MTC SET USER MANUAL

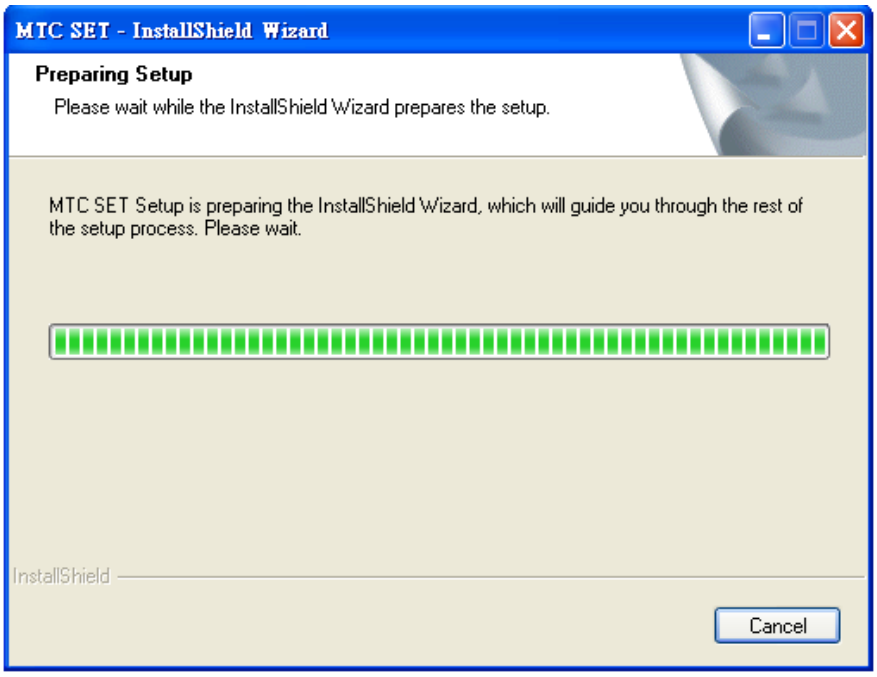
1.1 Brief Introduction and System Requirement

MTC SET is a set-editing software for MTC-3 models under the WINDOWS operating system. MTC SET can not only provide a set-editing for timer, counter and tachometer, but also provide more convenience functions (e.g. file, save, upload, download, monitor and logging etc.)

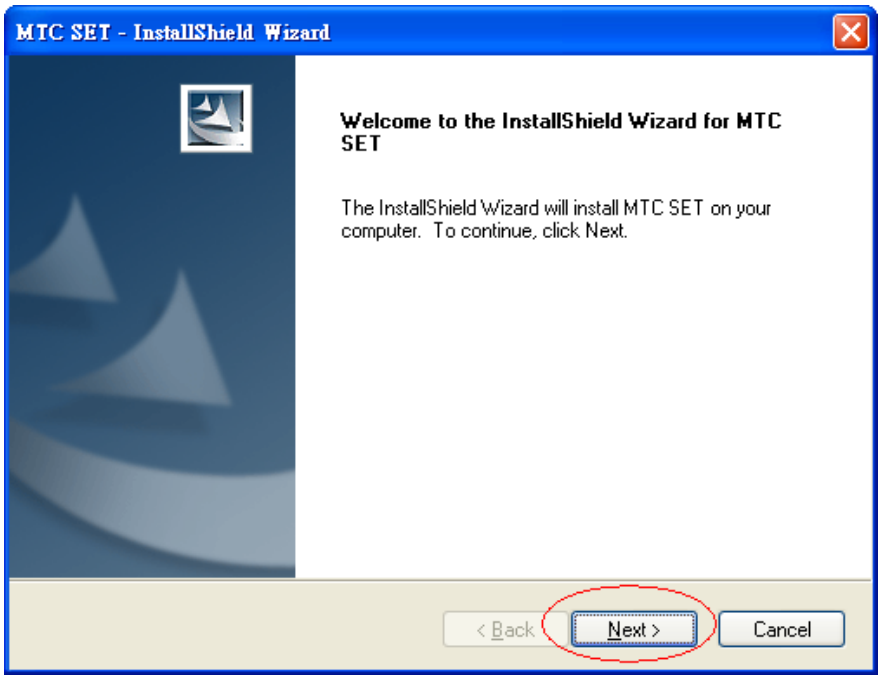
Item	System requirement
Operating system	Windows 2000/XP
CPU	Pentium 90 min.
Memory	16MB min.（32MB min. recommended）
Disk driver	Hard disk (HD) capability: 30MB min.
display	Resolution:640×480，more than 16 colors (800×600 pixels recommended)
Mouse	General mouse or Windows-compatible device
RS-232 port	At least one RS-232 port from COM1～COM16 can be connected with MTC-3
Applicable Model	MTC-3 models

1.2 System Installation and Setting

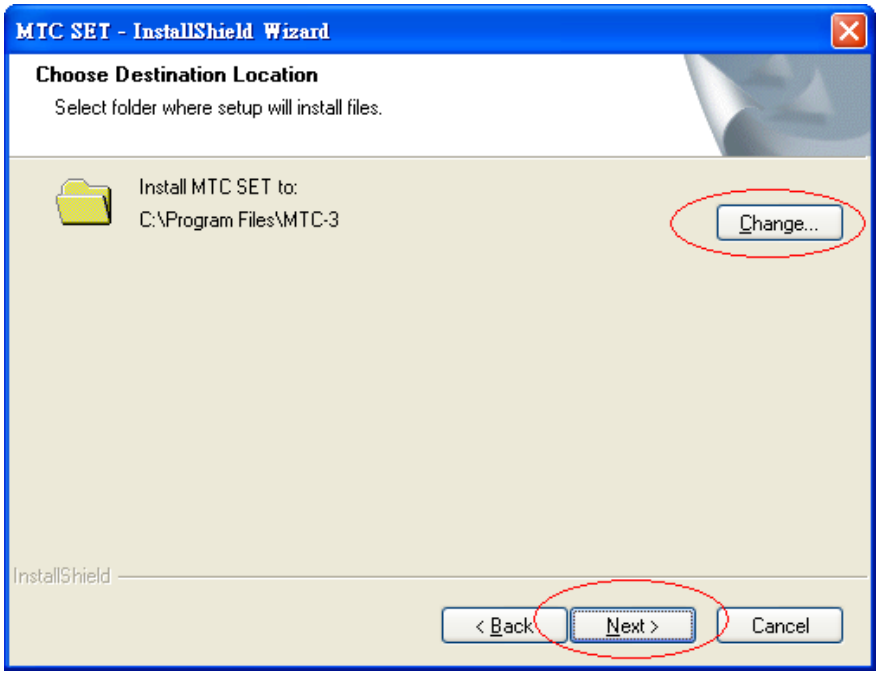
1. Startup the operating system Windows 2000/XP
2. Insert MTC SET CDROM into CD-ROM driver.
3. Press START button, and select the project implemented.
4. Choose SETUP.EXE path of MTC SET package
5. Double-click SETUP.EXE and the installation interface of MTC SET is shown as below.



