CROUZET TOUCH QUICK START









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





CROUZET TOUCH SOFTWARE INSTALLATION



Installing Crouzet Touch software





Installing Crouzet Touch software





Installing Crouzet Touch software





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 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 of the Crouzet Touch for CTP104-E and CTP107-E*



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



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



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



• Setting the IP address on a PC under Windows 7



Click start, then Control Panel



• 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 a PC under Windows 7





• 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 a PC under Windows 7



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



• Setting the IP address on a PC under Windows 7

ternet Protocol Version 4 (TCP/I	Pv4) Properties	x
General Alternate Configuration		
You can get IP settings assigned this capability. Otherwise, you ne for the appropriate IP settings.	automatically if your network supports eed to ask your network administrator	5
Obtain an IP address autor	Internet Protocol Version 4 (TCP	/IPv4) Properties
O Use the following IP addres		
IP address:	General	
Sybnet mask:	You can get IP settings assigned	d automatically if your network supports
_ Default gateway:	this capability. Otherwise, you for the appropriate IP settings.	need to ask your network administrator
Obtain DNS server address	Obtain an IP address auto	matically
Use the following DNS serv	 Use the following IP addre 	ss:
Preferred DNS server:	IP address:	192 . 168 . 100 . 10
<u>A</u> lternate DNS server:	Subnet mask:	255.255.255.0
Validate settings upon evi	Default gateway:	192 . 168 . 100 . 0
	 Obtain DNS server address 	s automatically
	Ose the following DNS served	ver addresses:
	Preferred DNS server:	· · ·
	Alternate DNS server:	
	Validate settings upon exi	t Advanced
		OK Cancel

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



- 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



• 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







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





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*





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

Then click Open

Organizz	a 🔻 Nuova cartella					 1
☆ Â	Nome	^	Ultima modifica	Тіро	Dimensione	
	🚭 CT104_example		03/11/2016 10:40	Ctouch Soft	198 KB	
	CT104_example_1		03/11/2016 14:27	Ctouch Soft	198 KB	
9	CT104_example_2	2	03/11/2016 14:27	Ctouch Soft	198 KB	
4	😪 CT107_example		03/11/2016 09:15	Ctouch Soft	198 KB	
=	CTP104_example		03/11/2016 09:13	Ctouch Soft	198 KB	
7	CTP107_example		03/11/2016 09:12	Ctouch Soft	198 KB	
5	😋 CTP110 demo		02/11/2016 11:57	Ctouch Soft	34.739 KB	
	CTP110_example		03/11/2016 14:32	Ctouch Soft	198 KB	
	CTP110_example_	_tags	02/11/2016 16:39	Ctouch Soft	198 KB	
<u>^</u>						
-						



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

Ctouch Soft. : CTP110_example - [10 - WINDOW_010]	There be all all all all all all all all all al
Eile Edit View Option Draw Objects IIoT Library	ry <u>T</u> ools <u>W</u> indow <u>H</u> elp
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Windows 👻 🗙	4 10 - WINDOW_010 ×
Window preview	
0003	
Fast Selection	Start
0004	
	Timer Output
0005	
PLC Response	
0006	##### sec ##### sec
HMI Connection	Setpoint Actual Time
0007	
Password Restriction	







Download by USB

woload Password : Settings... @ USB cable Runtime Font files * Necessary if update runtime or execute download first time Use user-defined startup screen Use system settings file emt3000 series\CROUZET_EM4_RT downloading C:\Progra scan font : finished reboot HMI ... reboot HMI : finished Delete user-defined startup scree Reset recipe Reset event log Reset data sampling USB cable Password : Settings... Reboot HMI after downloa Automatically using current settings to download after compiling Download Stop Ext Runtime Font files " Necessary if update runtime or execute download first time Use user-defined startup screen Use system settings file Delete user-defined startup screen Reset recipe Reset event log Reset data sampling Reboot HMI after download C Automatically using current settings to download after compling Download Exit Click on Download button, at the end of the download click on Exit



