### Micro and Lexium Magelis and Advantys System User Guide [source code]



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#### Introduction

This document is intended to provide a quick introduction to the described System. It is **not** intended to replace any specific product documentation. On the contrary, it offers additional information to the product documentation, for installing, configuring and starting up the system.

A detailed functional description or the specification for a specific user application is **not** part of this document. Nevertheless, the document outlines some typical applications where the system might be implemented.



### Abbreviations

Expression	Signification
PLC	Programmable Logic Computer
НМІ	Human Machine Interface
VVD	Variable Velocity Drive
PC	Personal Computer
AC	Alternating current
DC	Direct current
PS	Power supply
I/O	Input / Output
СВ	Circuit Breaker
ESTOP	Emergency Stop
Micro	The product name of a Schneider Electric PLC
PL7	The product name of a Schneider Electric PLC programming software
Phaseo	The product name of a Schneider Electric power supply
Magelis	The product name of a Schneider Electric HMI Device
Lexium/Lexium05	The product name of a Schneider Electric VVD
Advantys	The product name of a Schneider Electric I/O-Platform

### **Application Example - Source Code**

**Introduction** Examples of the source code used to attain the system function as described in this document can be downloaded from our "Village" website under <u>this</u> link.



### **Typical Applications**

**Introduction** Here you will find a list of the typical applications, and their market segments, where this system or subsystem can be applied:

Application	Description	Example
Packing machines	for the packaging industry, used for labelling, packing, filling and paletting of goods.	
Specialised Machines	For economical operation of special machines used in mounting, finishing, cutting etc. (e.g. food preparation, automatic assembly, woodworking)	
Conveyor System	For use in sorting systems e.g. "pick and place".	



### System

Introduction This chapter describes the system architecture, components, size and quantity of those components used in the system. Architecture The system consists of a PLC controlling two drive controllers each with a servomotor General and a decentralised I/O platform. Control of the drives is via a full graphics touch screen. The field bus is CANopen, the control panel is connected via Modbus. For safety, a single mains switch is provided. Layout 230VAC Magelis XBT-G Modbus Phaseo TSX Micro CANopen Û 24VDC Remote I/O 230VAC Advantys STB Lexium05 Servomotor Servomotor Hardware: Components TSX Micro (PLC) Phaseo (Power Supply) Lexium05 (VVD) . Advantys STB (Remote I/O) Magelis XBTG (HMI) • Servomotor . Software: PL7 V4.4 (PLC) Advantys Configuration Software V1.20 (Remote I/O) Sycon V2.8 (CANopen) Vijeo-Designer V4.1.0 (HMI) PowerSuite V2.0 (Lexium05) Quantities For a stand alone application, only one of each component is required. Dimensions Due to the compact size of the components it is possible to contain the system in a single cabinet. The Magelis XBTN could be built into the front door of the cabinet



### Installation

**Introduction** This chapter describes the steps necessary to set up the hardware and configure the software for the described application.

#### Layout



#### Function: PLC Program / HMI Usage

The User can control two Lexium05 drive controllers using the fully graphic Magelis touch panel. The Lexium05 units occupy addresses 80 and 81 on the CANopen bus.

After switching on, the Lexium05's can be put into "run" modus using the "power up" switch on the Magelis touch screen

There is an automatic mode and a manual mode. The key "AUTO" selects the automatic mode and starts a speed ramp.

Manual mode provides access to the state machine of the two drive controllers. The user can manually start and stop the two controllers. The speed and direction of the two controllers can be adjusted.



#### Hardware

#### General

- The power supply and the Advantys need a DIN rail for mounting.
- Other devices can be mounted on the surface of the cabinet.
- 230VAC wiring between main switch, power supply and VVD.
- 24VDC wiring between power supply, PLC, HMI and control circuit of the VVD.
- Wiring of power and feedback cable between motor and VVD.





















**General** The Software for the Micro PLC, the full graphics Magelis touch screen and the configuration software for the CANopen bus must all be installed.

The Front of the drive controller has a simple display and keypad for simple configuration. For more comfortable configuration, archiving and simulation possibilities, install the PowerSuite software.

To do this you need a PC with a Microsoft Windows 2000 or Windows XP operating system.

To start the software installation simply put the appropriate CDs in the CD drive of your PC – the installation starts automatically if you have set the "autostart" in Windows. If you have problems, check the product description of the particular software package.





