CROUZET TOUCH

QUICK START

CROUZET AUTOMATION

A BRAND OF INNOVISTA SENSORS

SUMMARY

- Hardware and software required
- Crouzet Touch software installation
- Connecting the hardware for program transfer
- How to open a Crouzet Touch program
- Program transfer
- Connecting the hardware for use
- Program example

HARDWARE AND SOFTWARE REQUIRED

Hardware and Software Required

Hardware

CT104 or CT107

CTP104-E, CTP107-E or CTP110-E

em4

USB Interface

88 980 110

Modbus RS485 Interface

88 980 120

Cables

Programming

MicroUSB

25526005

Ethernet cable

88 970 508

USB cable

88 980 170

Communication

Ethernet cable

88 970 508

Modbus cable

88 980 171

88 980 172

Software

Crouzet Touch Soft

Version ≥ 5.05.02.057

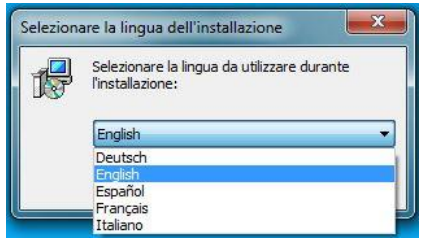
em4 Soft

Version ≥ 1.2.07

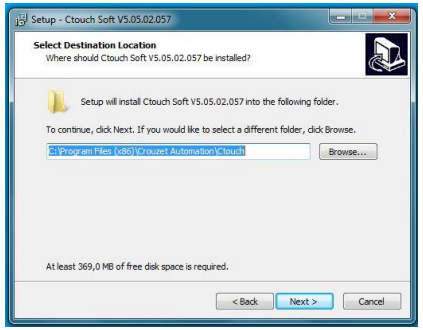
CROUZET TOUCH SOFTWARE INSTALLATION

Installing Crouzet Touch software

Double click on setup.exe to launch software installation



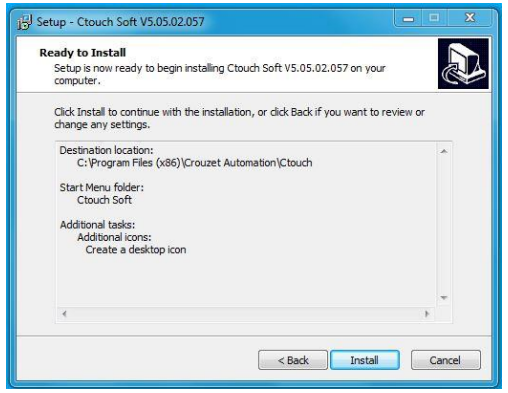
Select the installation language, this will also set the Crouzet Touch soft language



Select the destination path and folder for Crouzet Touch software

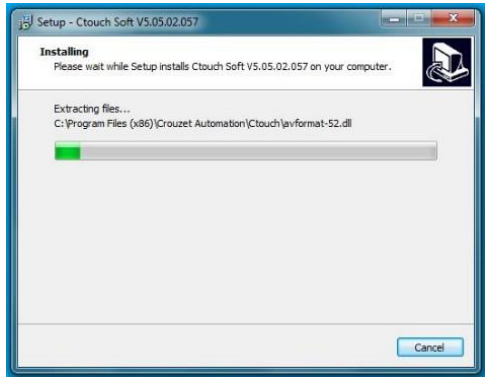
Installing Crouzet Touch software

Select - *Create a desktop icon*

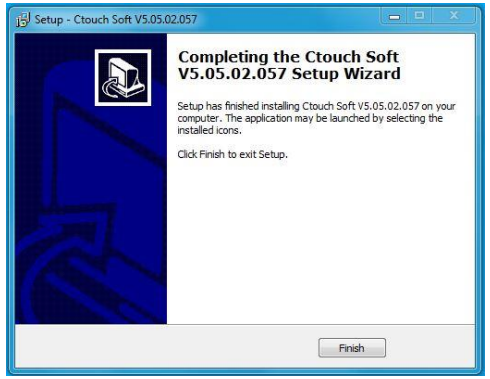


Click on *Install* to start installation

Installing Crouzet Touch software



Files will be copied to the selected folder



At the end of the installation process click on *Finish*

CONNECTING THE HARDWARE FOR PROGRAM TRANSFER

Connecting the hardware for program transfer

- Program can be transferred to the Crouzet Touch using a USB-microUSB cable (Crouzet Touch Essential) or an ethernet cable (Crouzet Touch Performance).
- Program transfer with USB does not require any further settings as the USB driver is installed during the Crouzet Touch soft installation.
- Program transfer with ethernet requires the configuration of the IP addresses of the PC and Crouzet Touch. The following pages show how to set the IP addresses of both devices for Windows 7.

Setting the IP addresses for Ethernet connection

- Setting the IP addresses of the Crouzet Touch and PC

In order to allow the Crouzet Touch and a PC to communicate, they have to be in the same local network. Certain IP address ranges are reserved for local networks.

In our example we will use:

IP address Crouzet Touch - 192.168.100.1

IP address PC - 192.168. 100.10

Subnet mask - 255.255.255. 0

Gateway - 192.168. 100 . 0

Subnet mask and Gateway have to be the same in the Crouzet Touch and the PC !

Setting the IP address on Crouzet Touch

- Setting the IP address of the Crouzet Touch for CTP104-E and CTP107-E*

Click on the tool icon on the home page of the CTP104-E or CTP107-E

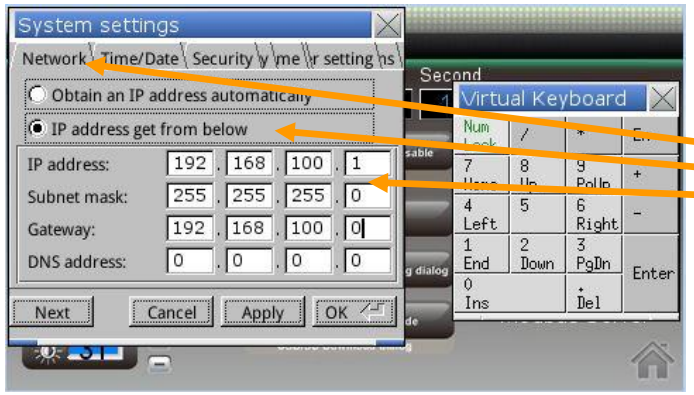
Click on *Open hardware setting dialog* button

*CTP110-E on LAN 2 is already set to IP 192.168.100.1 by default,

Setting the IP address on Crouzet Touch

- Setting the IP address of the Crouzet Touch for CTP104-E and CTP107-E*

Enter default password 111111 using the virtual keyboard on the Crouzet Touch and press the OK button



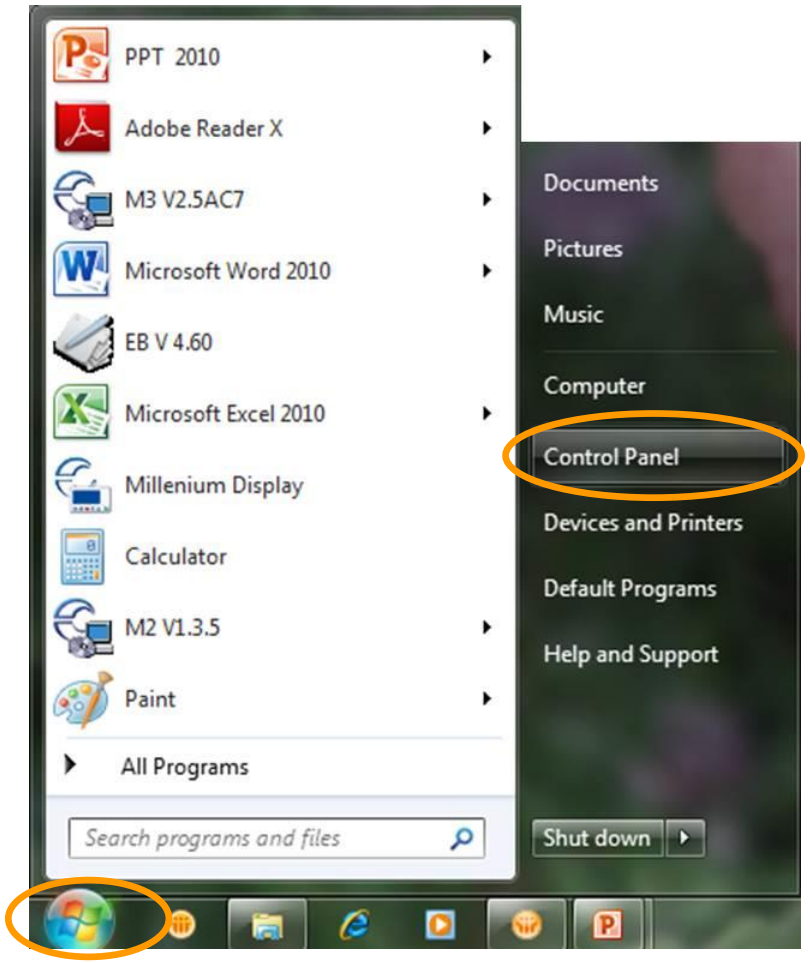
Select the *Network* tab, select the option *IP address get from below,* then enter the IP, subnet mask and gateway as in the picture.

Click on *Apply* button and *OK*

*CTP110-E on LAN 2 is already set to IP 192.168.100.1 by default,

Setting the IP address on PC

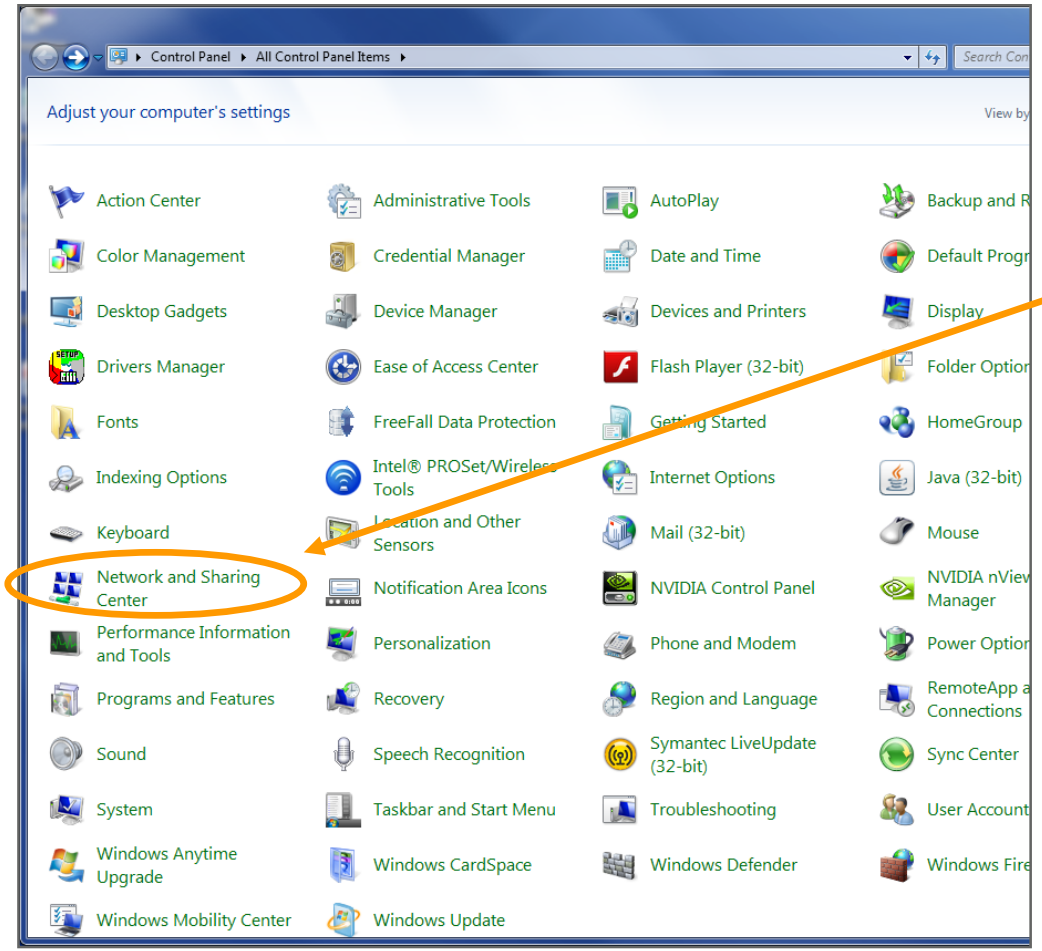
- Setting the IP address on a PC under Windows 7



Click start, then Control Panel

Setting the IP address on PC

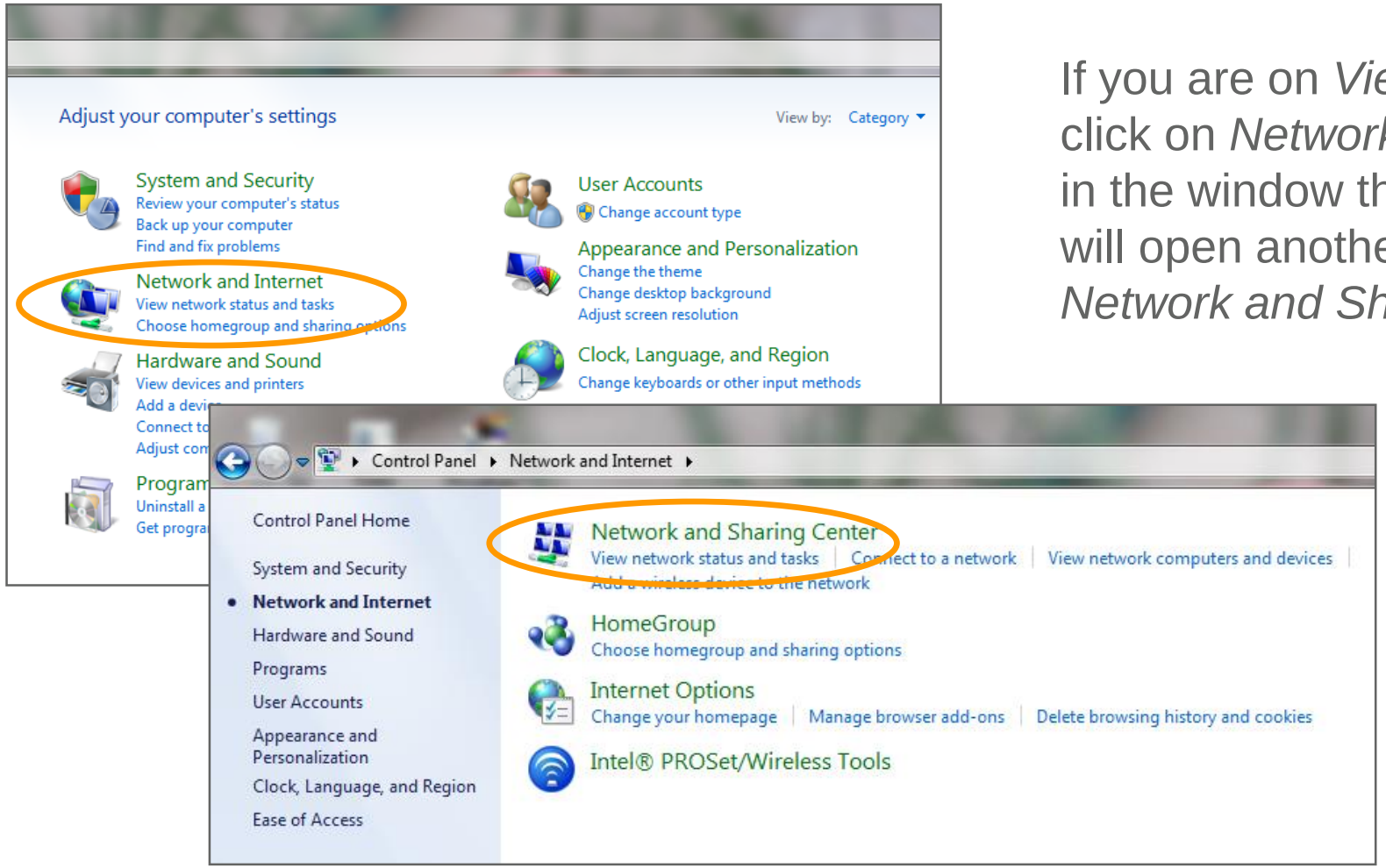
- Setting the IP address on a PC under Windows 7



If you are on *View Icons* click on *Network* and *Sharing Center* in the window that opens

Setting the IP address on PC

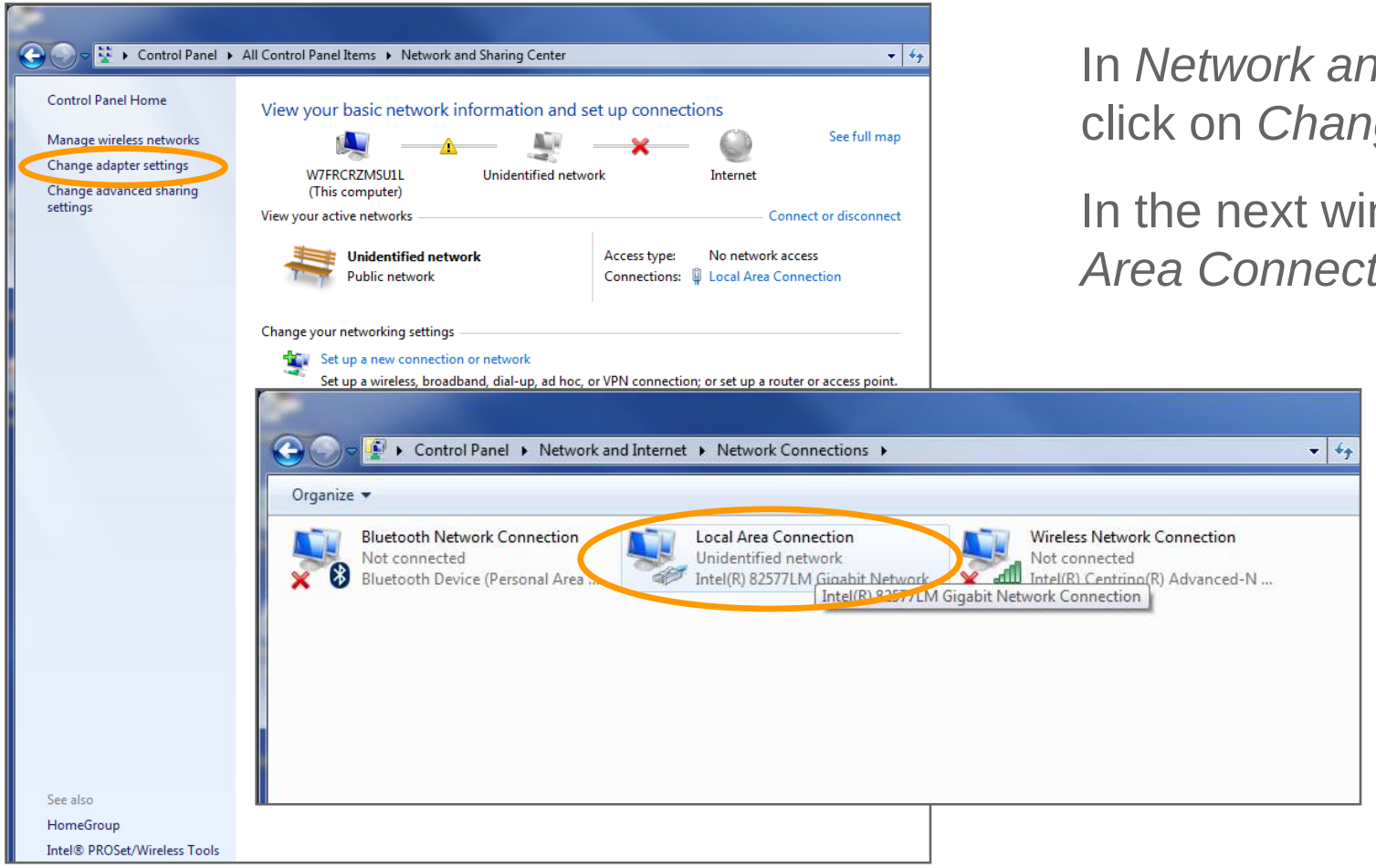
- Setting the IP address on a PC under Windows 7



If you are on *View Category* click on *Network and Internet* in the window that opens, this will open another window with *Network and Sharing Center*

