Basic usage for NCT08-01E

Tsuji Electronics Co., Ltd. Rev.1 at 2016/12/09

HOW TO USE NCT08-01E

- ▶ There is two method to connect NCT08-01E with PC.
- ▶ One is LAN, another is USB.
- ► This tutorial is shown with USB case.

Step-1 : Measurement program install

- Please DON'T connect NCT08-01E with PC.
- Please download the Measurement program.
 - http://www.tsuji-denshi.co.jp/download/CT08_64_01E.exe
- And extract, and then execute setup.exe.
 - ► The program "CT08_64_01E" will be listed in Windows start menu.

Step-2: USB driver install

- USB driver preparation
 - Please download the execution file from Tsuji Electronics HP.
 - http://www.tsuji-denshi.co.jp/download/YS_USBCOM.EXE
 - After download, please execute.
 - ► The files will be stored to your specified folder.

Step-2 : USB driver install ... cont'd

- Driver install
 - ▶ Power ON NCT08-01E.
 - Please connect NCT08-01E with PC by USB cable.
 - ► After connect, you should specify the folder of USB driver.
 - ▶ USB driver will be installed.
- USB port and com port
 - ▶ The USB port is simulated as a COM port.
 - > You should confirm which COM port is used for USB port.

Step-3 : Connect NCT08-01E with PC

- Execute the measurement program "CT08_64_01E" that was installed at step-1. (You can see this program in Windows start menu.)
- Select "USB" in Comm Port.
- Click the button "Connect...".

	5. CT48-01E	controller		-	-			
		Di	splay Area Selec	t 5 6 7		Save Media		com intval(ms)
	Counter0 Counter1 Counter2 Counter3 Counter3 Counter5 Counter6 Counter7 Timer		Last data		Clr Clr Clr Clr Clr Clr Clr Clr Clr Clr	Count and Data Acquisition Not stop 1000 rept Timer Unit Counter 07 1000 kcts Average 5 times rept Start Stop Repeat ALMX? Snd Receive Test Send command VER? Reply/DownLoad Buffer (max64KB)	Gate triggered Data Acquisition 0 to 999 0 to 999 C EX_Gate C EX_GateEdge On(µs) Off(µs) 10000 TM_Gate (On time + Off time >=10000) GTStart HexOnv FileOpn DownLd hispd1 ch 0 0 to 999 x1K	Auto DownLoad C EX_GateEdge (• TM_GateEdge Interval(ms) 0 to 7 TM I HEX FileOpen XT_Start XT_Stop
	Conner	ct	COMM monitor	Stop	Buffer			-
	/* For Timer/ How to save F 1. Start Count 2. New data ar count end. C by the start 10000 block 3. Select direc 4. Write in an 5. Press FileS The newest This proces	Counter stop dat PC data to file er with Timer/Co re stored in the F button. s of PC memorie tory and file or w amount of data n ave button. part of data will s can be used will	a acquisition */ ounter stop mode. To memory every C will be cleared as are prepared. write in file name. umber. be saved. hen counting.	Data Save File	Name Vame	Last 10 Data FileSave-1 14A09 2.5 data0001 CT08 64 01E Exe CT08 64 01E LANL data_0001xt Save File Select 14 Select dir DT08 64 01E LSEL data_0001xt Select dir DT08 64 01E LSEL data_0001xt	triggered data acquisition */ n load data from the Counter nter with EX or TM Gate mode. are stored in the internal memory. Jad the data in the Couter, ectory file name or write in file press "FileOpn" button. swild" button. will be appended to the file. 64KB data will be shown on the of screen. leCls" and "DnAcq" button d if it is not auto stopped.	/* Auto DownLoad */ How to auto down load 1. Select EX or TM 2. Set Time for TM 3. Check. TM, HEX 4. Select file for Save 5. Open file for Save 6. Press XT, Start 7. Start Couter Data DownLoading 8. Press XT, Stop 9. Counter Stop

Step-3 : Connect NCT08-01E with PC ... cont'd

- Small window (connect) will come up.
- Please set USB port COM number.
- You should confirm USB port COM number of your PC.
- This case, the number is 5.
- Click "Connect". —



Step-3 : Connect NCT08-01E with PC ... cont'd

The connection is succeeded, if the button is changed to "Disconnect" with green.