# **General** CANopen is used for the field bus communication between the Micro PLC, the Lexium05 drive controllers and the decentralised Advantys I/O platform. The full graphics Magelis touch screen is connected to the Micro PLC with a Modbus protocol.

- Modbus cabel between PLC and HMI
- CANopen cabel between PLC, VVD and Advantys by using a CANopen adapter.





Drive Controller Lexium05 LXM05AD10M2 CANopen using CN4		
	Anschlussbild	CANopen an CN4
	Pin Signal	Bedeutung
	1 CAN_H	Datenleitung
	2 CAN_L	Datenleitung, invertiert
	7 MOD+10V_OUT	10V Versorgung (andere Belegung als CANopen)
	8 MOD_0V	Bezugspotential zu MOD+10V_001
HMI Magelis XBT-G2330		
	DC- Power cable	(M) 0 -
XBTZG915 XBTZG999	Comm. Cable to Fincl. Adapter	PLC
	Comm. cable to F	PC















Imp	ementation

**Introduction** The implementation chapter describes all steps necessary to initialize, parameterize, program and to start-up the system.

#### Function

- 1. After switching on the mains, the Lexium05 drive controllers can be put into "run" mode by pressing the "Power Up" key, for 2 seconds, on the Magelis screen.
- 2. After "Power Up" the PLC is in manual mode. In this mode, the user has access to the state machine of the two drive controllers. The drive controllers can be manually stopped and started. The speed and direction of the drive controllers can be adjusted.
- 3. The drive controllers must first be stopped to switch to automatic mode. Automatic mode can be selected on the magelis touch screen with the key "AUTO". This starts a speed regulation program, raising the speed from zero to 600rpm in 1 minute. The speed remains constant for 10 minutes and then is reduced to -600 rpm over a period of 2 minutes. After another 10 second period the speed is reduced to zero over a 1 minute period. After a 10 second wait, the program is re-started.
- 4. In the case of errors, an error number is displayed on the Magelis touch screen. The user can refer to the user manual for an explanation of the error.





### **Drive Controller Lexium 05**

Introduction This section describes how to initialise the Lexium05 drive controller.

After finishing the wiring the drive controller must be configured	
The parameters may be configured using the integrated HMI panel.	
	Pos Bedeutung
	1 LEDs für CANopen
	<ul> <li>2 ESC:</li> <li>- Verlassen eines Menüs oder Parameters</li> <li>- Rückkehr vom angezeigten zum letzten gespeicherten Wert</li> </ul>
	3 ENT: - Aufrufen eines Menüs oder Parameters - Speichern des angezeigten Werts
	<ul> <li>4 Pfeil ab:</li> <li>- Wechsel zum n</li></ul>
	<ul> <li>5 Pfeil auf:</li> <li>- Wechsel zum vorherigen Menü oder Parameter</li> <li>- Erhöhen des angezeigten Wertes</li> </ul>
	6 Rote LED leuchtet: DC-Bus unter Spannung
	7 7-Segmentanzeige, 4-stellig







### I/O Platform

Introduction This section describes the configuration of the Advantys I/O platform using the Advantys configurations software .

After starting up the Advantys configuration software, a new	Advantys
workspace must be created.	New Workspace     Strg+N       Price Cut View Island Online Options withdow Prep       New Workspace       Open Workspace       Saye Workspace       Copy Workspace To
You must provide a path, a Wordspace-Name and an Island-Name.	A New Workspace     3 ×       Workspace File     Island File       Name:     STB       Location:     body       d'\DATA\/Advantys\\STB\/body.id     1       Name with path:     1       d'\DATA\/Advantys\\STB\/STB.aiw     2       g     QK
Then Choose the network interface for CANopen STB NCO 2212	
Now add the other modules: STB PDT 3100 STB DRC 3210 STB DDI3610 STB ACO 1210 STB ACI 1230 Not forgetting the bus terminal. STB XMP 1100	
The screen should now show:	TINUC2212-V 1.8:         STEPDI300-V 1.8:         STEPDI300-V 1.8:         STEPDI300-V 1.8:         STEPDI300-V 1.8:         STERCI120-V 1.8:



Via the Menu bar you can set the bus speed. Here, 500 kbps is used, as with the Lexium05 and later in the PLC.	Island Online Options Window He Add Raij Add Annotation Delete Annotation Strg+D Add Module • Module Editor Reflex Editor Build Suid Editor Build Suid Suid Suid I/O Image Overyjew Island Properties	Baud Rate Tuning 2 X Baud Rate for the Island Bus Default value: 800 kbps 500 kbps 2 K 2 Cancel
Next, you must create the EDS file. Use the menu "file" then "export".	Export Save in: 🔄 STB	≥ 2 ÷ € ÷
The filename and folder can be chosen as required. Note the file type (EDS) is obligatory for future use and development. You can configure the I/O using the SYCON EDS files instead of the Advantys configuration software, however this requires extensive knowledge CANopen and is not part of this document	File name: body Save as type: EDS files (*.eds)	Save Cancel
Using the menu "Island" and then "I/O Definition" (or use the icon in the toolbar) you can assign the I/O to memory.	Island Online Add Raij Add Annota Delete Anno Add Module Module Editi Reflex Edito Build → Lock Resource Ap I/O Image C Baud Rate I Baud Rate I	tion bitation Strg+D or palysis Dvergiew
Click on the data to get a detailed description in the description window Or simply print the project. The printout shows the details too.	L/U Image Overview           Fieldous Image           Void         15           Void         15           1         -           2         2           3         3           4         4           5         16           Family         Digital Dutput           Module         STB0015210           1         3         3           3         3         3           3	Durbut Data       1       2       3



### CANopen

Introduction	This section shows you how to us bus	se the SYCON software to configure the CANopen
	Before starting the SYCON software, you must copy the Lexium05 and Advantys EDS files into the EDS folder.	Schneider     Schneider     Sycon     Sycon     Generation     Generation
	SYCON is used to describe the CANopen configuration. It contains all the information that the PLC programming software, will require later. After starting SYCON, a new project is created	2. SyCon       File: View Online: Settings Window Help       Open.       1 D1/Anlagen//Lookum05_3.co       2 D1/Anlagen//Lookum05_2.co       3 Leokum05_heart.co       4 D1/Anlagen//Lookum05_1.co   Exit:
	Use the menu "insert" and add the "master" TSX CPP 110 by selecting it in the list of devices. You may change the account and description.	SyCon         File Edit View Insert Online Settings Window Help         Master         Master         Node         Mode         Selected devices         TSX CPP 100         Add 222         Add 2452         Cancel         Add 252         Add 252         Node ID (address)         1         Description



Insert a Node using the menu bar selections. After inputting the address and description, select the manufacturer and click on "add" to add it to the chosen devices Here the addresses 80 and 81 are used. See configuring the Lexium05. Now do the same for the second Lexium.	SyCon         File Edit View Insert Online Settings Window Help         Master         Master         Node         Node         Master         Node         Master         Node         Master         Node         OK         Cancel         Profile         Add All>>         Add All >>         <         Remove
	Vendor name       BERGER LAHR GmbH       Node ID       80         Product number       1       Description       Lexium05_00         Product version       No entry         Product revision       No entry         EDS file name       BLCPD170.EDS         EDS Revision       0
The next node is the Advantys (Address 18).	Insert Node     Image: Cancel       Node filter     OK       Vendor     Telemecarique       Profile     All       Available devices     Selected devices       Atv58_E     Add >>       Atv58_F     Add >>       Atv58_F     Add All >>       Avs8_F     Add All >>       Vendor name     Telemecanique       Vendor name     Telemecanique       Vendor name     Telemecanique       Node ID     18       Product revision     No entry       Product revision     No entry       EDS file name     BDDY EDS       EDS Flevision     0
You should now have a screen showing:	Master Node ID 1 Master TSX CPP 110 Lexium05_80 Node ID 80 Node CPD CANopen
	Lexium05_81 Node ID 81 Node CPD CANopen
	Advantys_18 Node ID 18 Node body



