С	
ON	ON	R	

Keypad set up of the parameters for 1-Stage Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.

FUnE	INALLAE INAL INALLACH INALACH
	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EneFun	INTER STATES INTER STATES AND
MODE	Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down,
E InPt	
	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes
E otād	Ud_A, Ud_b and Ud_C. [키아치 🖥 [키아치 🖥 [키아치 🗭 [키아치 🗮 [키아치 🖗
MODE	
	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
C SPEJ	
MODE	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the
	output status will be maintained ON.
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	In a contraction of the contract
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal
	point), 3 (three digits after decimal point).
MODE	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSCALE	Error I used to convert the displayed PV into engineering unit, such as RPM, inches, millimeters, feet per minute etc. See Tachometer Examples in Chapter 6
MODE	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved
PGEr S	Vac ELER Vac SRUE
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
resr	
MODE	Select input signal types: NPN and PNP
[nPtl[
MODE	
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CTT Counter Functions 1-Stage Counting (55555 1) Counting Down (5555)

1-Stage Counting (56855)

A single count setting value SV is available in 1-Stage Counting. Both Outputs 1 and 2 operate concurrently and will turn ON momentarily for the time set in the output pulse width parameter (Laura) or will be maintained ON depending on the Output Mode selected.

Input Mode:

Counting Down (dour)

With the input signal OFF at input CP2, each leading edge of the input signal at CP1 will decrement the count present value PV by 1. Turning ON the input signal at CP2, will prohibit the input signal at CP1 from decrementing the PV.

With the input signal ON at input CP1, each trailing edge of the input signal at CP2 will decrement the count present value PV by 1. Turning OFF the input signal at CP1, will prohibit the input signal at CP2 from decrementing the PV.

Counting down



Note: (A) has to be larger than width of min. Input signal



Note: (A) has to be larger than width of min. Input signal

Output Modes:

Mode F ()

When the count present value PV counts down to 0 both outputs 1 and 2 will turn ON. The count PV will continue to decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to the count setting value SV, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode N (

When the count present value PV counts down to 0 both outputs 1 and 2 will turn ON. The count PV will remain at 0 regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to the count setting value SV, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode C (

When the count present value PV counts down to 0 both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (Fourse) and the count PV will reset automatically to the count setting value SV.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to the count SV and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

When the count present value PV counts down to 0 both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (Foure). The count PV is prohibited from decrementing until the end of the output pulse time (tout2) when the outputs turn OFF and the count PV is reset automatically to the count setting value SV.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to the count SV and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode K (🗄)

When the count present value PV counts down to 0 both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEE). The count PV will continue to decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to the count setting value SV and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode P (2)

When the count present value PV counts down to 0 both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (ECUEC). The count PV display is prohibited from decrementing until the end of the output pulse time when both outputs turn OFF and the count PV is reset automatically to the count setting value SV and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to the count SV and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.





Mode Q (🗐)

When the count present value PV counts down to 0 both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (Fourter). The count PV will continue to decrement with each input signal until the end of the output pulse time when the outputs turn OFF and the count PV is reset automatically to the count setting value SV.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to the count SV and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode A (E)

When the count present value PV counts down to 0 both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EQUER**). The count PV will remain at 0 regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to the count setting value SV and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Stage 1 Input Mode DOWN Output Mode A

Counter Wiring Examples



DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1			
Switch	Function	Off	On
1	Dip switch	Disabled	Enabled
2	Counting mode	Counting up	Counting down
3	Output mode	See Output Mode Table - Table 2	
4	Output mode		
5	Counting speed	30cps	10Kps
6	Reserved	-	-
7	Input signal	NPN	PNP
8	Reset signal pulse width	20 ms	1 ms

Output Mode - Table 2				
Switch 3 Switch 4 Output Mode				
OFF	OFF	F		
ON	OFF	N		
OFF	ON	С		
ON	ON	R		

Keypad set up of the parameters for 1-Stage Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.

FUnE	VALER VALE VALER VALER VALER VALER
MODE	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EntFUn	VA <mark>SERSE :</mark> VAS SERSEE VAS <u>BREEK</u> VAS <u>EDERL</u> VAS <u>dur</u>
	Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down, quadrature input
E InPt	$ \exists \sigma \triangle \qquad \Box P \qquad \exists \sigma \triangle \qquad \Box \sigma \square \square \square \square \qquad \Box \sigma \square \qquad \Box \sigma \square \square$
	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes Ud_A, Ud_b and Ud_C.
MODE	
	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
L bred	
MODE	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
t olit i	Var CC2 Var CCC
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), 3 (three digits after decimal point).
Point	Vora 🛛 Vora P Vora P
MODE	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSCALE	Used to convert the displayed PV into engineering unit, such as RPM, inches, millimeters, feet per minute etc. See Tachometer Examples in Chapter 6
MODE	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved.
PGErS	VAL ELER VAL SRUE
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
resr	
	Select input signal types: NPN and PNP
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CTT Counter Functions 1-Stage Counting (55855 1)

Counting Up / Command Counting Down (

1-Stage Counting (SEASE)

A single count setting value SV is available in 1-Stage Counting. Both Outputs 1 and 2 operate concurrently and will turn ON momentarily for the time set in the output pulse width parameter (ECUEE) or will be maintained ON depending on the Output Mode selected.

Input Mode:

Counting Up / Command Counting Down (## 🗐)

With the input signal OFF at input CP2, each leading edge of the input signal at CP1 will increment the count present value PV by 1.

With the input signal ON at input CP2, each leading edge of the input signal at CP1 will decrement the count present value PV by 1.



Note: A has to be larger than width of min. input signal.

Output Modes:

Mode F (E)

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FE5F**) or DIP Switch 8.

Mode N (

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode C ()

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EOULE**) and the count PV will reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn both outputs OFF, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEZ). The count PV is prohibited from incrementing or decrementing until the end of the output pulse time (EGUEZ) when the outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESE**) or DIP Switch 8.

Mode K (🖪)

When the count present value PV counts up or counts down to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUEE). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode P (2)

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (ECUEE). The count PV display is prohibited from incrementing or decrementing until the end of the output pulse time when both outputs turn OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.





Mode Q (2)

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEZ). The count PV will continue to increment or decrement with each input signal until the end of the output pulse time when the outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (- - - - - - - - -) or DIP Switch 8.

Mode A (E)

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEZ). The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (FESF) or DIP Switch 8.



Output Mode A

Mode S (国) and Mode T (国)

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. When the count PV counts down to the count SV, both outputs 1 and 2 will turn OFF. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.



The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESE**) or DIP Switch 8.

Mode D (E)

When the count present value PV counts up or counts down to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEZ**). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (FEGF) or DIP Switch 8.



DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1				
Switch	Function	Off	On	
1	Dip switch	Disabled	Enabled	
2	Counting mode	Counting up	Counting down	
3	Output mode	See Output M	nde Table - Table 2	
4		See Output Ini		
5	Counting speed	30cps	10Kps	
6	Reserved	-	-	
7	Input signal	NPN	PNP	
8	Reset signal pulse width	20 ms	1 ms	

Output Mode - Table 2			
Switch 3	Switch 4	Output Mode	
OFF	OFF	F	
ON	OFF	N	
OFF	ON	С	
ON	ON	R	



Keypad set up of the parameters for 1-Stage Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.

FUnE	VAR LIFE VAR LACH VAR FIL
MODE	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EntFUn	Vas <mark>52862 (</mark> Vas 52862) Vas 68214 Vas 2028 Vas duri
	Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down,
E InPE	quadrature input. 한해준 남은 한해준 금요고요 한해준 <mark>남금 문</mark> 한해준 남금 <mark>남</mark> 문 한해준 남금 문
	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes
[otīd	Ud_A, Ud_b and Ud_C. $\exists \square \square$
MODE	లాడు 🖷 లాడు 🛱 లాడు 🗧 లాడు 🗧 లాడు
v	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
E SPEd	International Contraction of the state of th
MODE	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
E 011E (In a contraction of the contract
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), 3 (three digits after decimal point).
Point	International Provesting Provesti
MODE	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSCALE	Sor
	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved.
PūEr S	Vai CLERR Vai SRUE
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
resr	
	Select input signal types: NPN and PNP
InPELC	
Back to Top	

CTT Counter Functions 1-Stage Counting (55555 1) Counting Up / Counting Down (555)

1-Stage Counting (SERSE)

A single count setting value SV is available in 1-Stage Counting. Both Outputs 1 and 2 operate concurrently and will turn ON momentarily for the time set in the output pulse width parameter (**EGUEZ**) or will be maintained ON depending on the Output Mode selected.

Input Mode:

Counting Up / Counting Down (E 🗄

Each leading edge of the input signal at CP1 will increment the count present value (PV) by 1.

Each leading edge of the input signal at CP2 will decrement the count present value (PV) by 1.



Output Modes:

Mode F (E)

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode N ()

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Input Mode UdB Output Mode F



Input Mode UdB Output Mode N



Mode C ()

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (tout2) and the count PV will reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn both outputs OFF, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R (=)

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEZ). The count PV is prohibited from incrementing or decrementing until the end of the output pulse time (EGUEZ) when the outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode K (E)

When the count present value PV counts up or counts down to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUEE). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode P (2)

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEE). The count PV display is prohibited from incrementing or decrementing until the end of the output pulse time when both outputs turn OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESE**) or DIP Switch 8.



Output Mode P

Mode Q (E)

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EBUEE). The count PV will continue to increment or decrement with each input signal until the end of the output pulse time when the outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode A (🗐)

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EDUE2**). The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Output Mode Odb

Mode S () and Mode T ()

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. When the count PV counts down to the count SV, both outputs 1 and 2 will turn OFF. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.



The "reset" signal minimum pulse width is set by reset pulse width parameter (FESF) or DIP Switch 8.

Stage 1 Input Mode UdB Output Mode S & T



Mode D (2)

When the count present value PV counts up or counts down to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (ECUEZ). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (FESF) or DIP Switch 8.



Stage 1 Input Mode UdB Output Mode D

Counter Wiring Examples



DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1			
Switch	Function	Off	On
1	Dip switch	Disabled	Enabled
2	Counting mode	Counting up	Counting down
3	Output mode	See Output M	ndo Tablo - Tablo 2
4		See Output Ini	
5	Counting speed	30cps	10Kps
6	Reserved	-	-
7	Input signal	NPN	PNP
8	Reset signal pulse width	20 ms	1 ms

Output Mode - Table 2		
Switch 3	Switch 4	Output Mode
OFF	OFF	F
ON	OFF	N
OFF	ON	С
ON	ON	R

Keypad set up of the parameters for 1-Stage Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.