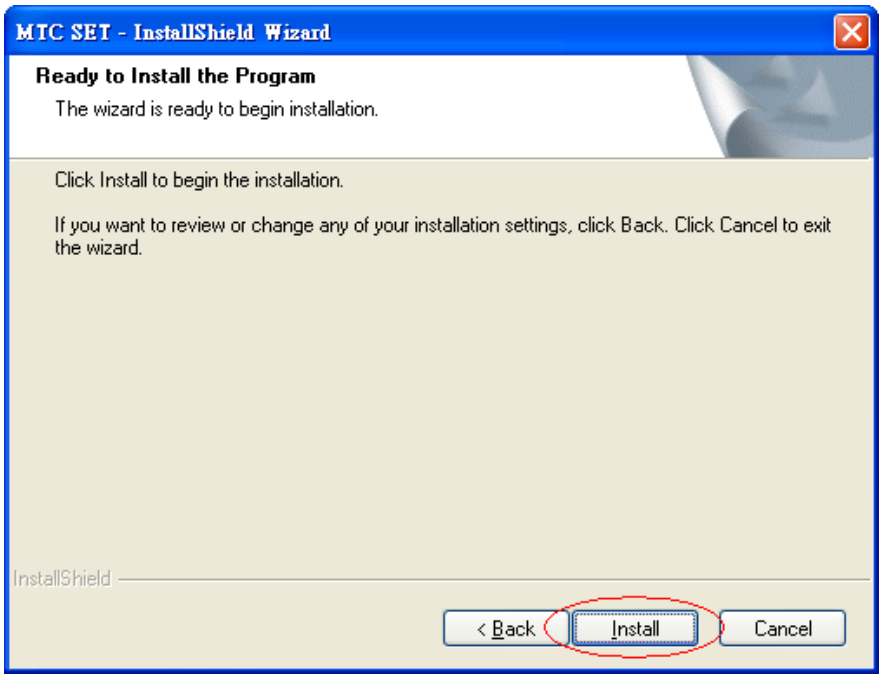
6. Enter the installation window of MTC SET shown below, and click NEXT to enter the next step of installation.



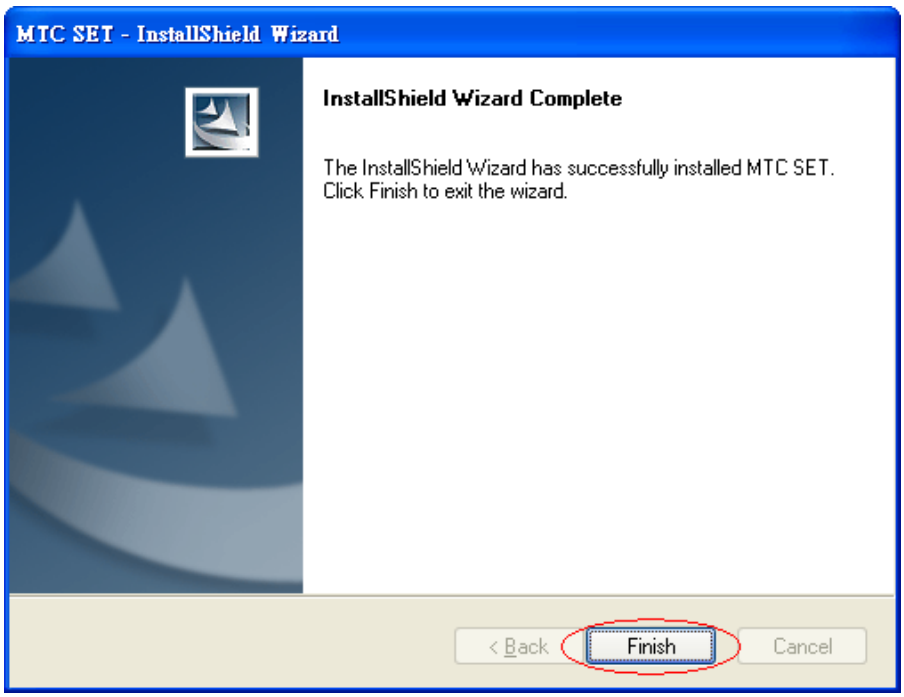
7. By clicking “Change” button, you can modify the installation path, and then click NEXT to enter the next step of installation.