Setting the IP address on PC

- Setting the IP address on a PC under Windows 7

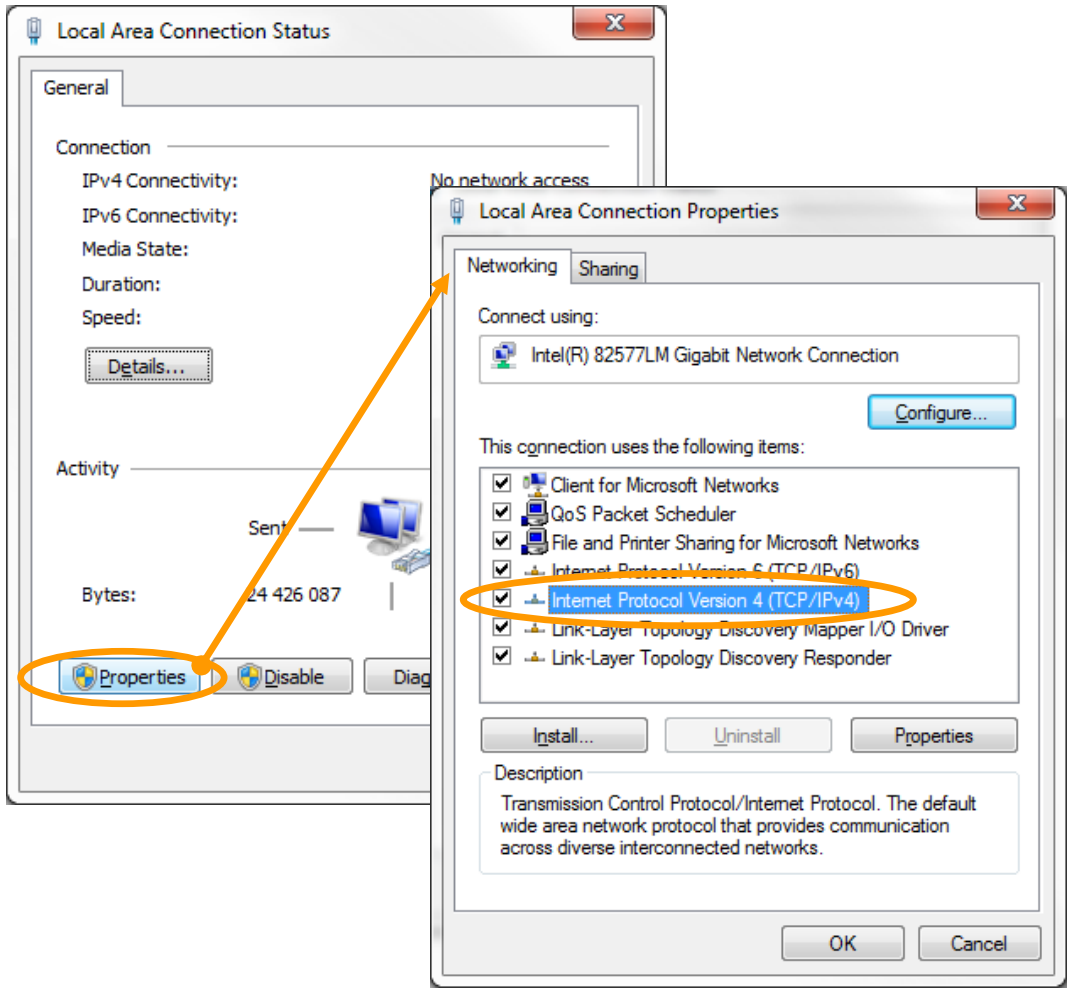


In *Network and sharing center* click on *Change adapter settings*

In the next window click on *Local Area Connection*

Setting the IP address on PC

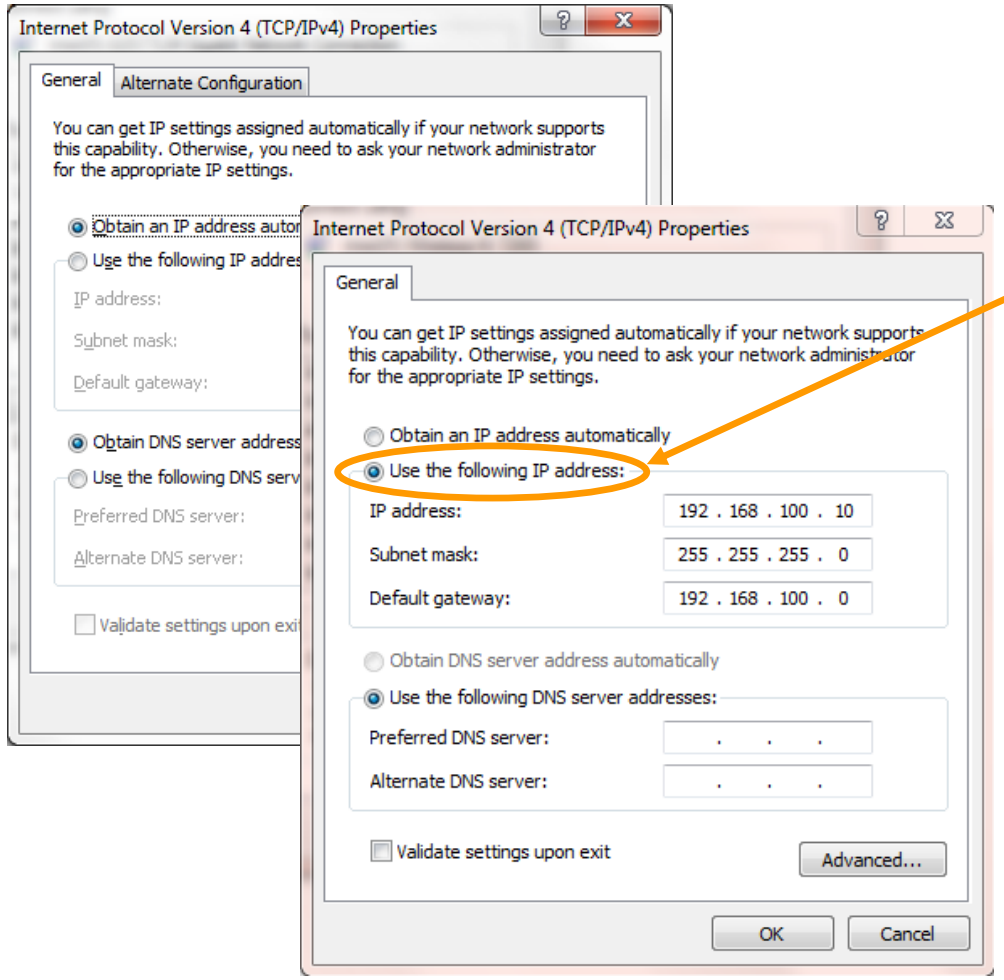
- Setting the IP address on a PC under Windows 7



Click on *Properties*, then double click on *Internet Protocol Version 4*

Setting the IP address on PC

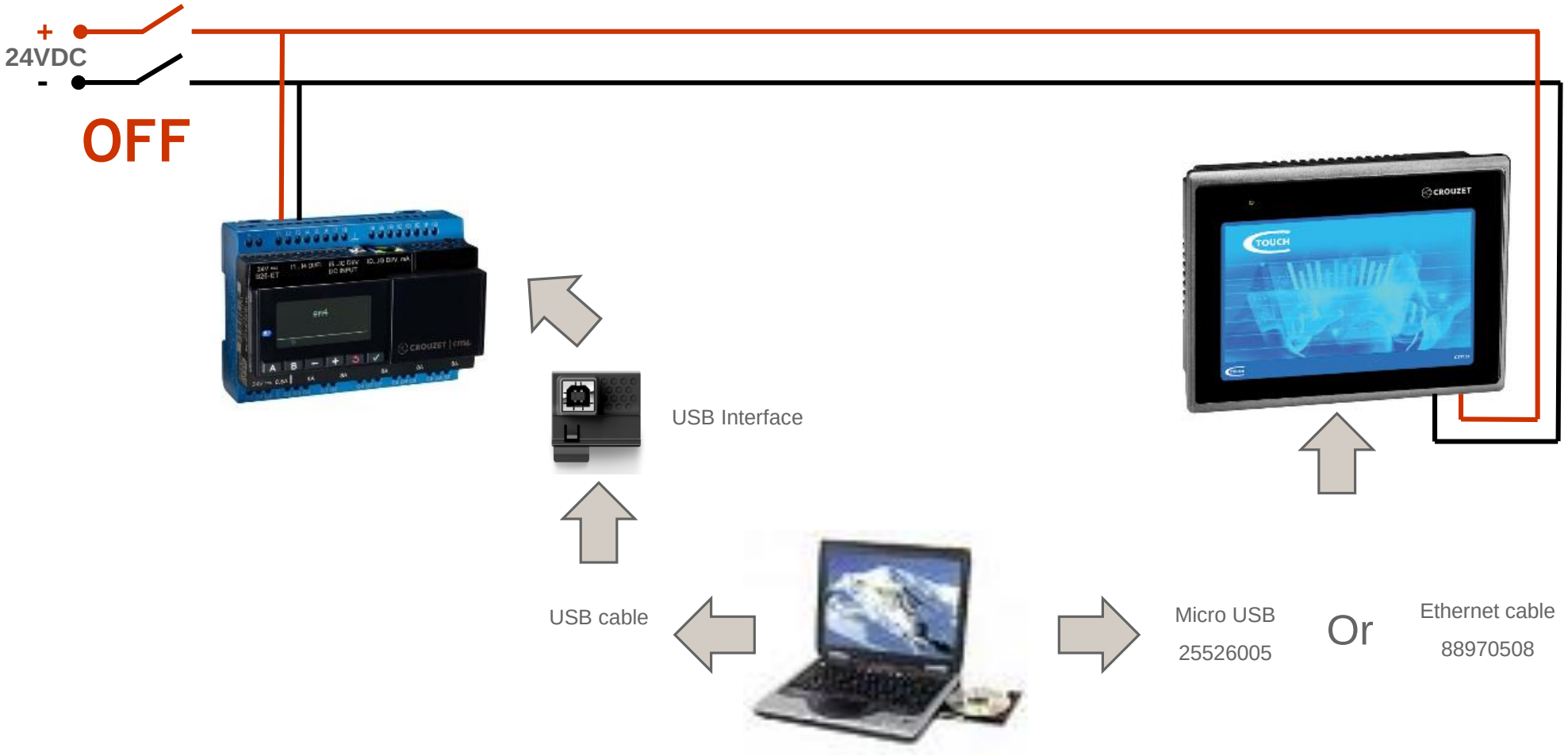
- Setting the IP address on a PC under Windows 7



Tick Use the following IP address then enter the *IP address*, *Subnet mask* and *Default gateway* as shown

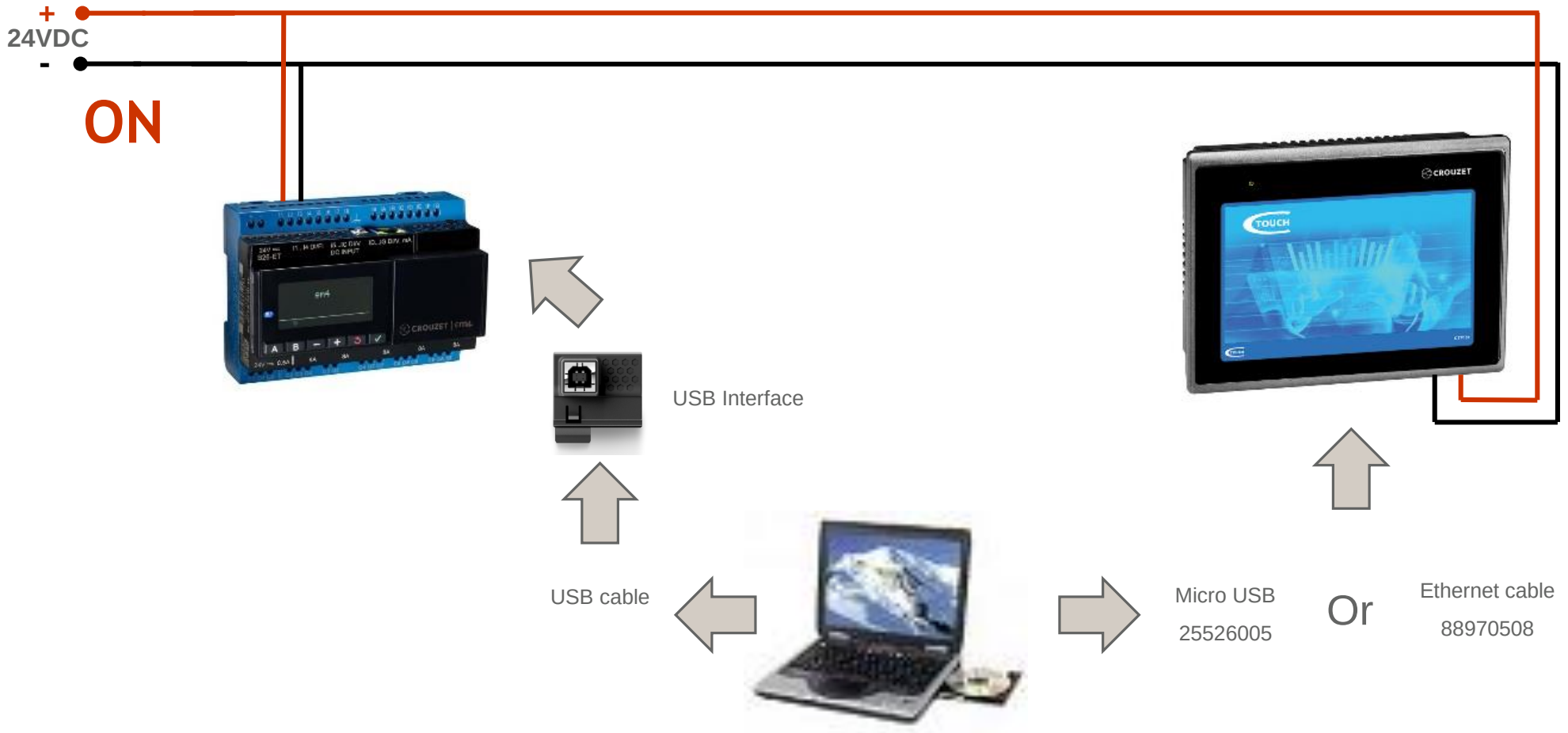
Wiring for USB and Ethernet program transfer

- Wiring for program transfer



Wiring for USB and Ethernet program transfer

- Program transfer



HOW TO OPEN A CTOUCH PROGRAM

How to open a Crouzet Touch program

- Touchscreen programs have an *.emtp, .exob* or *.ecmp* extension:
  - *.ecmp* files are compressed files which include libraries used in the project
  - *.exob* files are compiled files
  - *.emtp* files are project files

  In order to open *.exob* and *.cmp* files they need to be treated first

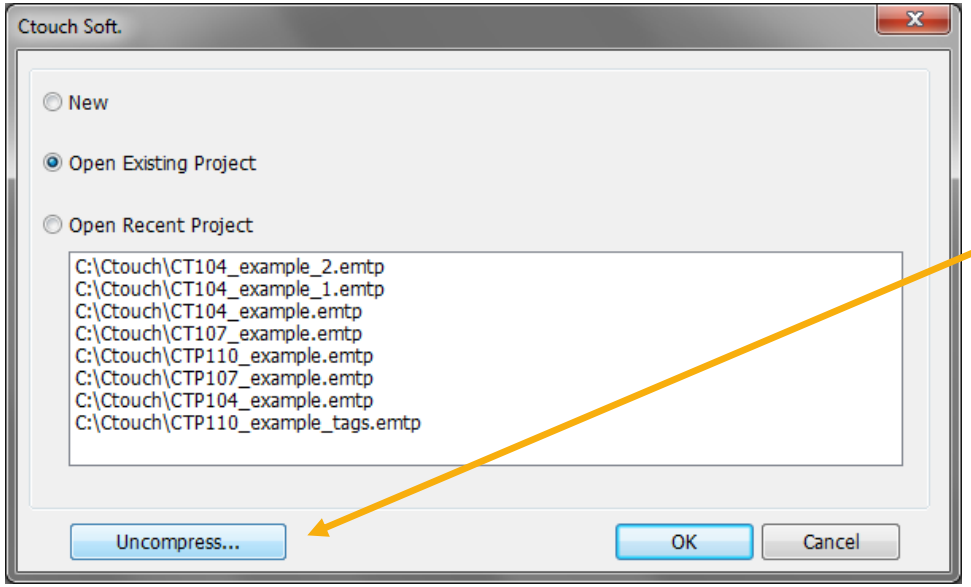
  Some example programs for em4 and Crouzet Touch are provided together with this Quick Start guide. Complete list is available at the end of the document in *Program Example* chapter

How to open a Crouzet Touch program

- Launch Utility Manager, double click on the Utility Manager on your desktop

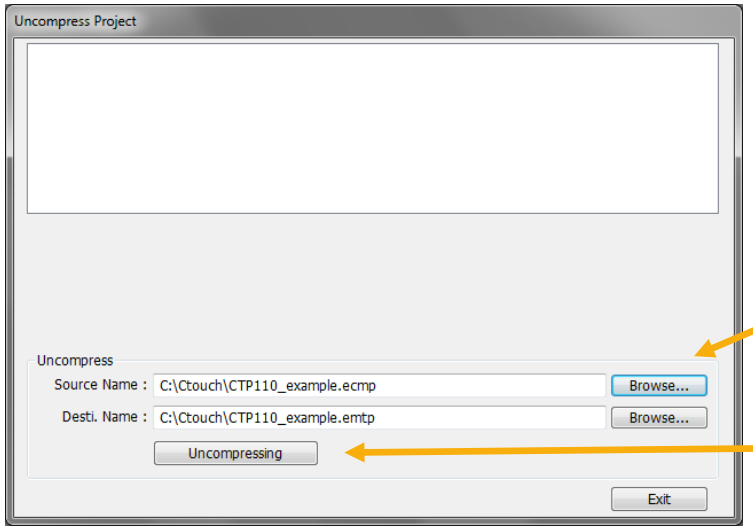
- From the Utility Manager window select the Design tab on the left and then click Crouzet Touch Soft

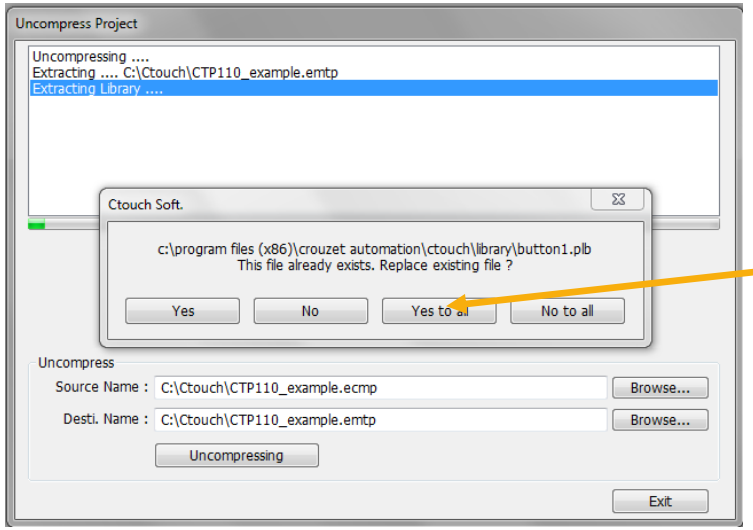
How to open a Crouzet Touch program



Examples provided with quickstart are compressed .ecmp files, click on *Uncompress*

How to open a Crouzet Touch program





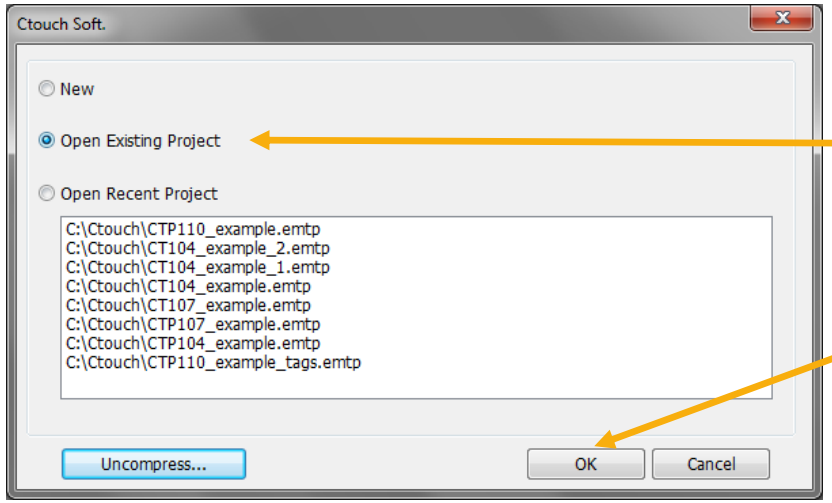
Browse to the .ecmp files in Source Name and define where it has to be saved in Desti.Name then click Uncompressing.

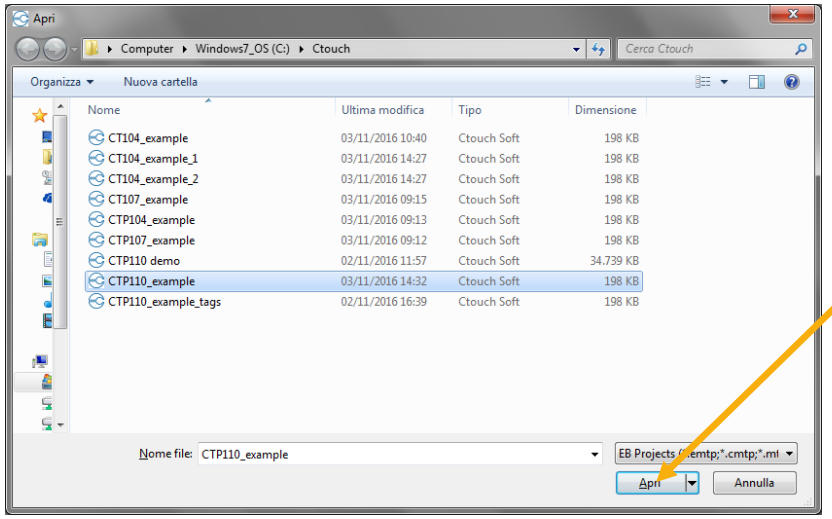
The program will create a project file in the destination folder and add all the libraries found in the compressed file.