FünE	Var Fiel Var Var Field Var Field
	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EntFUn	Vor <mark>568567</mark> Vor 568622 Vor 68667 Vor 6668
	Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down, quadrature input
E InPE	Variation mpart Variation mpart
	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes Ud_A, Ud_b and Ud_C. 같아요 물 같아요 물 같아요 물 같아요 물 같아요 물 같아요 물
MODE	కాండ 📱 కాండ 📱 కాండ 🖕 కాండ 🖉 కాండ
_ ,	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
C SPEJ	Var 192 Var 152 Var 12 Var 200 Var 190 Var 190
	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
MODE	the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), 3 (three digits after decimal point).
PoInt	International Provides Provide
MODE	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSCALE	Sor
	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved.
PūEr S	Vora CLER- Vora SRUE
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
resr	
	Select input signal types: NPN and PNP
InPELE	
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CTT Counter Functions 1-Stage Counting (ELEE I) Quadrature (ELE)

1-Stage Counting (

A single count setting value SV is available in 1-Stage Counting. Both Outputs 1 and 2 operate concurrently and will turn ON momentarily for the time set in the output pulse width parameter (**EGUER**) or will be maintained ON depending on the Output Mode selected.

Input Mode:

Quadrature (EE E)

When the quadrature input signal at CP1 changes before the input signal at CP2, the trailing edge of CP2 will increment the count present value PV by 1.

When the quadrature input signal at CP2 changes before the input signal at CP1, the leading edge of CP2 will decrement the count present value PV by 1.



Note: (B) has to be larger than width of 1/2 min. input signal.

Output Modes:

Mode F ()

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode N ()

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8



Mode C ()

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EQUER**) and the count PV will reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn both outputs OFF, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEZ). The count PV is prohibited from incrementing or decrementing until the end of the output pulse time (EGUEZ) when the outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode K (E)

When the count present value PV counts up or counts down to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EOUEE). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode P (2)

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EOULE**). The count PV display is prohibited from incrementing or decrementing until the end of the output pulse time when both outputs turn OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.







Mode Q 🗐

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EoUEE). The count PV will continue to increment or decrement with each input signal until the end of the output pulse time when the outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode A (E)

When the count present value PV counts up to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EDJEE). The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode S () and Mode T ()

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. When the count PV counts down to the count SV, both outputs 1 and 2 will turn OFF. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (FESF) or DIP Switch 8.



Output Mode S & T

Mode D ()

When the count present value PV counts up or counts down to the count setting value SV, both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEZ). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (FESF) or DIP Switch 8.



Output Mode D

Counter Wiring Examples



DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1			
Switch	Function	Off	On
1	Dip switch	Disabled	Enabled
2	Counting mode	Counting up	Counting down
3	Output mode	See Output M	nda Tabla - Tabla 2
4		See Output init	
5	Counting speed	30cps	10Kps
6	Reserved	-	-
7	Input signal	NPN	PNP
8	Reset signal pulse width	20 ms	1 ms

Output Mode - Table 2			
Switch 3	Switch 4	Output Mode	
OFF	OFF	F	
ON	OFF	N	
OFF	ON	С	
ON	ON	R	



Keypad set up of the parameters for 1-Stage Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.

¥or 🟠 Ŭorâ ⊢ЯГН Ŭorâ FUNE Vorâ HENE Cont - <u>ה</u> - <u>י</u> Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting, Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down, quadrature input. [nPE Vor<u></u> LP dour Ins Ud R Ins Ud b Ins Ud E ¥ or 🖍 Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes Ud A, Ud b and Ud C. 🗖 🗁 🏹 🖉 🖾 🖓 🖓 🖓 🖓 🖓 🖓 🖓 🖓 MODE T Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps. 58Ed **ĭ**∝≈ 182 Vorê **12** Vorê **200** Vorê **30** Vorê i or î 58 Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON. olle i ▼or ⋦ 002 ▼or ⋦ 000 Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON. 000 Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), 3 (three digits after decimal point). Polok Ivak Ivak Ivak Ivak Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999 Used to convert the displayed PV into engineering unit, such as RPM, inches, millimeters, feet per 255816 🖄 🗰 🛙 🖓 🖓 minute etc. See Tachometer Examples in Chapter 6 Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved. Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable resr 🗊 20 ¥or ᡬ Select input signal types: NPN and PNP CaPELE ĭ∝≈ aPa Vor ☆ P ¬ P **Back to Top**

CTT Counter Functions 2-Stage Counting (Counting Up (EE)

2-Stage Counting (52858 2)

In 2-Stage Counting, count setting value SV1 controls Output 1 and count setting value SV2 controls Output 2. Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EDUE 1) or will be maintained ON (tout1 set to 0.00). Output 2 will turn ON momentarily for the time set in the output pulse width parameter (Eoure) or will be maintained ON depending on the output mode selected.

Input Mode:

Counting Up (

With the input signal OFF at input CP2, each leading edge of the input signal at CP1 will increment the count present value PV by 1. Turning ON the input signal at CP2, will prohibit the input signal at CP1 from incrementing the PV.

With the input signal ON at input CP1, each trailing edge of the input signal at CP2 will increment the count present value PV by 1. Turning OFF the input signal at CP1, will prohibit the input signal at CP2 from incrementing the PV.



Note: (A) has to be larger than width of min. Input signal



Note: (A) has to be larger than width of min. Input signal

Output Modes:

Mode F (E)

When the count present value PV counts up to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EoUE) or will be maintained ON if the output pulse width parameter (Eatter i) is set to 0.00. When the count PV counts up to the count setting value SV2, Output 2 will turn ON. The count PV will continue to increment with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (- - - - -) or DIP Switch 8.



Stage 2 Input Mode UP Output Mode F

Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON.



Mode N ()

When the count present value PV counts up to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter ($[_ o \sqcup _ i]$) or will be maintained ON if the output pulse width parameter ($[_ o \sqcup _ i]$) is set to 0.00. When the count PV counts up to the count setting value SV2, Output 2 will turn ON. The count PV will remain at the count SV2 regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8

Mode C (

When the count present value PV counts up to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (Eastern) or will be maintained ON if the output pulse width parameter (Eastern) is set to 0.00. When the count PV counts up to the count setting value SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (Eastern) and the count PV will reset automatically to 0. If Output 1 is ON when Output 2 turns OFF, Output 1 will also turn OFF.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

When the count present value PV counts up to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (**EGUE 1**) or will be maintained ON if the output pulse width parameter (**EGUE 1**) is set to 0.00. When the count PV counts up to the count setting value SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUE 2**). The count PV is prohibited from incrementing until the end of the output pulse time (**EGUE 2**) when both outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON.



Note: 11 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T_2 = Momentary ON time set in output pulse parameter (tout2).

Mode K (E)

When the count present value PV counts up to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter ($[_ _ _ _ _ _])$ or will be maintained ON if the output pulse width parameter ($[_ _ _ _ _])$ is set to 0.00. When the count PV counts up to the count setting value SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter ($[_ _ _ _ _])$. If Output 1 is ON when Output 2 turns OFF, Output 1 will also turn OFF. The count PV will continue to increment with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.





Mode P (E)

When the count present value PV counts up to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (**FOUR**) or will be maintained ON if the output pulse width parameter (**FOUR**) is set to 0.00. When the count PV counts up to the count setting value SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**FOUR**). The count PV display is prohibited from incrementing until the end of the output pulse time (**FOUR**) when both outputs turn OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).



Mode Q (🗐

When the count present value PV counts up to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (**EGUE 1**) or will be maintained ON if the output pulse width parameter (**EGUE 1**) is set to 0.00. When the count PV counts up to the count setting value SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUE 2**). The count PV will continue to increment with each input signal until the end of the output pulse time (**EGUE 2**) when both outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode A (🗐)

When the count present value PV counts up to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEN**) or will be maintained ON if the output pulse width parameter (**EGUEN**) is set to 0.00. When the count PV counts up to the count setting value SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEN**). The count PV will remain at the count SV2 regardless of additional input signals.

The leading edge of a "reset" signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Input Mode UP Output Mode Q

Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).



Input Mode UP Output Mode A

Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).

Counter Wiring Examples



DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1			
Switch	Function	Off	On
1	Dip switch	Disabled	Enabled
2	Counting mode	Counting up	Counting down
3	Output mode	See Output M	nda Tabla - Tabla 2
4		See Output Ini	
5	Counting speed	30cps	10Kps
6	Reserved	-	-
7	Input signal	NPN	PNP
8	Reset signal pulse width	20 ms	1 ms

Output Mode - Table 2			
Switch 3	Switch 4	Output Mode	
OFF	OFF	F	
ON	OFF	N	
OFF	ON	С	
ON	ON	R	

Keypad set up of the parameters for 2-Stage Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

	Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.
FUnE	Var File var Eoof Aar Felh Aar Vir
MODE	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EneFiln	IVA SERSE I IVA <mark>SERSE2</mark> IVA BRECH IVA ECERL IVA dure
	Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down, guadrature input.
E InPt	INA UP INA COUR IC A INA UC A INA UC
MODE	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes
C otād	
	Int I Int I Int I Int I Int
,	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
C SPEJ	Var 102 Var 52 Var 12 Var 200 Var 30 Var 1
MODE	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
t ollt i	Var CCC Var CCC
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t out2	
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), 3 (three digits after decimal point).
Point	Ina 🖥 Ina 🖥 Ina 🖥
MODE	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSERLE	Used to convert the displayed PV into engineering unit, such as RPM, inches, millimeters, feet per minute etc. See
	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved
PüErS	
	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
resr	Var 20 Var 1
	Select input signal types: NPN and PNP
CoPELE	
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CTT Counter Functions 2-Stage Counting (ELEER 2) Counting Down (ELEER)

2-Stage Counting (51855 2)

In 2-Stage Counting, count setting value SV1 controls Output 1 and count setting value SV2 controls Output 2. Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EGUEE) or will be maintained ON (EGUEE) set to 0.00). Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEE) or will be maintained ON depending on the output mode selected.

Input Mode:

Counting Down (dour)

With the input signal OFF at input CP2, each leading edge of the input signal at CP1 will decrement the count present value PV by 1. Turning ON the input signal at CP2, will prohibit the input signal at CP1 from decrementing the PV.

With the input signal ON at input CP1, each trailing edge of the input signal at CP2 will decrement the count present value PV by 1. Turning OFF the input signal at CP1, will prohibit the input signal at CP2 from decrementing the PV.



Note: A has to be larger than width of min. Input signal



Note: (A) has to be larger than width of min. Input signal

Output Modes:

Mode F ()

When the count present value PV counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (tout1) or will be maintained ON if the output pulse width parameter (**EGUET**) is set to 0.00. When the count PV counts down to 0, Output 2 will turn ON. The count PV will continue to decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to the count SV2, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



. Output Mode F

Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON.

Mode N (

When the count present value PV counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (tout1) or will be maintained ON if the output pulse width parameter (EDUEN) is set to 0.00. When the count PV counts down to 0, Output 2 will turn ON. The count PV will remain at 0 regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to the count SV2, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode C ()

When the count present value PV counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (Louge 1) or will be maintained ON if the output pulse width parameter (Louge 1) is set to 0.00. When the count PV counts down to 0, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (Louge 2) and the count PV will reset automatically to the count SV2. If Output 1 is ON when Output 2 turns OFF, Output 1 will also turn OFF.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to the count SV2 and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

When the count present value PV counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (tout1) or will be maintained ON if the output pulse width parameter (**Fours**) is set to 0.00. When the count PV counts down to 0, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**Fours**). The count PV is prohibited from decrementing until the end of the output pulse time (**Fours**) when both outputs turn OFF and the count PV is reset automatically to the count SV2.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to the count SV2 and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Stage 2 Input Mode DOWN Output Mode N

Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON.