Download by Ethernet

Crouzet Automation - Crouzet Touch Quickstart

CROUZET

AUTOMATION



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



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	
nfiguring controller commur	nication	_	×
MODBUS		_	
RS485 MODBUS interface	•		
Slave number	1 💌		
Transmission speed	19200 Bauds (bps)		
Stop bits	C 2 bits		
Parity . Even C Oc	id C None		or
Transmission mode	C ASCII		Cancel


CREATING AN CROUZET TOUCH APPLICATION CROUZET TOUCH TUTORIAL









Part 1

System Parameter Settings



Creating a Project





Creating a Project

Ctouch Soft. (Copyright c 2006 Weintek Lab., Inc.)
Welcome to Ctouch Soft. Please select your model.
Model : CTP107-E (7" Ethernet)
Display mode : Landscape
Use template (template_CTP107E_800x480.emtp)
OK Cancel
Ctouch Soft. (Copyright c 2006 Weintek Lab., Inc.)
Welcome to Ctouch Soft. Please select your model.
Model : CTP107-E (7" Ethernet)
Display mode : CT104 (4.3") CT107 (7") CTD104 E (4.3" Ethernet)
CTP107-E (7." Ethernet) CTP107-E (7." Ethernet)
OK Cancel

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

Ctouch Soft.	×
 New Open Existing Project 	
◎ Open Recent Project	
C:\Program Files (x86)\Crouzet automation\Ctouch\project\mt_iE_demo_800x480.emtp	
Uncompress OK Cancel	

In the window that opens you can select to

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



ystem Parameter Setti	ngs						×
Printer/Backup Serv	er Time Synd	./DST	e-Mail	Reci	pes	Cellula	r Data Network
Device Model	General Syst	tem Setting	Security	Non-	ASCII Fo	onts E	xtended Memory
Device list :						What's	my IP ?
No.	Name	Location	Device type	pe	Interfa	се	I/F Protocol
Local HMI	Local HMI	Local	CTP107-E	E (7"	-		-
4							Þ
Project description :							*
+							Þ
SCADA software can in first and enable (MODE	ndirectly access PLC of BUS TCP/IP Gateway]	data via MODB	Address Mapp	bing Table	e	id a MODBU	JS TCP/IP Server
			ок	Annul	er		Aide

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



Name : Crouzet em4 Ethernet Modbus TCP/IP HMI PLC Location : Local Settings * Select Local for a PLC connected to this HMI, or Remote for a PLC connected through another HMI. PLC type : Crouzet em4 Ethemet Modbus TCP/IP V.1.00, CROUZET_EM4_TCPIP.e30 I/F : Ethernet	 Clicking on <i>PLC type</i> opens the device selection list If the device is directly connected to the HMI set <i>Local</i>, if it is connected through another HMI set <i>Remote</i>
* Support off-line simulation on HMI (use LB-12358)	Barcode Scanner/Keyboard (USB/COM) Crouzet Automation Free Protocol em4 Ethernet Modbus TCP/IP em4 Modbus RS485 interface RTU
IP : 192.168.1.100, Port=502 Settings	MODBUS IDA M3 FBD SLIN/SLOUT
Use UDP (User Datagram Protocol)	M3 XN05 TCP/IP
PLC default station no. : 1 Default station no. use station no. variable Use broadcast command How to designate the station no. in object's address ? Interval of block pack (words) : 32 Max. read-command size (words) : 120 Max. write-command size (words) : 120	M3 XN06 RTU



Name : Crouzet em4 Ethernet Modbus TCP/IP HMI PLC Location : Local Settings * Select Local for a PLC connected to this HMI, or Remote for a PLC connected through another HMI.		After the <i>PLC type</i> has been selected click <i>OK</i>
PLC type : Crouzet em4 Ethemet Modbus TCP/IP V.1.00, CROUZET_EM4_TCPIP.e30 I/F : Ethernet ◆ Open PLC Connection Guide * Support off-line simulation on HMI (use LB-12358)		
IP : 192.168.1.100, Port=502 Settings Use UDP (User Datagram Protocol)	}	Use the COM Settings to set up em4 IP Address
PLC default station no. : 1 Default station no. use station no. variable Use broadcast command <u>How to designate the station no. in object's address ?</u>		
Interval of block pack (words) : 32 Max. read-command size (words) : 120 Max. write-command size (words) : 120 OK Cancel		