8. Click “Install” button, and the installation program proceed to the automated installation procedure.

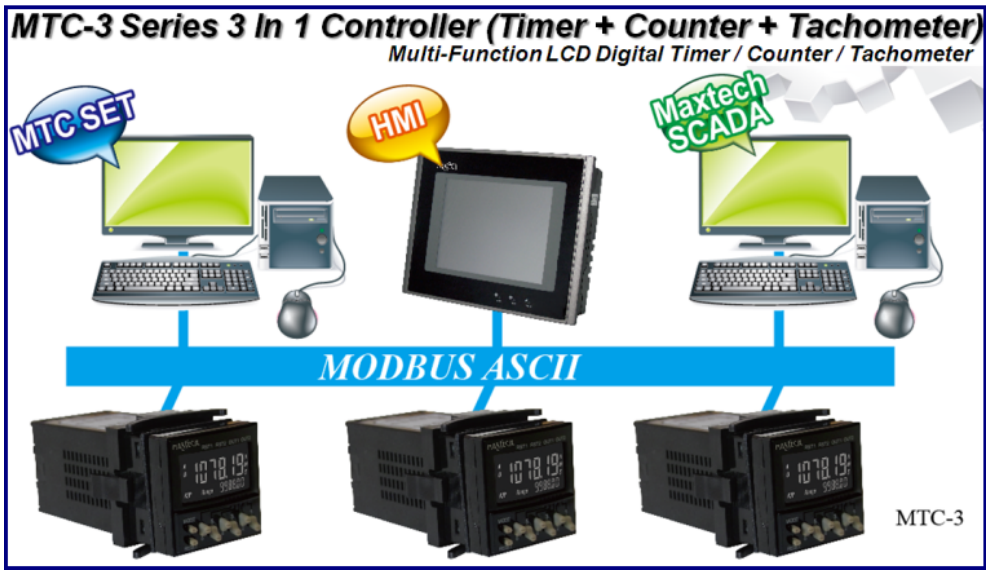


9. Click Finish button to complete the installation process.

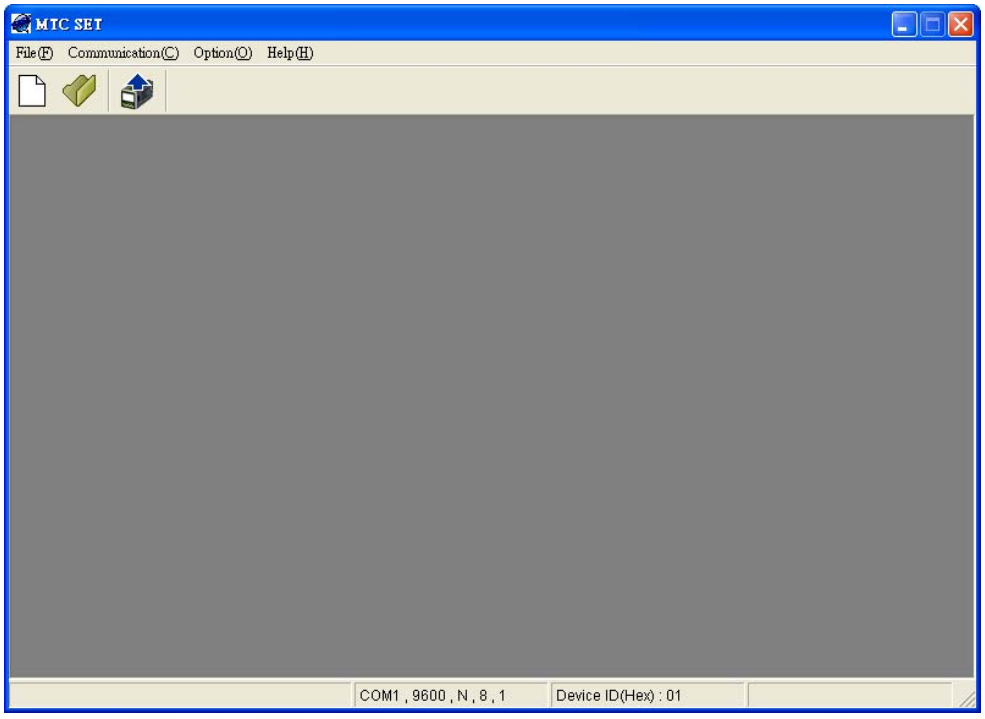


1.3 Procedure

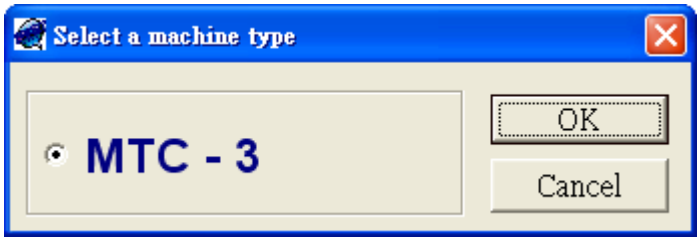
After completing installation procedure, MTC SET procedure has been established in the designated default subdirectory "C:\Program Files\MTC-3", here directly click MTC SET icon to implement the set-editing software, then the start window of MTC SET set-editing software is appeared as follows.



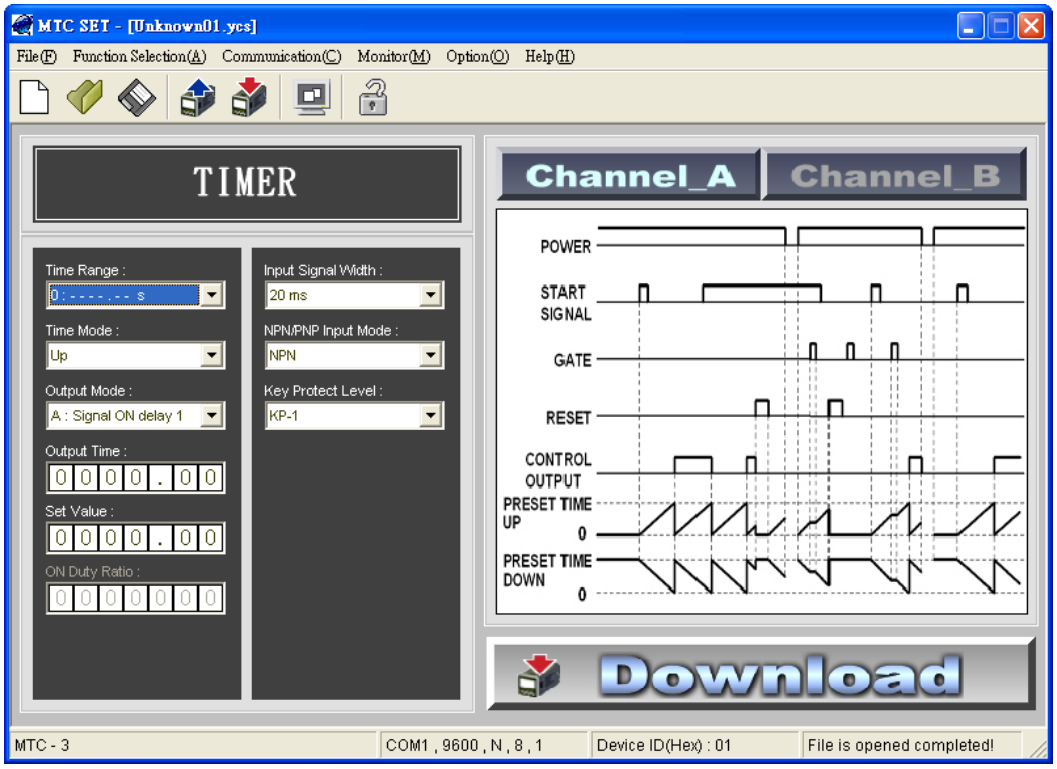
After three seconds MTC SET set-editing window will appear as follows. If you do not select 『New』, 『Open』or 『Upload』while first opening MTC SET, window only show 『File(F)』、 『Communication(C)』、 『Option(O)』and 『Help(H)』menu.