Stage 2 Input Mode DOWN Output Mode C

Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).



Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).



Mode K (🖪)

When the count present value PV counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (tout1) or will be maintained ON if the output pulse width parameter (**EGUE 1**) is set to 0.00. When the count PV counts down to 0, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUE2**). If Output 1 is ON when Output 2 turns OFF, Output 1 will also turn OFF. The count PV will continue to decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to the count SV2 and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).

Mode P (2)

When the count present value PV counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EoUE) or will be maintained ON if the output pulse width parameter (EoUE) is set to 0.00. When the count PV counts down to 0, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EoUE). The count PV display is prohibited from decrementing until the end of the output pulse time (tout2) when both outputs turn OFF and the count PV is reset automatically to the count SV2 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" signal at RST1 will turn OFF both outputs, reset the count PV to the count SV2 and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).

Mode Q 📳

When the count present value PV counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EoUE) or will be maintained ON if the output pulse width parameter (EoUE) is set to 0.00. When the count PV counts down to 0, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EoUE). The count PV will continue to decrement with each input signal until the end of the output pulse time (tout2) when both outputs turn OFF and the count PV is reset automatically to the count SV2.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to the count SV2 and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode A (E)

When the count present value PV counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (Eouse) or will be maintained ON if the output pulse width parameter (Eouse) is set to 0.00. When the count PV counts down to 0, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (Eouse). The count PV will remain at 0 regardless of additional input signals.

The leading edge of "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to the count SV2 and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Stage 2 Input Mode DOWN Output Mode Q

Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).



Stage 2 Input Mode DOWN Output Mode A

Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).



Counter Wiring Examples


DIP Switch Set Up of the CTT Parameters:

	Dip Switch Settings - Table 1				
Swit	ch	Function	Off	On	
1		Dip switch	Disabled	Enabled	
2		Counting mode	Counting up	Counting down	
3		Output mode	See Output Mode Table - Table 2		
4					
5		Counting speed	30cps	10Kps	
6		Reserved	-	-	
7		Input signal	NPN	PNP	
8		Reset signal pulse width	20 ms	1 ms	

Output Mode - Table 2			
Switch 3 Switch 4 Output Mode			
OFF	OFF	F	
ON	OFF	N	
OFF	ON	С	
ON	ON	R	

Keypad set up of the parameters for 2-Stage Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

	Select functions. There are 4 modes in CTT, (left to right) timer, counter, factionieter and timer + counter.
FUnE	Ine Ine Ine Ine Ine Ine Ine
MODE	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EntFUn	Ima Serbe (Ima <mark>Serbee</mark> Imabreet Ima eoert Ima dure
	Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down,
E InPE	guadrature input. 판색 <u>은 'UP</u> 판색은 <mark>러더니다</mark> 판색은 U <i>러</i> 문 파송 U <i>러</i> 단 판색은 U <i>러</i> 든
	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes
[otid	Ud_A, Ud_b and Ud_C. 관여금 📮 '관여금 📮 '관여금 💂 '관여금 📕 '관여금 📕
	Int I Int I Int I Int I Int I Int I Int
Y	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
C SPEJ	IN I
MODE	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
E 0UE 1	
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point). 3 (three digits after decimal point).
Point	International Provest
	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSCALE	Soria Used to convert the displayed PV into engineering unit, such as RPM, inches, millimeters, feet per minute etc. See Tachometer Examples in Chapter 6
MODE	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved.
PüErs	Vora <u>ELER</u> Vora SALE
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
resr	
MODE	Select input signal types: NPN and PNP
CoPH_E	

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CTT Counter Functions 2-Stage Counting (ELECE S) Counting Up / Command Counting Down (ELECE)

2-Stage Counting (

In 2-Stage Counting, count setting value SV1 controls Output 1 and count setting value SV2 controls Output 2. Output 1 will turn ON momentarily for the time set in the output pulse width parameter (Eour or will be maintained ON (Eour set to 0.00). Output 2 will turn ON momentarily for the time set in the output pulse width parameter (Eour or will be maintained ON depending on the output mode selected.

Input Mode:

Counting Up / Command Counting Down (III 🗐

With the input signal OFF at input CP2, each leading edge of the input signal at CP1 will increment the count present value PV by 1.

With the input signal ON at input CP2, each leading edge of the input signal at CP1 will decrement the count present value PV by 1.



Note: (A) has to be larger than width of min. input signal.

Output Modes:

Mode F (E)

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EGUE) or will be maintained ON if the output pulse width parameter (EGUE) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON.

Mode N ()

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (Loure) or will be maintained ON if the output pulse width parameter (Loure) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON. The count PV will remain at the count SV2 regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8

Mode C (

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (**EGUE**) or will be maintained ON if the output pulse width parameter (**EGUE**) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUE**) and the count PV will reset automatically to 0. If Output 1 is ON when Output 2 turns OFF, Output 1 will also turn OFF.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (**LOUE**) or will be maintained ON if the output pulse width parameter (**LOUE**) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**LOUE**). The count PV is prohibited from incrementing or decrementing until the end of the output pulse time (**LOUE**) when both outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FE57**) or DIP Switch 8.



Mode K (🖪)

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EGUE) or will be maintained ON if the output pulse width parameter (EGUE) is set to 0.00. When the count PV counts up or counts down to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUE). If Output 1 is ON when Output 2 turns OFF, Output 1 will also turn OFF. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.





Mode P (2)

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EGUET) or will be maintained ON if the output pulse width parameter (EGUET) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUET). The count PV display is prohibited from incrementing or decrementing until the end of the output pulse time (EGUET) when both outputs turn OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).



Mode Q (🗐

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EGUE) or will be maintained ON if the output pulse width parameter (tout1) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUE). The count PV will continue to increment or decrement with each input signal until the end of the output pulse time (EGUE) when both outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode A (2)

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEN**) or will be maintained ON if the output pulse width parameter (**EGUEN**) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEN**). The count PV will remain at the count SV2 regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV.

The trailing edge of the "reset" signal at RST1 enables counting to begin. The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).



Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).

Mode S (2)

When the count present value PV counts up to the count setting value SV1 Output 1 will turn ON. When the count PV counts down to the count SV1 Output 1 will turn OFF. When the count PV counts up to the count setting value SV2 Output 2 will turn ON. When the count PV counts down to the count SV2 Output 2 will turn OFF. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV.

The trailing edge of the "reset" signal at RST1 enables counting to begin. The "reset" signal minimum pulse width is set by reset pulse width parameter (FESF) or DIP Switch 8.



Mode T()

When the count present value PV is less than count setting value SV1, Output 1 will be ON and will turn OFF when the count PV counts up to the count SV1. When the count PV counts down to the count SV1 Output 1 will turn ON. When the count PV counts up to the count SV2 Output 2 will turn ON. When the count PV counts down to the count SV2 Output 2 will turn OFF. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV.

The trailing edge of the "reset" signal at RST1 enables counting to begin. The "reset" signal minimum pulse width is set by reset pulse width parameter (**FEF**) or DIP Switch 8.



Mode D (E)

When the count present value PV counts up or counts down to the count setting value SV1 Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EGUE). When the count PV counts up or counts down to the count SV2 Output 2 will turn ON momentarily for the time set in the output pulse width parameter (tout2). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESE**) or DIP Switch 8.





Stage 2 Input Mode UdA Output Mode D

Note: T1 momentary ON time set in output pulse parameter (tout1), T2 = Momentary ON time set in output pulse parameter (tout2).

Counter Wiring Examples



DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1				
Switch	Function	Off	On	
1	Dip switch	Disabled	Enabled	
2	Counting mode	Counting up	Counting down	
3	Output mode	See Output Mode Table - Table 2		
4	Output mode			
5	Counting speed	30cps	10Kps	
6	Reserved	-	-	
7	Input signal	NPN	PNP	
8	Reset signal pulse width	20 ms	1 ms	

Output Mode - Table 2				
Switch 3 Switch 4 Output Mode				
OFF	OFF	F		
ON	OFF	N		
OFF	ON	С		
ON	ON	R		

Keypad set up of the parameters for 2-Stage Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

	Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.
FUnE	In the teach in the teach is a state of the teach in the teach is the
	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EntFUn	IMA SERFE I IMA <mark>SERFE2</mark> IMABREEN IMA EOFRE IMA <i>dure</i>
	Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down, quadrature input
E InPt	In In Internation Internation International
MODE	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes
C otād	$\exists \sigma \land A = \exists \sigma $
MODE	Inca - Inca - Inca - Inca - Inca
— •	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
C SPEJ	VAR IIL VAR IL VAR ZOR VAR JA
	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the
E oUE I	
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), 3 (three digits after decimal point).
Point	\mathbb{Y} or \mathbb{A} \mathbb{F} \mathbb{Y} or \mathbb{A} \mathbb{F} \mathbb{Y} or \mathbb{A} \mathbb{F}
	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSERLE	Sor
MODE	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved.
PüErS	In International Southern
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
rtSr	Var A 20 Var A 1
MODE	Select input signal types: NPN and PNP
InPELC	International Contractions of the contraction of th
MODE	
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CTT Counter Functions 2-Stage Counting (55555 🗐) Counting Up / Counting Down (555)

2-Stage Counting (ELEE 2)

In 2-Stage Counting, count setting value SV1 controls Output 1 and count setting value SV2 controls Output 2. Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EDUEE) or will be maintained ON (EDUEE set to 0.00). Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUEE) or will be maintained ON depending on the output mode selected.

Input Mode:

Counting Up / Counting Down (

Each leading edge of the input signal at CP1 will increment the count present value PV by 1. Each leading edge of the input signal at CP2 will decrement the count present value PV by 1.



Output Modes:

Mode F (E)

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EGUET) or will be maintained ON if the output pulse width parameter (EGUET) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON.

Mode N ()

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EGUET) or will be maintained ON if the output pulse width parameter (EGUET) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON. The count PV will remain at the count SV2 regardless of additional input signals.

The leading edge of a "reset" input signal signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode C ()

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (**EGUE**) or will be maintained ON if the output pulse width parameter (**EGUE**) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEE**) and the count PV will reset automatically to 0. If Output 1 is ON when Output 2 turns OFF, Output 1 will also turn OFF.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (**LOUE**) or will be maintained ON if the output pulse width parameter (**LOUE**) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**LOUE**). The count PV is prohibited from incrementing or decrementing until the end of the output pulse time (**LOUE**) when both outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Stage 2 Input Mode UdB Output Mode R

Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).



Mode K (🖪)

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (**EGUET**) or will be maintained ON if the output pulse width parameter (**EGUET**) is set to 0.00. When the count PV counts up or counts down to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUET**). If Output 1 is ON when Output 2 turns OFF, Output 1 will also turn OFF. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FE5F**) or DIP Switch 8.



Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).

Mode P (🖪)

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EGUET) or will be maintained ON if the output pulse width parameter (EGUET) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUET). The count PV display is prohibited from incrementing or decrementing until the end of the output pulse time (EGUET) when both outputs turn OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).