System Parameter Settin	gs							
Printer/Backup Serve	r Time Sync.,	DST	e-Mail	Recip	bes	Cell	ular Data Network	
Device Model	General Syste	m Setting	Security	Non-/	ASCII Fo	onts	Extended Memory	
Device list :						Wha	at's my IP ?	
No.	Name	Location	Device typ	be	Interfa	ce	I/F Protocol	
Local HMI	Local HMI l	Locar	CTP107-E	(7"	-		-	
Local PLC 4	Crouzet em4 Et I	Local	Chouzet er	m4 Et	Ethern	et (IP=	1 TCP/IP	
•							4	
New	Delete	Setting	gs	Impor	t Tags	•		
New Delete Settings Import Tags Project description :								
	нмі		SCADA	Annule	er _	2	Aide	

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

Davia	JOCKUD DEL	Tim	e Sync./DST	e-Mail	Re	cipes	Cellular I	Data Network
Device	Model	eneral	System Set	ting Securi	ty Nor	n-ASCII For	nts Ext	tended Memor
	HMI model :	CTP 107-E	(7" Ethernet)					•
H	MI station no :	0	•					
	Port no. :	8000						
Timer								
	Clock source :	External d	evice	•				
PLC	Crouzet en	n4 Ethernet I	Modbus TCP/IF	>	▼ Sett	tings		
Address	CLOCK		▼ 55		16-bit	Unsigned		
Printer								
	Type :	None			•	1		
Scroll bar								
Scroll bar	C. Houle							
Scroll bar)efault Style	▼						
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Scroll bar)efault Style Width	▼ I (Middle	Large				
Scroll bar)efault Style Width	▼ I ()M port)	Middle) Large				Þ

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

Windows	▼ X
Object list	-
····· 3 : Fast Selection	*
- 4 : Common Window	
- 5 : PLC Response	
6 : HMI Connection	
- 7 : Password Restriction	
9 : Backup	
*10 : WINDOW_010	

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



Part 3

Creating an Object

Crouzet Touch - Creating an application Nov 2016

14



Ctouch Soft. : EMTP1 - [10 - WINDOW]	_010]	
Eile <u>E</u> dit ⊻iew Option Draw	Objects IIoT Library Tools Window Help	
D 🚅 🖬 X 🖻 🖻 🗅 🗠 🗿	Lamp	🕨 🤤 Bit Lamp 🔓
🗛 д 🕮 🔠 🛍 🛱 📾 🗣 🤅	Button	+ = trord comp
N 8 × 8 × 6 0 0 0	3 SEE Numeric	
Windows	ASCII	
Ohiert list	Parcede Scapper (Camera of Android Daviser)	0 - WINDOW_010 X
	Barcode Scanner (camera of Android Devices)	e e e e e e
4 : Common Window	Window	►a zona zona zo
+ *5 : PLC Response	Moving Shape	$\mathbf{e}_{i} = \mathbf{e}_{i} - \mathbf{e}_{i} = \mathbf{e}_{i} - \mathbf{e}_{i} = \mathbf{e}_{i}$
6 : HMI Connection		$M_{ij} = M_{ij} = M$
7 : Password Restriction		$\mathbf{r}_{i} = \mathbf{r}_{i} + \mathbf{r}_{i} = \mathbf{r}_{i} + \mathbf{r}_{i} = \mathbf{r}_{i}$
8 : Storage Space Insufficient	Flow Block	an an an an an an
*9 : Backup	Dynamic Drawing	 (a) (a) (b) (b)
	Date/Time	10 IS 10 IS 10 IS
- 11	Media Player	e estas estas es
12	Video In (USP Camara)	2 5 W 5 W 5
	Car video In (USB Camera)	e esta esta esta
	📶 Bar Graph	a sha sha sh
15	(1) Meter Display	e se a se a se
17	Pie Chart	a sha sha sh
	Dynamic Scale	e estas estas estas
- 19	Data Black Display	
		e se a se a se
21	XY Plot	1 10 10 10 10 10
22	Recipe View	a an an an an an
	Data Logging	 a and a set as
- 23	Alarm	 a a a a a
20	* → Data Transfer (Trigger-based)	a a a a a a
28	Backup	
29	C Timer	
- 31	File Operation	•
32	I DIG Control	
33	ERE PLC Control	
	Data Transfer	
35	System Message	
36	Scheduler	
- 3/	Operation Log	•
CTP107-E (7" Ethernet)	Database Server	