Next, set the baud rate. For this, select the master Using the menu "Setup", then "Busparameter". When the busparameter dialog opens, select 500kBits/s as communication speed and click on "OK".	File Edit View Insert Online       Settings Window Help         Device Assignment       Ctrl+B         Bus Parameter       Image: Concel         Master Node ID       11       OK         Baudrate       500 kBit/s       Cancel         Master Stops in case of Node Guard or Heartbeat Error       Image: Concel         Master stops in case of Node Guard or Heartbeat Error       Image: Concel         Master Stops in case of Node Guard or Heartbeat Error       Image: Concel         Master Stops in case of Node Guard or Heartbeat Error       Image: Concel         Master Stops in case of Node Guard or Heartbeat Error       Image: Concel         Master Producer Heartbeat Support       Image: Construction         Image: Construction       Image: Construction         Image: C
A doubleclick on the first Lexium node opens the dialog for the node configuration. A list of the PDOs is displayed. For our application the 3 <sup>rd</sup> . PDO is required. This PDO is the parameter for the speed control.	Node     CPD CAlkgen     Node ID (addises)     R       Description     Lexim 75, 00     Configuration Ency Configuration Ency Configuration Ency Configuration Ency P Advected node in actival configuration     R     Description       P Advected node in actival configuration     Configuration Ency Configuration Ency P Advected node in actival configuration     R     Description       P Advected node in actival configuration     Enregency COB4D     206       P Advected node in actival configuration     Node grant PO     Description       P Advected Poices     402     Device HPO Is 100     Node grant PO       Prediction Process Data Objects (PD0) Itom EDS He     POI comment addres     POI degrant POI comment addres       1400     Entergent POI comment addres     POI degrant POI comment addres     POI degrant POI comment addres       1400     Entergent POI comment addres     POI contract station     POI contract station       1000     Entergent POI comment addres     POI contract station     POI contract Machine       1001     Entergent POI comment addres     POI contract Machine     POI contract Machine       1001     Entergent POI contract station     POI contract Machine     POI contract Machine       1001     Entergent POI contract station     POI contract Machine     POI contract Machine       1001     Entergent POI contres     POI contract Machine     POI cont
First , set the device type to "Frequency Converter".	Device Profile     402     Device type     66       Device Type     Image: Converter converter     Image: Converter converter     Image: Converter converter converter       1400     1e     Image: Converter converter     Image: Converter converter converter converter
After a double click on "3 <sup>rd</sup> receive PDO comm" the following dialog appears. Click "OK" to accept the setup.	Node receive PD0 characteristics, master output process data       OK         Transmission Mode       OK         Index shall use a sychonization message to actuate the received PD0, receive PD0 transmission Triggering Mode dependent       OK         Index shall use every       To inccrived synchronization message to actuate the received PD0, receive PD0 transmission Triggering Mode dependent       OK         Incode shall use every       To inccrived synchronization message to actuate the received PD0 transmission Triggering Mode dependent only       OK         Incode shall use every       To inccrived synchronization message to actuate the received PD0 transmission Triggering Mode dependent only       OK         Incode shall use every       To inccrive synchronization message to actuate the received PD0 transmission event is defined in the device profile       Executing CANopen specific transmission type         Resulting CANopen specific transmission type       255       Triggering Mode         Inggering Mode       Index cycle interval (inhibit time)       To cycle transmission every