Some libraries maybe duplicated, program will ask you if you want to replace them, click on *Yes to all.*

When the process is complete click on *Exit*

How to open a Crouzet Touch program



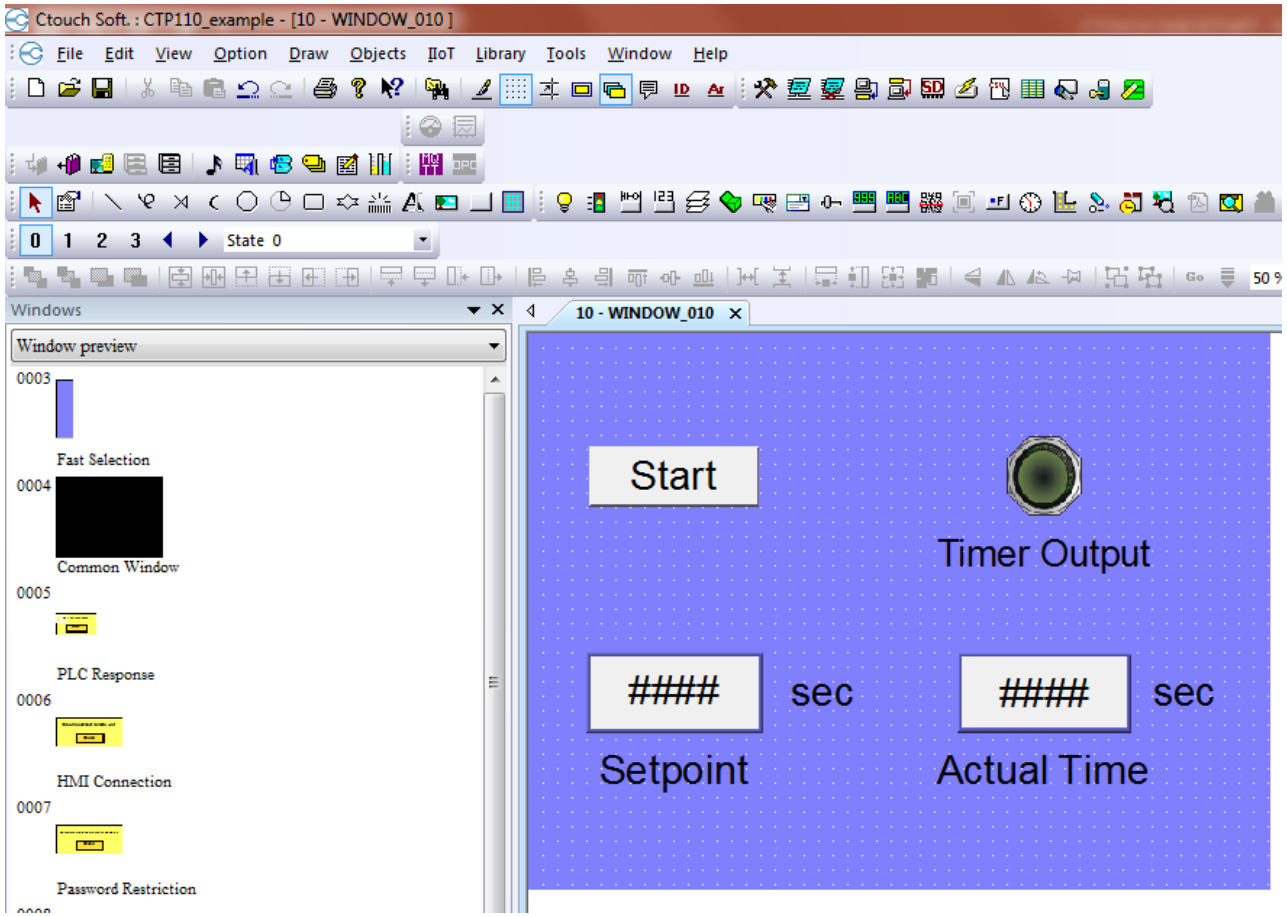


Select *Open Existing Project* click on *OK* and browse to the file you have just uncompressed

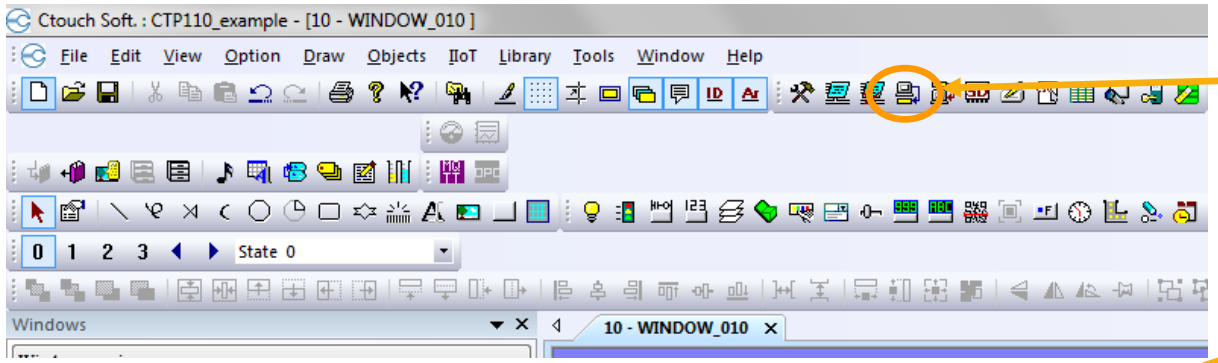
Then click *Open*

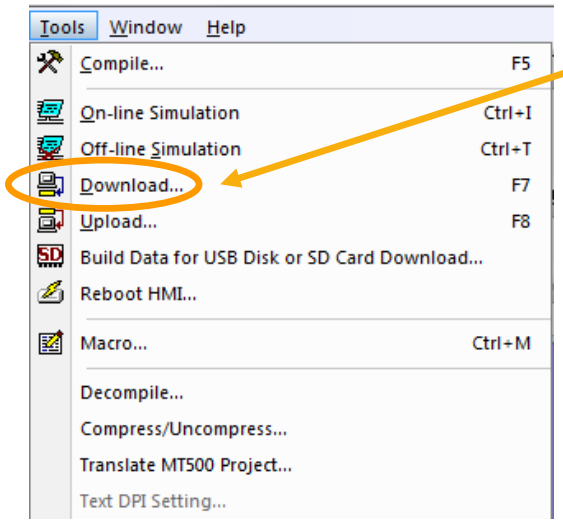
How to open a Crouzet Touch program

- Once the program has been loaded in Crouzet Touch soft you should see the following:



How to open a Crouzet Touch program



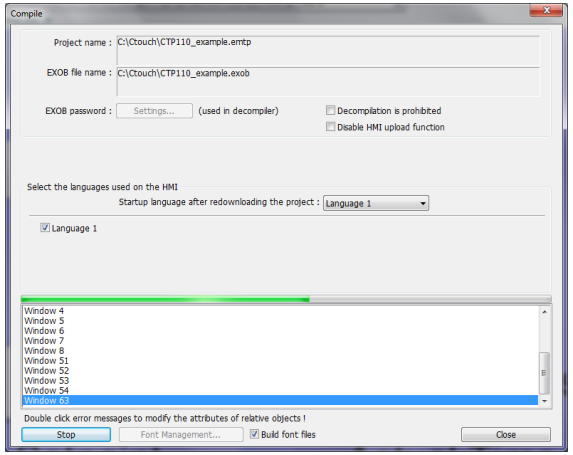


Click on the icon *Download*

Or

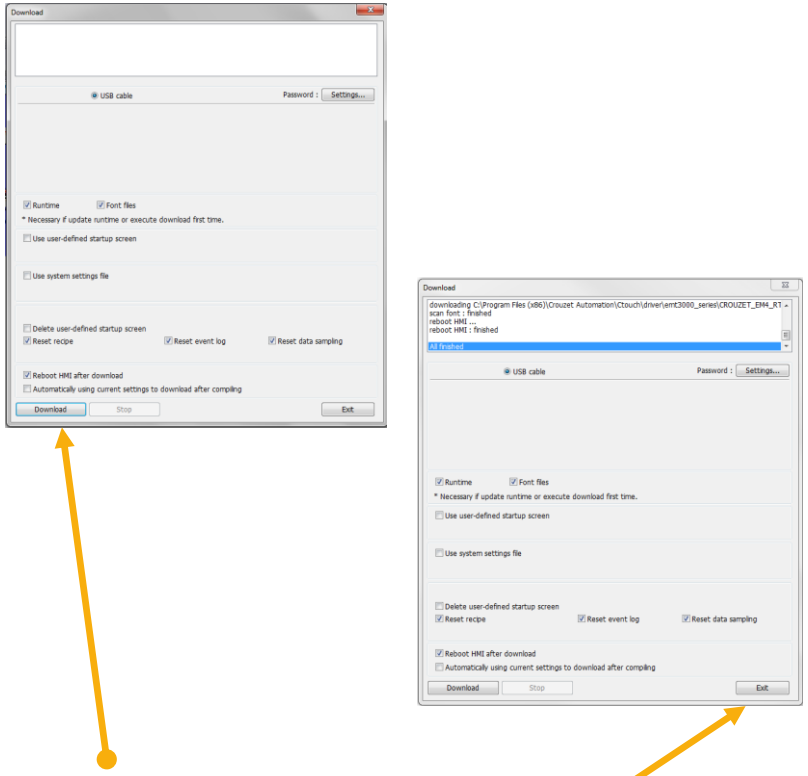
Open *Tools* and select *Downloads*

Before downloading, project is compiled and checked for errors



How to open a Crouzet Touch program

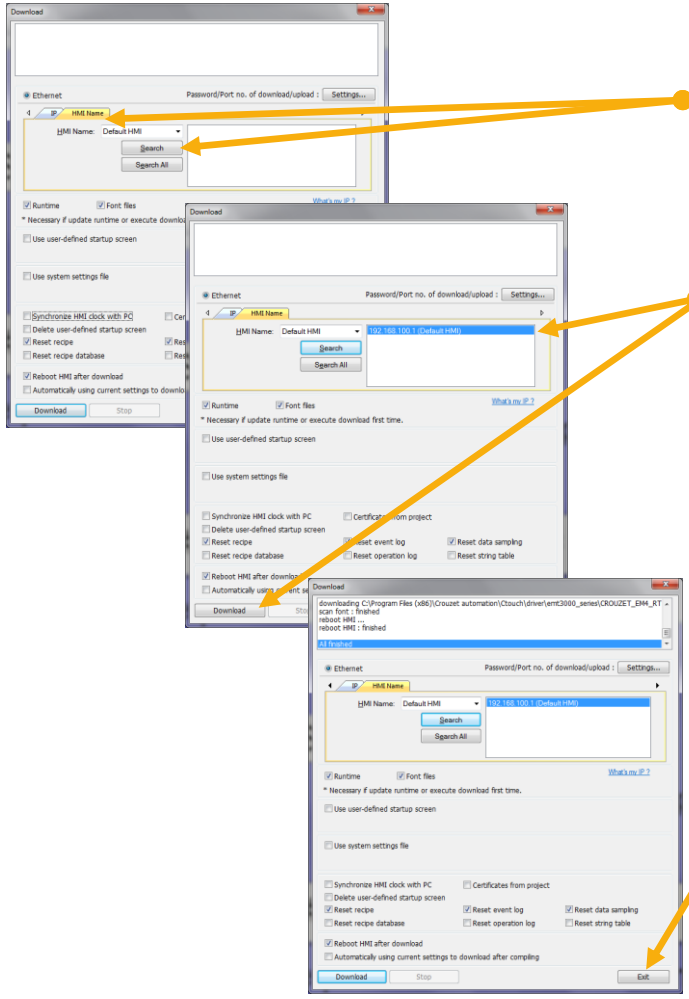
Download by USB



Click on *Download* button,

at the end of the download click on *Exit*

Download by Ethernet



Click on *HMI name* tab and *Search* button to detect the touch connected to your PC

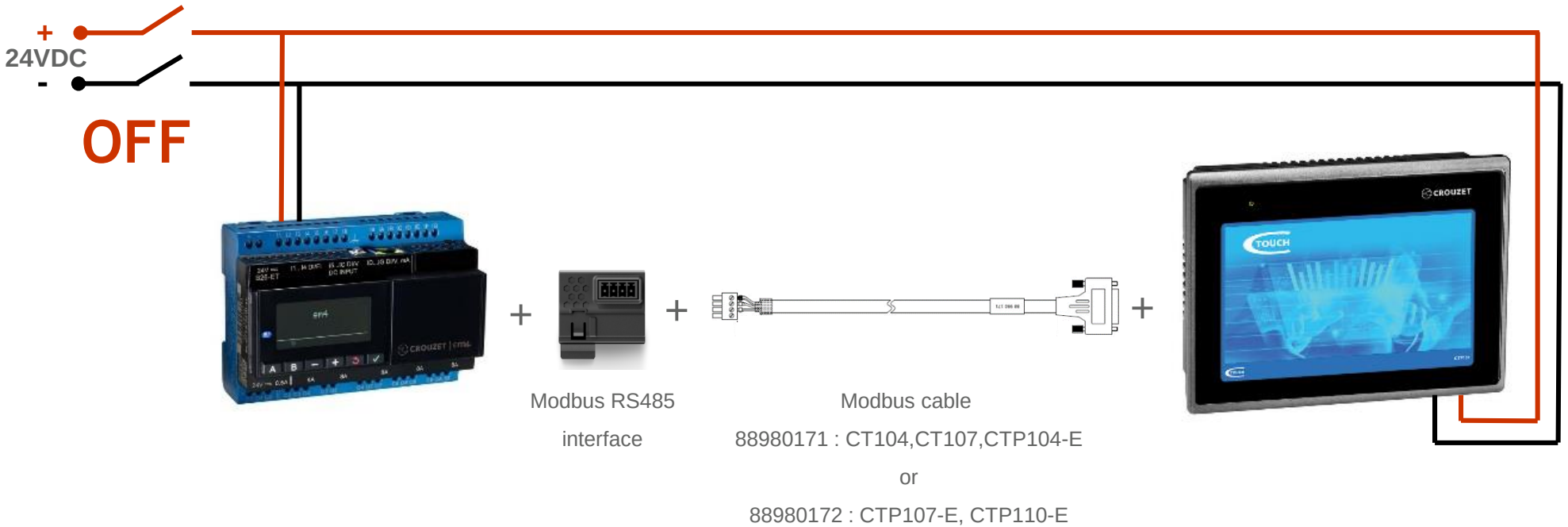
Select the detected device (IP 192.168.100.1) and click on *Download* button

At the end of the download click on *Exit* button

CONNECTING HARDWARE FOR USE

Connecting hardware for use

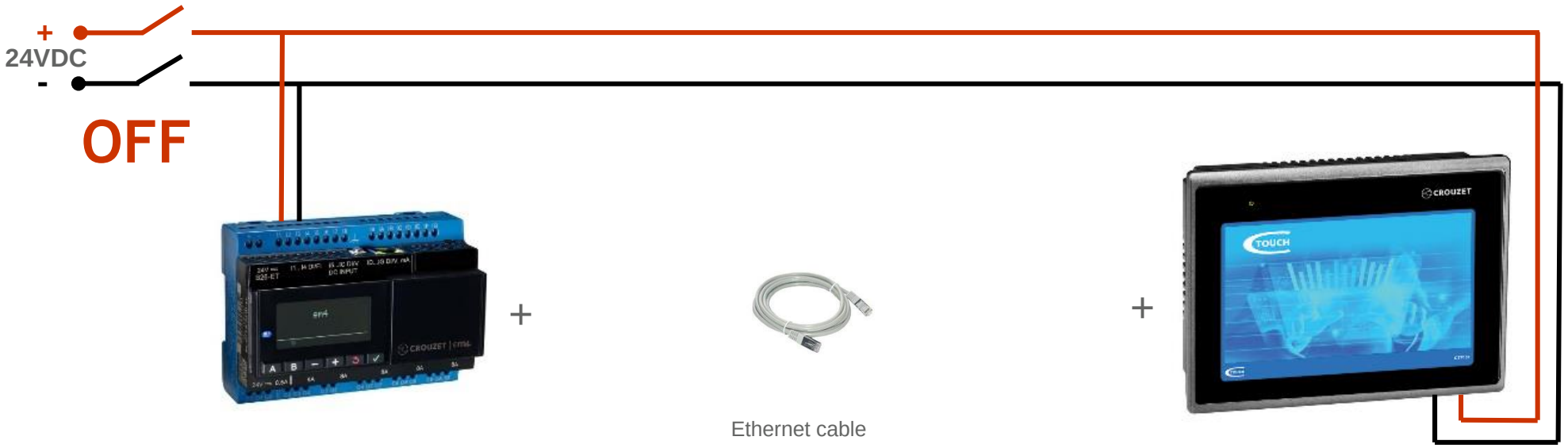
- Wiring for em4 local, alert and remote using modbus interface



Disconnect power and insert the modbus interface in the em4, connect the modbus cable between the em4 and the Crouzet Touch then switch on power. Data exchange between the two devices will start

Connecting hardware for use

- Wiring for em4 ethernet using ethernet cable



Ethernet cable

88970580

Disconnect power connect ethernet cable between the em4 and the Crouzet Touch then switch on power. Data exchange between the two devices will start

PROGRAM EXAMPLE

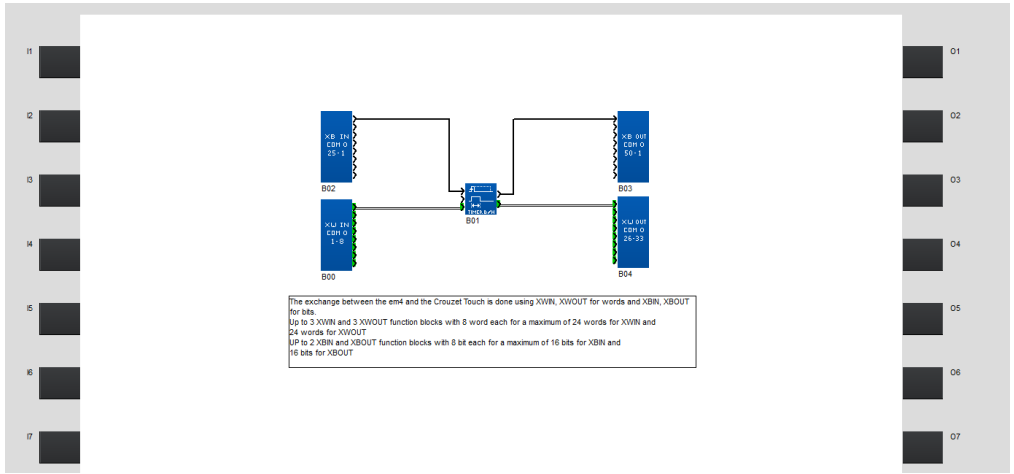
Program example

- Sample programs for different type of Crouzet Touch and em4 are available together with this Quickstart guide

  - em4 programs:
    - em4local_example.pm4
    - em4alert3G_example.pm4
    - em4remote_example.pm4
    - em4ethernet_example.pm4
  - Crouzet Touch programs (compressed file):
    - CT104_example.ecmp
    - CT107_example.ecmp
    - CTP104_example.ecmp
    - CTP107_example.ecmp
    - CTP110_example.ecmp

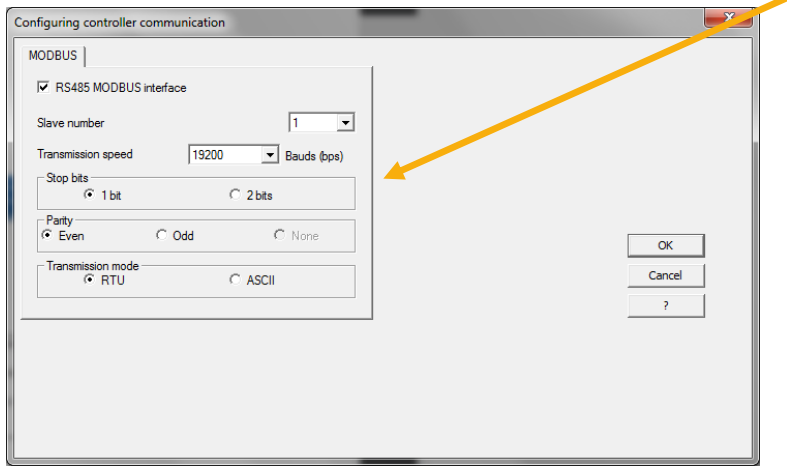
Program example

- em4 program example



Program description: timer is started by a bit written by the Crouzet Touch on XBIN and time duration is set by the Crouzet Touch with XWIN. The Crouzet Touch is also reading the timer output from XBOUT and the current time from XWOUT.

Modbus settings (speed,parity,stop bits) are the same used on the Crouzet Touch.



21/11/16

CREATING AN CROUZET TOUCH APPLICATION

CROUZET TOUCH TUTORIAL

CROUZET AUTOMATION

A BRAND OF INNOVISTA SENSORS

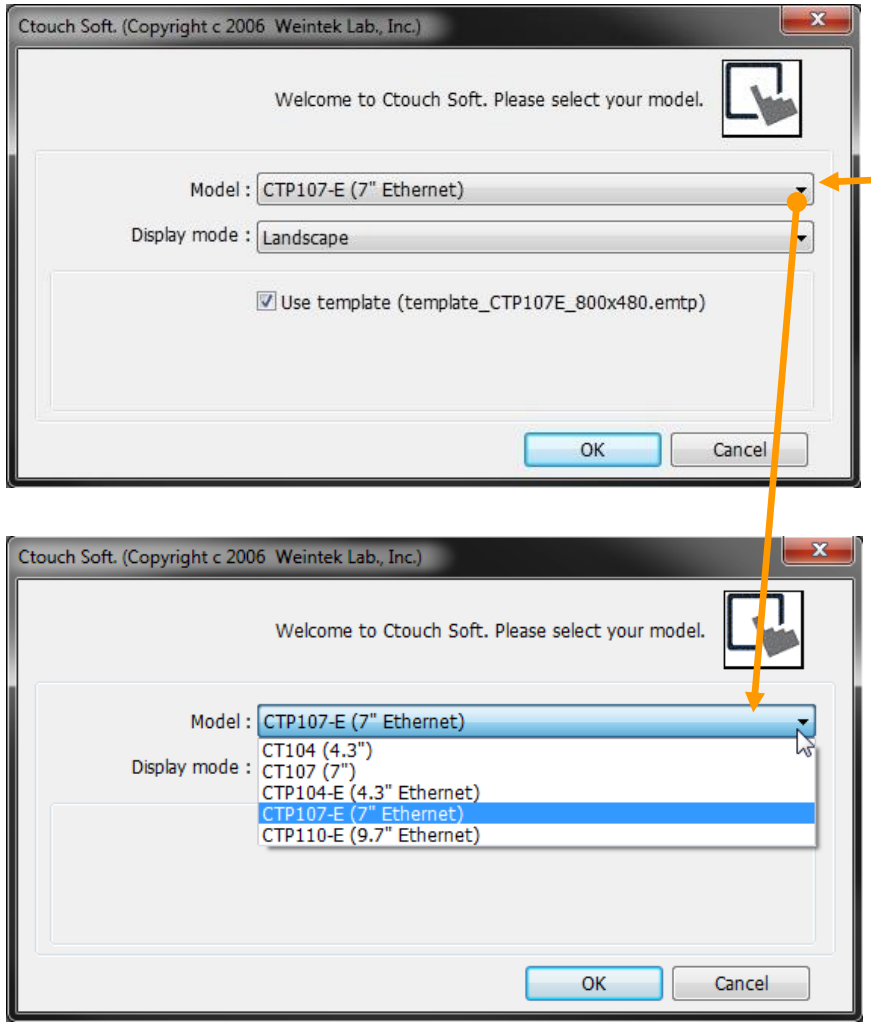
Part 1

System Parameter Settings

Creating a Project

- Open the Utility Manager
- Click on *Crouzet Touch Soft to open* the graphic editor

Creating a Project

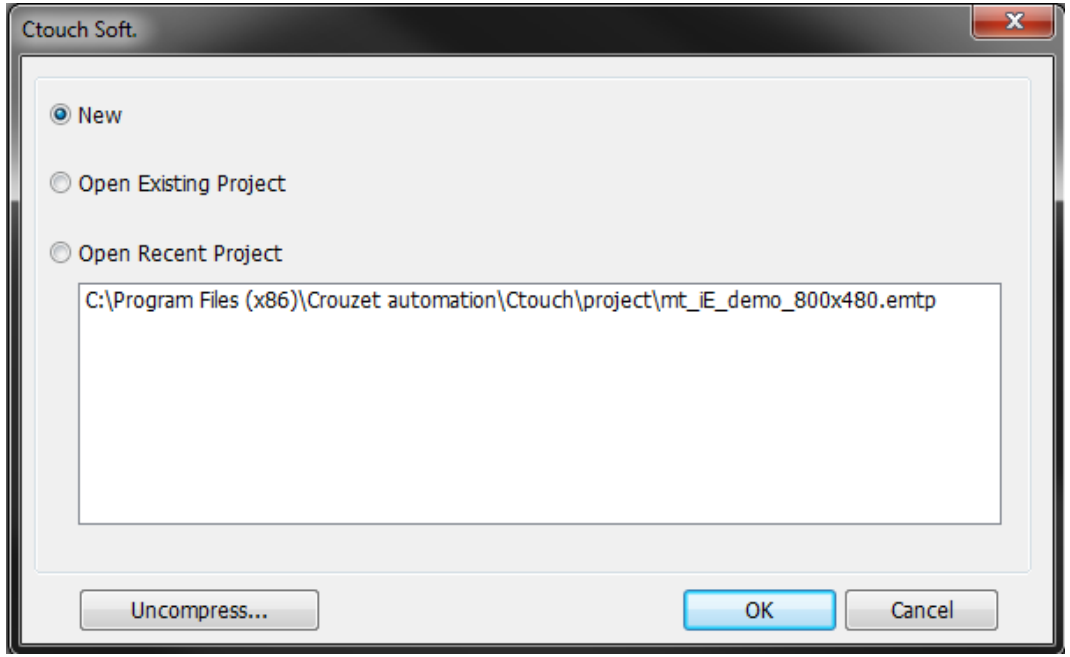


After selecting *New*, this screen will appear

- Select the HMI *Model* to be used and the *Display mode* of the project: *Landscape* or *Portrait*
- Then click *OK*