Step 1

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



ĺ	New Bit Lamp/Toggle Switch Object	9
9	General Security Shape Label	
	Comment :	٦
	Bit Lamp Toggle Switch	t
	Read address	
	PLC : Crouzet em 4 Ethernet Modbus TCP/IP Settings	
	Address : XBOUT_Bit v 1015	
	Blinking Model : None Hide picture/shape if no corresponding picture for current state OK Annuler Appliquer Aide	

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*



3		
PLC : Device type : Address :	Crouzet em4 Ethernet Modbus TCP/IP XBOUT_Bit 1016	
Address format :	DDdd [range : 1000 ~ 1031, dd (bit no.) : 00 ~ 31]	•
Tag Library	OK Cancel	

- 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



/ Bit Lamp/T	oggle Switch Object					×
ene al Secu	ity Shape Label					
Interlock						
Use int	erlock function					-
Hide wh	nen disabled					
Grayed	label when disabled	Contraction of the second	la when Pit is	OFF		
Enable	WHEN DILIS ON	U Eriad	ie when bit is	OFF		
n c l					1	-
PLC:	Local HMI				Settings	
Address ;	LB	• 0				
Jser restrictio	n					
Object da	ass : None				•	•]
	ОК	Ar	nuler	Appliquer	Aide	

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.



lew Bit Lamp,	/Toggle Swit	ch Object			×	
General Se	culity Shape	Lab I				
			State : Picture :			
0 1 Picture						
Ficture		Picture Library		Use picture		
	Set to o	riginal dimensions				
Shape		Shape Library		Use shape		
	✓ Inner✓ Frame		\▼			
		Duplicate these at	tributes to eve	ery state		
	<u></u>					
		ОК	Annuler	Appliquer	Aide	

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



Use label	rary			Lab	el Library		
ON = OFF (els to bitmap (use state 0)) images <mark>(</mark> Use	bitmap font)				
Stat Attribute For Cole Alig Movement Directic	e : 0 nt : Arial or : Center Italic Duplica Ev	te these attrib ery state ement	O O O	Size : 18 Blink : No	3 one	•	
Iontent		V Preview	with actual fr	ont size	to every st	ate	

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.