After a doublelick on	Node transmit PDO characteristics, master input process data 🛛 🖉 🔀
"3 <sup>rd</sup> transmit PDO comm." the	Transmission Mode OK
following dialog oppoore diak	C node shall use a sychronization message as trigger to send the transmit PDO acyclically
"OK" and accept the actum	node hall use a synchronization message as triboer to send the transmit PDD when
OK and accept the setup.	previously remote requested by the master
	C node shall send the transmit PDD when remote requested
	C transmission event of transmit PDO folly note manufacture specific C transmission event of transmit PDO defined in the device profile of the node
	Resulting CANopen specific transmision type 5
	Triggering Made
	no remote request, transmision of transmit PDD fully node dependent
	temple request at every 110     node cycle interval (initial ane)
The Parameter setup for the	Node Configuration 📃 🔀
first Lexium05 is now complete	Node CPD CANopen Node ID (address) 80 0K.
and the following window is	Description LexiumC5_80 Configuration Enor
displayed	File name BLCP0170EDS Note BootUp
uispiayeu.	Automatic CD8-ID alcoation in accordance with Profile 301     Nodeguard CD8-ID 1872     Ottaic
Now report these stops for the	Device Profile 402 Device type Frequency Converter
Now repeat these steps for the	
second Lexium05.	Predefined Process Data Dipects (PDDs) from EDS Ne Dbjick (PDD name
	1402 3/directive PD0 communication 1403 4/h receive PD0 communication PD0 mapping method PD0 mapping method
	1600 1st tensori PDD communication 1601 2nd tensori PDD communication
	1002 (30 farter) "D0 comparisation 1003 4th travent PD0 comparisation  Add to configured PD0s
	Configured FDDs FDD name Symbolic Name (CD8-ID   Type   Adds   Len   0 Type (0 Adds   0 Len.   • PDD Contents Macoing.
	3rd receive FD0 PD0_1402         1104         GB         6         PD0 Characteristics           3rd transmit PD0 PD0_1802         \$76         IB         0         5         PD0 Characteristics
	Define new Receive PDD.
	Delite rew Haranic 20 Delite configured POD
	Symbolic Names
	Market Street Street
	Node Configuration 🖉 🔀
A doubleclick on the Advantys	Node Longuezation
A doubleclick on the Advantys node displays the node	Node tonggradina X
A doubleclick on the Advantys node displays the node configuration dialog. Select	Node         body         Node ID (address)         X           Node         bidly         Node ID (address)         18         DK           Description         Adventy_18         Cancel         Cancel         Node BodUp           Florame         BOVY/EDS         Cancel         Node BodUp         Node BodUp
A doubleclick on the Advantys node displays the node configuration dialog. Select each PDO, one after the other.	Node         body         Node ID (address)         X           Node         bidy         Node ID (address)         18         DK           Description         Adventyr_16         Centiguation Error Control Publick         Cencel         Node BodUp           Fleiname         BD07/EDS         Centrol Publick         Node BodUp         Node BodUp           P/ Automatic DB-0 displace in accordance with Polie 201         Nodespace (DB+0)         Displace         Displace
A doubleclick on the Advantys node displays the node configuration dialog. Select each PDO, one after the other.	Node         Endly         Node ID (address)         X           Node         body         Node ID (address)         18         DK           Description         Adventyr_16         Carrier Holdoxi         Rede Society           File name         E007/CE05         Carrier Holdoxi         Rede Society           File name         E007/CE05         Emergency CDE40         146           Pri Automatic Colling-Landoxin microcollence with Profe 301         Nodegrade (DE40)         1810           Device Profile         401         Device type         Andog Dutoxi, Analog Input. Digital Gutput. Digital Gutput. Digital Gutput.         Configuration
A doubleclick on the Advantys node displays the node configuration dialog. Select each PDO, one after the other.	Node todograditati         DK           Node body         Node D (address)         DK           Description         Adventys_16         Cancel           Carrier Hotosit         Node Body         Node D (address)           PHoname         E007/CIDS         Carrier Hotosit           PAUvide mode in adduation in accordance with Profile 301         Nodegaard (DEH-0)         142           Description         Emergency CDEH-0         142         Distoit           Description         Modegaard (DEH-0)         1310         Distoit           Description         401         Description Advalance for advalace of the profile 301         Nodegaard (DEH-0)
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A doubleclick on the Advantys node displays the node configuration dialog. Select each PDO, one after the other.	Node Configuration     Mode Digital configuration       Node Unity     Node Digital configuration       Description     Adventy, 18       Cancel     Cancel       Plantame     Emergency DDHO       Plantame     Description       Provide Portion     Addition       Provide Portion     Provide Parentee       1800     TrPD0 Communication Parentee       1801     TrPD0 Communication P
A doubleclick on the Advantys node displays the node configuration dialog. Select each PDO, one after the other.	Description     Adventy, 16     Dx       Description     Adventy, 16     Cancel       Fleriname     BOXY EDS     Description       Fleriname     BOXY EDS     Description       Fleriname     BOXY EDS     Description       Fleriname     BOXY EDS     Description       Fleriname     Box Edgent     Fleriname       Fleriname     Description     Receiver of the fleriname       Fleriname     Description     Description       Description     Description     Addition       Description     Edition     Edition       Ditto     Commonscience     Description       Ditto     Commonscience     Description       Ditto     Commonscience     PO       Ditto     Commonscience     Description       Ditto     Commonscience     Description       Ditto     Commonscience     Description       Ditto     Commonscience     Description       Ditto<
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A doubleclick on the Advantys node displays the node configuration dialog. Select each PDO, one after the other.	Node Configuration     All       Node Lodget Configuration     Carcel       Description     Advenyu, 16.       Carcel     Rode Booklip       Prescription     Advenyu, 18.       Carcel     Rode Booklip       Prescription     Rode Booklip
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PDOs: "RxPDO1 Comm"	Node toutguediest       Mode to by       Node t
PDOs: "RxPDO1 Comm"	Node toduggeotoxi         Add to configured POor           Product configured to advance on the second of the se
PDOs: "RxPDO1 Comm" "TxPDO1 Comm"	Node toutgraduat         All           Node toutgraduation         All           Decipition         Advertyr_16           Carcel         Node Double double of the control of the contro
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A doubleclick on the Advantys node displays the node configuration dialog. Select each PDO, one after the other. PDOs: "RxPDO1 Comm" "RxPDO2 Comm" "TxPDO1 Comm" have the setup as shown:	Node toutguised       Image: Section grade and section grade a
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A doubleclick on the Advantys node displays the node configuration dialog. Select each PDO, one after the other. PDOs: "RxPDO1 Comm" "RxPDO2 Comm" "TxPDO1 Comm" have the setup as shown:	Node transpiration         X           Node tody         Node D (address)         18           Decipition         Adversyst, 18         Carcel           Provide motion in advalation         Carcel         Node B (address)         18           Provide motion in advalation         Carcel         Node B (address)         142           Provide motion in advalation         Carcel         Node part (DE-10)         142           Provide motion in advalation         Carcele         Node part (DE-10)         142           Provide motion in advalation         Carcele         Node part (DE-10)         142           Provide motion in advalation         Carcele         Node part (DE-10)         142           Provide motion in advalation         Carcele         Node part (DE-10)         Devalation (DE-10)           103         ProD0 Carenavistics Peanstein         193 / 100 /
A doubleclick on the Advantys node displays the node configuration dialog. Select each PDO, one after the other. PDOs: "RxPDO1 Comm" "RxPDO2 Comm" "TxPDO1 Comm" have the setup as shown:	Note Configuration     All       Node Lodge Lodge     18       Decipies     Adversystem       Product Configuration     Configuration       Product Configuration     Product Configuration       Product Configu
A doubleclick on the Advantys node displays the node configuration dialog. Select each PDO, one after the other. PDOs: "RxPDO1 Comm" "RxPDO1 Comm" "TxPDO1 Comm" have the setup as shown:	Node toutgradied       Image: State State         Node toutgradies       Node Digits         Percent       Addressing and State State         Provide toutgradies       State