Mode Q 🗐

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EoUET) or will be maintained ON if the output pulse width parameter (EoUET) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EoUET). The count PV will continue to increment or decrement with each input signal until the end of the output pulse time (EoUET) when both outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode A (2)

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (**EGUE 1**) or will be maintained ON if the output pulse width parameter (**EGUE 1**) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUE 2**). The count PV will remain at the count SV2 regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8



Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).



Input Mode UdB Output Mode A

Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).

Mode S (2)

When the count present value PV counts up to the count setting value SV1 Output 1 will turn ON. When the count PV counts down to or below the count SV1 Output 1 will turn OFF. When the count PV counts up to the count SV2 Output 2 will turn ON. When the count PV counts down to the count SV2 Output 2 will turn OFF. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FEGF**) or DIP Switch 8.



Mode T(2)

When the count present value PV is less than the count setting value SV1, Output 1 will be ON and will turn OFF when the count PV counts up to the count SV1. When the count PV counts down to the count SV1 Output 1 turn ON. . When the count PV counts up to the count SV2 Output 2 will turn ON. When the count PV counts down to the count SV2 Output 2 will turn OFF. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (FESF) or DIP Switch 8.



Mode D (E)

When the count present value PV counts up or counts down to the count setting value SV1 Output 1 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEN**). When the count present value PV counts up or counts down to the count SV2 Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEN**). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (FESE) or DIP Switch 8.





Note: T1 momentary ON time set in output pulse parameter (tout1), T2 = Momentary ON time set in output pulse parameter (tout2).

Counter Wiring Examples



DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1				
Switch	Function	Off	On	
1	Dip switch	Disabled	Enabled	
2	Counting mode	Counting up	Counting down	
3	Output mode	See Output Mode Table - Table 2		
4				
5	Counting speed	30cps	10Kps	
6	Reserved	-	-	
7	Input signal	NPN	PNP	
8	Reset signal pulse width	20 ms	1 ms	

Output Mode - Table 2				
Switch 3	Switch 4	Output Mode		
OFF	OFF	F		
ON	OFF	N		
OFF	ON	С		
ON	ON	R		



Keypad set up of the parameters for 2-Stage Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.

FUnE	INA LITE INA LOOL INA LALH INA TIL
MODE	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EntFUn	Var Serbe / Var Serbee Var Brech Var Ederl Var dure
	Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down, quadrature input.
E InPE	VAL UP VAR JOUR VAR UJ A VAR UJ C
	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes Ud_A, Ud_b and Ud_C. ジィニ 물 ジィニ 물 ジィニ 물 ジィニ 물 ジィニ 물 ジィニ 물
	International Provestor Proves
	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
E SPEJ	Val III Val III Val III Val III Val
MODE	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
t ollt i	
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	$\forall a \in \mathcal{A}$ $\forall a \in \mathcal{A}$ $\forall a \in \mathcal{A}$
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), 3 (three digits after decimal point).
Point	Vora 🖥 Vora P Vora P
	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSCALE	Used to convert the displayed PV into engineering unit, such as RPM, inches, millimeters, feet per minute etc. See Tachometer Examples in Chapter 6
MODE	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved.
PüErs	Var CLERF Var SRUE
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
resr	Vora 20 Vora
	Select input signal types: NPN and PNP
InPELE	Var OPA Var PAP
MODE	
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CTT Counter Functions 2-Stage Counting (ELECE E) Quadrature (ELECE)

2-Stage Counting (

In 2-Stage Counting, count setting value SV1 controls Output 1 and count setting value SV2 controls Output 2. Output 1 will turn ON momentarily for the time set in the output pulse width parameter (Eauer) or will be maintained ON (Eauer) set to 0.00). Output 2 will turn ON momentarily for the time set in the output pulse width parameter (Eauer) or will be maintained ON depending on the output mode selected

Input Mode:

Quadrature (III 🗐

When the quadrature input signal at CP1 leads the input signal at CP2, the trailing edge of CP2 will increment the count present value PV by 1.

When the quadrature input signal at CP2 leads the input signal at CP1, the leading edge of CP2 will decrement the count present value PV by 1.



Note: (B) has to be larger than width of 1/2 min. input signal.

Output Modes:

Mode F (F)

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EaUE 1) or will be maintained ON if the output pulse width parameter (EoUE 1) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.







Mode N ()

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (**LOUEN**) or will be maintained ON if the output pulse width parameter (**LOUEN**) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON. The count PV will remain at the count SV2 regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode C 🔳

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EOUE i) or will be maintained ON if the output pulse width parameter (EOUE i) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EOUE i) and the count PV will reset automatically to 0. If Output 1 is ON when Output 2 turns OFF, Output 1 will also turn OFF.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (**EOUE**) or will be maintained ON if the output pulse width parameter (tout1) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**EOUE**). The count PV is prohibited from incrementing or decrementing until the end of the output pulse time (**EOUE**) when both outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



parameter (tout2).

Mode K (E)

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EGUET) or will be maintained ON if the output pulse width parameter (EGUET) is set to 0.00. When the count PV counts up or counts down to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUET). If Output 1 is ON when Output 2 turns OFF, Output 1 will also turn OFF. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.





Mode P (2)

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EGUET) or will be maintained ON if the output pulse width parameter (EGUET) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUET). The count PV display is prohibited from incrementing or decrementing until the end of the output pulse time (EGUET) when both outputs turn OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).



Mode Q (🗐)

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter (EGUE) or will be maintained ON if the output pulse width parameter (EGUE) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUE). The count PV will continue to increment or decrement with each input signal until the end of the output pulse time (EGUE) when both outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode A ()

When the count present value PV counts up or counts down to the count setting value SV1, Output 1 will turn ON momentarily for the time set in the output pulse width parameter ($E \cup E = 0$) or will be maintained ON if the output pulse width parameter ($E \cup E = 0$) is set to 0.00. When the count PV counts up to the count SV2, Output 2 will turn ON momentarily for the time set in the output pulse width parameter ($E \cup E = 0$). The count PV will remain at the count SV2 regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FE5F**) or DIP Switch 8.



Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).



Note: T1 momentary ON time set in output pulse parameter (tout1), setting tout1=0.00 results in output 1 maintained ON. T2 = Momentary ON time set in output pulse parameter (tout2).

Mode S (2)

When the count present value PV counts up to the count setting value SV1 Output 1 will turn ON. When the count PV counts down to or below the count SV1 Output 1 will turn OFF. When the count PV counts up to the count SV2 Output 2 will turn ON. When the count PV counts down to the count SV2 Output 2 will turn OFF. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (FESF) or DIP Switch 8.



Mode T(2)

When the count present value PV is less than count setting value SV1, Output 1 will be ON and will turn OFF when the count PV counts up to the count SV1. When the count PV counts down to the count SV1 Output 1 turn ON. . When the count PV counts up to the count SV2 Output 2 will turn ON. When the count PV counts down to the count SV2 Output 2 will turn OFF. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode D (

When the count present value PV counts up or counts down to the count setting value SV1 Output 1 will turn ON momentarily for the time set in the output pulse width parameter (**EGUER**). When the count present value PV counts up or counts down to the count SV2 Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUER**). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESE**) or DIP Switch 8.





Stage 2 Input Mode UdC Output Mode D

Note: T1 momentary ON time set in output pulse parameter (tout1), T2 = Momentary ON time set in output pulse parameter (tout2).

Counter Wiring Examples



DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1				
Switch	Function	Off	On	
1	Dip switch	Disabled	Enabled	
2	Counting mode	Counting up	Counting down	
3	Output mode	See Output Mode Table - Table 2		
4				
5	Counting speed	30cps	10Kps	
6	Reserved	-	-	
7	Input signal	NPN	PNP	
8	Reset signal pulse width	20 ms	1 ms	

Output Mode - Table 2				
Switch 3 Switch 4 Output Mode				
OFF	OFF	F		
ON	OFF	N		
OFF	ON	С		
ON	ON	R		

Keypad set up of the parameters for 2-Stage Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.

FUnE	VAR FILE AND FOUR FULL AND TIA
	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EntFUn	IVA SERBE I IVA <mark>Serbez</mark> IVA breed VAR Evert VAR dure
	Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down, quadrature input.
L LAPE	
	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes Ud_A, Ud_b and Ud_C. ジィ슈 두 ジィ슈 두 ジィ슈 두 ジィ슈 두 ジィ슈 두 ジィ슈 두 ジィ슈
	$\forall a \land P \forall a \land P \land$
,	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
C SPEd	VAR IN SALE VAR IN TARA
	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
2 our 1	
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), 3 (three digits after decimal point).
Point	Vora 🖪 Vora 🗧 Vora 🖥
	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSCALE	Sor
MODE	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved.
PGErS	
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
resr	
MODE	Select input signal types: NPN and PNP
[nPEL[Vora Pro Vora ProP
MODE	
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CTT Counter Functions Batch Counting (EEEE) Counting Up (EE)

Batch Counting (**BREEH**)

In Batch Counting, count setting value SV controls Output 2 which will turn ON momentarily for the time set in the output pulse width parameter (tout2) or will be maintained ON depending on the output mode selected. Count setting value BATCH SV controls Output 1 which will be maintained ON.

Input Mode:

Counting Up (

With the input signal OFF at input CP2, each leading edge of the input signal at CP1 will increment the count present value PV by 1. Turning ON the input signal at CP2, will prohibit the input signal at CP1 from incrementing the PV.

With the input signal ON at input CP1, each trailing edge of the input signal at CP2 will increment the count present value PV by 1. Turning OFF the input signal at CP1, will prohibit the input signal at CP2 from incrementing the PV.



Note: (A) has to be larger than width of min. Input signal



Note: A has to be larger than width of min. Input signal

Output Modes:

Mode F (E)

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON and the batch count present value BATCH PV will increment by one. The count PV will continue to increment with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



. Output Mode F

Mode N ()

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON and the batch count present value BATCH PV will increment by one. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode C ()

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (Eauer), the count PV will reset automatically to 0, and the batch count present value BATCH PV will increment by one.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEZ**) and the batch count present value BATCH PV will increment by one. The count PV is prohibited from incrementing until the end of the output pulse time (**EGUEZ**) when Output 2 turns OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



RST1

RESET 999999

BAICH Input Mode UP Output Mode R



Mode K (E)

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**ECUSE**) and the batch count present value BATCH PV will increment by one. The count PV will continue to increment with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEE) and the batch count present value BATCH PV will increment by one. The count PV display is prohibited from incrementing until the end of the output pulse time when Output 2 turns OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.





Input Mode UP Output Mode P

Mode Q 📳

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUEE) and the batch count present value BATCH PV will increment by one. The count PV will continue to increment with each input signal until the end of the output pulse time when Output 2 turns OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin. The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESP**) or DIP Switch 8.

Mode A (E)

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (Ecure) and the batch count present value BATCH PV will increment by one. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FEST**) or DIP Switch 8.