- NOTE: *Landscape / Portrait* mode can not be switched during project editing

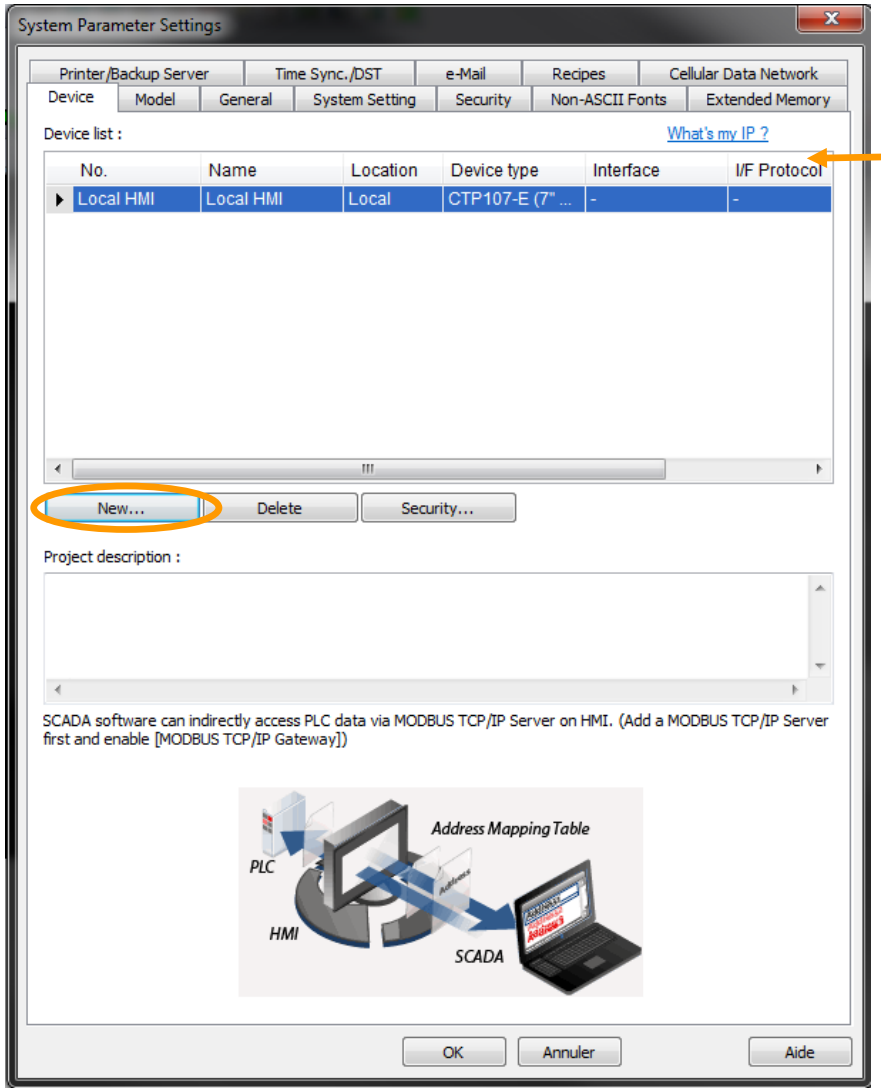
Creating a Project



In the window that opens you can select to

- Create a *New* project
- *Open* an *Existing Project*
- *Open* a *Recent Project*

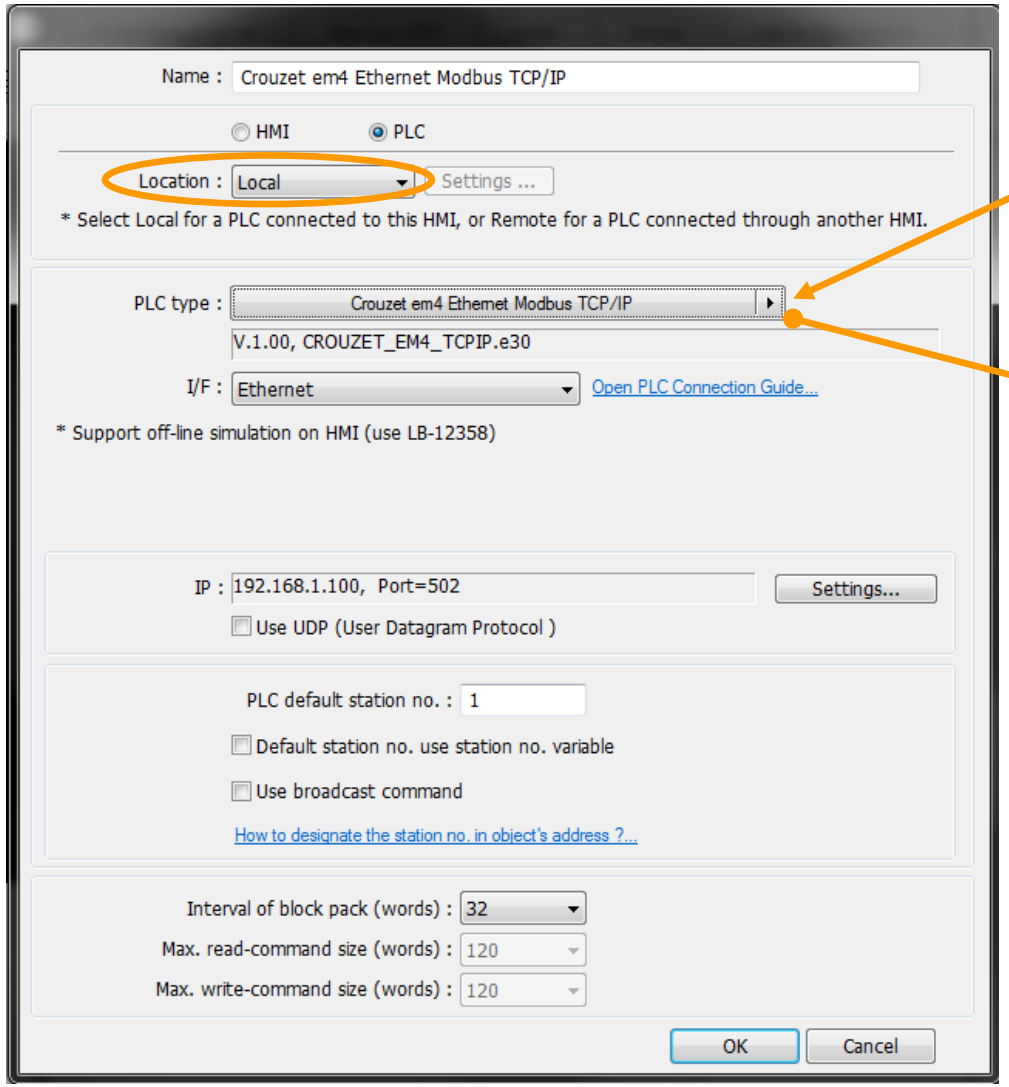
System Parameter Settings



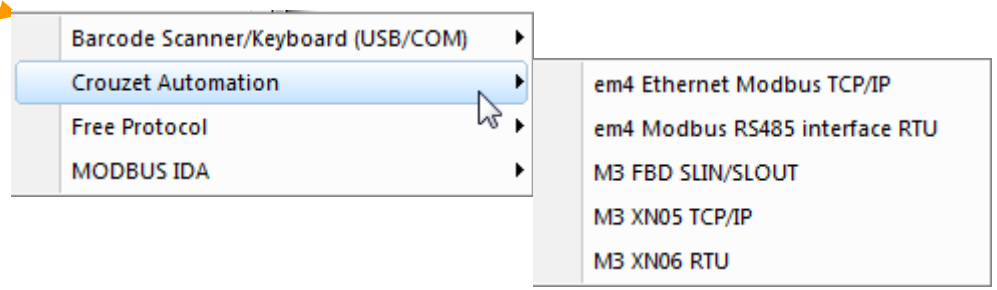
Once the HMI model has been selected, the *System Parameter Settings* menu opens the *Device list* tab

- Here we add the PLC/device which the screen will be connected to by clicking on *New*

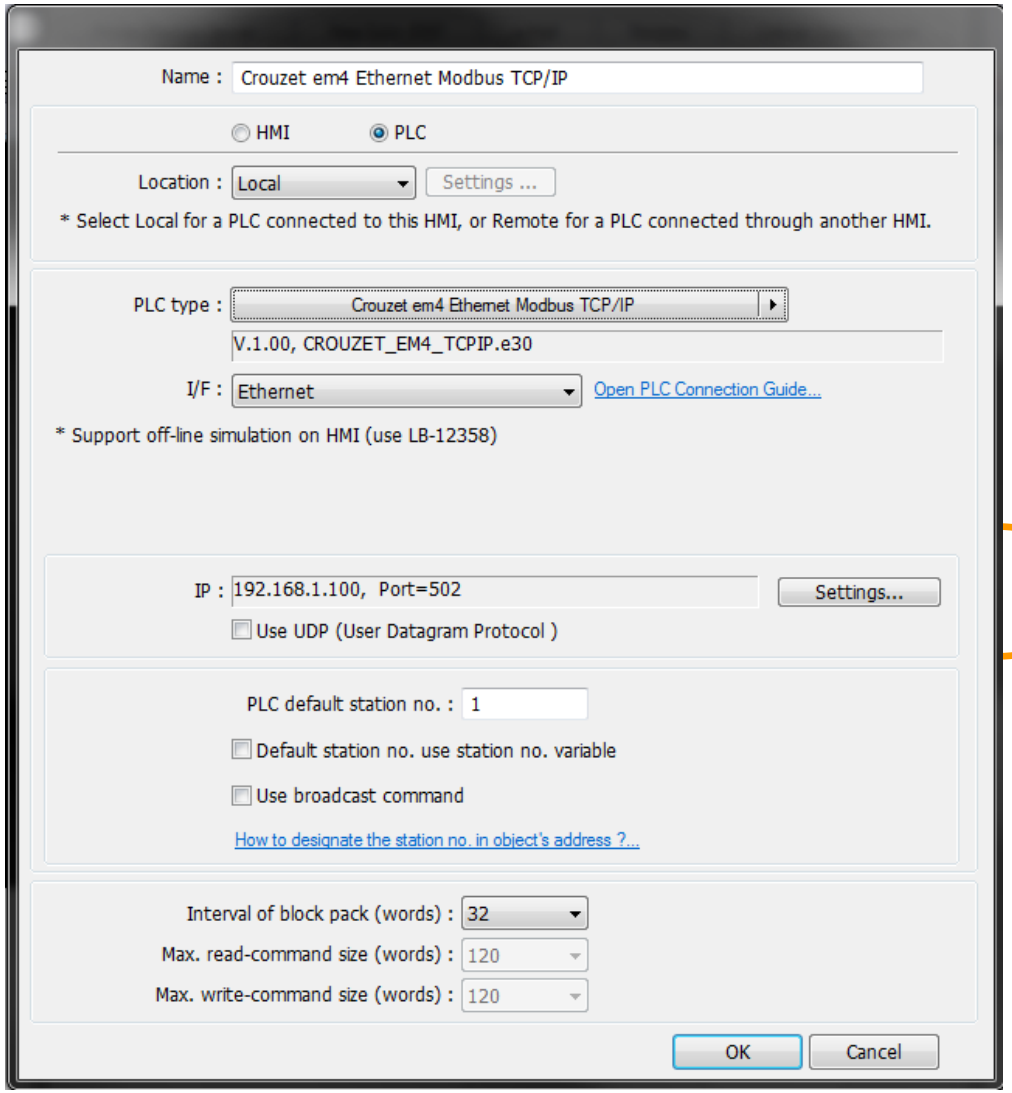
System Parameter Settings



- Clicking on *PLC type* opens the device selection list
  - If the device is directly connected to the HMI set *Local*, if it is connected through another HMI set *Remote*



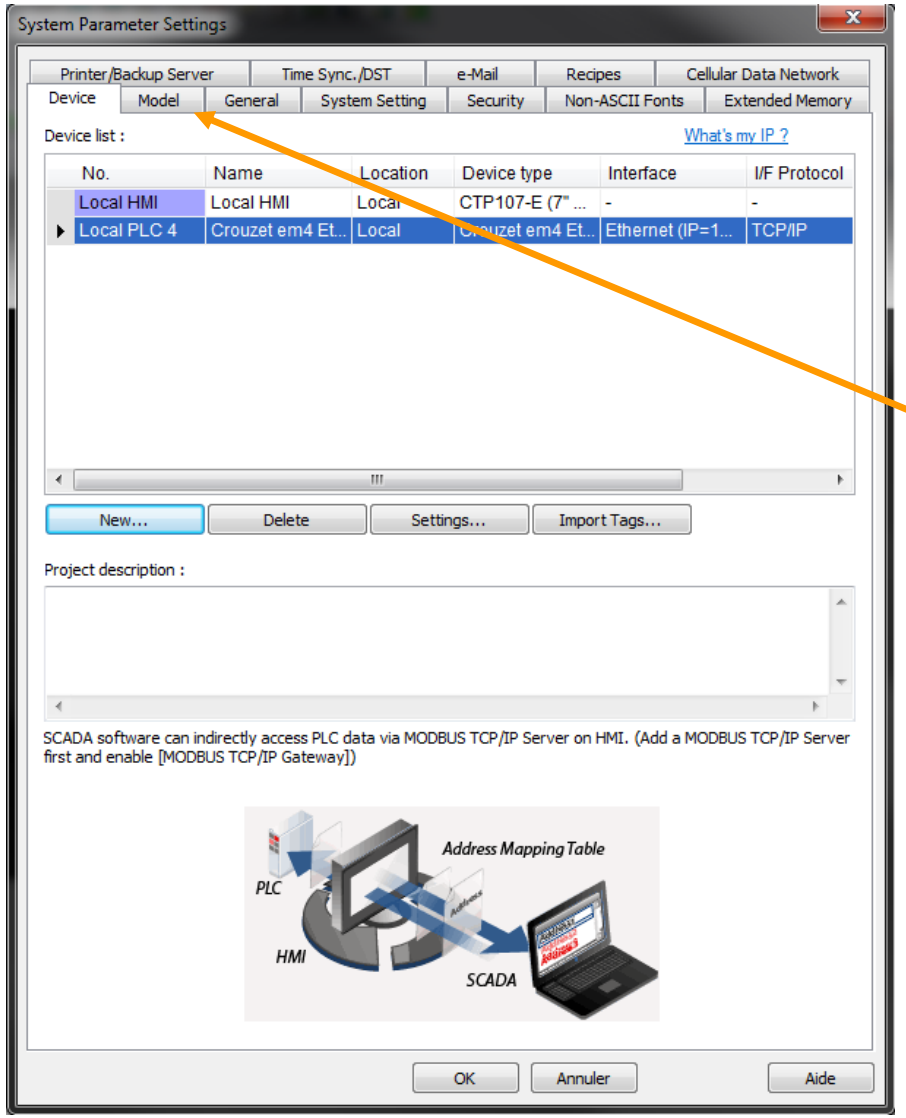
System Parameter Settings



After the *PLC type* has been selected click *OK*

Use the COM *Settings* to set up em4 IP Address

System Parameter Settings



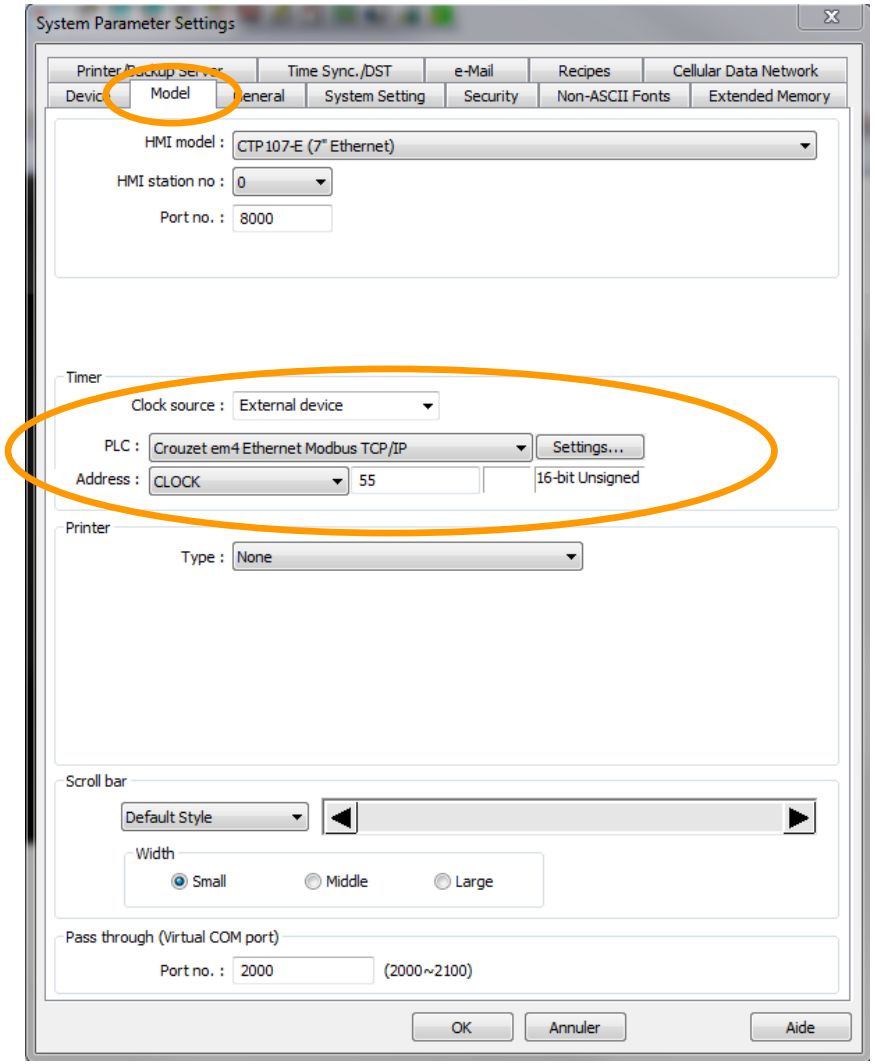
Em4 Ethernet Modbus TCP/IP is added to the *Device list.*

- Click *OK*

- The *System Parameter Settings* window can be reopened by an icon or from the *Edit* menu in the main tool bar of the graphical editor (programming window)

- The tab *Model* allows to take a finished project and use it in another screen without the need to rewrite the project or to copy and paste

Picking up Date & Time from the em4



If one wants to have the Crouzet Touch pick up the em4 Date & Time:

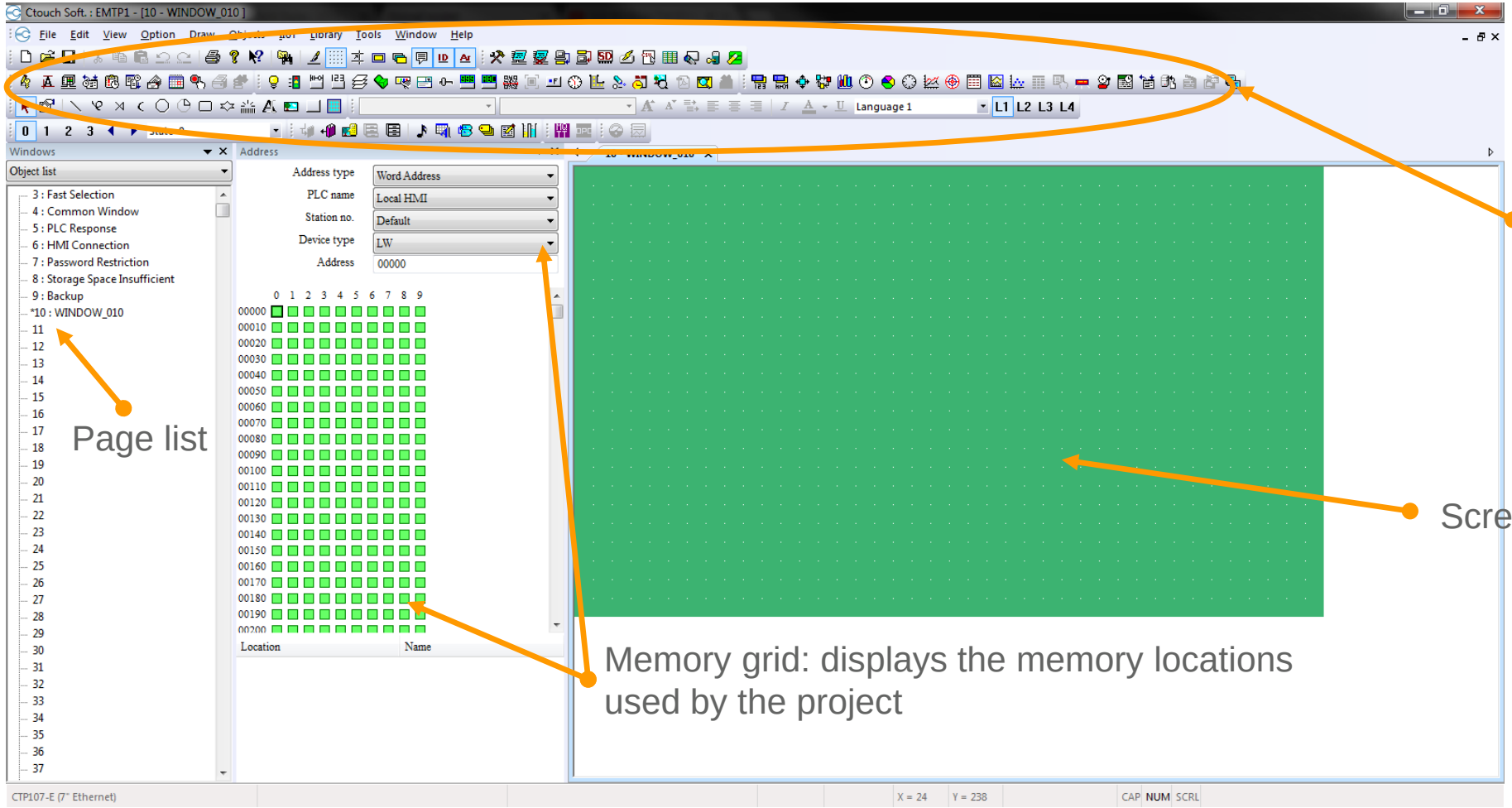
- Open *System Parameter Settings*
- Open the *Model* tab
- In *Timer* define *External device* as the *Clock source*
- In *PLC name* select *Crouzet em4 Ethernet Modbus TCP/IP*
- Set *Address* to *CLOCK 55*.
- Click *OK*

Part 2

The graphical editor (programming window)

Graphical Editor

Once the setting page is closed, the graphical editor will be automatically displayed



Graphical Editor

The first 7 pages of the project are *System pages*, used for managing the project :