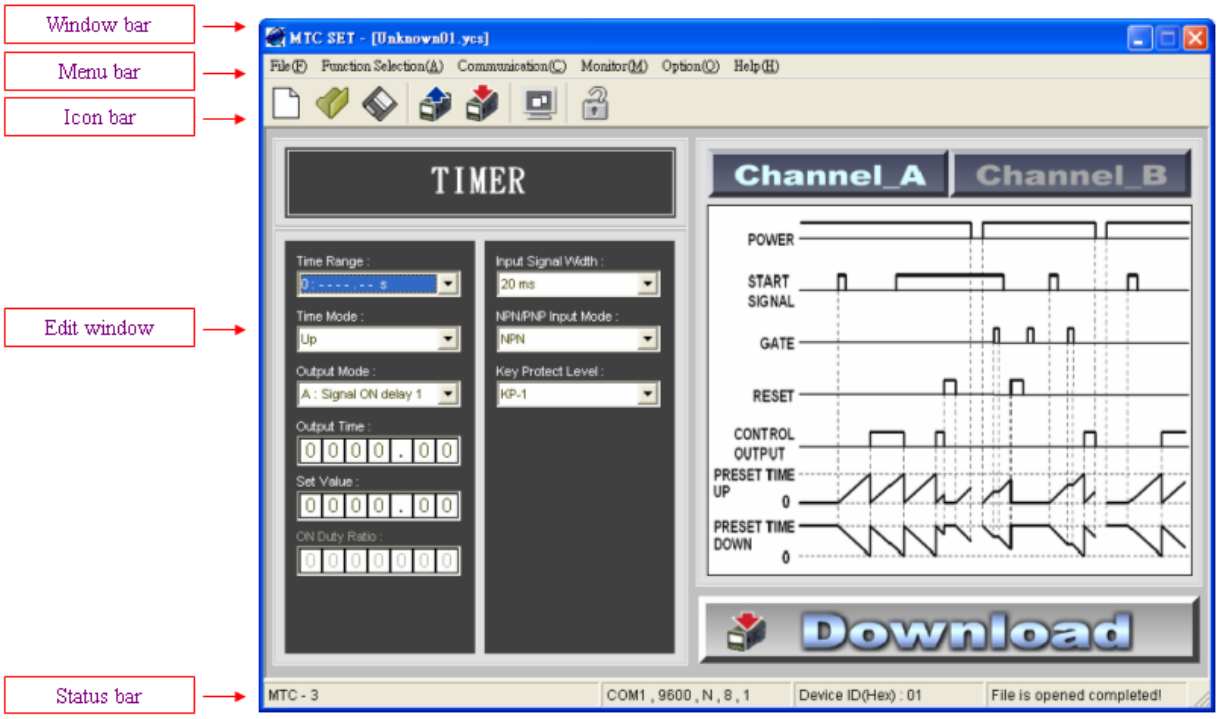
After selecting『File』→『New』, the models selection window will appear as follows.



After OK button, a set-editing window will show as follows.



If you click 『File』→『Open』or『Communication』→『Upload』, the corresponding function and setting windows will be open. MTC SET set-editing window is shown as an example in the following figure.



■ Window bar ： Show the current file name.

■ Menu bar ： Show 6 main options in the menu bar, including『File(F)』,『Function Selection(A)』,『Communication(C)』,『Monitor(M)』,『Option(O)』and『Help(H)』.

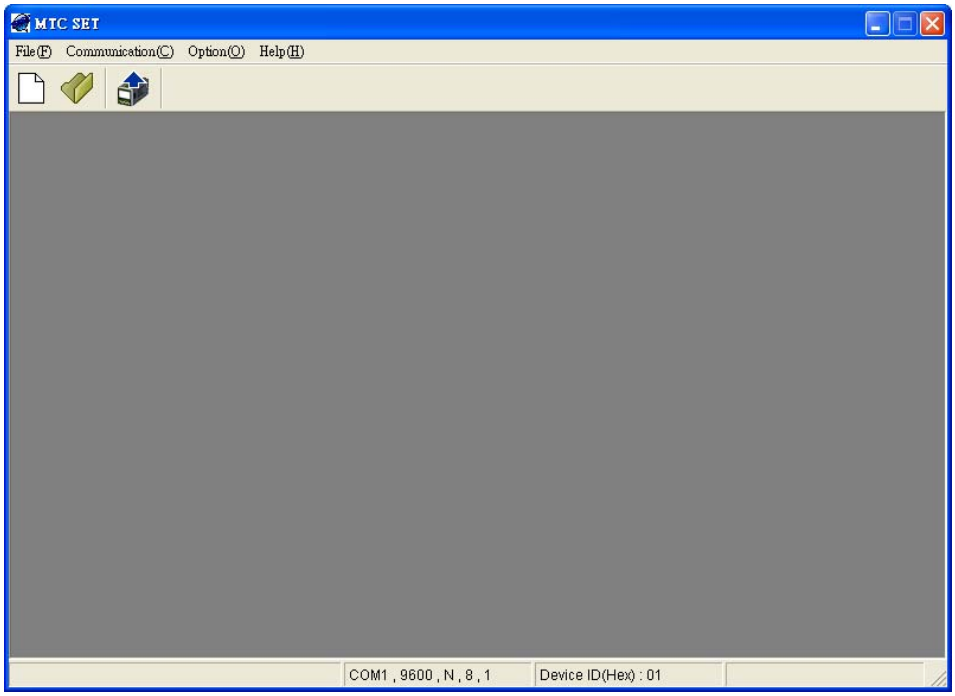
■ Icon bar ： Select your required function button directly by clicking the shortcut .