Bit Edit Vew Option Draw Objects Hot Library Tools Window Help Image: State Processing State Procesi	Ctouch Soft. : EMTP1 - [10 - WINDOW_	010]		
Image: Section 3: Fast Selection 3: Storage Space Insufficient 9: Storage S	: ⓒ <u>F</u> ile <u>E</u> dit <u>V</u> iew <u>O</u> ption <u>D</u> raw	Objects IIoT Library Tools Window H	Help	
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3: Fast Selection Address type Bit Address 4: Common Window Station no. Default 5: PLC Response Device type Device type Address 00000 00000 9: Both 01 2 3 4 5 6 7 8 9 00000 10: WINDOW 010 00000 00000 00000 11 00000 00000 00000 12 3 4 5 6 7 8 9 00000 00000 00000 11 00000 00000 00000 00000 12 3 4 5 6 7 8 9 00000 00000 00000 13 00000 00000 00000 00000 14 00000 00000 00000 00000 14 00000 00000 00000 00000 15 00000 00000 00000 00000 16 00000 00000 00000 00000 17 00000 00000 00000 00000 18 00100 00000 00000 00000 19 00100 00000 00000 00000	Windows 👻 🗙	Address 🔹 >	× 4 10-WINDOW_010 x	
3: Fast Selection PLC name Local HMI 4: Common Window Device type Device type 5: PLC Response 0 Device type 6: HMI Connection Device type Address 7: Password Restriction 0 1 2 3 9: Both 0 0 0 0 10: WINDOW 010 00000 0 0 0 00000 0 0 0 0 11 Ix 00000 0 0 0 12 00000 0 0 0 0 13 00000 0 0 0 0 14 00000 0 0 0 0 16 00000 0 0 0 0 18 00100 0 0 0 0 0 19 00100 0 0 0 0 0 0 22 0140 0 0 0 0 0 0 0 13 0 0 </td <td>Object list -</td> <td>Address type Bit Address 🔻</td> <td></td> <td></td>	Object list -	Address type Bit Address 🔻		
4 : Common Window 5 : PLC Response 6 : HMI Connection Device type 7 : Parsword Restriction Baderse 8 : Storage Space Insufficient 00000 9 : Pol 00000 10 : WINDOW (010 00000 00000 0000 11 : WINDOW (010 00000 00000 0000 12 : 3 : 4 : 5 : 6 : 7 : 8 : 9 00000 0000 13 : 00000 0000 00000 0000 14 : 00000 0000 15 : 00000 0000 16 : 00000 0000 19 : 0010 0000 19 : 0010 0000 10 : 0010 0000 11 : 0010 0000 12 : 0010 0000 13 : 00100 0000 14 : 00100 0000 15 : 00100 0000 19 : 00110 0000 10 : 00100 0000 12 : 00130 0000 13 : 00100 0000 14 : 00100 0000		PLC name I I ID IT	<mark></mark>	$0 = 2\pi - 0$
5: PLC Response 6: HMI Connection Default 7: Password Restriction Address 00000 8: Storage Space Insufficient 0 1 2 3 4 5 7 8 9 10 0.1 2 3 4 5 7 8 9 1 11 0.0 0.0000 0	4 : Common Window	Local Hivii	💐 - na	20 - 20 - 20 - 20 - 20 - 20 - 20 - 20 -
0: HM Connection Device type LB 7: Password Restriction Address 00000 8: Storage Space Insufficient 0 1 2 3 4 5 6 7 8 9 0 10: WINDOW 010 00000 0<	5 · PLC Response	Station no. Default	💌 🛛 ka ka k <u>a ka ka</u> ka	1. St. 1.
7: Password Restriction Address 0000 8: Storage Space Insufficient 0 1 2 3 4 5 6 7 8 9 10: WINDOW_010 00000 <	6 : HMI Connection	Device type	BL O (LB-M	a = z + a = z
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19 00100 0 <td>18</td> <td>00090</td> <td></td> <td>4. 5. 6.</td>	18	00090		4. 5. 6.
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- 22 - 23 - 23 - 23	21			14
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	23	00150		10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -
	24		a second s	$\mathbf{x}_{i} = \mathbf{x}_{i} - \mathbf{x}_{i}$

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



Ctouch Soft. : EMTP1 - [10 - WINDOW	010			
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4 : Common Window		Window	•	
5 : PLC Response		Moving Shape		
6 : HMI Connection	2	Animation		
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BL_0 (LB-0) (Bottom Layer)	2	Media Player		
12	唐	Video In (USB Camera)		
13	10-			
14		Bar Graph		
- 15	\odot	Meter Display		
16	8	Pie Chart		
17	0	Dynamic Scale		
18		Data Block Display		
19	1A.	XY Plot		
- 20		Recipe View		
22				
23		Data Logging	•	
		Alarm	Į.	
25				
26	Ì	Data Transfer (Trigger-based)		
27	83	Backup		
28	1	Timer		
29			3	
		File Operation	- Pi	
- 51	Ð	PLC Control		
33	3.	Data Transfer		
34	4	System Message		
	100	System message		

Step 1

• Open *Objects* and click on *Numeric*



New Numeric Object	Step 2
Description :	This opens the window that allows to set the object parameters
Read address	Tick <i>Allow input</i> to set the Numeric Object as Read and Write
PLC : Crouzet em4 Ethernet Modbus TCP/IP	In the <i>General</i> tab set the <i>PLC name</i> and <i>Address</i> from which the variable can be read or write
Notification on invalid input Enable OK Annuler Appliquer Aide	