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	Disp 0 1 2 Current data	olay Area Select	6 7 Average data	Save Media	Version 1.14 16-04-20 CT08-01 Gate triggered Data Acquisition	com intval(ms) E 50 Auto DownLoad
Counter0 Counter1 Counter2 Counter3 Counter4 Counter5 Counter6 Counter7 Timer	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	Cir Cir Cir Cir Cir Cir Cir Cir Cir Cir	C Not stop 1 rept C Timer stop 1 Timer Unit C s ○ ms C us C Counter 07 1000 kcts Average 5 times rept 1 Start Stop Repeat ALMX? pver0000 Snd Receive Test Send command VER? Repby/DownLoad Buffer (max64KB)	Save Data Number(0 to 55999) 0 to 999 C EX_Gate C EX_GateEdge On(µs) Off(µs) 10000 TM_Gate 0 (On time + Off time >=10000) GTStart HexOnv FcdStop FileOpn DownLd HiSpd ch 0 to 7 TM ∨ HEX No. 0 to 999 ×1K	 C EX_GateEdge T M_GateEdge Interval(ms) Int
Comm Por C LAN Disco /* For Time How to save 1. Start Cou 2. New data count end by the sta 10000 blo 3. Select dir 4. Write in a 5. Press File The newe This proce	r/Counter stop data PC data to file re C data to file nter with Timer/Cou . Old data in the PC are stored in the PC out of the PC out of the PC out of the PC to be the PC are stored in the	All Clear COMM monitor ON/OFF acquisition */ memory every will be cleared are prepared. ite in file name. mber. e saved. en counting.	Com Clear Buffer Data Save File Name	Last 10 Data FileSave-1 ItA09 2.5 data0001 CT08.64.01E exe CT08.64.01E LANL data_000txt Save File Select Save File Select	triggered data acquisition */ load data from the Counter iter with EX or TM Gate mode, are stored in the internal memory, ad the data in the Couter, sctory file name or write in file press "FileOpn" button. wml.d" button. will be appended to the file. 64KB data will be shown on the f screen. eCls" and "DnAcq" button if it is not auto stopped.	/* Auto DownLoad */ How to auto down load 1. Select EX or TM 2. Set Time for TM 3. Check TM, HEX 4. Select file for Save 5. Open file for Save 6. Press XT Start Data DownLoading 8. Press XT Stop 9. Counter Stop

Step-4 : Confirm the connection

- Please see the right top corner of the program window.
 - You should see "Version 1.14 16-04-20 CT08-01E".
 - (*) You can see CT08-01E, not NCT08-01E. But, it is okay, because there is the same firmware is used between NCT08-01E and CT08-01E.
- Please click the button "Snd Receive Test".
 - This button sends the command that is written at command line.
 - "1.14 16-04-20 CT08-01E" will be appeared in Reply window.
- If you can see the above, it is success to connect NCT08-01E with your PC.



Timer function check - 0 X CT08-01E CONTROLLER - C. the second second second Please set rept = 1 and timer com intval(ms) Display Area Select Save Media Version 1.14 16-04-20 CT08-01E stop = 1 (ms). RAM C Flash 50 Average data -Count and Data Acquisition Auto DownLoad -Current data Last data -Gate triggered Data Acquisition 🔘 Not stop 🔘 EX GateEdge 1 rept Counter0 Clr ⊙ TM_GateEdge And then click "Start". Timer stop Save Data Number(0 to 55999) Counter 1 Clr Interval(ms) Timer Unit -999 0 to Os 📀 ms Ous Counter2 Cir C EX Gate C EX GateEdge C Counter 07 1000 kcts You should see Timer = 1,000 (us). $On(\mu s)$ $Off(\mu_S)$ ch 0 to 7 Counter3 Clr 10000 ⓒ TM_Gate тм 🗹 нех 🗖 rept 1 Average 5 times Counter4 Clr (On time + Off time >=10000) Start Repeat GTStart HexCnv FcdStop Counter 5 FileOpen Cir Set timer stop = 1 (ms), you ALMX? over0000--Cir Countert FileOpn DownLd HiSpd XT_Start should see Timer = 1,000,000Snd Receive Test Send command Counter Clr XT_Stop VER? No. 0 to 999 x1K 1.000 Timer Cir Reply/DownLoad Buffer (max64KB) (us). -Comm Port O LAN . USB All Clear Com Clear Buffer Stop COMM monitor Disconnect ON/OFF /* For Timer/Counter stop data acquisition */ /* Auto DownLoad */ /* For Gate triggered data acquisition */ Data Save File Name Last 10 Data How to save PC data to file How to down load data from the Counter How to auto down load . Select EX or TM 1. Start Counter with Timer/Counter stop mode. 1. Start Counter with EX or TM Gate mode. FileSave-1 New data are stored in the PC memory every New data are stored in the internal memory. .Set Time for TM count end. Old data in the PC will be cleared To download the data in the Couter. Check TM, HEX 🖃 c: [OS] 14A09 2 5 data0001 🖌 . Select file for Save by the start button. Select directory file name or write in file T08_64_01E.exe name and press "FileOpn" button. 10000 blocks of PC memories are prepared. . Open file for Sve **∃**C:¥ CT08 64 01E LANL Select directory and file or write in file name. Press "DownLd" button. 6. Press XT Start CT08_64_01E_USB.L 🔄 Program Files 4. Write in an amount of data number. Start Couter The data will be appended to the file data 000.txt CT08 64 Press FileSave button The first 64KB data will be shown on the Data DownLoading The newest part of data will be saved. Textbox of screen. Press XT_Stop 6. Press "FileCls" and "DnAcq" button This process can be used when counting. 9. Counter Stop Save File Select at the end if it is not auto stopped.