■ Edit window ： Edit the set value, then directly download it into the MTC-3 machine, that can reduce more inconvenience for operating and setting on MTC-3 machine.

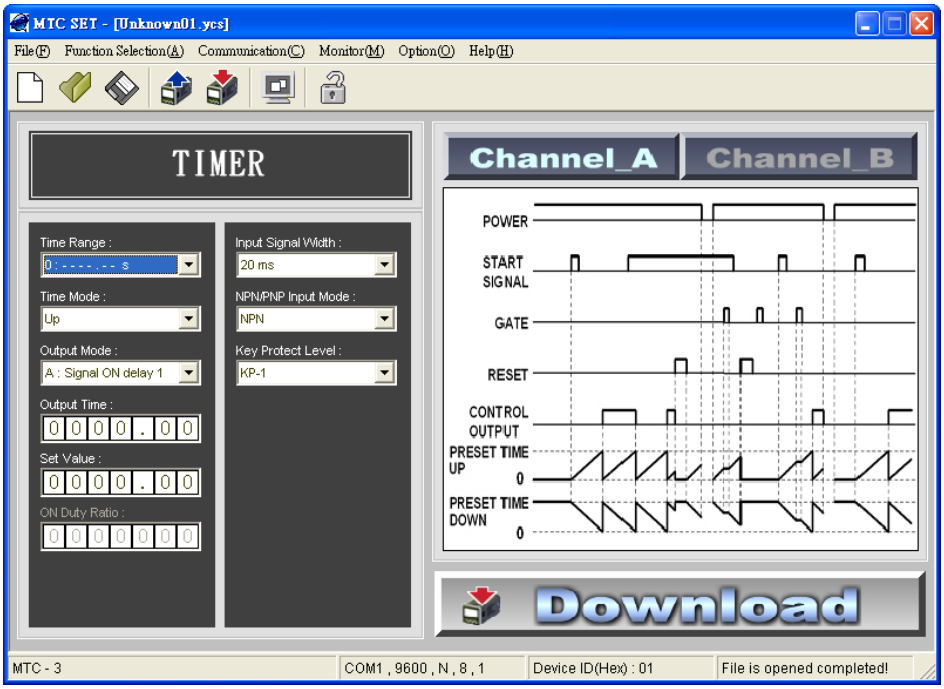
■ Status bar ： Show many messages including model, communication port, communication format, station No. etc.

2.0 Brief Introduction

MTC SET has launched the first window as below, which has only the four options, including File（F）, Communication（C）, Option（O）and Help（H）.



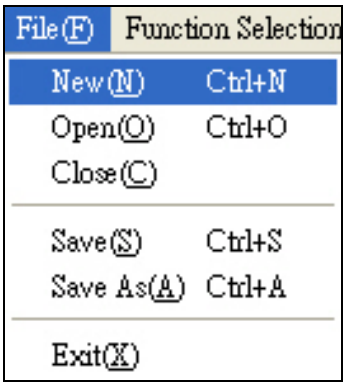
After selecting the new file under the pull-down menu of『File（F）』menu, a new window will be shown as below, which add the other options such as『Function Selection(A)』 and Monitor(M)』.



2.1 File（File）Option

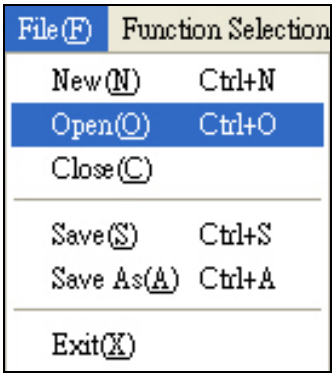
The pull-down menu of『File（F）』is shown as below, which can provide the following options.

■ 2.1.1 New



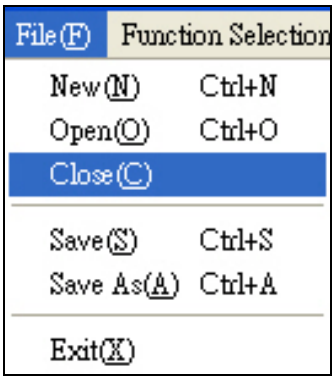
New File	
Explanation	Create a new set-editing file and close the current set-editing file
Operation Method	◎ Method 1：Click『New(N)』under『File（F）』menu ◎ Method 2：Click  icon in the icon bar ◎ Method 3：Enter〔Ctrl〕+〔N〕by shortcut key

■ 2.1.2 Open



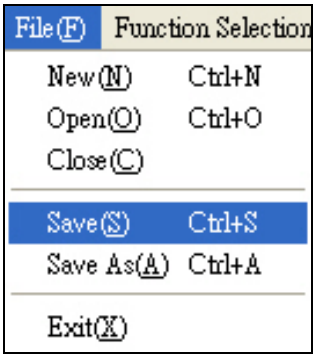
Open	
Explanation	Open the old file saved in disk drive and close the current set-editing file
Operation Method	◎ Method 1：Click『 Open(O)』under『File（F）』menu ◎ Method 2：Click  icon in the icon bar ◎ Method 3：Enter〔Ctrl〕+〔O〕by shortcut key

■ 2.1.3 Close



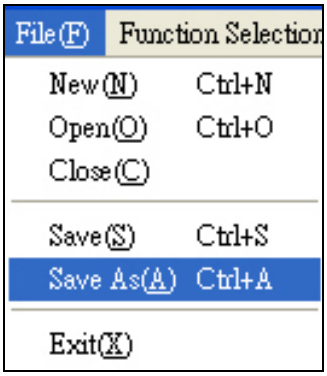
Close	
Explanation	Close the current editing project
Operation Method	◎ Method：Click 『Close(C)』under『File（F）』menu