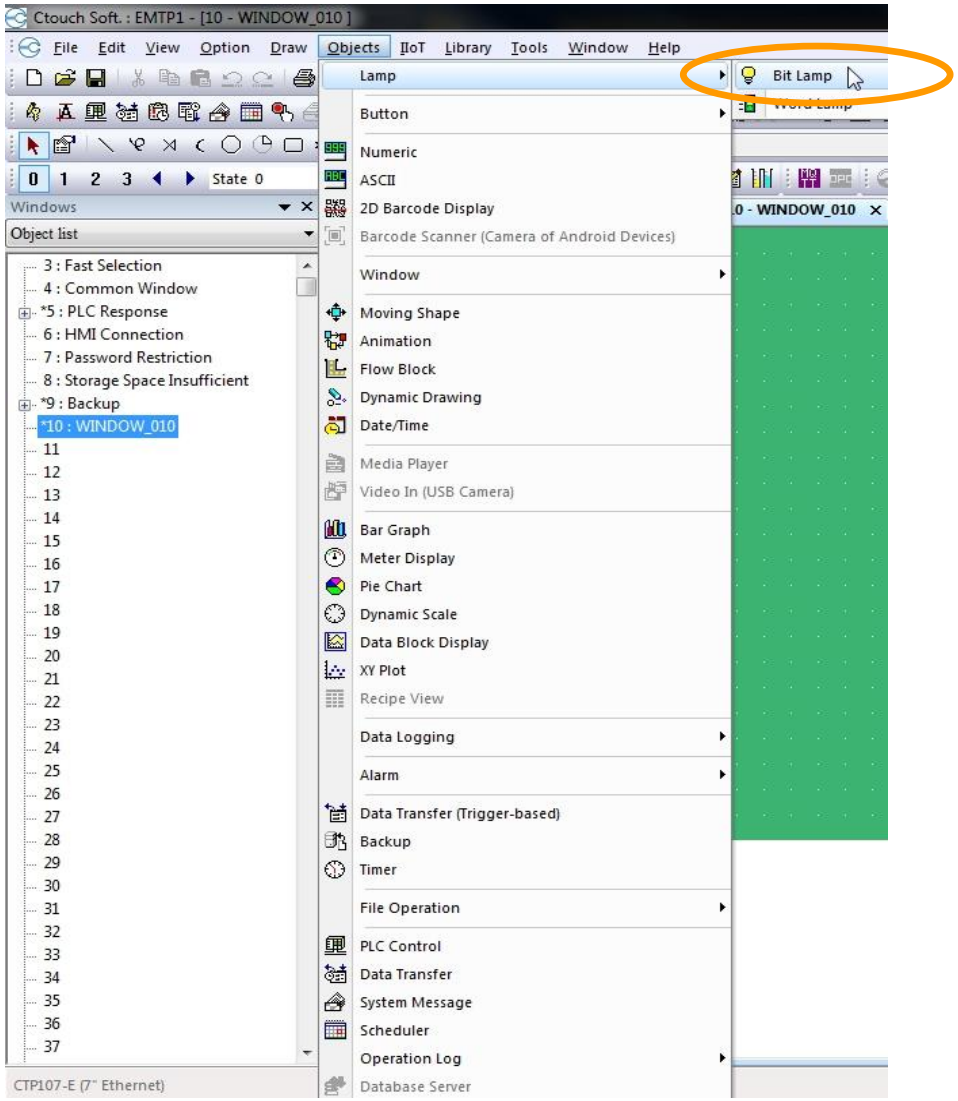
- The *Fast Selection* page is a pick list menu which allows to create a page changing menu not related to the page under editing. This function can be enabled or disabled by system settings or using a special bit
- *Common Window* is a *Layer Zero* page. Everything that is placed on this page, will be available in all project pages
- Pages 5 and 6 are pages related to a PLC communication failure. These pages can be resized and changed in format and attributes
- The *Password Restriction* page is displayed, if enabled, when an object which has been assigned to a safety class is accessed before logging in

CROUZET AUTOMATION

Part 3

Creating an Object

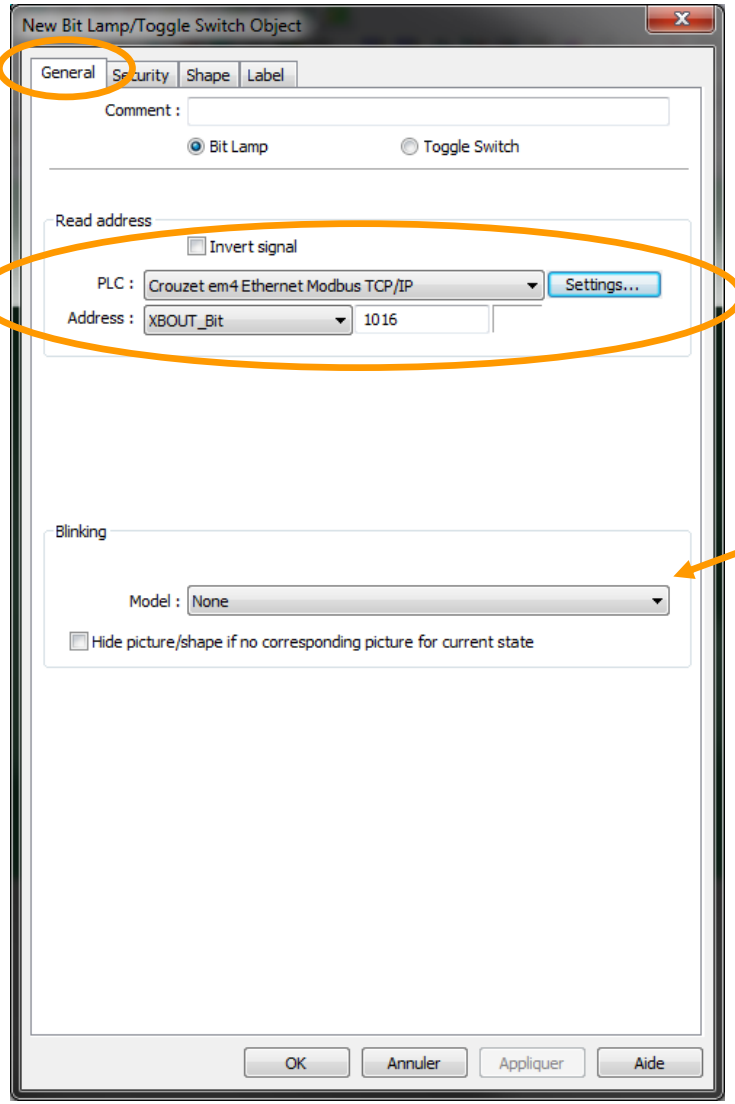
Creating a Bit Lamp Object



Step 1

- Open *Objects, Lamp* and click on *Bit Lamp*

Creating a Bit Lamp Object

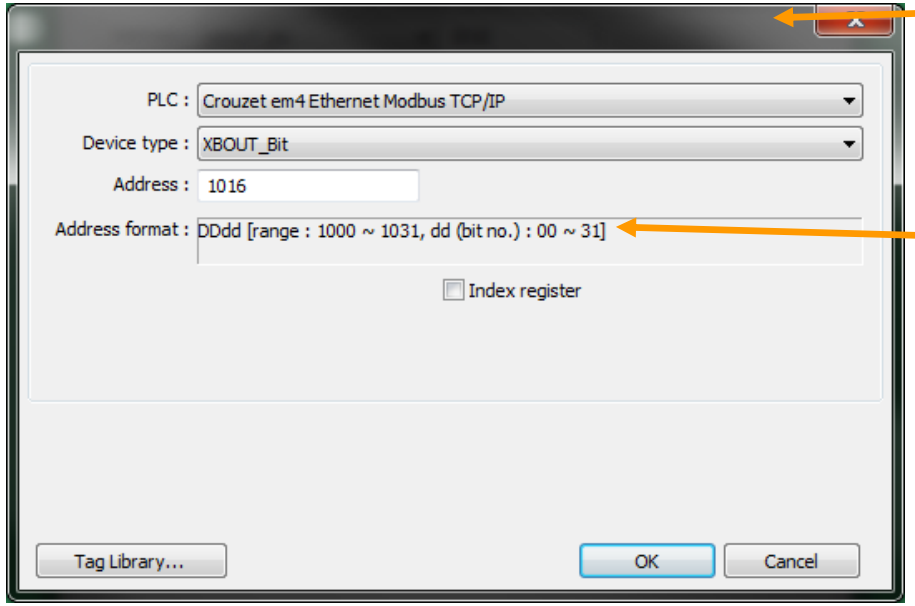


Step 2

This opens the window that allows to set the object parameters

- In the *General* tab set the *Device* from which the variable is read, and the read *Address*
- It is also possible to set some specific object attributes like *Blinking*

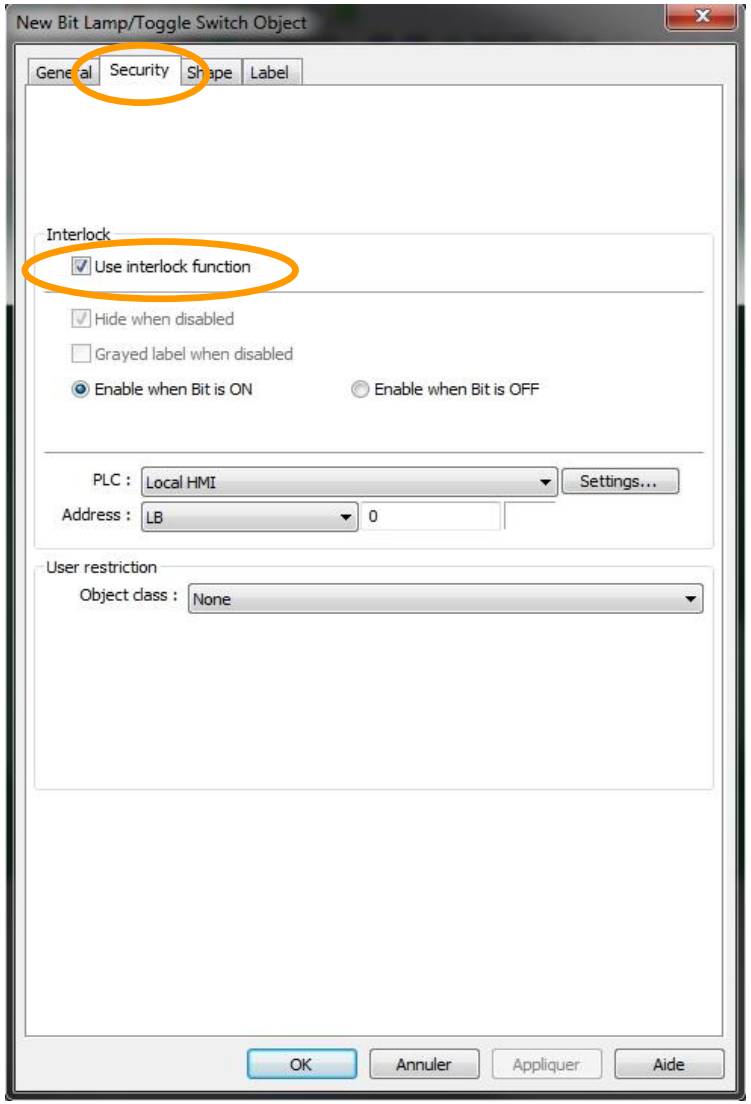
Creating a Bit Lamp Object



A click on *Setting* in the *General* tab opens the access to the detailed device address setting area

In this window the *Address format* is also shown, a reminder of the allowed address range and how it has to be written

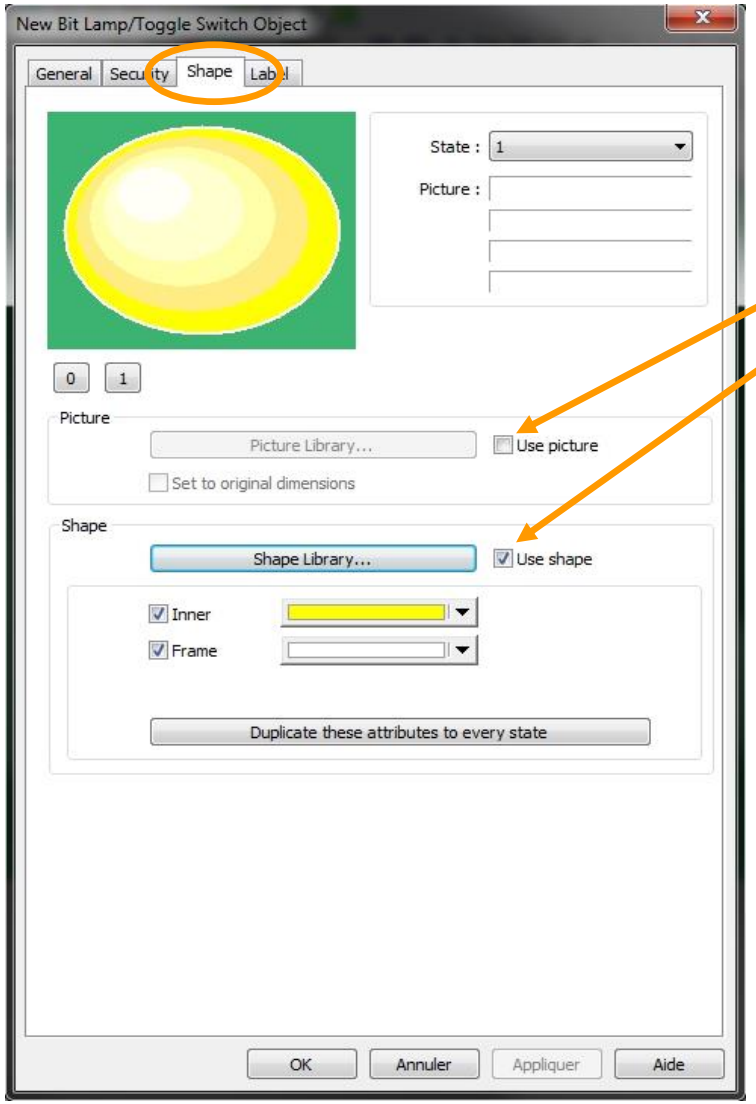
Creating a Bit Lamp Object



Step 3

- In 'display only' objects like *Bit Lamp* or *Numeric Display*, the *Security* tab provides the possibility to make the object transparent if a designated bit is ON or OFF depending on the setting.

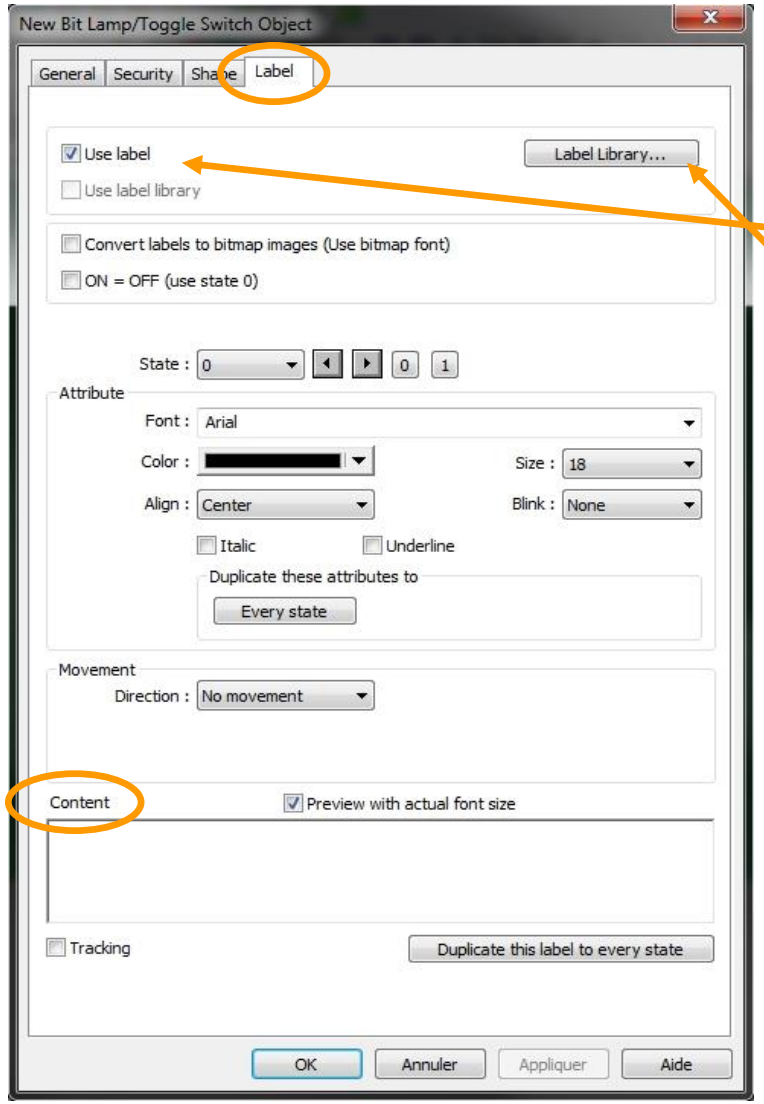
Creating a Bit Lamp Object



Step 4

- In the *Shape* tab one can select the image to be connected to the object. One can choose between *Shape Libraries* (simple vector format shapes, very light, with colors that are easily modified) or *Picture Libraries* that one can create by adding ones own BMP, JPG, PNG or animated GIF images
- If none of these are selected the object will not have any image

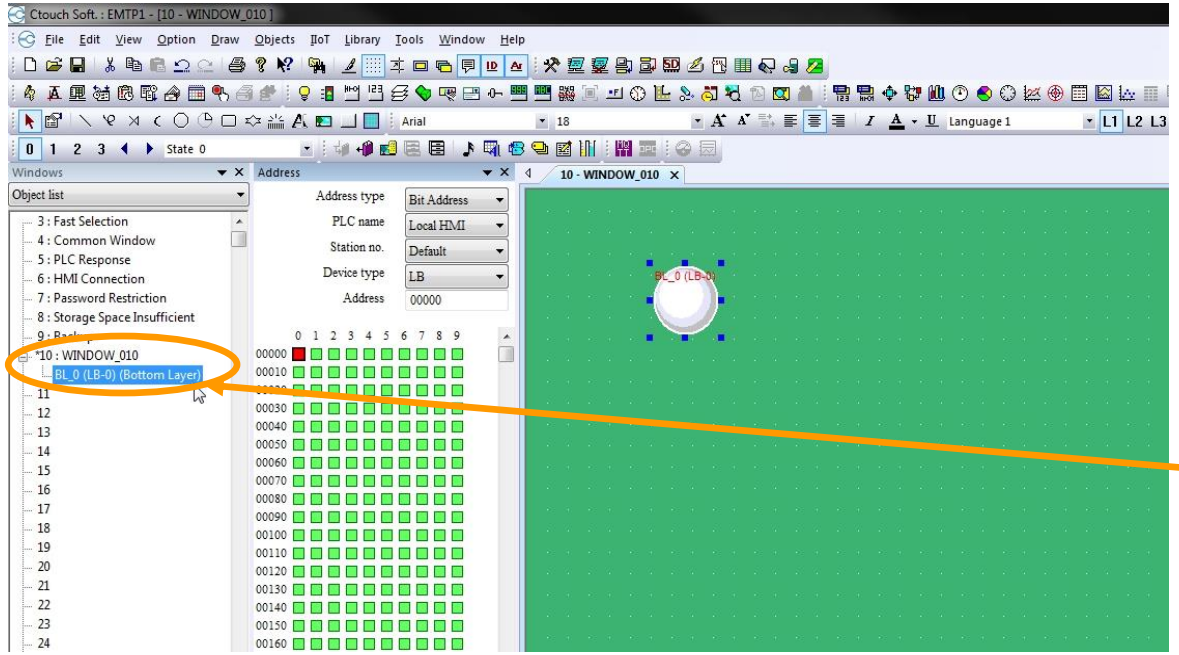
Creating a Bit Lamp Object



Step 5

- In the *Label* tab it is possible to activate a text for the object.
- When *Use label* is marked one can directly enter the text that is to be displayed in the *Content* windows for state 0 and 1. It is possible to add a different color or text dimension to each state.
- *Attention*: this written text is not a multi language type. A *Label Library* has to be created in advance if multi language text is needed. It can be exported or imported via excel. Once the table has been created, *Use label library* can be marked in order to select the labels.
- If *Use label* is not marked, the object will show only an image.