Step-5:

Step-6 : Function Generator set up

- Please set the below signal for the signal function generator.
 - Continuous signal
 - PULSE, Square
 - 1MHz (you can set more higher like 100MHz, if TTL).
 - ► HIGH=3V
 - ► LOW=0V
 - Hi-Z output (not 50ohm)



Step-7 : Counter function check



Step-7 : Counter function check ... cont'd

- Connect Function generator with NCT08-01E CH0 by the signal cable.
- Output the signal from Function generator.
- Click "Start"
- You can see the counter value.
 - Current data : Now, the counter is counting.
 - Last data : data just before current data.
 - Average data : averaged data (Number of data to be averaged)



Step-7 : Counter function check ... cont'd



Step-8 : Disconnect

- Please click "Disconnect".
 - "Disconnect" will changed to -"Connect".
 - The connection line will be closed between NCT08-01E with PC.

В. СТ08-01	E CONTROLLER	-				
	Dis	play Area Select	6 7	Save Media © RAM © Flash	Version 1.14 16-04-20 CT08-01E	com intval(ms)
Counter0	Current data	Last data 1,000,007	Average data 1,000,007	Count and Data Acquisition C Not stop 1000 rept	Gate triggered Data Acquisition	 Auto DownLoad — C EX_GateEdge
Counter 1		0	0 <u>Cir</u>	Timer stop Timer Unit	Save Data Number(0 to 55999)	TM_GateEdge Interval(ms)
Counter2	0	0	0 Cir	Cs ● ms Cus	C EX Gate C EX GateEdge	100
Counter 3	0	0	0 Cir	C Counter 07 1000 kcts	$On(\mu s)$ $Off(\mu s)$	ch 🚺 to 🛛 7
Counter4	0	0	0 Cir	Average 5 times rept 46	(On time + Off time >= 10000)	TM 🔽 HEX
Counter5	0	0	0 _Clr	Start Stop Repeat	GTStart HexCnv FcdStop	FileOpen
Counter6	0	0	0 Cir	ALMX? over0000	FileOpn DownLd HiSpd	XT_Start
Counter7		0		VER?	ch 0 to 7 TM V HEX	XT_Stop
Timer	1,000,000	1,000,000	1,000,000 <u>Cir</u>	Reply/DownLoad Buffer (max64KB)	No.] U to 9999 x1K	
Comm Po	e USB	All Clear	Com Stop			
		ON/OFF		×		۶.
 How to save PC data to file 1. Start Counter with Timer/Counter stop mode. 2. New data are stored in the PC memory every count end. Old data in the PC will be cleared by the start button. 10000 blocks of PC memories are prepared. 3. Select directory and file or write in file name. 4. Write in an amount of data number. 5. Press FileSave button. The newest part of data will be saved. This process can be used when counting. 				Implementation FileSave-1 Implementation Interventation Implementation Interventation <th>load data from the Counter Ht ther with EX or TM Gate mode. are stored in the internal memory. ad the data in the Couter, actory file name or write in file press "FileOpn" button. will be appended to the file. 7. 4KB data will be shown on the f careen. if it is not auto stopped. 11. 12.</th> <th>w to auto down load Select EX or TM Set Time for TM Check TM, HEX Select file for Save Open file for Save Press XT_Start Data DownLoading Press XT Stop Counter Stop</th>	load data from the Counter Ht ther with EX or TM Gate mode. are stored in the internal memory. ad the data in the Couter, actory file name or write in file press "FileOpn" button. will be appended to the file. 7. 4KB data will be shown on the f careen. if it is not auto stopped. 11. 12.	w to auto down load Select EX or TM Set Time for TM Check TM, HEX Select file for Save Open file for Save Press XT_Start Data DownLoading Press XT Stop Counter Stop
Comm Po	et USB	All Clear COMM monitor ON/OFF	Com Stop	•		•
/* For Time How to save 1. Start Cou. 2. New data count end by the st. 10000 blc 3. Select din 4. Write in a 5. Press Fill The news	r/Counter stop data = PC data to file nter with Timer/Cou are stored in the PC I. Old data in the PC art button. cks of PC memories ectory and file or wi n amount of data nu stopart of data will b stopart of data will b	a acquisition */ inter stop mode. C memory every will be cleared are prepared. rite in file name. imber. be saved:	Data Save File Name	Last 10 Data FileSave-1 14A09 2.5 data0001 CT08 64 01E LANL CT08 64 01E LANL CT08 64 01E LSBL data_0001xt The first Corr the f	triggered data acquisition */ I load data from the Counter Her with EX or TM Gate mode. are stored in the internal memory. ad the data in the Couter, Story file name or write in file press "FileOpn" button. will be appended to the file. 44.B data will be shown on the screen. 8.	Auto DownLoad */ www.to.auto.down.load Select EX or TM Set Time for TM Check TM, HEX Select file for Save Press XT_Start Start Couter Data DownLoading Press XT_Stop