And PDO	Node transmit PDO characteristics, master input process data 🛛 🖉 🔀
And PDO "TxPDO2 Com" has the following setup:	Node: Construit PDU Characteristics, makter input process data     Image: Construction of the constr
The Parameter setup for	remote request at every 10 node cycle interval (inhibit time)      vode Configuration
Advantvs is now complete	Node body Node ID (address)
And the following dialog is	Description Advantys_19 Configuration Error Control Protocol
diaplayed:	Noce Babrup
displayed:	File nome BODY.EDS
displayed:	File none 00007/2DS File none OPC/2DS File none
displayed: Now save the project as	File name         B000/CDS           IF Activity node in solutal configuration         Envergency CDB ID         146           IF Activity node in solutal configuration         Envergency CDB ID         146           IF Activity node in solutation in accordance with Profile 201         Nodequard CDB-ID         1610           Device Profile         401         Device type:         Anning Output, Analog Input, Ogital Output, Ogital Input
displayed: Now save the project as xxx.co.	Tie nome 8000/2D5 Tie Advise node in actual configuration Tie Advise node in actual configuration Tie Autorise node Tie Autorise no
displayed: Now save the project as xxx.co.	File hanne B000/205     File hanne B000/205     File hanne B000/205     File hanne C09H0 allocaniguation     File hanne C09H0 allocaniguation     File hanne C09H0 allocaniguation     File hanne B0H0 alloca
displayed: Now save the project as xxx.co.	File hanne 0007/205     File hanne 0007/205     File hanne 0007/205     File hanne offen actual configuration     File hanne offen actual configuration     File hanne 0000     File     Descer Platfie     400 Descer
displayed: Now save the project as xxx.co. Now you are ready to start on the PLC program	File hanne 0007/205     File hanne 0007/205     File hanne oder in sockad configuration     Automatic CDBHD albestion in accordance with Profile 201     Nadequard CDBHD     Configuration     Deversitype:     Analog Cutput, Analog Cutput, Analog Duput, Digital Duput, Digi
displayed: Now save the project as xxx.co. Now you are ready to start on the PLC program.	File hanne 0007/205     File hanne 0007/205     File hanne 0007/205     File hanne oder had table donlight after the table table of the table of table
displayed: Now save the project as xxx.co. Now you are ready to start on the PLC program.	File hanne 0007/205     F
displayed: Now save the project as xxx.co. Now you are ready to start on the PLC program.	File hanne 0007/205     F
displayed: Now save the project as xxx.co. Now you are ready to start on the PLC program.	File home     000/205       IV     Addemate C084D albostion in accordance with Profile 201       IV     Addemate C084D albostion in accordance with Profile 201       IV     Addemate C084D albostion in accordance with Profile 201       IV     Addemate C084D albostion in accordance with Profile 201       IV     Addemate C084D albostion in accordance with Profile 201       IV     Addemate C084D albostion in accordance with Profile 201       IV     Addemate C084D albostion in accordance with Profile 201       IV     Addemate C084D albostion in accordance with Profile 201       IV     Addemate C084D albostion in accordance with Profile 201       IV     Addemate C084D albostion Parenter       IV     IV       IV
displayed: Now save the project as xxx.co. Now you are ready to start on the PLC program.	File nome     0007/205       IV     Advance doi hot actioning action       IV     Advance doi hot actioning action       IV     Advance doi hot actioning accordance with Profile 201       Nodeguard CC0-10     1610       Device Platin     401       Device Platin     401       Device Platin     Antende       Platine Platine Discourd in accordance with Profile 201     Nodeguard CC0-10       Device Platin     401       Device Platine     Antende       Disticit     Platine Discourd in accordance with Profile 201       Platine Disticit     Platine Disticit       Disticit     Disticit    <