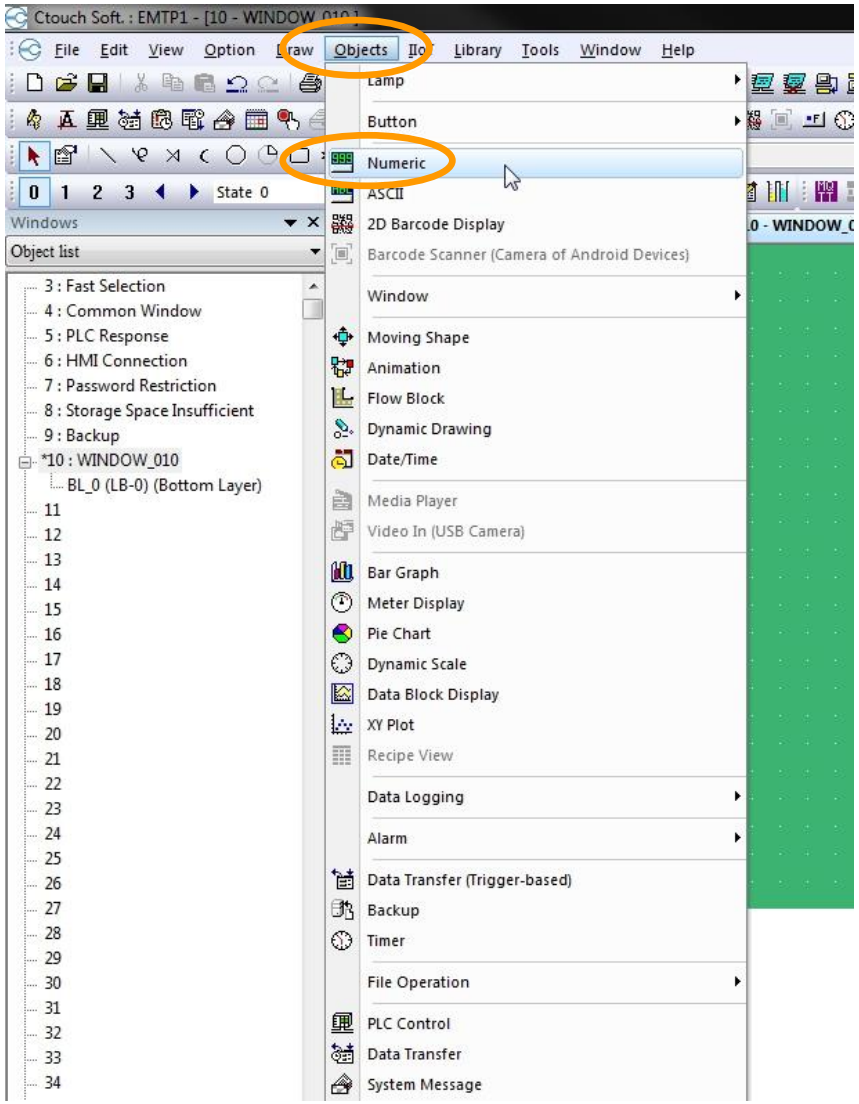
Creating a Bit Lamp Object



Step 6

- After setting the object parameters click *OK*
- This closes the parameter setting window and the object can be placed by a click into the project window
- Afterwards the object can be resized, repositioned, and the settings window reopened by double click on the object itself, or by double click on the object description in the window view

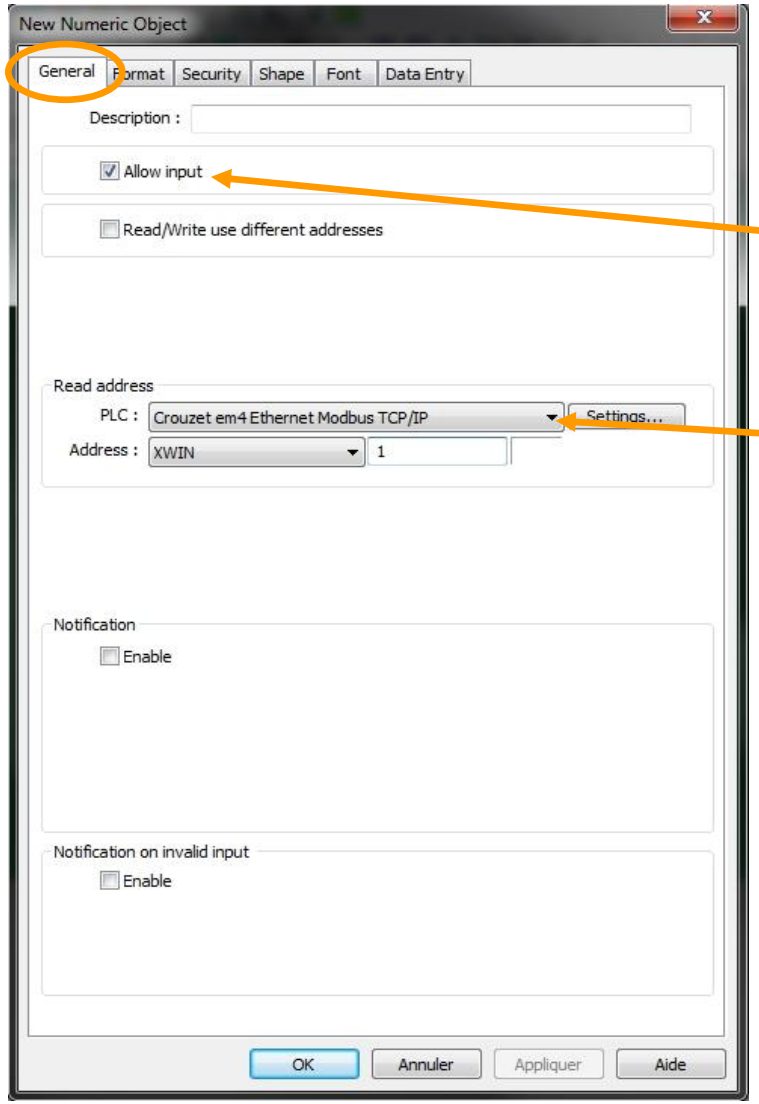
Creating a Numeric Object



Step 1

- Open *Objects* and click on *Numeric*

Creating a Numeric Object

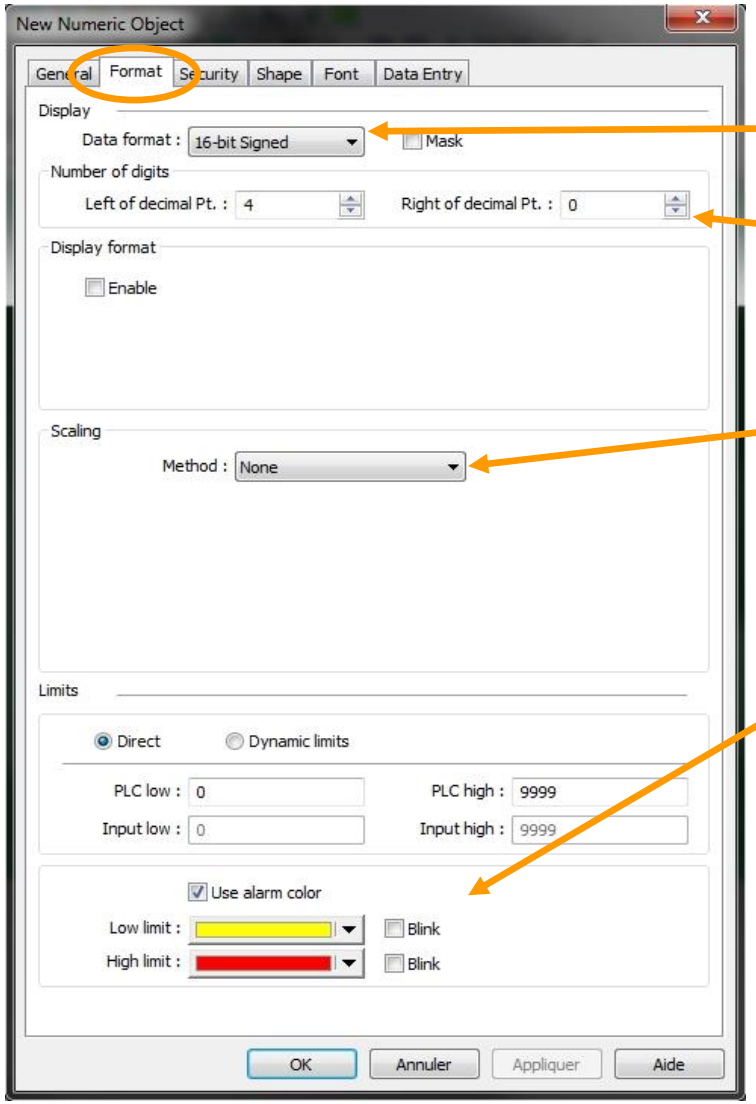


Step 2

This opens the window that allows to set the object parameters

- Tick *Allow input* to set the Numeric Object as Read and Write
- In the *General* tab set the *PLC name* and *Address* from which the variable can be read or write

Creating a Numeric Object



Step 3

- In the *Format* tab set the *Data format* to *16-bit Signed*
- Set the *Number of digits* to the value range to be displayed
- Select and define the *Scaling* option if needed
- Tick *Use alarm color* to highlight values that are above or below the *Limits*. The limitations set in *Limits* do not restrict the display of the value

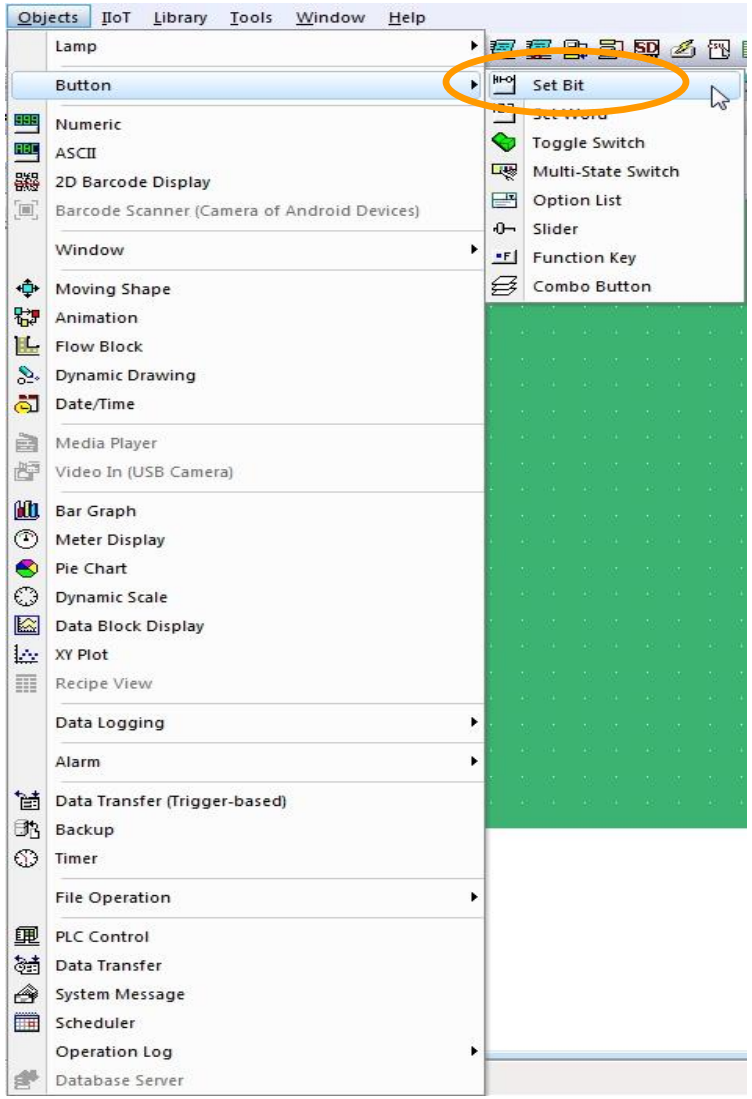
Creating a Numeric Object

Step 4

Set the parameters for *Security* and *Shape* as explained on pages 18 and 19

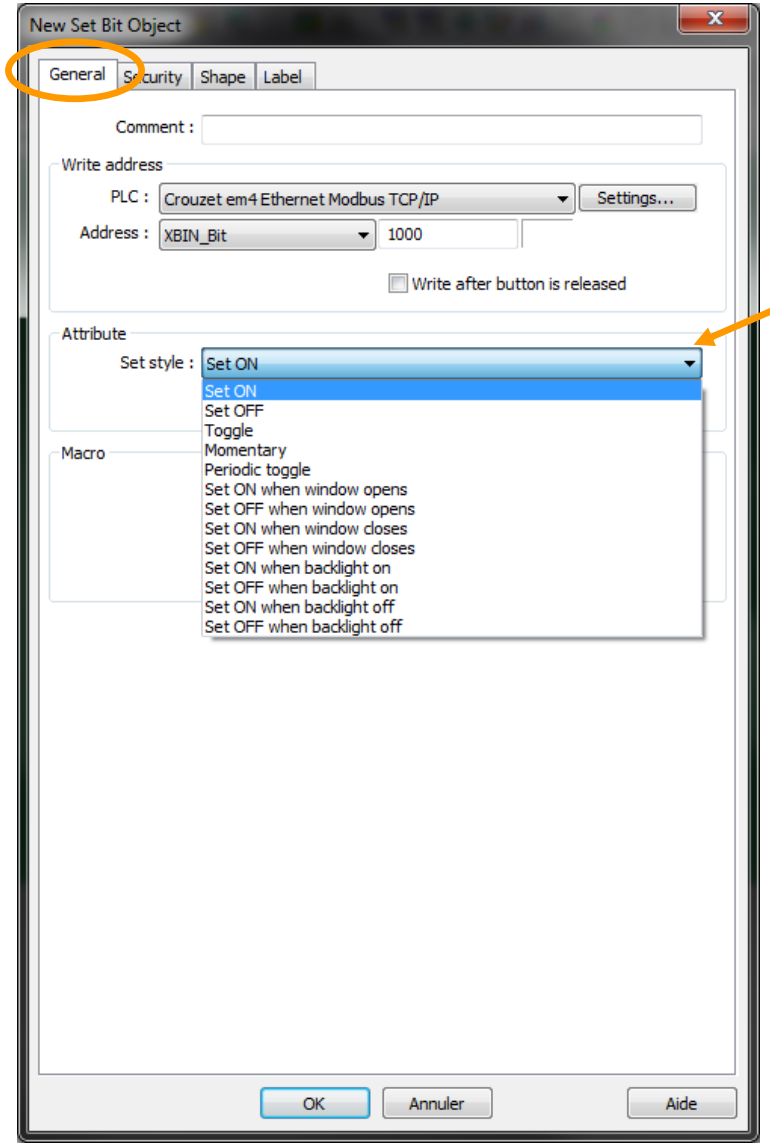
- Define the *Attribute* (especially Size and Align) in the *Font* tab
- Click *OK* and place the *Numeric Object* in the window

Creating a Button Object



To create a Button object like *Set Bit* the procedure and settings are basically the same as for the objects that were just described.

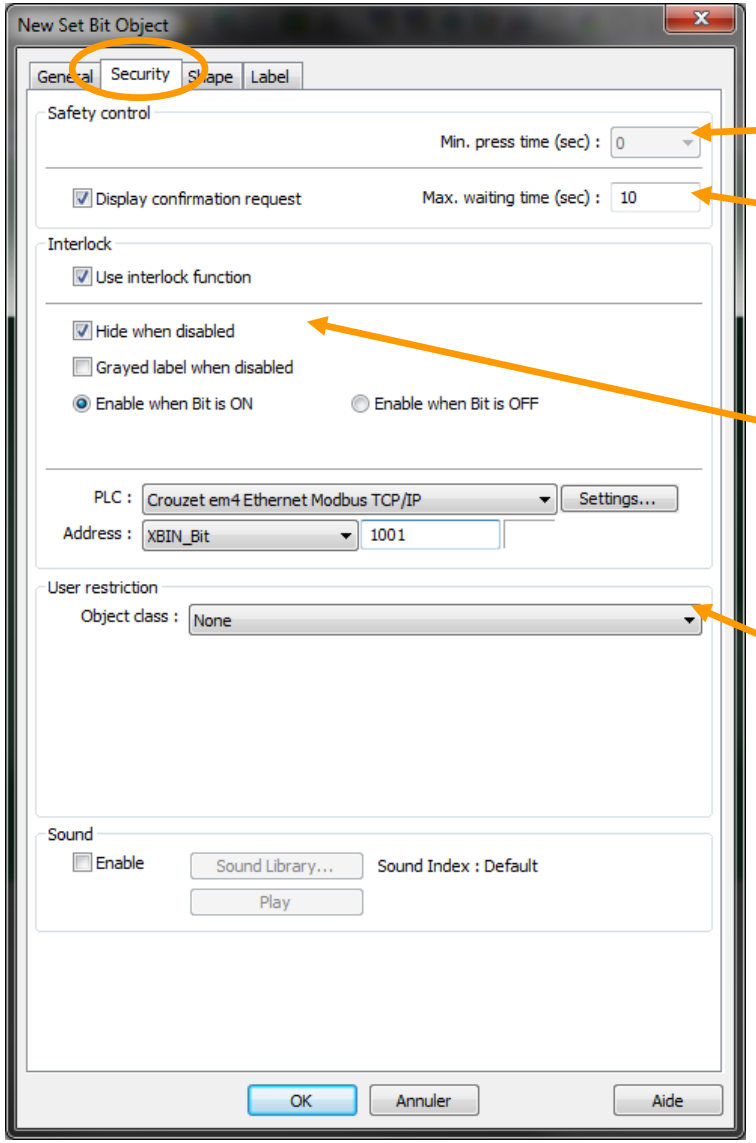
Creating a Button Object



The main differences to others object are:

1. The *Attribute* options

Creating a Button Object



2. The *Security* options

It is possible to set a minimum pressure time for the action

If marked, a *Display confirmation request* pop-up with a max. waiting time can be set

If marked, the button can be hidden using a control bit, but it could also be displayed anyway even if disabled, and if there is a text label it can be grayed

The object can be linked to an *Object class* and if required to an 'access denied' warning message (system page 7).

21/11/16

EM4 MODBUS ADDRESSING

CROUZET TOUCH TUTORIAL

CROUZET AUTOMATION

A BRAND OF INNOVISTA SENSORS

SUMMARY

- Terminology
- Crouzet Touch to em4 Modbus RTU Wiring
- em4 Modbus Addresses (reminder)
- Crouzet Touch Soft - Defining the Modbus RTU Network
- Modbus RTU: CTS ⇔ em4 Word Addressing Example
- Modbus RTU: CTS ⇔ em4 Bit Addressing Example
- Modbus RTU: CTS ⇔ em4 Bit Addressing Example Using BIN/DEC Converter FB’s

TERMINOLOGY

Terminology

- em4 Modbus interface → em4 Modbus Slave communication interface
- Crouzet Touch → Touchscreen of the Crouzet Automation nano-PLC range
- CTS = Crouzet Touch Soft → Programming software of the Crouzet Touch range

CROUZET TOUCH MODBUS RTU WIRING

Crouzet Touch to em4 Modbus RTU Wiring

- Use the *88 980 171 Modbus cable* for the Crouzet Touch CT104, CT107 and CTP104-E

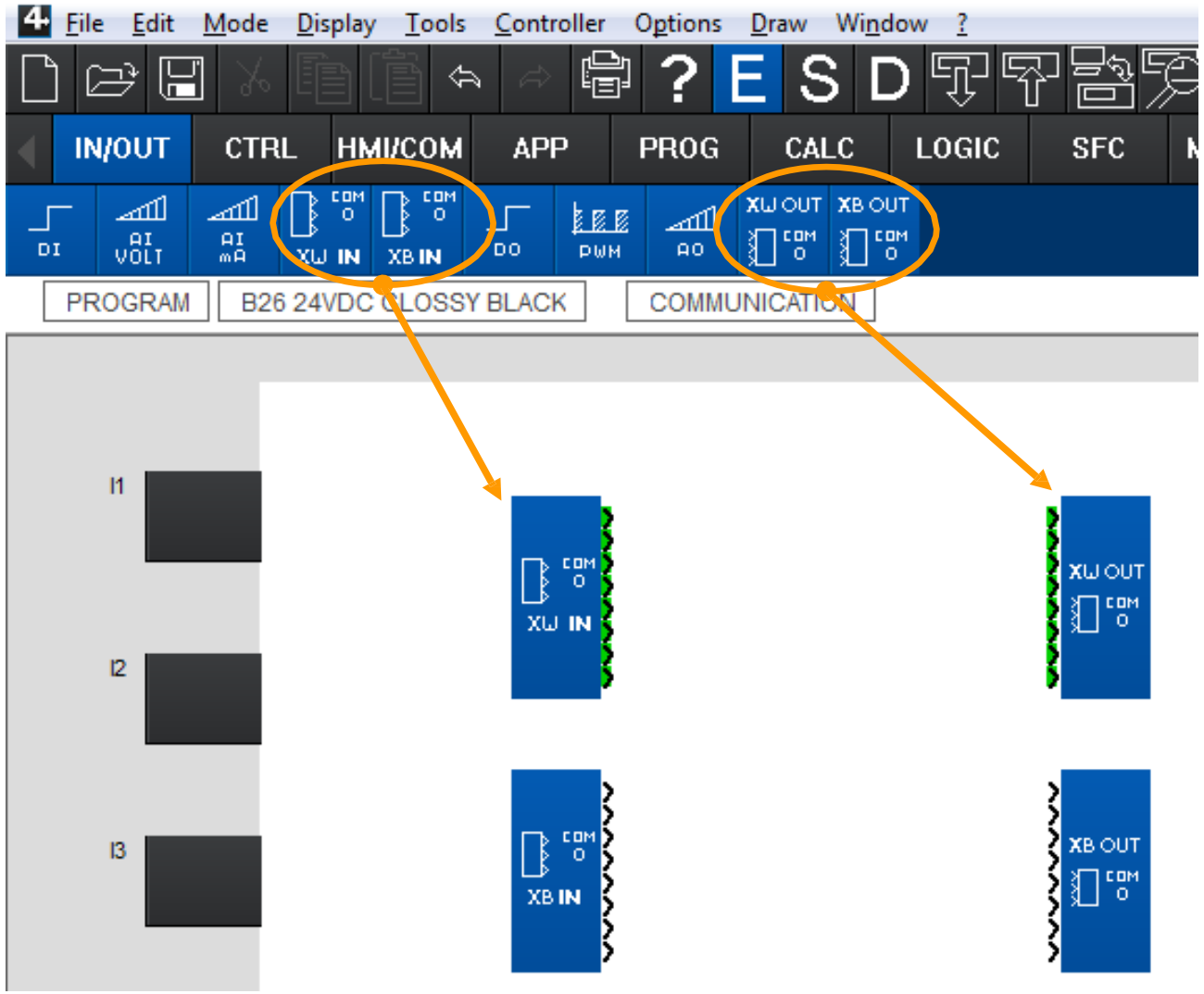
or

- Use the *88 980 172 Modbus cable* for the Crouzet Touch *CTP107-E* and *CTP110-E*

- Use the *Modbus interface 88 980 120* to connect the cable to em4

EM4 MODBUS ADDRESSES (REMINDER)

em4 Modbus Addresses (reminder)



Drag and drop the *COM 0* functions into your worksheet.

XW IN ⇒ Word input from network, 8 inputs each, can be used 3 times, allows to enter 24 words into an em4 program.

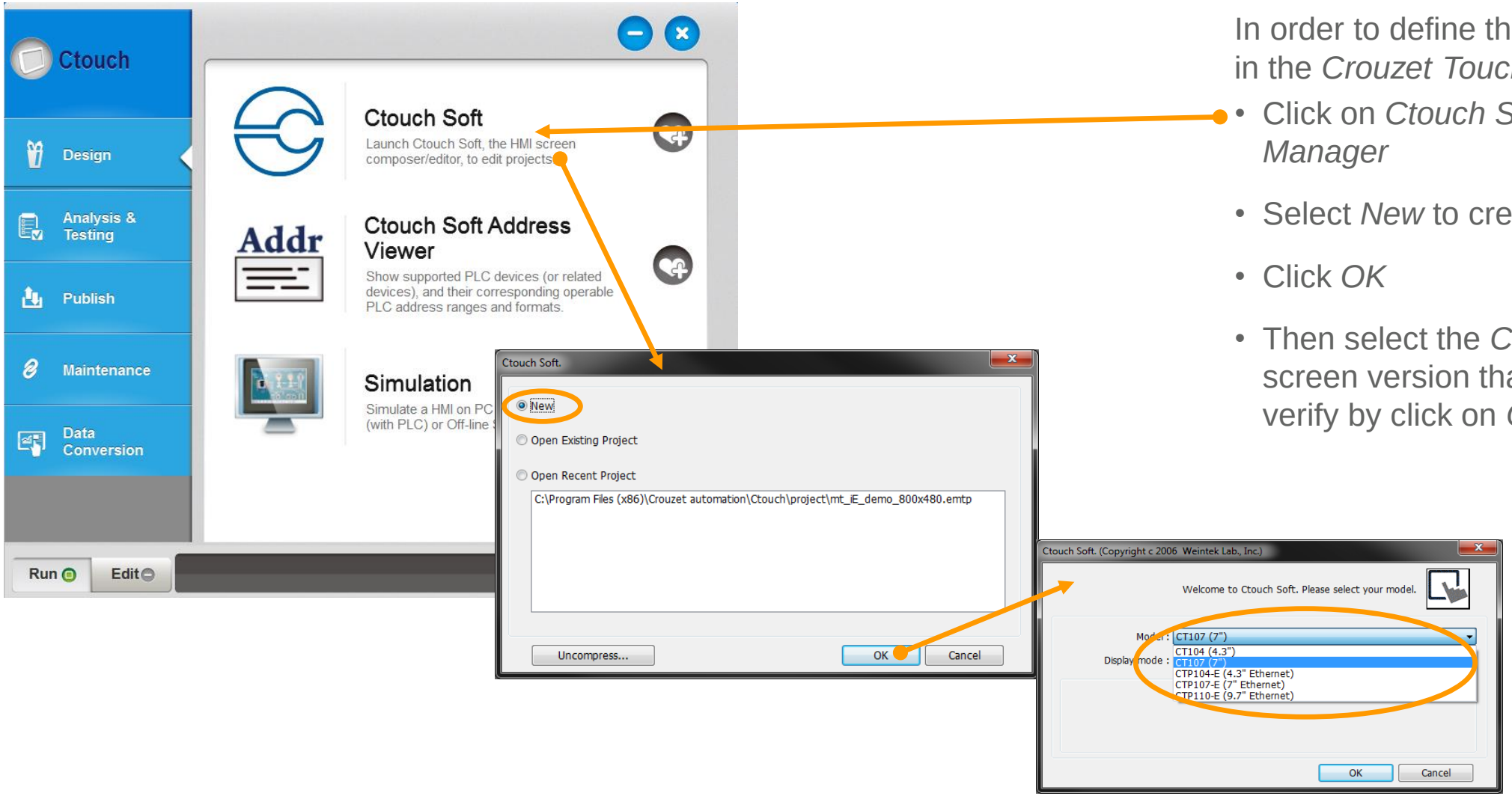
XB IN ⇒ Bit input from network, 8 inputs each, can be used 2 times, allows to enter 16 bit into an em4 program.