BATCH Input Mode UP Output Mode A



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DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1				
Switch	Function	Off	On	
1	Dip switch	Disabled	Enabled	
2	Counting mode	Counting up	Counting down	
3	- Output mode	See Output Mede Table Table 2		
4		See Output Ini		
5	Counting speed	30cps	10Kps	
6	Reserved	-	-	
7	Input signal	NPN	PNP	
8	Reset signal pulse width	20 ms	1 ms	

Output Mode - Table 2			
Switch 3	Switch 4	Output Mode	
OFF	OFF	F	
ON	OFF	N	
OFF	ON	С	
ON	ON	R	

Keypad set up of the parameters for Batch Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

	Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.
FUnE	Var File var Euch var Via
	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EneFun	In Street International Street
MODE	Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down, quadrature input.
[InPE	Vora UP vora dourn vora Ud R vora Ud b vora Ud C
Mode 🕇	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes Ud_A, Ud_b and Ud_C. 판매금 🖉 판매금 률 판매금 🖉 판매금 📮 판매금 🚆 판매금
MODE	International Contraction International Contractional Contractiona
Y	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
E SPEd	ICH IMA 54 IMA 14 IMA 200 IMA 30 IMA 4
	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
t ollt i	Var CCC Var CCC
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), 3 (three digits after decimal point).
Point	
MODE	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSCALE	Sor
MODE	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved.
PüErS	In International Sources
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
resr	
MODE	Select input signal types: NPN and PNP
InPELE	
MODE	

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CTT Counter Functions Batch Counting (EEEE) Counting Down (EEEE)

Batch Counting (BALEH)

In Batch Counting, count setting value SV controls Output 2 which will turn ON momentarily for the time set in the output pulse width parameter (tout2) or will be maintained ON depending on the output mode selected. Count setting value BATCH SV controls Output 1 which will be maintained ON.

Input Mode:

Counting Down (2017)

With the input signal OFF at input CP2, each leading edge of the input signal at CP1 will decrement the count present value PV by 1. Turning ON the input signal at CP2, will prohibit the input signal at CP1 from decrementing the PV.

With the input signal ON at input CP1, each trailing edge of the input signal at CP2 will decrement the count present value PV by 1. Turning OFF the input signal at CP1, will prohibit the input signal at CP2 from decrementing the PV.

Counting down







Note: A has to be larger than width of min. Input signal

Output Modes:

Mode F (E)

When the count present value PV counts down to 0, Output 2 will turn ON and the batch count present value BATCH PV will increment by one. The count PV will continue to decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to the count setting value SV, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode N ()

When the count present value PV counts down to 0, Output 2 will turn ON and the batch count present value BATCH PV will increment by one. The count PV will remain at 0 regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to the count setting value SV, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode C ()

When the count present value PV counts down to 0, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**EQUER**), the count PV will reset automatically to the count setting value SV, and the batch count present value BATCH PV will increment by one.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to the count SV, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

When the count present value PV counts down to 0, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (Louted) and the batch count present value BATCH PV will increment by one. The count PV is prohibited from decrementing until the end of the output pulse time (Louted) when Output 2 turns OFF and the count PV is reset automatically to the count setting value SV.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to the count SV, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FES**) or DIP Switch 8.



Mode K (B)

When the count present value PV counts down to 0, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUEE) and the batch count present value BATCH PV will increment by one. The count PV will continue to decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to the count setting value SV, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Output Mode K

Mode P (🗐

When the count present value PV counts down to 0, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**LOULE**) and the batch count present value BATCH PV will increment by one. The count PV display is prohibited from decrementing until the end of the output pulse time when Output 2 turns OFF and the count PV is reset automatically to the count setting value SV and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to the count SV, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FE5-**) or DIP Switch 8.



Output Mode P

Mode Q (🗐)

When the count present value PV counts down to 0, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EauE2) and the batch count present value BATCH PV will increment by one. The count PV will continue to decrement with each input signal until the end of the output pulse time when Output 2 turns OFF and the count PV is reset automatically to the count setting value SV.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to the count SV, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FE5-**) or DIP Switch 8.

Mode A (E)

When the count present value PV counts down to 0, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUEE) and the batch count present value BATCH PV will increment by one. The count PV will remain at 0 regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to the count setting value SV, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FE5-**) or DIP Switch 8.







Input Mode DOWN Output Mode A



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DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1			
Switch	Function	Off	On
1	Dip switch	Disabled	Enabled
2	Counting mode	Counting up	Counting down
3	Output mode See Output Mode Table Ta		odo Tablo - Tablo 2
4		See Output INI	
5	Counting speed	30cps	10Kps
6	Reserved	-	-
7	Input signal	NPN	PNP
8	Reset signal pulse width	20 ms	1 ms

Output Mode - Table 2			
Switch 3	Switch 4	Output Mode	
OFF	OFF	F	
ON	OFF	N	
OFF	ON	С	
ON	ON	R	

Keypad setup of the parameters for Batch Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

	Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.
Fühl	Var File var Couf var Fuch var Vice
	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EntFUn	IMA SERSE I IMA SERSEZ IMA BRECH IMA LOERL IMA durl
MODE	Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down, quadrature input.
E EnPt	In In Internation In International Content in the International Content in
MODE	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes
C otād	306_A, 306_2 and 306_C. Image: Image: Imag Image: Image: I
MODE	Vora 🖥 Vora 🖥 Vora 🖉 Vora 💆 Vora
— ,	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
E SPEJ	Var 102 Var 52 Var 12 Var 200 Var 30 Var
MODE	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
E 011E	
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), or (three digits after decimal point).
Point	Vorá 🖥 Vorá 🖥 Vorá 🖥
MODE	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSERLE	Sor a Used to convert the displayed PV into engineering unit, such as RPM, inches, millimeters, feet per minute etc. See
MODE	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved.
PüEr5	UNE CLERF UNE SAUE
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
resr	I I I I I I I I I I I I I I I I I I I
MODE	Select input signal types: NPN and PNP
InPELE	
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CTT Counter Functions Batch Counting (日月日日月)

Counting Up / Command Counting Down (🖅 🗐)

Batch Counting (BREEH)

In Batch Counting, count setting value SV controls Output 2 which will turn ON momentarily for the time set in the output pulse width parameter (Fourse) or will be maintained ON depending on the output mode selected. Count setting value BATCH SV controls Output 1 which will be maintained ON.

Input Mode:

Counting Up / Command Counting Down (III 🗐

With the input signal OFF at input CP2, each leading edge of the input signal at CP1 will increment the count present value PV by 1.

With the input signal ON at input CP2, each leading edge of the input signal at CP1 will decrement the count present value PV by 1.



Output Modes:

Mode F (E)

When the count present value PV counts up or counts down to the count setting value SV, Output 2 will turn ON and the batch count present value BATCH PV will increment by one. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode N ()

When the count present value PV counts up or counts down to the count setting value SV, Output 2 will turn ON and the batch count present value BATCH PV will increment by one. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode C 🗐

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (ECUEC), the count PV will reset automatically to 0, and the batch count present value BATCH PV will increment by one.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (tout2) and the batch count present value BATCH PV will increment by one. The count PV is prohibited from incrementing or decrementing until the end of the output pulse time (FOURE) when Output 2 turns OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.





Mode K (🖪)

When the count present value PV counts up or counts down to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUEE) and the batch count present value BATCH PV will increment by one. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Input Mode UdA Output Mode K



When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUEZ) and the batch count present value BATCH PV will increment by one. The count PV display is prohibited from incrementing or decrementing until the end of the output pulse time (tout2) when Output 2 turns OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FE5F**) or DIP Switch 8.



Input Mode UdA Output Mode P

Mode Q (

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (FOURE) and the batch count present value BATCH PV will increment by one. When the count present value PV counts down to the count SV, the batch count present value BATCH PV will increment by one. The count PV will continue to increment or decrement with each input signal until the end of the output pulse time (tout2) when Output 2 turns OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode A (E)

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (ECLEE) and the batch count present value BATCH PV will increment by one. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode S (2) & Mode T (2)

When the count present value PV counts up the count setting value SV, Output 2 will turn ON and the batch count present value BATCH PV will increment by one. When the count PV counts down to the count SV, Output 2 will turn OFF and the batch count BATCH PV will increment by one. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (FESF) or DIP Switch 8.





Output Mode A


Mode D (E)

When the count present value PV counts up or counts down to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEE) and the batch count present value BATCH PV will increment by one. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.



DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1			
Switch	Function	Off	On
1	Dip switch	Disabled	Enabled
2	Counting mode	Counting up	Counting down
3	Output mode	See Output Mode Table - Table 2	
4			
5	Counting speed	30cps	10Kps
6	Reserved	-	-
7	Input signal	NPN	PNP
8	Reset signal pulse width	20 ms	1 ms

Output Mode - Table 2			
Switch 3	Switch 4	Output Mode	
OFF	OFF	F	
ON	OFF	N	
OFF	ON	С	
ON	ON	R	

Keypad set up of the parameters for Batch Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

	Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.
FUnE	Var File var Entring Fler var Lie
MODE	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EntFUn	yma Serbe (yma Serbee yma <mark>bref</mark> yma eoert yma durl
MODE	Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down, guadrature input.
[InPt	In In Internation Internation Internations International Internation Internations International Internations International Internations International Internations Internations International Internations Internatio
MODE	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes
[otīd	304_A, 304_2 and 30_2. Iva I Iva I
MODE	Int 🖥 Int 🖥 Int 🗧 Int 🗧 Int 🖉 Int
,	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
E SPEJ	VAR 102 VAR 152 VAR 124 VAR 200 VAR 150 VAR
MODE	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
t ollt i	Var CCC Var CCC
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	ICC INA COC
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), 3 (three digits after decimal point).
Point	International Contractions of the second sec
MODE	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSCALE	⊡or 🔝 🚺 Used to convert the displayed PV into engineering unit, such as RPM, inches, millimeters, feet per minute etc. See
MODE	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved
PüErs	
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
resr	
	Select input signal types: NPN and PNP
InPELE	
Back to Top	



CTT Counter Functions Batch Counting (日月日日日)

Counting Up / Counting Down (🗺 🗟)

Batch Counting (BALEH)

In Batch Counting, count setting value SV controls Output 2 which will turn ON momentarily for the time set in the output pulse width parameter (tout2) or will be maintained ON depending on the output mode selected. Count setting value BATCH SV controls Output 1 which will be maintained ON.

Input Mode:

Counting Up / Counting Down (III B)

Each leading edge of the input signal at CP1 will increment the count present value PV by 1. Each leading edge of the input signal at CP2 will decrement the count present value PV by 1.



Output Modes:

Mode F ()

When the count present value PV counts up or counts down to the count setting value SV, Output 2 will turn ON and the batch count present value BATCH PV will increment by one. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.



Mode N ()

When the count present value PV counts up or counts down to the count setting value SV, Output 2 will turn ON and the batch count present value BATCH PV will increment by one. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode C (

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (Easter), the count PV will reset automatically to 0, and the batch count present value BATCH PV will increment by one.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEZ**) and the batch count present value BATCH PV will increment by one. The count PV is prohibited from incrementing or decrementing until the end of the output pulse time (**EGUEZ**) when Output 2 turns OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.





Mode K (E)

When the count present value PV counts up or counts down to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEE) and the batch count present value BATCH PV will increment by one. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode P (P)

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUEE) and the batch count present value BATCH PV will increment by one. The count PV display is prohibited from incrementing or decrementing until the end of the output pulse time (EDUEE) when Output 2 turns OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.