Gentral Format Security Shape Font Data Entry	Step 3
Display Data format : 16-bit Signed Mask Number of digits Left of decimal Pt. : 4 Right of decimal Pt. : 0	In the Format tab set the Data format to 16-bit Signed
Display format	Set the <i>Number of digits</i> to the value range to be displayed
Scaling Method : None	Select and define the Scaling option if needed
Limits	Tick Use alarm color to highlight values that are above or below the Limits. The limitations set in Limits do not restrict the display
Direct Dynamic limits PLC low : 0 Input low : 0 Input low : 0 Input high : 9999	of the value
Use alarm color Low limit : Blink High limit : Blink OK Annuler Appliquer Aide	



General Format Security	Shape Font D ta Ent	ту	
Attribute Font : Arial Color : Arial Align : Center		Size : 18	
Content	Preview with actual	font size	

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

New Set Bit Object	The main differences to others object are:
Write address PLC : Crouzet em4 Ethernet Modbus TCP/IP Address : XBIN_Bit I 000 Write after button is released	1. The Attribute options
Attribute Set style : Set ON Set OFF Toggle Macro Momentary Periodic toggle Set ON when window opens Set OFF when window closes Set OFF when window closes Set OFF when baddight on Set OFF when baddight off Set OFF when baddight off Set OFF when baddight off	
OK Annuler Aide	



Creating a Button Object

New Set Bit Object		×	
Genetal Security Shape Label			
Safety control			
	Min. press time (sec) : 0		
Display confirmation request	Max. waiting time (sec): 10		
Interlock			
Use interlock function			
🕼 Hide when disabled 🛛 🤸			
Grayed label when disabled			
Enable when Bit is ON	Enable when Bit is OFF		
PLC : Crouzet em4 Ethernet Mo	dbus TCP/IP Settings.		
Address : XBIN_Bit	▼ 1001		
User restriction			
Object dass : None		_	
Sound			
Enable Sound Library	Sound Index : Default		
Play			
ОК	Annuler	Aide	

- 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).



EM4 MODBUS ADDRESSING

CROUZET TOUCH TUTORIAL









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 \rightarrow em4 Modbus Slave communication interface
- Crouzet Touch \rightarrow Touchscreen of the Crouzet Automation nano-PLC range
- CTS = Crouzet Touch Soft \rightarrow 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 \Rightarrow Word input from network, 8 inputs each, can be used 3 times, allows to enter 24 words into an em4 program.

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

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

 $XB \ OUT \Rightarrow$ 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





Crouzet Touch Soft- Defining the Modbus RTU Network



Crouzet Touch - em4 Modbus Addressing Nov. 2016



Crouzet Touch Soft- Defining the Modbus RTU Network

Name : Crouzet em4 Modbus RS485 interface RTU O HMI O HMI Elocation : Local Settings	 Click Settings to define the communication parameters (Speed, Parity,)
* Select Local for a PLC connected to this HMI, or Remote for a PLC connected through another HMI.	Confirm with OK
PLC type : Crouzet em4 Modbus RS485 interface RTU → V.1.00, CROUZET_EM4_RTU.e30 I/F : RS-485 2W → Open PLC Connection Guide * Support off-line simulation on HMI (use LB-12358) * Support communications between HMI and PLC in pass-through mode	These parameters have to be <i>identical</i> in the Crouzet Touch (Master) and the em4 Modbus (Slave) settings!
* Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode COM : COM1 (9600,E,8,1) Settings	COM Port Settings
PLC default station no. : 1 Default station no. use station no. variable Use broadcast command How to designate the station no. in object's address ?	Baud rate : 9600 Turn around delay (ms) : 0 I ata bits : 8 Bits Parity : Even Stop bits : 1 Bit
Interval of block pack (words) : 5 Max. read-command size (words) : 120 Max. write-command size (words) : 120 OK Cancel	The number of resending commands : 0 • * 76800 baud rate requires OS version 20160824 or later. OK Cancel



MODBUS RTU: CTS ⇔ EM4 WORD ADDRESSING EXAMPLE



Modbus RTU: CTS \Leftrightarrow em4 Word Addressing Example

Writing a value from Crouzet Touch to em4 (slave n° 5) \Rightarrow em4: COM 0, XW IN 2