■ 2.1.4 Save



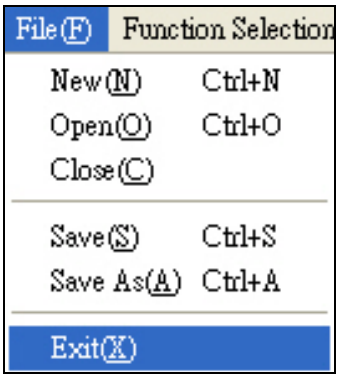
Save	
Explanation	Save the current editing data file into the disk drive
Operation Method	◎ Method 1: Click 『Save(S)』under『File（F）』menu ◎ Method 2: Click  icon in the icon bar ◎ Method 3: Enter〔Ctrl〕+〔S〕by shortcut key

■ 2.1.5 Save as



Save as	
Explanation	Save the current file into the other file name
Operation Method	◎ Method 1: Click 『Save as(S)』under『File（F）』menu ◎ Method 2: Enter〔Ctrl〕+〔A〕by shortcut key

■ 2.1.6 Exit

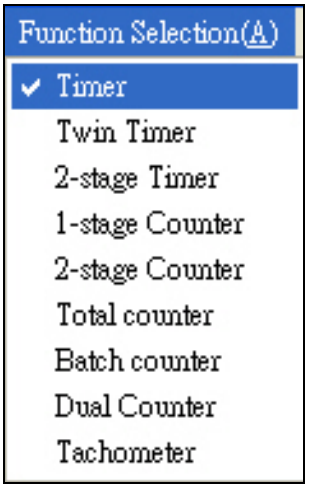


Exit	
Explanation	Exit MTC SET window
Operation Method	◎ Method 1: Click 『Exit(X)』under『File（F）』menu ◎ Method 2: Click  icon on the top right corner window

2.2 Function Selection Option

The pull-down menu of 『Function Selection（A）』will appear different options according the different models, as shown below.

■ 2.2.1 MTC-3 models:



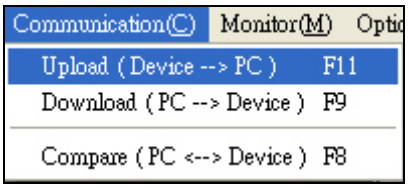
Timer	
Explanation	Set function as Timer
Operation Method	◎ Method: Click 『Timer』under『Function Selection（A）』menu
Twin Timer	
Explanation	Set function as Twin Timer
Operation Method	◎ Method: Click 『Time Timer』under『Function Selection（A）』menu
2-Stage Timer	
Explanation	Set function as 2-Stage Timer
Operation Method	◎ Method: Click 『2-Stage Timer』under『Function Selection（A）』menu
1-Stage Counter	
Explanation	Set function as 1-Stage Counter
Operation Method	◎ Method: Click 『1-stage Counter』under『Function Selection（A）』menu
2-Stage Counter	

Explanation	Set function as 2-Stage Counter
Operation Method	◎ Method: Click『2-stage Counter』under『Function Selection（A）』menu
Total Counter	
Explanation	Set function as Total Counter
Operation Method	◎ Method: Click 『Total Counter』under『Function Selection（A）』menu
Batch Counter	
Explanation	Set function as Batch Counter
Operation Method	◎ Method: Click 『Batch Counter』under『Function Selection（A）』menu
Twin Counter	
Explanation	Set function as Twin Counter
Operation Method	◎ Method: Click 『Twin Counter』under『Function Selection（A）』menu
Tachometer	
Explanation	Set function as Tachometer
Operation Method	◎ Method: Click 『Tachometer』under『Function Selection（A）』menu

2.3 Communication（Communication）Option

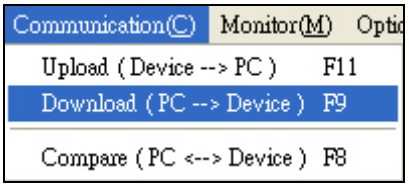
The pull-down menu of『Communication(C)』will offer 3 options as shown below.

■ 2.3.1 Upload(Device → PC) :



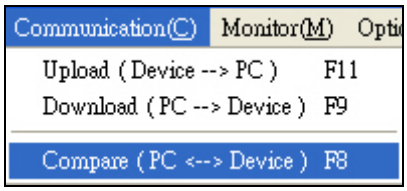
Upload (Device → PC) [note 1]	
Explanation	Communicate between PC and MTC-3 series models, read and show the current set value
Operation Method	◎ Method 1: Click 『Upload(Device → PC)』under『Communication（C）』menu ◎ Method 2: Click  icon in the icon bar ◎ Method 3: Enter（F11）by shortcut key

■ 2.3.2 Download(PC → Device) :



Download (PC → Device) [note 1]	
Explanation	Communicate between PC and MTC-3 series models, and download the set value on PC into MTC-3 series models
Operation Method	◎ Method 1: Click 『Download (PC → Device)』under『Communication（C）』menu ◎ Method 2: Click  icon in the icon bar ◎ Method 3: Enter（F9）by shortcut key

■ 2.3.3 Compare (PC <--> Device)



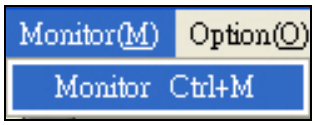
Compare (PC <-->Device) [note 1]	
Explanation	Communicate between PC and MTC-3 series model, which can compare the set value on PC with the current value on MTC-3 series model and show the differences.
Operation Method	◎ Method 1: Click 『Compare(PC → Device)』under『Communication（C）』menu ◎ Method 2: Enter〔F8〕by shortcut key

※ [Note 1] : you must set the communication COM port, communication format and station No. before communicating.