## Introduction The PLC section describes the steps necessary to create the PLC logic. For this we use the PL7 software.

Start PL7 and create a new project. Make sure you select the correct PLC.	New       Open       Exit     Ctrl+Q
	New         Processors:         Memory cards:           TSX Premium         TSX 3721 V6.0 TSX 3705 V5.0 TSX 3700 V5.0 TSX 3700 V5.0 TSX 3700 V5.0 TSX 3700 V5.0 TSX 3700 V4.0         OK           Grafcet         Grafcet           C         Yes           Warning!         Yes only a two only and two onl
Increase the number of words	No     You cannot change this selection     once you have created the application!
in the configurator.	Configuration     Configu
Configure the I/O modules	Application Browser
Doubleclick to choose the modules required.	LeviandS Configuration Configurati



In "Hardware Configuration" click on the PCMCIA-Slot "COMM". The configuration dialog for the communication appears. Select "Channel 1".	Image: Stave       Image: Stave         Current Loop (PBP)       Image: Stave         Image: Stave       Image: Stave         Stave       Image: Stave         Image: Stave
As Type select the CANopen- card TSX CPP 100-110.	Channel 1  Channel 1
In the same dialog you can setup the bus start up behaviour, I/O behaviour and the task in which the bus runs – select MAST. Using the Button "Select Database" select the configuration file you created with SYCON (xxx.co).	Image: Synthesistic speed         Syntest speed <td< td=""></td<>



CANopen requires 11 Input Words and 9 Output Words.	Isx 3722 [POSITION 00.01]       Configuration       Designation: PROCESSOR 3722
Reserve 50 input and 50 output words. The inputs start at %MW600 The outputs start at %MW700 (These can be setup at another memory location). Clicking on "Bus configuration" opens a dialog with the bus details.	CHAINEL I: CHAINEL I: CHAINEL I: CANopen CANopen CAnopen CAnopen CAnopen CAnopen Configuration (bus alone) Configuration (bus alone) Configuratio
Here the details for the first Lexium05. The addresses and symbol names are shown on the right.	CANopen bus configuration CANopen bus configuration CANopen daves  Adr. Equipment Name Act. Life T. Othorsen dave  Parameter Symbol CPD CANopen 1 300 Other control CPD CANopen 1 300 CPD CANope
Here the details for the second	Total     Total     Mo. of totAV inputs     No. of totAV inputs     Total     COP-D.     [EMCY- 200, TrPD0- 976, Pir     Cose     [EMCY- 200, TrPD0- 976, Pir     [EMCY- 200, TrPD0- 976,
Lexium05.	Ads.       Equipment Name       Act.       Life T.         005       Bundle       1       000         0080       CPD CANopen       1       000         0081       CPD CANopen       1       000         CANAVES       Inve2_set_speed_w       Image: speed_w         CANAV705       Dive2_control       Image: speed_w         Station       CANAV705       Dive2_control         Station       Image: speed_w       Image: speed_w         CANopen slave datais       Equip hame:       CPD CANopen         Verdor name:       BERGER LAHR GmbH       Decemption:         Lesiont05_80       Cose       Close
Here the details for the Advantys. The data transfer with the Advantys is not handled in this application. As example, in the section "Auto_island" an on/off pulse is written to the output relay.	CARopen laws configuration       2         Ark,       Equipment Name       Act.       Life T.         0010       Bunde       1       000         00010       CPD CANopen       1       000         00011       CPD CANopen       1       000         00011       CPD CANopen       1       000         00011       CPD CANopen       1       000         0011       CANopen slave detais       Equip.name :       Bande         Vendor name :       Tekmesangue       Desotektion :       Advents_18         0011       Cose       Clo