Input Mode UdB Output Mode K



BAICH Input Mode UdB Output Mode P

Mode Q (2)

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEZ) and the batch count present value BATCH PV will increment by one. When the count present value PV counts down to the count SV, the batch count present value BATCH PV will increment by one. The count PV will continue to increment or decrement with each input signal until the end of the output pulse time (EGUEZ) when Output 2 turns OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FE5-**) or DIP Switch 8.

Mode A (E)

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUEE) and the batch count present value BATCH PV will increment by one. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FE5-**) or DIP Switch 8.

Mode S (2) & Mode T (2)

When the count present value PV counts up the count setting value SV, Output 2 will turn ON and the batch count present value BATCH PV will increment by one. When the count PV counts down to the count SV, Output 2 will turn OFF and the batch count BATCH PV will increment by one. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.







Mode D (E)

When the count present value PV counts up or counts down to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEE) and the batch count present value BATCH PV will increment by one. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.



DIP Switch Set Up of the CTT Parameters:

	Dip Switch Settings - Table 1		
Switch	Function	Off	On
1	Dip switch	Disabled	Enabled
2	Counting mode	Counting up	Counting down
3	Output mode	See Output M	nda Tabla - Tabla 2
4			
5	Counting speed	30cps	10Kps
6	Reserved	-	-
7	Input signal	NPN	PNP
8	Reset signal pulse width	20 ms	1 ms

Output Mode - Table 2			
Switch 3	Switch 4	Output Mode	
OFF	OFF	F	
ON	OFF	N	
OFF	ON	С	
ON	ON	R	

Keypad set up of the parameters for Batch Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

	Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.
FUnE	Var Life var Cont var thing fight
	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EntFilm	IVAR <u>56866</u> (IVAR 568662) IVAR <mark>68664</mark> IVAR 66686 (IVAR)
	Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down, quadrature input.
E otrd	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes Ud_A, Ud_b and Ud_C. I 한아질 🖥 한아질 🖥 한아질 🖥 한아질 📲 한아질 🚆 한아질
	Inca 🛛 Inca 🗗 Inca 🖕 Inca 🗗 Inca
	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
C SPEJ	Vora 182 Vora Vora 12 Vora 288 Vora Vora
	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
t out i	Var Andrew Content Con
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	
	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), 3 (three digits after decimal point).
Point	
	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSERLE	Sor
	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved.
PüEr S	Var CLER- Var SRUE
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
resr	\mathbb{Y} ora \mathbb{Z} \mathbb{Y} ora \mathbb{I}
	Select input signal types: NPN and PNP
InPELE	
Back to Top	



CTT Counter Functions Batch Counting (EEEE) Quadrature (EEEE)

Batch Counting (BREEH)

In Batch Counting, count setting value SV controls Output 2 which will turn ON momentarily for the time set in the output pulse width parameter (Fourte) or will be maintained ON depending on the output mode selected. Count setting value BATCH SV controls Output 1 which will be maintained ON.

Input Mode:

Quadrature (III 🗐

When the quadrature input signal at CP1 leads the input signal at CP2, the trailing edge of CP2 will increment the count present value PV by 1.

When the quadrature input signal at CP2 leads the input signal at CP1, the leading edge of CP2 will decrement the count present value PV by 1.



Note: (B) has to be larger than width of $1/2 \min$. input signal.

Output Modes:

Mode F (E)

When the count present value PV counts up or counts down to the count setting value SV, Output 2 will turn ON and the batch count present value BATCH PV will increment by one. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.



Mode N (=)

When the count present value PV counts up or counts down to the count setting value SV, Output 2 will turn ON and the batch count present value BATCH PV will increment by one. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode C (

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUEE), the count PV will reset automatically to 0, and the batch count present value BATCH PV will increment by one.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEZ**) and the batch count present value BATCH PV will increment by one. The count PV is prohibited from incrementing or decrementing until the end of the output pulse time (**EGUEZ**) when Output 2 turns OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.





Mode K (E)

When the count present value PV counts up or counts down to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUCE) and the batch count present value BATCH PV will increment by one. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode P (E)

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUEE) and the batch count present value BATCH PV will increment by one. The count PV display is prohibited from incrementing or decrementing until the end of the output pulse time (EDUEE) when Output 2 turns OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.





Input Mode UdC Output Mode P

Mode Q (🗐)

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (Fourse) and the batch count present value BATCH PV will increment by one. When the count present value PV counts down to the count SV, the batch count present value BATCH PV will increment by one. The count PV will continue to increment or decrement with each input signal until the end of the output pulse time (Fourse) when Output 2 turns OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode A (2)

When the count present value PV counts up to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (ECUEE) and the batch count present value BATCH PV will increment by one. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FE5-**) or DIP Switch 8.

Mode S (2) & Mode T (2)

When the count present value PV counts up the count setting value SV, Output 2 will turn ON and the batch count present value BATCH PV will increment by one. When the count PV counts down to the count SV, Output 2 will turn OFF and the batch count BATCH PV will increment by one. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.







Mode D (E)

When the count present value PV counts up or counts down to the count setting value SV, Output 2 will turn ON momentarily for the time set in the output pulse width parameter (EBUEE) and the batch count present value BATCH PV will increment by one. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF Output 2, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

When the BATCH PV counts up to the BATCH SV, Output 1 will turn ON. The leading edge of a "reset" input signal at RST2 will turn OFF Output 1, reset the BATCH PV to 0, and prohibit an input signal from incrementing the BATCH PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.



DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1			
Switch	Function	Off	On
1	Dip switch	Disabled	Enabled
2	Counting mode	Counting up	Counting down
3	Output mode	See Output Mode Table - Table 2	
4			
5	Counting speed	30cps	10Kps
6	Reserved	-	-
7	Input signal	NPN	PNP
8	Reset signal pulse width	20 ms	1 ms

Output Mode - Table 2			
Switch 3	Switch 4	Output Mode	
OFF	OFF	F	
ON	OFF	N	
OFF	ON	С	
ON	ON	R	

Keypad setup of the parameters for Batch Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

	Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.
FUnE	Var LIFE Var Cont Var HEH Var Fil
	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EntFUn	ywa Serbei ywa Serbee ywa <mark>breek</mark> ywa eoere ywa dure
	Select input modes: counting up, counting down, counting up/command down, counting up/counting down, quadrature input.
	Select subult modes: CTT offer 11 subult modes among which mode S. T and D are only valid with input modes.
	Ud_A, Ud_b and Ud_C. 딸아준 등 같아준 등 같아준 등 같아준 을 받아준 을 받아준 을
	Ina 🖁 Ina 🖥 Ina 🗧 Ina 🖕 Ina 💆 Ina
— ,	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
E SPEJ	Var 102 Var 52 Var 12 Var 200 Var 50 Var
MODE	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
t olit i	Var SUC Var SUC
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), point), 3 (three digits after decimal point).
Point	Internet in the second se
	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSCRLE	Examples in Chapter 6 Used to convert the displayed PV into engineering unit, such as RPM, inches, millimeters, feet per minute etc. See
MODE	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved.
PüEr5	Ima CLERF Ima SAUE
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
resr	
	Select input signal types: NPN and PNP
[nPEL[EVE DRA EVE RAP
MODE	

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CTT Counter Functions Total Counting (EBERL) Counting Up (EB)

Total Counting (EDERL)

A single count setting value SV is available in Total Counting. Both Outputs 1 and 2 operate concurrently and will turn ON momentarily for the time set in the output pulse width parameter (EGUEZ) or will be maintained ON depending on the Output Mode selected.

Input Mode:

Counting Up (

With the input signal OFF at input CP2, each leading edge of the input signal at CP1 will increment the count present value PV by 1. Turning ON the input signal at CP2, will prohibit the input signal at CP1 from incrementing the PV.

With the input signal ON at input CP1, each trailing edge of the input signal at CP2 will increment the count present value PV by 1. Turning OFF the input signal at CP1, will prohibit the input signal at CP2 from incrementing the PV.



Note: (A) has to be larger than width of min. Input signal



Note: (A) has to be larger than width of min. Input signal

Output Modes:

Mode F (E)

The Total PV increments with each count present value PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. The count PV and Total PV will continue to increment with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.



Mode N ()

The Total PV increments with each count present value PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. The count PV and Total PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Input Mode UP Output Mode C

Mode C (

The Total PV increments with each count present value PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUCE) and the count PV will reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

Not available in Total Counting



Mode K (🖪)

The Total PV increments with each count present value PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEE**). The count PV and Total PV will continue to increment with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode P (2)

The Total PV increments with each count present value PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (Eaute2). The count PV display is prohibited from incrementing until the end of the output pulse time when both outputs turn OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin. The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode Q 📳

Not available in Total Counting

Mode A (2)

The Total PV increments with each count present value PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (FOULT). The count PV and Total PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.



Input Mode UP Output Mode A





DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1			
Switch	Function	Off	On
1	Dip switch	Disabled	Enabled
2	Counting mode	Counting up	Counting down
3	Output mode	See Output Mode Table - Table 2	
4			
5	Counting speed	30cps	10Kps
6	Reserved	-	-
7	Input signal	NPN	PNP
8	Reset signal pulse width	20 ms	1 ms

Output Mode - Table 2			
Switch 3	Switch 4	Output Mode	
OFF	OFF	F	
ON	OFF	N	
OFF	ON	С	
ON	ON	R	

Keypad set up of the parameters for Total Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

	Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.
FUnE	Ina Life Ina <mark>Cont</mark> Ina Lach Ina fil
	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EneFiln	IVAR <u>51855</u> I IVAR 518622 IVAR 68154 IVAR <mark>10181</mark> IVAR 668
	Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down, quadrature input.
L LNYE	Int UF Int down Int I Int Int Int Int Int I
	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes Ud_A, Ud_b and Ud_C. [코너리 등 코너리 등 코너리 등 프라이지 등 프
MODE	$\forall a \triangleq \forall a \land \blacksquare \blacksquare \blacksquare \blacksquare \forall a \land \blacksquare $
,	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
E SPEJ	Inc Inc Inc Inc Inc Inc Inc Inc
	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
t ollt i	
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	
	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), 3 (three digits after decimal point).
Point	Int I Int I Int I Int
	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSERLE	Used to convert the displayed PV into engineering unit, such as RPM, inches, millimeters, feet per minute etc. See
	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected,
0-6-6	the PV will not be saved.
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
resr	
	Select input signal types: NPN and PNP
InPELE	In a state of the
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CTT Counter Functions Total Counting (도프트웨드) Counting Down (도프트페)

Total Counting (EGERE)

A single count setting value SV is available in Total Counting. Both Outputs 1 and 2 operate concurrently and will turn ON momentarily for the time set in the output pulse width parameter (ECUEZ) or will be maintained ON depending on the Output Mode selected.

Input Mode:

Counting Down (

With the input signal OFF at input CP2, each leading edge of the input signal at CP1 will decrement the count present value PV by 1. Turning ON the input signal at CP2, will prohibit the input signal at CP1 from decrementing the PV.