2.4 Monitor（Monitor）Option

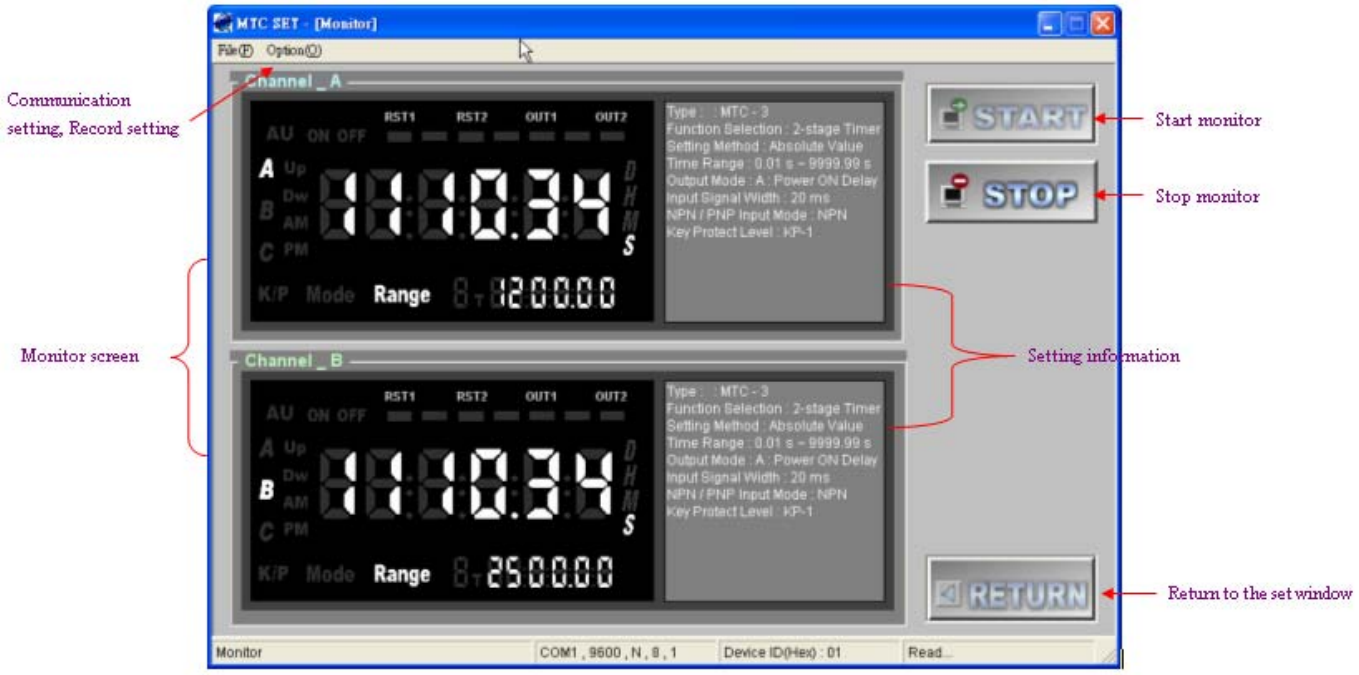
The pull-down menu of『Monitor(M)』will shown below.

■ 2.4.1 Monitor



Monitor	
Explanation	Enter the monitor screen
Operation Method	◎ Method 1: Click 『Monitor』under『Monitor（M）』menu ◎ Method 2: Click  icon in the icon bar ◎ Method 3: Enter〔Ctrl + M〕by shortcut key

The monitor window is shown as follows.



■ 『START』button : Start to communicate MTC-3 series model with PC after pressing START button, and read the set value, current value and other set value, as shown in the above figure.

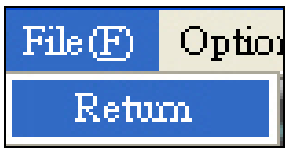
■ 『STOP』button : Stop the communication with MTC-3 series model.

■ 『RETURN』button : Return to the former set window.

■ Monitor window : Show the present value, the set value, output status and key-protection switch etc.

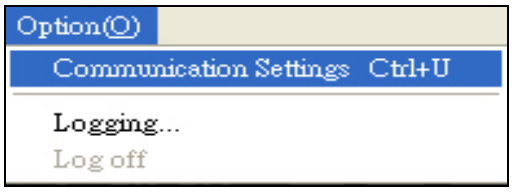
■ Setting information window: It can automatically judge and show the model and the other settings at the beginning of monitoring.

■ 2.4.2 Return



Return	
Explanation	Return to the former set screen
Operation Method	◎ Method 1: Click 『Return』 under 『File(F)』 menu ◎ Method 2: Click 『RETURN』 button

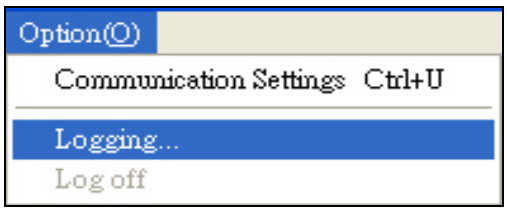
■ 2.4.3 Communication Settings



Communication Settings	
Explanation	Enter to the set screen
Operation Method	◎ Method 1: Click 『communication settings』 under 『Operation(O)』 menu ◎ Method 2: Click  icon in the icon bar ◎ Method 3: Enter〔Ctrl + U〕by shortcut key

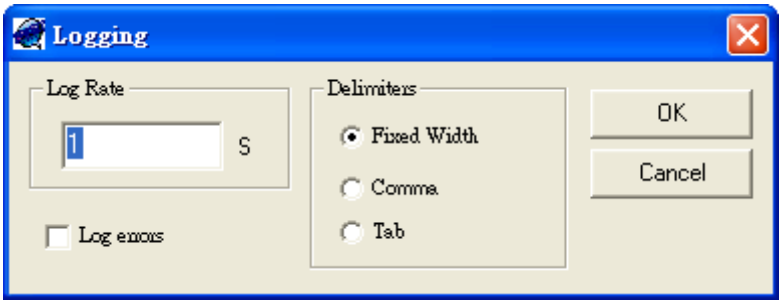
Refer to section 2.5.1 for details on the setting method.

■ 2.4.4 Logging



Logging	
Explanation	Enter to the logging set screen
Operation Method	◎ Method 1: Click 『Logging』under『Option(O)』menu

The logging screen is shown as bellow:



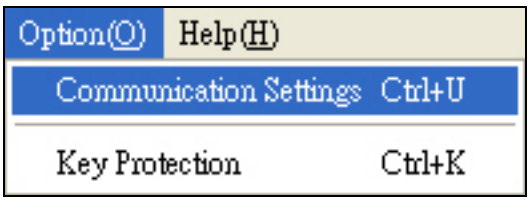
- Log rate : Set the time interval for logging, and only record the current value
- Log error : It will record “Error” without read the current value successfully when selecting this option is selected.
- Delimit: Set the delimit sign for every data

Start to log the current value and save it to log file while pressing OK. While the communication is paused the record will be stopped. It will continue to the previous record again unless going back to communicate. While you press “stop record”, record will be end.