XW OUT ⇒ Word output to network, 8 outputs each, can be used 3 times, allows to make 24 words accessible to a network.

XB OUT ⇒ Bit output to network, 8 outputs each, can be used 2 times, allows to make 16 bit accessible to a network.

CROUZET TOUCH SOFT- DEFINING THE MODBUS RTU NETWORK

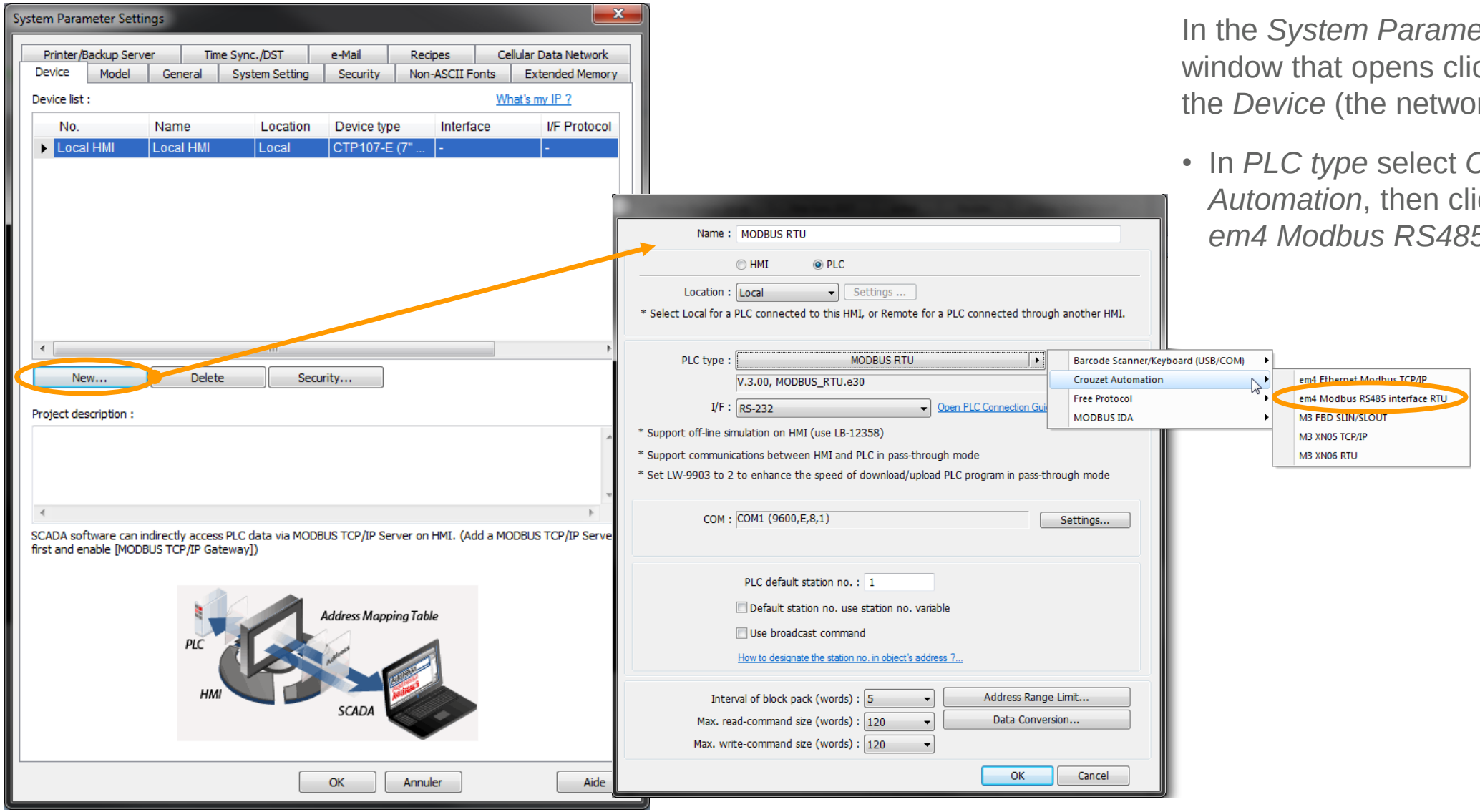
Crouzet Touch Soft- Defining the Modbus RTU Network



In order to define the Modbus network in the *Crouzet Touch Soft*:

- Click on *Ctouch Soft* in the *Utility Manager*
- Select *New* to create a new project
- Click *OK*
- Then select the *Crouzet Touch* screen version that is to be used and verify by click on *OK*

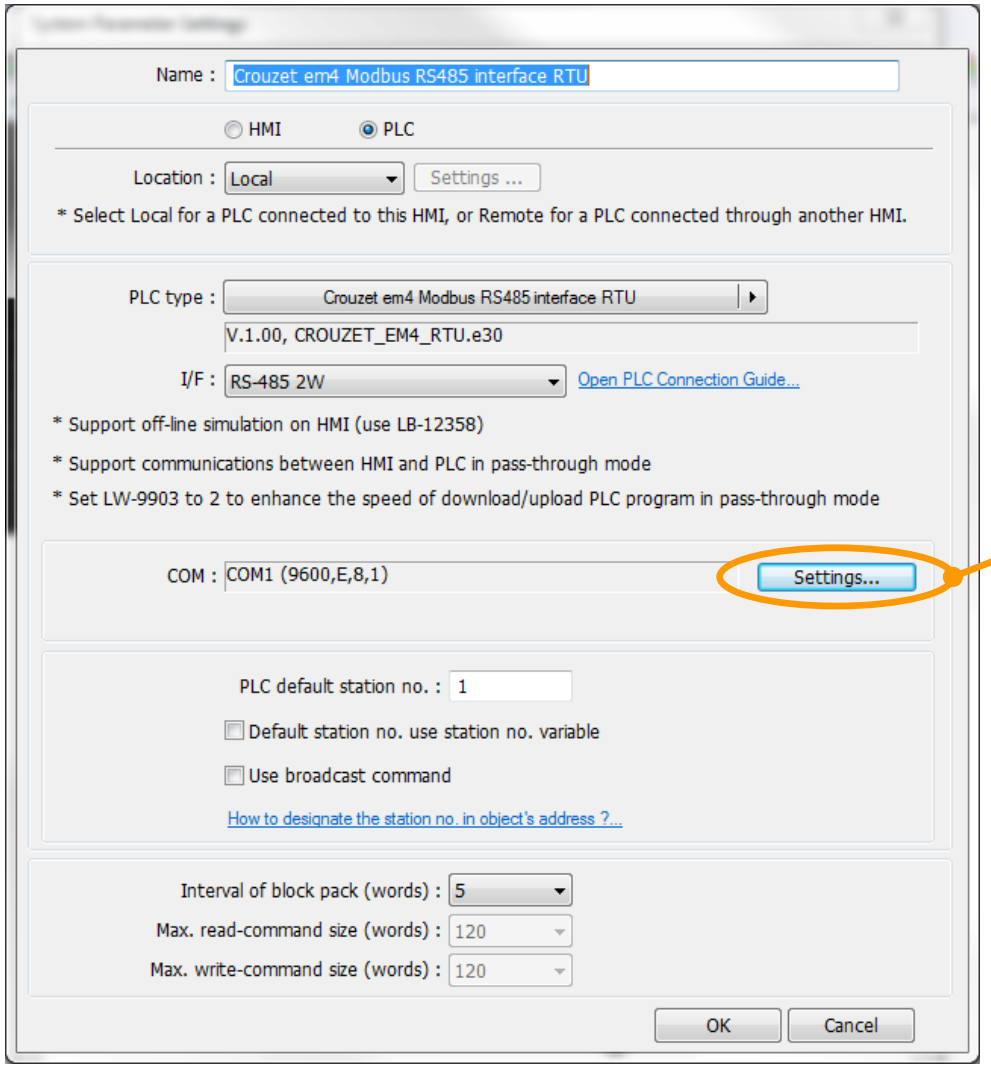
Crouzet Touch Soft- Defining the Modbus RTU Network

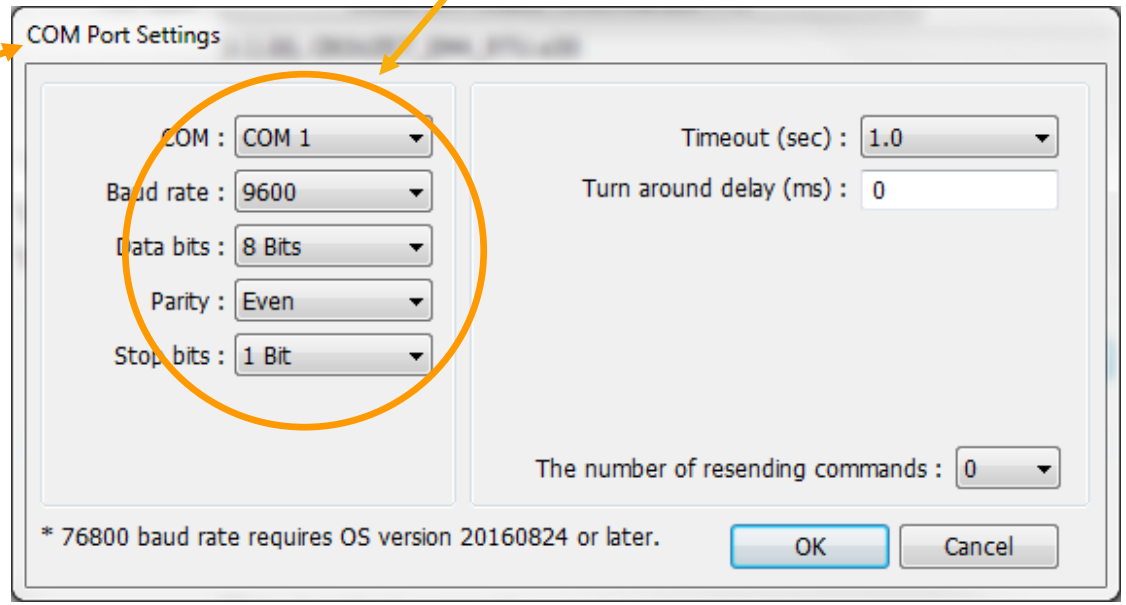


In the *System Parameter Settings* window that opens click *New* to define the *Device* (the network)

- In *PLC type* select *Crouzet Automation*, then click on *em4 Modbus RS485 interface RTU*

Crouzet Touch Soft- Defining the Modbus RTU Network





- Click *Settings* to define the communication parameters (Speed, Parity, …)
- Confirm with *OK*

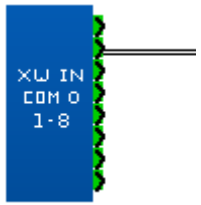
These parameters have to be *identical* in the Crouzet Touch (Master) and the em4 Modbus (Slave) settings!

MODBUS RTU: CTS ⇔ EM4
WORD ADDRESSING EXAMPLE

Modbus RTU: CTS ⇔ em4 Word Addressing Example

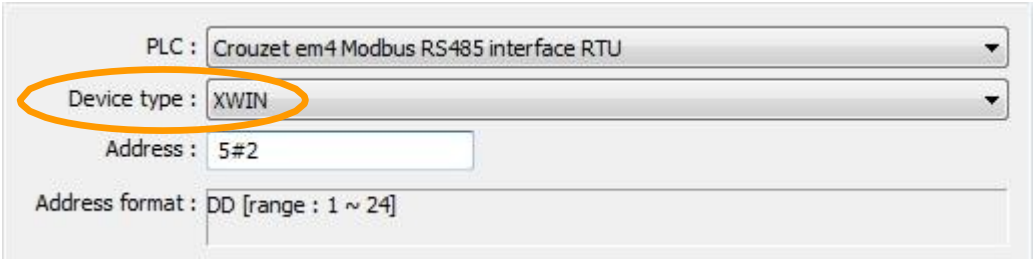
Writing a value from Crouzet Touch to em4 (slave n° 5)

⇒ em4: COM 0, XW IN 2



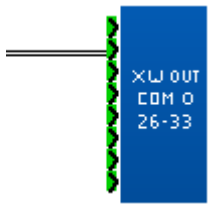
⇒ CTS: *Device type* XWIN *Address* 5#2

Slave n°5, write address XW IN 2



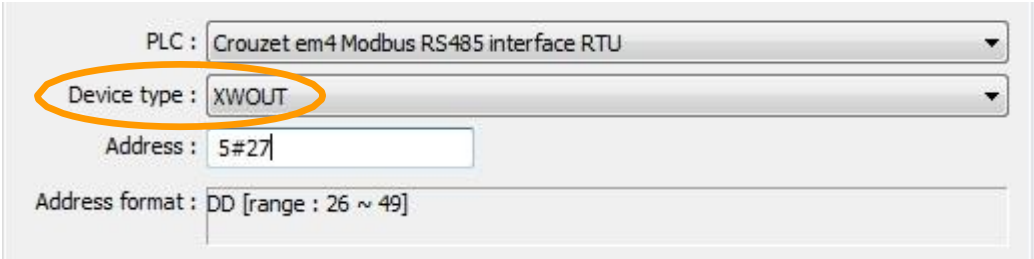
Reading a value by the Crouzet Touch from em4 (slave n° 5)

⇒ em4: COM 0, XW OUT 27



⇒ CTS: *Device type* XWOUT *Address* 5#27

Slave n°5, read address XW OUT 27

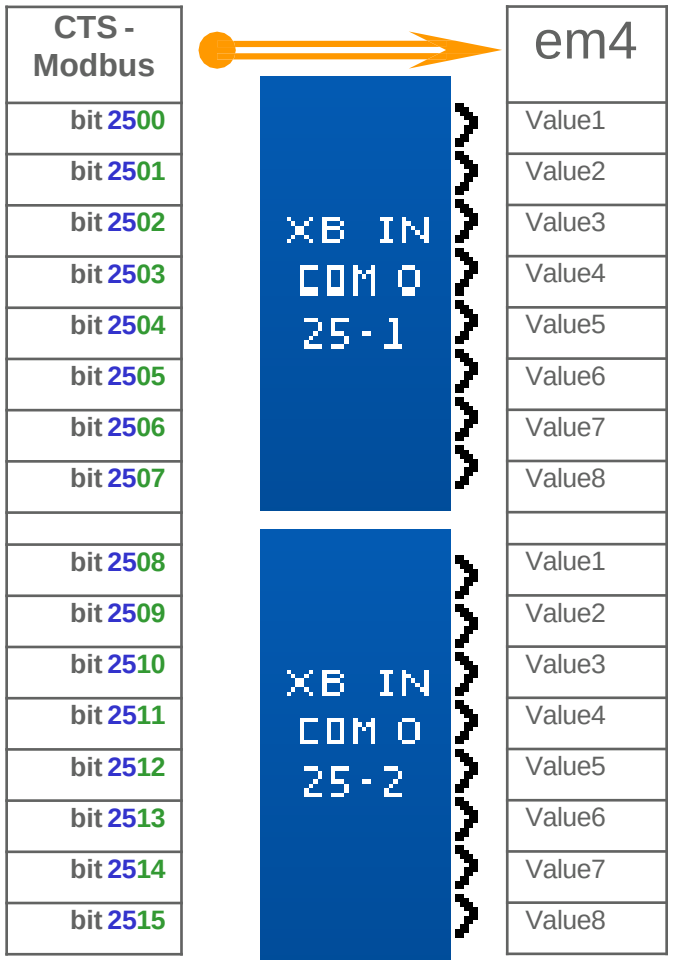


MODBUS RTU: CTS ⇔ EM4
BIT ADDRESSING EXAMPLE

Modbus RTU: CTS ⇔ em4 Bit Addressing Example

Crouzet Touch soft: write/read a bit to em4 via Modbus RTU

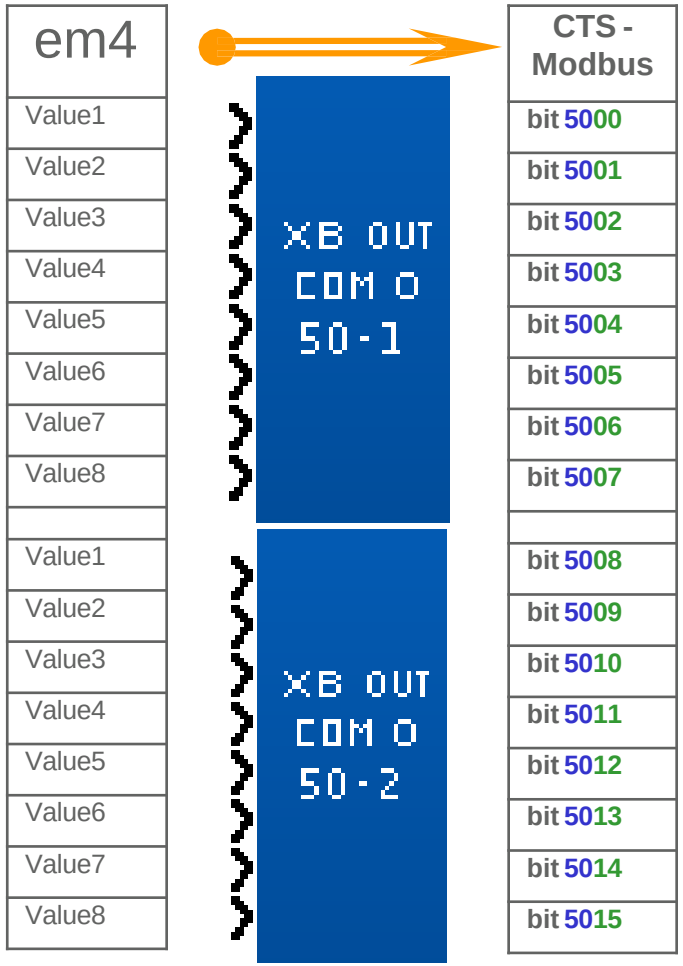
Modbus to em4



Modbus RTU: CTS ⇔ em4 Bit Addressing Example

Crouzet Touch soft: reading a bit from em4 via Modbus RTU

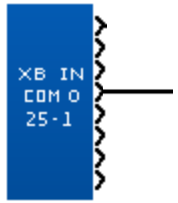
em4 to Modbus



Modbus RTU: CTS ⇔ em4 Bit Addressing Example

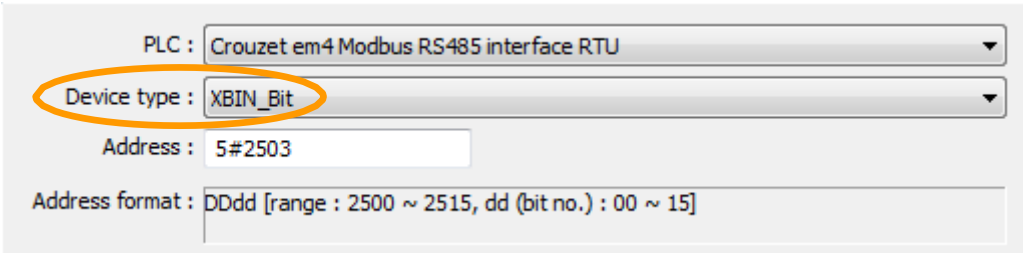
Writing a bit from the Crouzet Touch to em4 (slave n° 5)

⇒ em4: COM 0, XB IN 25-1 Value4



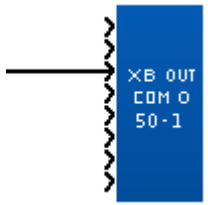
⇒ CTS: *Device type:* XBIN *Address:* 5#2503

Slave n°5, write address XB IN 25-1



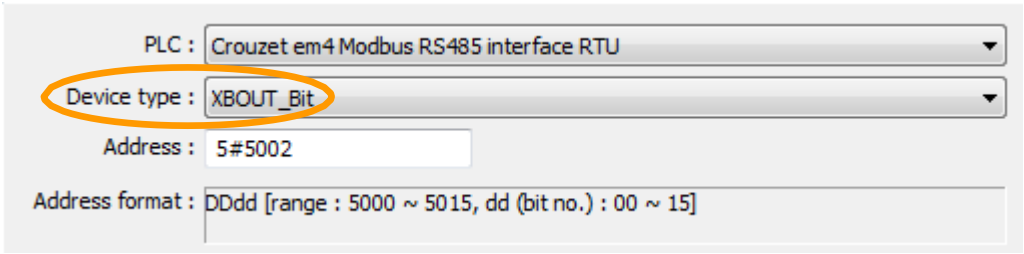
Reading a bit by the Crouzet Touch from em4 (slave n° 5)