⇒ CTS: Device type XWIN Address 5#2 Slave n°5, write address XW IN 2

WIN	
5#2	
	WIN 5#2

Reading a value by the Crouzet Touch from em4 (slave n° 5) \Rightarrow em4: COM 0, XW OUT 27



 \Rightarrow CTS: *Device type* XWOUT *Address* 5#27 Slave n°5, read address XW OUT 27

Device home .	VUICIT	
Device type :	XWOUT	
Address :	5#27	



MODBUS RTU: CTS ⇔ EM4 BIT ADDRESSING EXAMPLE



Modbus RTU: CTS \Leftrightarrow em4 Bit Addressing Example





Crouzet Touch soft: reading a bit from em4 via

em4 to Modbus





Modbus RTU: CTS \Leftrightarrow em4 Bit Addressing Example

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

 \Rightarrow em4: COM 0, XB IN 25-1 Value4



 \Rightarrow CTS: *Device type:* XBIN *Address:* 5#2503 Slave n°5, write address XB IN 25-1

PLC :	Crouzet em4 Modbus RS485 interface RTU 🔹
Device type :	XBIN_Bit
Address :	5#2503
Address format : DDdd [range : 2500 ~ 2515, dd (bit no.) : 00 ~ 15]	

Reading a bit by the Crouzet Touch from em4 (slave n° 5) \Rightarrow em4: COM 0, XB OUT 50-1 Value3



 \Rightarrow CTS: *Device type:* XBOUT *Address:* 5#5000 Slave n°5, read address XB OUT 50-1

PLC :	Crouzet em4 Modbus RS485	interface RTU 🔹
Device type :	XBOUT_Bit	▼
Address :	5#5002	
Address format : DDdd [range : 5000 ~ 5015, dd (bit no.) : 00 ~ 15]		



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



Crouzet Touch Soft: writing/reading a bit to em4 via Modbus RTU Using DEC/BIN converter option





Crouzet Touch Soft: reading a bit from em4 via Modbus RTU Using BIN/DEC converter option





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)

- \Rightarrow em4: COM 0, XW IN 11, bit 03
- \Rightarrow CTS: Device type : XWIN, address: 1#1102



PLC :	Crouzet em4 Modbus RS485 interface RTU	
Device type :	XWIN	
Address :	1#1102	
ddress format :	DD [range : 1 ~ 24]	

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

- \Rightarrow em4: COM 0, XW OUT 37, bit 05
- \Rightarrow CTS: Device type : XWIN, address : 1#3704



Device type :	xwout	
Address :	1#3704	

21/11/16

CROUZET TOUCH & MILLENIUM3 SLIN / SLOUT ADDRESSING CROUZET TOUCH TUTORIAL









SUMMARY

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



TERMINOLOGY



Terminology

- M3 \rightarrow Millenium 3
- Crouzet Touch \rightarrow Touchscreen of the Crouzet Automation nano-PLC range
- CTS = Crouzet Touch Soft \rightarrow Programming software of the Crouzet Touch range
- SL_IN \rightarrow 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 \rightarrow

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 →

SL🖘

In

- 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 \rightarrow
- 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



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

$Crouzet \ Touch \Rightarrow M3$



Word address range: Millenium 3: SLIn $1-24 \Rightarrow$ CTS: SL_IN 1-24Millenium 3: SLOut $25-48 \Rightarrow$ CTS: SL_OUT 25-48



WORD ADDRESSING EXAMPLE



M3: SLIn4 \Rightarrow CTS: SL_IN4



M3: SLOut31 \Rightarrow 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

 \Rightarrow SLI_Bit 10 to 24f in the CTS

Bit SLOut 25.1 – 48.16 of M3

 \Rightarrow SLO_Bit 250 to 48f in the CTS

PLC :	Crouzet M3 FBD SLIN/SLOUT
PLC :	Crouzet M3 FBD SLIN/SLOUT
Address :	SLO_Bit v 250



SLIn Bit Address Range

Addressing a bit – SLI_Bit





SLOut Bit Address Range

Addressing a bit – SLO_Bit



THANK YOU FOR YOUR ATTENTION