2.5 Option

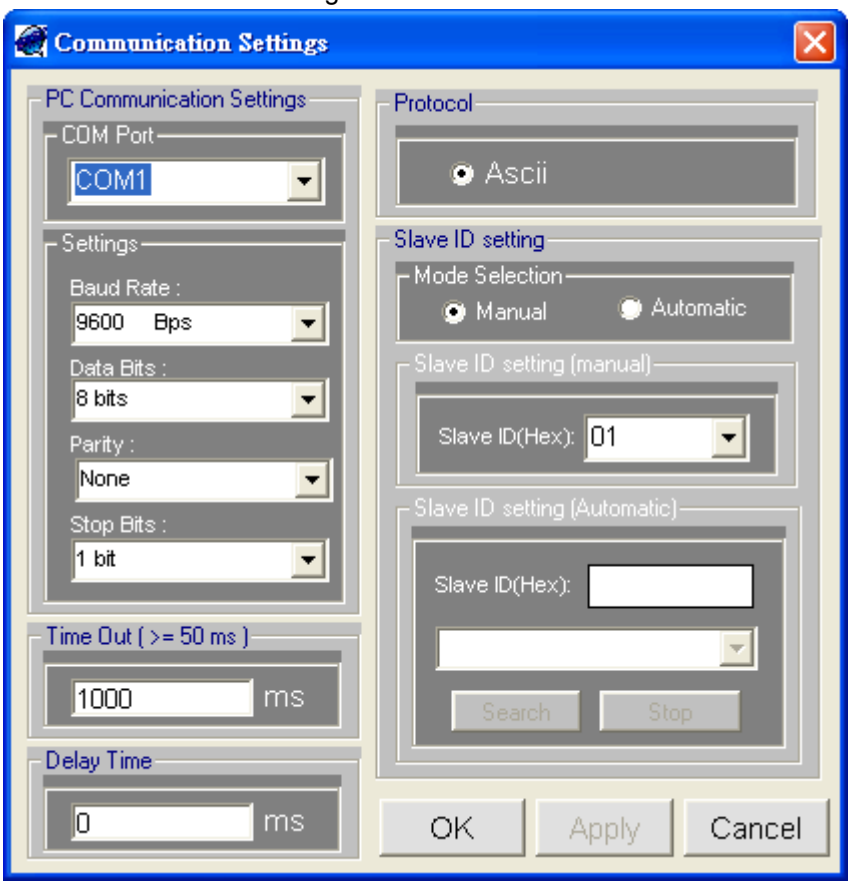
The pull-down menu of『Option(O)』will shown below.

■ 2.5.1 Communication Settings



Communication Settings	
Explanation	Enter to the communication set screen
Operation Method	◎ Method 1: Click 『communication settings』under『Option(O)』menu ◎ Method 2: Enter〔Ctrl + U〕by shortcut key

The communication settings screen is shown as bellow:



■ Communication port: The default COM1

■ Communication format: Set the communication format

→ Communication speed: the default 9600 Bps

→ Data bit: the default 8 bits

→ Parity: None

→ Stop bit: the default 1 bits

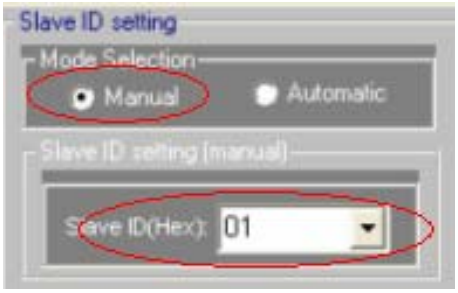
■ Communication response time: The maximum waiting time for response after sending data, the default value is 100ms，the minimum value can not be set below 50ms

■ Communication delay time: The delay time for sending the next data after receiving data, the default value is 0 ms

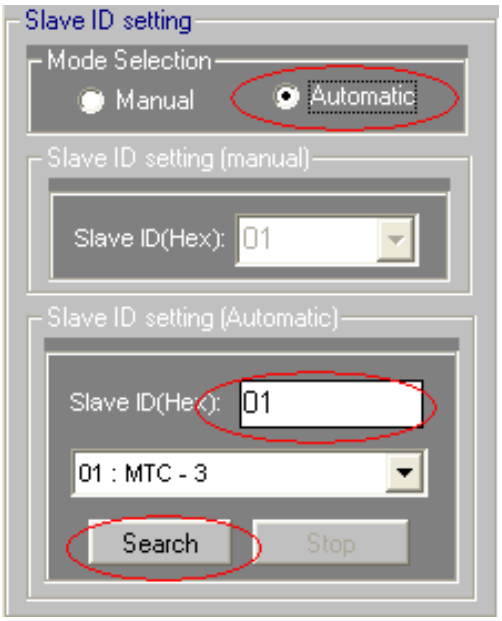
■ Communication Protocol: Only MODBUS ASCII supported

■ Communication station setting: Set the communication station NO., which can be divided into Manual Setting and Automatic Search

■ Manual Setting: Set the communication station No. by manual, the range value is 01～FF (Hex), the default value is 01.



■ Automatic Search: Automatically search the current station No. from 01 to FF (Hex) for MTC-3 according the current communication port and format. If not searching, please be sure that the communication format is same between PC and MTC-3 and the communication response time is too short. If lots of MTC-3 machines are running at the same time, all of station No. and models will be list, you can choice your desired station No. and press OK or APPLY button.



※ The current setting state does not be changed until pressing APPLY or OK button. If you want to change the set value while using automatic search, you must press APPLY button to change the current setting state and then search.

■ 2.5.2 Key Protection

Key Protection	
Explanation	Set key enable/unable according the current Key Protection Level to prevent user misoperation.
Operation Method	◎ Method 1: Click 『Key Protection』under『Option』menu ◎ Method 2: Click icon in the icon bar ◎ Method 3: Enter（Ctrl + K）by shortcut key

2.6 Help（Help）Option

The pull-down menu of『Help(H)』will shown below.

■ 2.6.1 About me

About me	
Explanation	Show MTC SET version and correlative information
Operation Method	◎ Method: Click『About me』under『Help（H）』menu