With the input signal ON at input CP1, each trailing edge of the input signal at CP2 will decrement the count present value PV by 1. Turning OFF the input signal at CP1, will prohibit the input signal at CP2 from decrementing the PV.







Note: A has to be larger than width of min. Input signal

Output Modes:

Mode F (E)

The Total PV increments with each decrement of the count present value PV. When the count present value PV counts down to 0 both outputs 1 and 2 will turn ON. The count PV will continue to decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to the count setting value SV, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.



IOTAL Input Mode DOWN Output Mode F



Mode N ()

The Total PV increments with each decrement of the count present value PV. When the count present value PV counts down to 0 both outputs 1 and 2 will turn ON. The count PV will remain at 0 regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to the count setting value SV, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



IDTAL Input Mode DOWN Output Mode C

Mode C (

The Total PV increments with each decrement of the count present value PV. When the count present value PV counts down to 0 both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (Fourter) and the count PV will reset automatically to the count setting value SV.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to the count setting value SV, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

Not available in Total Counting

Mode K (🖪)

The Total PV increments with each decrement of the count present value PV. When the count present value PV counts down to 0 both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (Eoute). The count PV will continue to decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to the count setting value SV, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode P (2)

The Total PV increments with each decrement of the count present value PV. When the count present value PV counts down to 0 both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEE). The count PV is prohibited from decrementing until the end of the output pulse time when both outputs turn OFF and the count PV is reset automatically to the count setting value SV and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to the count setting value SV, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.





Mode Q (

Not available in Total Counting

Mode A (E)

The Total PV increments with each decrement of the count present value PV. When the count present value PV counts down to 0 both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EOUER). The count PV will remain at 0 regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to the count setting value SV, and prohibit an input signal from decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



TOTAL Input Mode DOWN **Output Mode A**



Counter Wiring Examples

DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1			
Switch	Function	Off	On
1	Dip switch	Disabled	Enabled
2	Counting mode	Counting up	Counting down
3	Output mode	See Output Mode Table - Table 2	
4			
5	Counting speed	30cps	10Kps
6	Reserved	-	-
7	Input signal	NPN	PNP
8	Reset signal pulse width	20 ms	1 ms

Output Mode - Table 2			
Switch 3	Switch 4	Output Mode	
OFF	OFF	F	
ON	OFF	N	
OFF	ON	С	
ON	ON	R	

Keypad set up of the parameters for Total Counting:

To enter the page for parameter setting of the counter, press MODE for the main menu for more than 3 seconds. After the setup is completed, press MODE for more than 3 seconds under any of the parameter page you are in and return to the main menu.

Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.

FUnE	Var Fire Nave Four And Fire Var Pire
MODE	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EntFiln	Jar 56851 Jar 56852 Jar brech Jar boer Jar dure
MODE	Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down, quadrature input.
E InPE	Var UP Var doun Var Ud A Var Ud b Var Ud C
	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes Ud A, Ud b and Ud C.
[otid	$\mathbb{V}_{\mathbb{A}} \models \mathbb{V}_{\mathbb{A}} = \mathbb{V}_{\mathbb{A}} = \mathbb{V}_{\mathbb{A}} = \mathbb{V}_{\mathbb{A}} = \mathbb{V}_{\mathbb{A}} = $
	Int 🖥 Int 🖥 Int 🗧 Int 🗧 Int 🖉 Int
	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
C SPEd	Var 102 Var 122 Var 12 Var 1200 Var 102 Var 102
	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
t ollt i	Vora CC2 Vora CCC
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	Var CCC Var CCC
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), 3 (three digits after decimal point).
Point	
MODE	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSERLE	Sor a Used to convert the displayed PV into engineering unit, such as RPM, inches, millimeters, feet per minute etc. See Tachometer Examples in Chapter 6
MODE	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved.
PüErS	In International Sources
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
resr	Varia 20 Varia 1
	Select input signal types: NPN and PNP
InPELC	Vai opo Vai Pop
MODE	

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CTT Counter Functions Total Counting (EDEFL)

Counting Up / Command Counting Down (🖅 🗐)

Total Counting (EDERL)

A single count setting value SV is available in Total Counting. Both Outputs 1 and 2 operate concurrently and will turn ON momentarily for the time set in the output pulse width parameter (**EBUER**) or will be maintained ON depending on the Output Mode selected.

Input Mode:

Counting Up / Command Counting Down (E 🗐

With the input signal OFF at input CP2, each leading edge of the input signal at CP1 will increment the count present value PV by 1.

With the input signal ON at input CP2, each leading edge of the input signal at CP1 will decrement the count present value PV by 1.



Output Modes:

Mode F (🗐

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.



Mode N ()

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Input Mode UdA Output Mode C

Mode C (

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUEE) and the count PV will reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

Not available in Total Counting



Mode K (E)

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up or counts down to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (Fourter). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode P (2)

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (ECUEE). The count PV display is prohibited from incrementing or decrementing until the end of the output pulse time when both outputs turn OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode Q (

Not available in Total Counting

Mode A (🗐

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEE**). The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



TOTAL Input Mode UdA Output Mode A

Mode S (2) and Mode T (2)

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. When the count PV counts down to the count SV both outputs 1 and 2 will turn OFF. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.





Mode D (🖻)

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up or counts down to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEE**). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.



DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1			
Switch	Function	Off	On
1	Dip switch	Disabled	Enabled
2	Counting mode	Counting up	Counting down
3	Output mode	See Output Mode Table - Table 2	
4			
5	Counting speed	30cps	10Kps
6	Reserved	-	-
7	Input signal	NPN	PNP
8	Reset signal pulse width	20 ms	1 ms

Output Mode - Table 2			
Switch 3	Switch 4	Output Mode	
OFF	OFF	F	
ON	OFF	N	
OFF	ON	С	
ON	ON	R	

Keypad set up of the parameters for Total Counting:

To enter the page for parameter setting of the counter, press MODE for the main menu for more than 3 seconds. After the setup is completed, press MODE for more than 3 seconds under any of the parameter page you are in and return to the main menu.

Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter. MODE Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting. CALFUA IMA SERSE I IMA SERSEZ IMABAREH IMA LOLAL IMA dURL Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down, MODE quadrature input. . - PH vor<u>a</u> Ц₽ Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes MODE Ud A, Ud b and Ud C. obād Vora - Vora - Vora - Vora - Vora లాష 📱 లాష 📲 లాష 🖕 లాష 🖉 లాష MODE Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps. ESPER EMA IOR EMA EMA EMA EMA EMA EMA EMA EMA EMA Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the MODE output status will be maintained ON. t oUt 1 ▼or \$ 002 ▼or \$ 000 Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, MODE the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON. 눈 리뷰귀 Vax 002 Vax 000 MODE Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), 3 (three digits after decimal point). Point 🛛 🐨 🖉 🏹 🖓 🖓 🖓 🖓 🖓 🖓 🖓 🖓 🖓 🖓 MODE Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999 Sorial Used to convert the displayed PV into engineering unit, such as RPM, inches, millimeters, feet per minute etc. See Tachometer Examples in Chapter 6 PSCALE MODE Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved. P56r5 MODE Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable Vor 🔉 🛛 28 vor MODE Select input signal types: NPN and PNP MODE Back to Top



CTT Counter Functions Total Counting (<u>EDERL</u>)

Counting Up / Counting Down (🖅 🗟)

Total Counting (LoLAL)

A single count setting value SV is available in Total Counting. Both Outputs 1 and 2 operate concurrently and will turn ON momentarily for the time set in the output pulse width parameter (EDUEE) or will be maintained ON depending on the Output Mode selected.

Input Mode:

Counting Up / Counting Down (

Each leading edge of the input signal at CP1 will increment the count present value PV by 1.

Each leading edge of the input signal at CP2 will decrement the count present value PV by 1.



Output Modes:

Mode F ()

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.



Mode N ()

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode C ()

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (House and the count PV will reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode R ()

Not available in Total Counting



Mode K (🖪)

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up or counts down to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (Fourter). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode P (2)

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EDGEE). The count PV display is prohibited from incrementing or decrementing until the end of the output pulse time when both outputs turn OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode Q 🗐

Not available in Total Counting

Mode A (🗐

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEE**). The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



. Output Mode A

Mode S (2) and Mode T (2)

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. When the count PV counts down to the count SV both outputs 1 and 2 will turn OFF. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.





Mode D (E)

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up or counts down to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUER**). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.



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DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1			
Switch	Function	Off	On
1	Dip switch	Disabled	Enabled
2	Counting mode	Counting up	Counting down
3	Output mode	See Output Mode Table - Table 2	
4			
5	Counting speed	30cps	10Kps
6	Reserved	-	-
7	Input signal	NPN	PNP
8	Reset signal pulse width	20 ms	1 ms

Output Mode - Table 2			
Switch 3	Switch 4	Output Mode	
OFF	OFF	F	
ON	OFF	Ν	
OFF	ON	С	
ON	ON	R	

Keypad set up of the parameters for Total Counting:

To enter the page for parameter setting of the counter, press MODE for the main menu for more than 3 seconds. After the setup is completed, press MODE for more than 3 seconds under any of the parameter page you are in and return to the main menu.

Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter. FUNE VOR LINE VOR CONE VOR LACH VOR NIL MODE Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting. EREFUR VAR SCREET VAR SCREEZ VAR BREEK VAR ERERU VAR dURL Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down, MODE quadrature input. inPt TAT TATE ACT TATE ACT TATE ACT TATE Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes MODE Ud A, Ud b and Ud C. alad Vora 🗧 Vora n Vora l Vora n Vora 🖉 Vora 🖗 కండ 📱 రెండ 🚪 రెండ 🔄 రెండ 🖉 రెండ MODE Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps. Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the MODE output status will be maintained ON. E olie i ▼or<u>£ 882</u> ¥or<u>£</u> 888 Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, MODE the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON. MODE Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), 3 (three digits after decimal point) POINE VOR I VOR I VOR 2 VOR 3 MODE Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999 Used to convert the displayed PV into engineering unit, such as RPM, inches, millimeters, feet per minute etc. See Tachometer Examples in Chapter 6 PSCALE 🖾 🗈 1000 Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, MODE the PV will not be saved MODE 1 Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable MODE Select input signal types: NPN and PNP MODE Back to Top Digital Counter / Timer / Tach User Manual, 1st Ed.


CTT Counter Functions Total Counting (EDEEL) Quadrature (EE

Total Counting (LoLAL)

A single count setting value SV is available in Total Counting. Both Outputs 1 and 2 operate concurrently and will turn ON momentarily for the time set in the output pulse width parameter (EDUEE) or will be maintained ON depending on the Output Mode selected.

Input Mode:

Quadrature (Ud C)

When the quadrature input signal at CP1 leads the input signal at CP2, the trailing edge of CP2 will increment the count present value PV by 1.

When the quadrature input signal at CP2 leads the input signal at CP1, the leading edge of CP2 will decrement the count present value PV by 1.



Note: (B) has to be larger than width of 1/2 min. input signal.

Output Modes:

Mode F (🗐

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.