⇒ em4: COM 0, XB OUT 50-1 Value3



⇒ CTS: *Device type:* XBOUT *Address:*

5#5000 Slave n°5, read address XB OUT 50-1



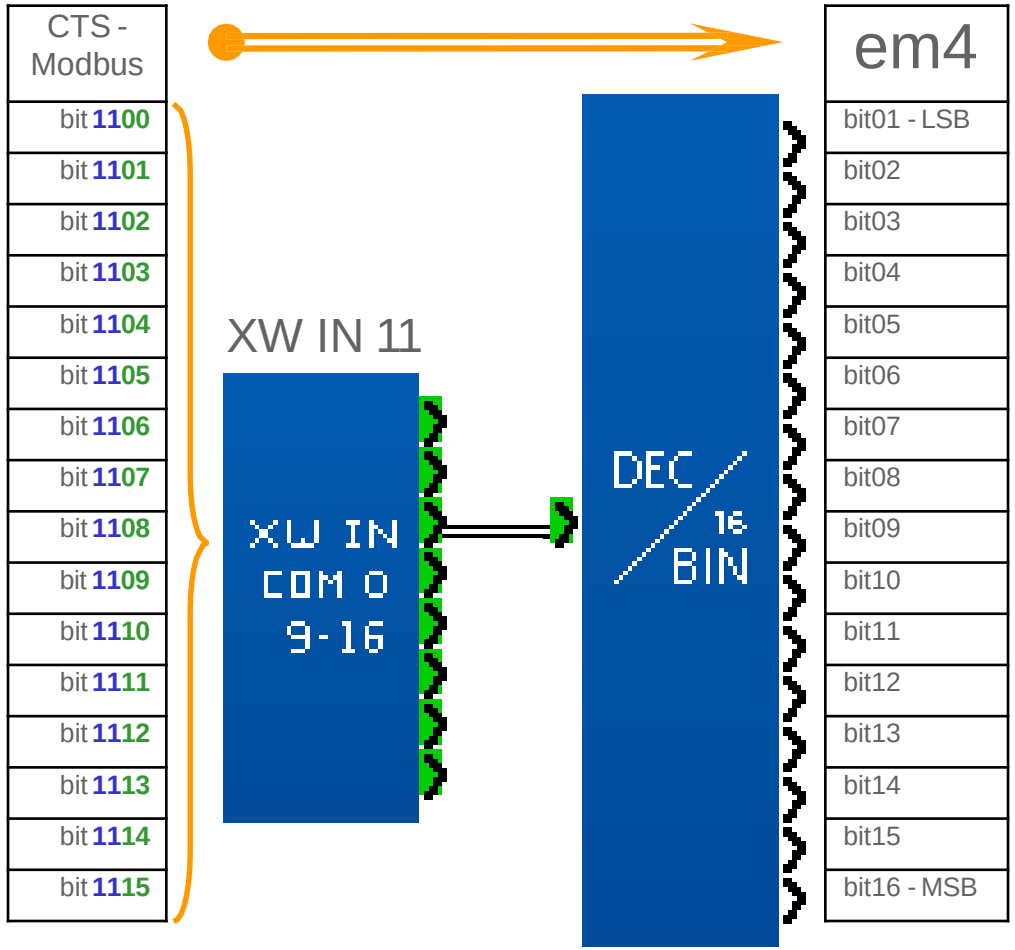
MODBUS RTU: CTS ⇔ EM4
BIT ADDRESSING EXAMPLE USING BIN/DEC CONVERTER FB'S

Modbus RTU: CTS ⇔ em4 Bit Addressing via Converter

Crouzet Touch Soft: writing/reading a bit to em4 via Modbus RTU

Using DEC/BIN converter option

Modbus to em4

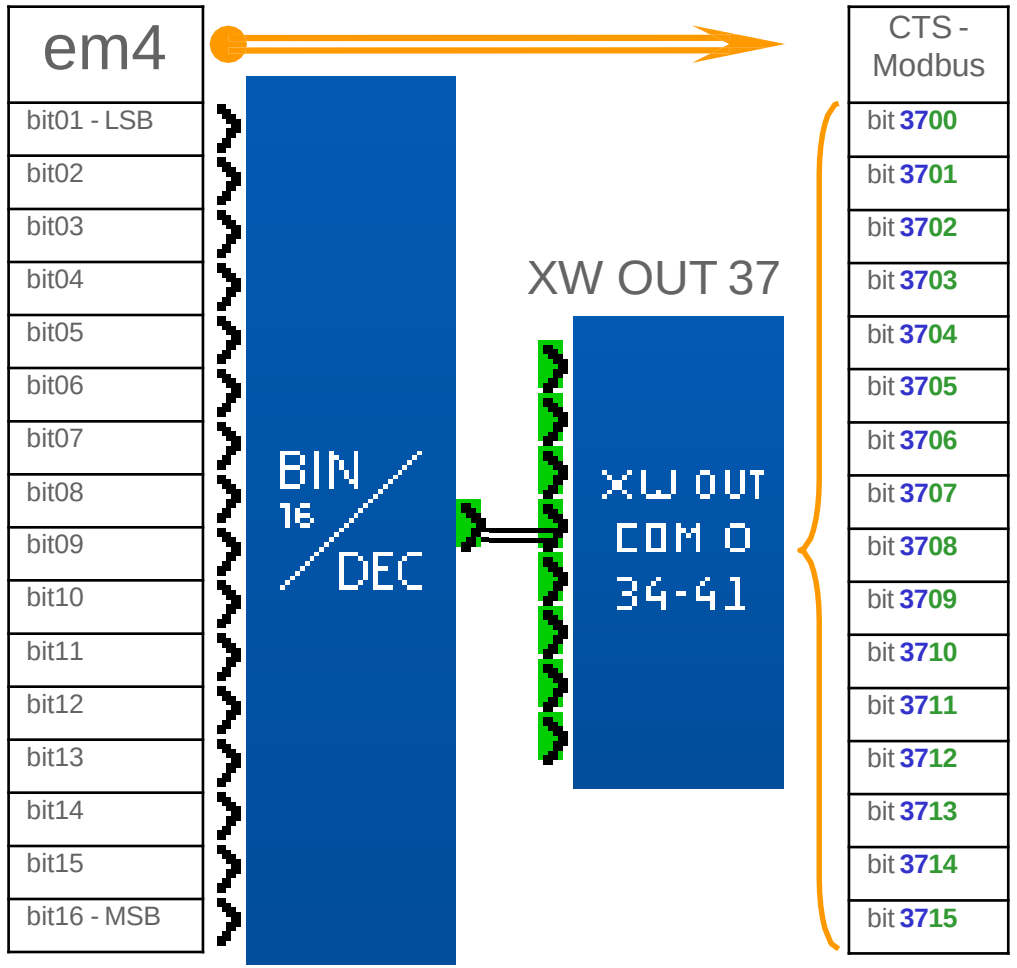


Modbus RTU: CTS ⇔ em4 Bit Addressing via Converter

Crouzet Touch Soft: reading a bit from em4 via Modbus RTU

Using BIN/DEC converter option

em4 to Modbus



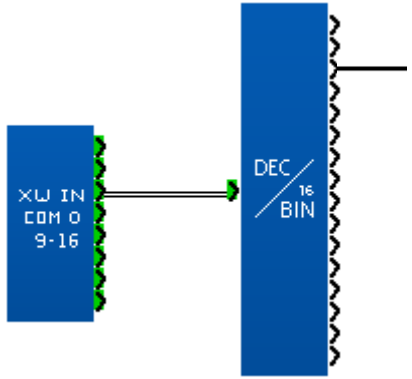
Modbus RTU: CTS ⇔ em4 Bit Addressing via Converter

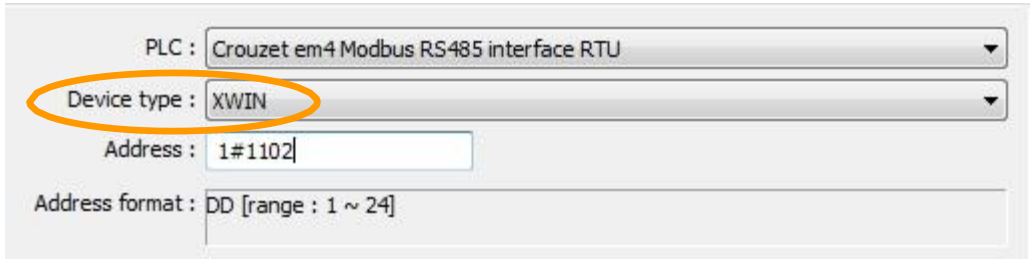
Example of how to address a bit
using DEC/BIN and BIN/DEC converters

Writing a bit from the Crouzet Touch to em4 (slave n° 1)

⇒ em4: COM 0, XW IN 11, bit 03

⇒ CTS: Device type : *XWIN, address: 1#1102*

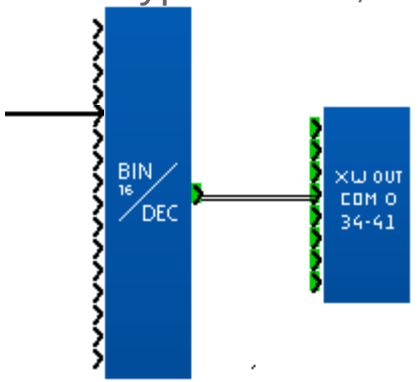


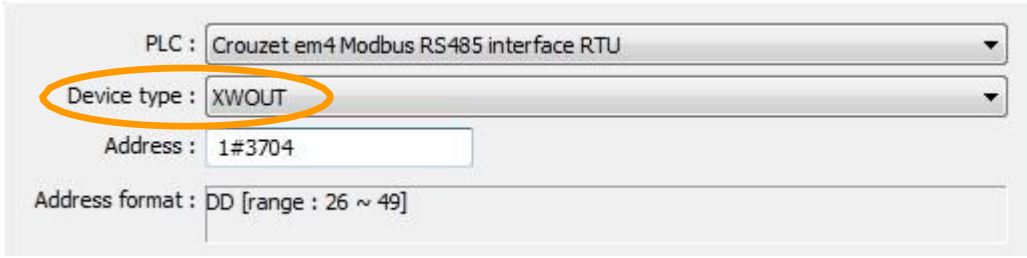


Reading an em4 bit (slave n° 1) by the Crouzet Touch

⇒ em4: COM 0, XW OUT 37, bit 05

⇒ CTS: Device type : XWIN, address :*1#3704*





21/11/16

CROUZET TOUCH & MILLENIUM3 SLIN / SLOUT ADDRESSING

CROUZET TOUCH TUTORIAL

CROUZET AUTOMATION

A BRAND OF INNOVISTA SENSORS

SUMMARY

- Terminology
- The SLIn / SLOut Functions
- The SLIn / SLOut to Crouzet Touch addresses
- Word addressing example
- Bit addressing example

TERMINOLOGY

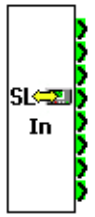
Terminology

- M3 → Millenium 3
- Crouzet Touch → Touchscreen of the Crouzet Automation nano-PLC range
- CTS = Crouzet Touch Soft → Programming software of the Crouzet Touch range
- SL_IN → Word address in CTS related to an SLIn function block
- SL_INS → Word address in CTS related to an SLIn S function block
- SL_OUT → Word address in CTS related to an SLOut function block
- SLI_Bit → Bit address in CTS related to an SLIn function block
- SLO_Bit → Bit address in CTS related to an SLOut function block

THE SLIN, SLINS & SLOUT FUNCTIONS

SLIn / SLOut Functions

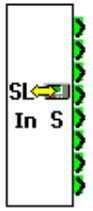
- SLIn = Serial Link In →



Function block that allows M3 to read 8 words by using the M3 programming port.

3 blocks with 8 words each can be used (addresses 1-8, 9-16, 17-24)

- SLIn S →

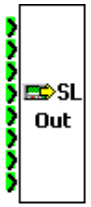


Same as SLIn, but saves values at power failure.

We recommend to use this function in connection with the Crouzet Touch screens.

(DO NOT MIX SLIn S *and* SLIn in a program)

- SLOut = Serial Link Out →



Function block that allows M3 to write 8 words by using the M3 programming port.

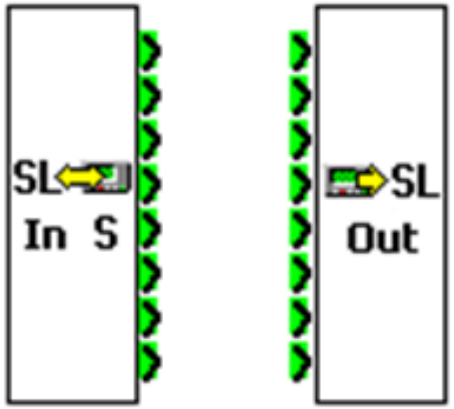
3 blocks with 8 words each can be used (addresses 25-32, 33-40, 41-48)

SLIN / SLOUT TO CROUZET TOUCH ADDRESSES

SLIn/SLOut ⇔ Crouzet Touch Addresses

Words are used for the word and bit data exchange between the Crouzet Touch screens and M3

Crouzet Touch ⇒ M3



M3 ⇒ Crouzet Touch

Word address range:

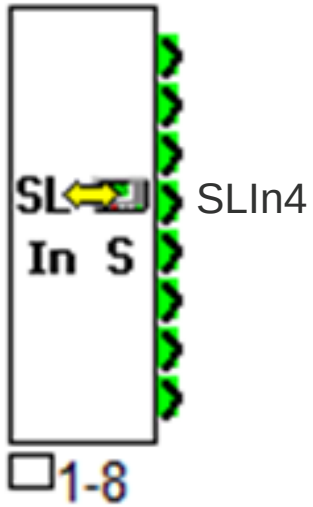
Millenium 3: SLIn 1 – 24 ⇒ CTS: SL_IN 1 - 24

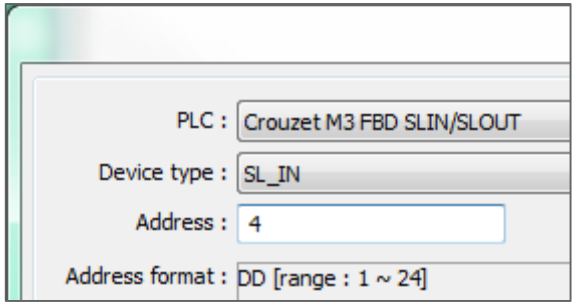
Millenium 3: SLOut 25 – 48 ⇒ CTS: SL_OUT 25 - 48

WORD ADDRESSING EXAMPLE

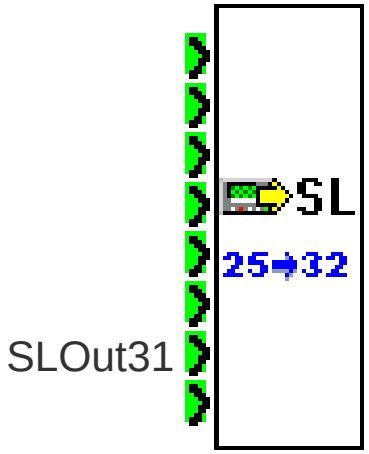
Word Addressing Example

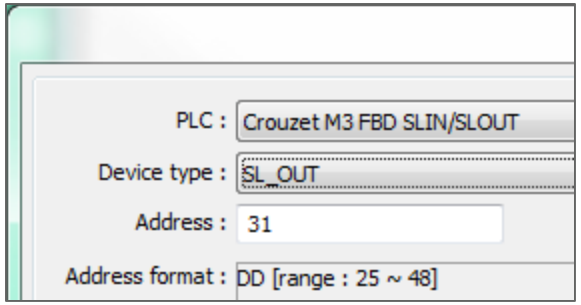
M3: SLIn4 ⇒ CTS: SL_IN4





M3: SLOut31 ⇒ CTS: SL_OUT31

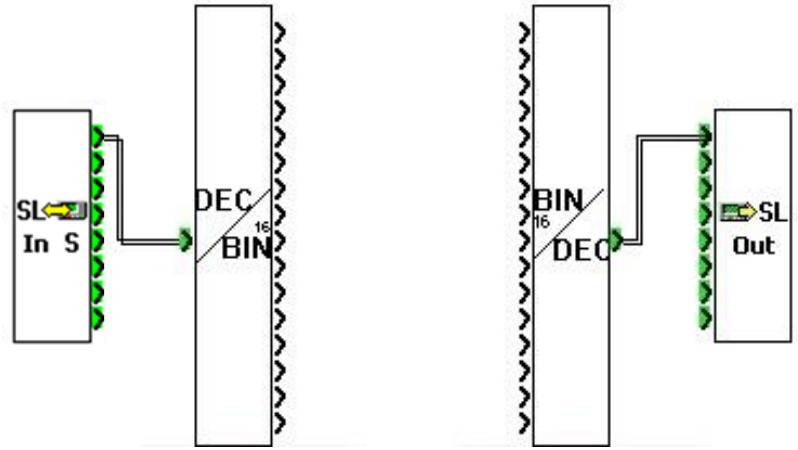




BIT ADDRESSING EXAMPLE

SLIn/SLOut Bit Addressing

Addressing bits in M3 is done with these function blocks:



How to address a bit in CTS:

The bit addresses (SLO_Bit or SLI_Bit) are described like this: N°word + N°bit in Hexadecimal (0 to f)

Example: To work with bit 15 on SLOut12, it will be noted as SLO_Bit 12e.

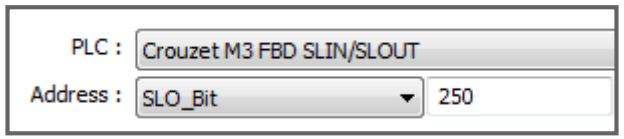
The address area ranges from 1 to 48 and is defined as follows:

Bit SLIn 1.1 – 24.16 of M3

⇒ SLI_Bit 10 to 24f in the CTS

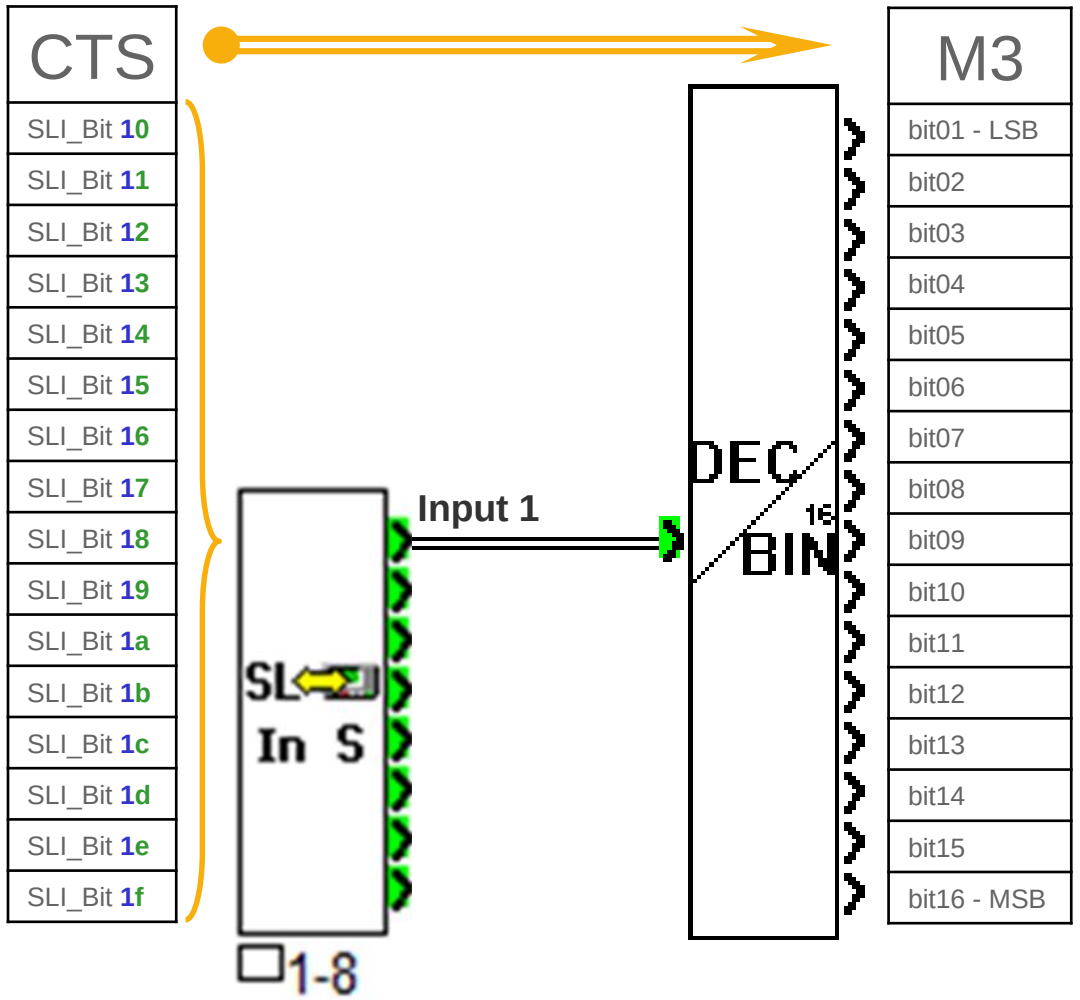
Bit SLOut 25.1 – 48.16 of M3

⇒ SLO_Bit 250 to 48f in the CTS



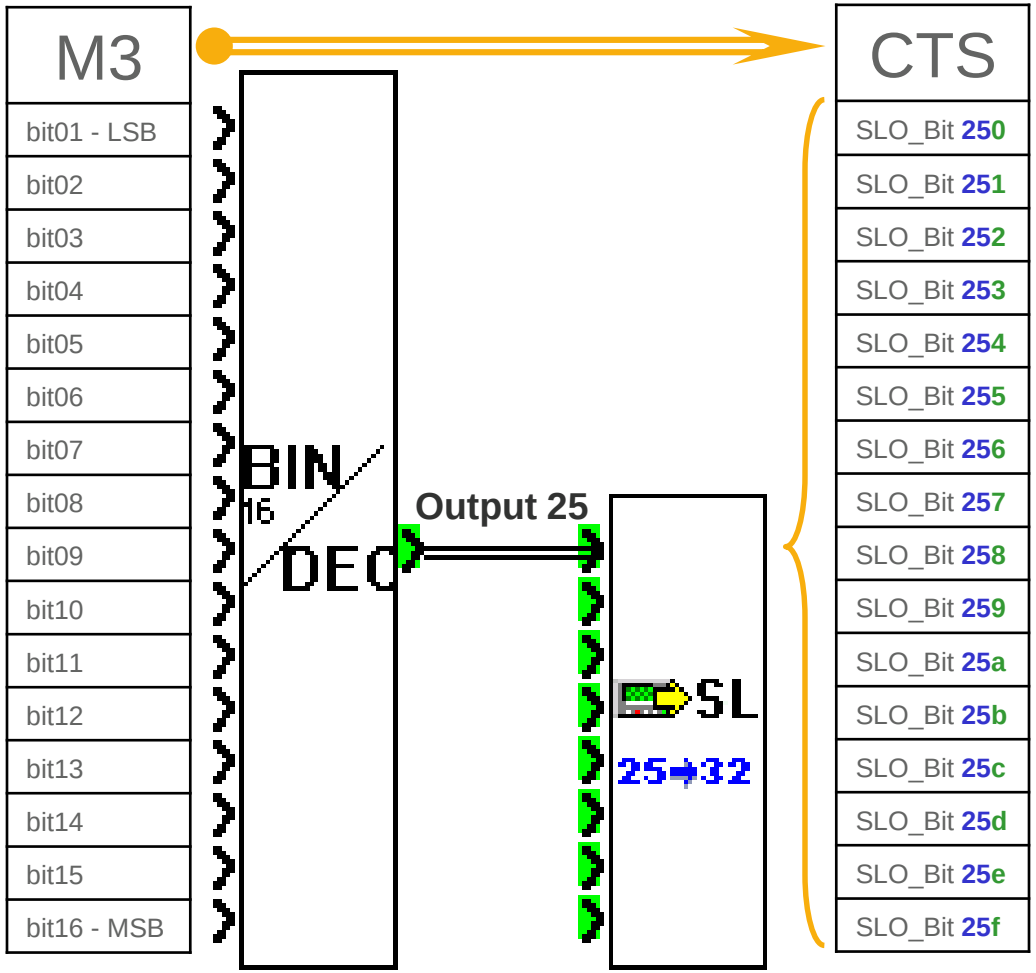
SLIn Bit Address Range

Addressing a bit – SLI_Bit



SLOut Bit Address Range

Addressing a bit – SLO_Bit



THANK YOU
FOR YOUR ATTENTION

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