Mode N ()

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode C ()

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUEE) and the count PV will reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

Not available in Total Counting



Mode K (E)

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up or counts down to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (Fourter). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode P (2)

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (ECUEE). The count PV display is prohibited from incrementing or decrementing until the end of the output pulse time when both outputs turn OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode Q (🗐)

Not available in Total Counting

Mode A ()

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEZ). The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode S (2) and Mode T (2)

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. When the count PV counts down to the count SV both outputs 1 and 2 will turn OFF. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.





Mode D (E)

The Total PV increments with each increment of the count present value PV and decrements with each decrement of the count PV. When the count present value PV counts up or counts down to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEE). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The leading edge of a "reset" input signal at RST2 will reset the Total PV to 0, and prohibit an input signal from incrementing or decrementing the Total PV. The trailing edge of the "reset" signal at RST2 enables counting to begin.



DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1				
Switch	Function	Off	On	
1	Dip switch	Disabled	Enabled	
2	Counting mode	Counting up	Counting down	
3	Output mode	See Output Mode Table - Table 2		
4	Output mode			
5	Counting speed	30cps	10Kps	
6	Reserved	-	-	
7	Input signal	NPN	PNP	
8	Reset signal pulse width	20 ms	1 ms	

Output Mode - Table 2		
Switch 3	Switch 4	Output Mode
OFF	OFF	F
ON	OFF	N
OFF	ON	С
ON	ON	R

Keypad set up of the parameters for Total Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

	Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.
FUnE	Var Life Var Cont Var Leeh Var Fiy
	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EnEFUn	Iva 52855 / Iva 528552 Iva 68258 Iva 20182 Iva 6082
	Select input modes: counting up, counting down, counting up/command counting down, counting up/counting down,
E InPE	Valature input. Vora UP Vora douin Vora Ud R Vora Ud b Vora <mark>Ud E</mark>
	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes
C otrd	UG_A, UG_D and UG_C. Ival \blacksquare Ival \blacksquare Ival \blacksquare Ival \blacksquare Ival \blacksquare Ival \blacksquare
	Ina 🖥 Ina 🖥 Ina 🗧 Ina 🗖 Ina
MODE	Select counting speed: Maximum 10Kcps: others 5K, 1K, 200, 30 and 1cps
E SPEA	
L	
MODE	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
t ollt i	Vora CCC (Xora)
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), 3 (three digits after decimal point).
Point	Ina 🖥 Ina 📲 Ina 📲
	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSCALE	Used to convert the displayed PV into engineering unit, such as RPM, inches, millimeters, feet per minute etc. See
	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected,
<i>9.</i>	The PV will not be saved.
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
-E5r	
	Select input signal types: NPN and PNP
InPELE	
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CTT Counter Functions Dual Counting (

Dual Counting (

A single count setting value SV is available in Dual Counting. Both Outputs 1 and 2 operate concurrently and will turn ON momentarily for the time set in the output pulse width parameter (tout2) or will be maintained ON depending on the Output Mode selected.

Input Mode:

Addition (Fee)

Each leading edge of the input signal at CP1 will increment the count present value PV by 1.

Each leading edge of the input signal at CP2 will increment the count present value PV by 1.

Output Modes:

Mode F (E)

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. The count PV will continue to increment with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



Mode N ()

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

Mode C ()

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EoUEE) and the count PV will reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R (=)

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (Eauer). The count PV is prohibited from incrementing until the end of the output pulse time (Eauer) when the outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode K (E)

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EOULE**). The count PV will continue to increment with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.







Input Mode ADDITION Output Mode K



Mode P (2)

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (Fourter). The count PV display is prohibited from incrementing until the end of the output pulse time when both outputs turn OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode Q (🗐)

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (Eaure). The count PV will continue to increment with each input signal until the end of the output pulse time when the outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode A (E)

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEZ). The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.





Mode S (2) and Mode T(2)

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. The count PV will continue to increment with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (- - - - - -) or DIP Switch 8.



Mode D (E)

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EGUEZ). The count PV will continue to increment with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (FESF) or DIP Switch 8.



PNP INPUTS NPN INPUTS CP2 CP2 Input (Optional) (Option CP1 CP1 -fi î -(12) -12) CP1 Inpu \Diamond rst2/ start rst2/ star rst2/ start RST2/ START 6 6 $\overline{0}$ $-\overline{\mathcal{T}}$ 6 $\widehat{\sigma}$ +VDC OVDC VDC Externally Powered Externally Po Outp (15) OUT2 OUT1 VDC NPN/

Counter Wiring Examples



DIP Switch Set Up of the CTT Parameters:

Dip Switch Settings - Table 1			
Switch	Function	Off	On
1	Dip switch	Disabled	Enabled
2	Counting mode	Counting up	Counting down
3	Output mode	See Output Mode Table - Table 2	
4			
5	Counting speed	30cps	10Kps
6	Reserved	-	-
7	Input signal	NPN	PNP
8	Reset signal pulse width	20 ms	1 ms

Output Mode - Table 2		
Switch 3	Switch 4	Output Mode
OFF	OFF	F
ON	OFF	N
OFF	ON	С
ON	ON	R

Keypad set up of the parameters for Dual Counting:

To enter the page for parameter setting of the counter, press **MODE** for the main menu for more than 3 seconds. After the setup is completed, press **MODE** for more than 3 seconds under any of the parameter page you are in and return to the main menu.

	Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.
FUnE	Var Life Var Lark Var Fil
	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EneFun	yma <u>55855 /</u> yma <u>558552</u> yma b <i>rech</i> yma <i>eoer</i> l yma dure
MODE	Select dual mode: Add or Subtract
dURL	Var Add Var Sub
	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes
[otīd	Ud_A, Ud_b and Ud_C. Ima E Ima E Ima E Ima E Ima E Ima E Ima
_ 1	Ince 🖣 Ince 🛢 Ince 📮 Ince
MODE	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
E SPEd	VAR TOL VAR TA TA VAR VAR TA VAR VAR VAR VAR VAR VAR VAR VAR VAR VA
MODE	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON
t olit i	
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t out2	In International III
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point). 3 (three digits after decimal point).
Point	International Provest
MODE	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSCALE	Elever See Used to convert the displayed PV into engineering unit, such as RPM, inches, millimeters, feet per minute etc. See Tachometer Examples in Chapter 6
MODE	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected, the PV will not be saved.
PüErS	Vora CLER- Vora SRUE
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
resr	
MODE	Select input signal types: NPN and PNP
InPELE	Vai opo Vai Pop
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CTT Counter Functions Dual Counting (2022) Subtraction (2022)

Dual Counting (

A single count setting value SV is available in Dual Counting. Both Outputs 1 and 2 operate concurrently and will turn ON momentarily for the time set in the output pulse width parameter (EGUEZ) or will be maintained ON depending on the Output Mode selected.

Input Mode:

Subtraction (

Each leading edge of the input signal at CP1 will increment the count present value PV by 1.

Each leading edge of the input signal at CP2 will decrement the count present value PV by 1.

Output Modes:

Mode F ()

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.



DUAL Input Mode SUBTRACTION Output Mode N

Mode N ()

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.



Mode C (

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EOUER) and the count PV will reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count present value PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode R ()

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEZ**). The count PV is prohibited from incrementing or decrementing until the end of the output pulse time (**EGUEZ**) when the outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode K (🖪)

When the count present value PV counts up or counts down to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EOULE). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.







DUAL Input Mode SUBTRACTION Output Mode R



Input Mode SUBTRACTION Output Mode K

Mode P (2)

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EoUEE). The count PV display is prohibited from incrementing or decrementing until the end of the output pulse time when both outputs turn OFF and the count PV is reset automatically to 0 and any input signals that occurred during the output pulse time.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode Q (2)

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EoUE2). The count PV will continue to increment or decrement with each input signal until the end of the output pulse time when the outputs turn OFF and the count PV is reset automatically to 0.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (**FESF**) or DIP Switch 8.

Mode A (🗐

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (EDUEE). The count PV will remain at the count SV regardless of additional input signals.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0 and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.



DUAL Input Mode SUBTRACTION Output Mode P







Mode S (2) and Mode T (2)

When the count present value PV counts up to the count setting value SV both outputs 1 and 2 will turn ON. When the count PV counts down to the count SV both outputs 1 and 2 will turn OFF. The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.

The "reset" signal minimum pulse width is set by reset pulse width parameter (FESF) or DIP Switch 8.



Mode D (E)

When the count present value PV counts up or counts down to the count setting value SV both outputs 1 and 2 will turn ON momentarily for the time set in the output pulse width parameter (**EGUEE**). The count PV will continue to increment or decrement with each input signal.

The leading edge of a "reset" input signal at RST1 will turn OFF both outputs, reset the count PV to 0, and prohibit an input signal from incrementing or decrementing the count PV. The trailing edge of the "reset" signal at RST1 enables counting to begin.



Counter Wiring Examples



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5	Counting speed	30cps	10Kps
6	Reserved	-	-
7	Input signal	NPN	PNP
8	Reset signal pulse width	20 ms	1 ms

Output Mode - Table 2		
Switch 3	Switch 4	Output Mode
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ON	OFF	N
OFF	ON	С
ON	ON	R



Keypad set up of the parameters for Dual Counting:

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	Select functions: There are 4 modes in CTT, (left to right) timer, counter, tachometer and timer + counter.
FUnE	INS FILE INS FULL INS FIL
	Select counter functions: 1-stage counting, 2-stage counting, batch counting, total counting, dual counting.
EntFUn	Ywr 55865 i Ywr 558652 Ywr brech Ywr Eobrl Ywr durl
	Select dual mode: Add or Subtract
dURL	Vara Rad Vara 506
MODE	Select output modes: CTT offer 11 output modes, among which mode S, T and D are only valid with input modes
C otīd	UG_A, UG_D 2010 UG_C. Inc. E Inc. I Inc. I Inc. I Inc. E Inc. E
	Yar 🖁 Yar 🛱 Yar 🖕 Yar 🖉
— ,	Select counting speed: Maximum 10Kcps; others 5K, 1K, 200, 30 and 1cps.
E SPEJ	I'MA HOL IMA SH IMA HL IMA 200 IMA 30 IMA
	Pulse width of output 1: The default output time is 0.02 second. When the parameter is set to 0.00 second, the output status will be maintained ON.
E 00E (
MODE	Pulse width of output 2: This paramter is adjustable according to different output modes selected. If the output mode is C, the default output time will be 0.02 second, When the parameter is set to 0.00 second, the output status will be maintained ON.
t oUt2	Var CC2 var CCC
MODE	Set up the position of decimal point: 0 (no decimal point), 1 (one digit after decimal point), 2 (two digits after decimal point), a (three digits after decimal point).
PoInt	Yara 🖥 Yara 🖥 Yara 🖥
MODE	Set up pre-scale value: 1.000 (default 1:1) Range: 0.001 to 99.999
PSCRLE	Used to convert the displayed PV into engineering unit, such as RPM, inches, millimeters, feet per minute etc. See
MODE	Save the data while switching off the power: When SAVE is selected, the PV will be saved; when CLEAR is selected,
	the PV will not be saved.
MODE	Set up minimum width of reset signal: Default = 20ms; 1ms is also selectable
MODE	Select input signal types: NPN and PNP
InPELE	Even of Even fof
MODE	
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