For easier handling the I/Os are copied to a working	ST: MAST - Map_input
register.	%MW0 :=%MW600; %MD3 :=%MD601;
Note: this is not mandatory.	<pre>%MW10 :=%MW603; %MD13 :=%MD604;</pre>
	<pre>%MW20 :=%MW606; %MW21 :=%MW607; %MW22 :=%MW608; %MW23 :=%MW609; %MW24 :=%MW610;</pre>
	ST: MAST - Map_output
	<pre>/* maping working register to output register *) //// * MW700 := *//// ******************************</pre>
	%MW703 :=%MW115; %MD704 :=%MD120;
	%MW706 :=%MW130; %MW707 :=%MW131; %MW708 :=%MW132;
The sections "Bus_startup"	%S1 OPERATE
behavour on start up of the	%MD120r-0
PLC.	%51
The section "Init" sets the	%S1OPERATE
nominal values for the rpm to	
0 and 600.	%S1 OPERATE
	%MD205=800
The interaction between the operating modes and changing of mode are defined in the state machine of the <u>Lexium05</u> (equivalent to CANopen DSP402).	Überwachungs- und Systemfunktionen
The operating modes are changed using the controlword, the actual status is shown in the statusword.	controlword Zustandsmaschine statusword



For the Lexium05 the operating modes are shown in rectangles numbered 1 to 9, changes of mode in circles numbered 0 to 16.		Einschalte	n 1 2 1 1 1 2 1 1 2 1 1 2 1 1 1 2 1 1 1 2 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	(B) (12) (12) (12) (12) (13) (14) (14) (14) (14) (14) (14) (14) (14	Endst	ung
Description of the operating	Zustand E	Betriebszust	and	Aktior	n der Zustand	maschir	le
modi.	1 5	Start		24V w	ird eingeschal	tet	· · · · ·
	2 1	Not ready to s	witch on	Geräte Endstu	elektronik wir ufe ist nicht ein	d initialisi Ischaltbe	ert reit
	3 5	Switch on disa	abled	Einsch	alten der End	stufe ist g	jesperrt
	4 F	Ready to swite	ch on	Endstu	ufe ist einscha	ltbereit	
	5 5	Switched on		Endstu phase geprüf Brems 4 -> 5) gang 6 Keine	ufe wird einges n, Erdung, Zer t. e wird geöffne bzw. geschlo b -> 5). Betriebsart ak	schaltet, l ro clamp it (nach Ü ssen (nac tiv	Motor- werden Ibergang sh Über-
	6 (	Operation ena	ble	Gerät Betriet	arbeitet in der bsart	eingeste	llten
	7 (	Quick Stop ac	tive	Quick-	Stop wird aus	geführt	
	8 F	ault Reaction	activ	Fehler	erkannt, Fehl möglich - aktiv	erreaktion iert	n wird -
				- and the later			
Conditions of standard operating modes are indicated with Bits 0 to 3, 5 and 6 in the statusword.	statusword (6041)	Zustandamaac	hine 1 6, Bi	slatusword, 6041 XXXXXXX 158 158 158 Bit 3	h (x x ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	Bit 1,	Bit 0,
	Zustand	Sw dis	itch on Qu able St	uick Faul op	t Operation enable	Switch on	Ready to switch on
The Statusword is read via the	2: Not ready to swit 3: Switch on disable	lich on 0	x	0	0	0	0
CANopen Bus and evaluated	4: Ready to switch	on 0	1	0	0	0	1
in the PLC section	6: Operation enable	0 0	1	0	1	1	1
"Operation_mode".	7: Quick Stop activ 9: Fault	0	0 X	0	1	1	1
The operating mode is written in %MW200 (%MW201for the second Lexium05).							



%MM0:X0 %MM0:X1 %MM0:X2 %MM0:X3	%MWD:X6		OPERATE
	//	•	6MW200 =2
56MM00X0 %MM00X1 %MM00X2 %MM00X3	%MW0:XG		-OPERATE
			EMW200:=3
%MW0X0 %MW0X1 %MW0X2 %MW0X3 %	MW0:X5 %MW0:X6		-OPERATE
	/		6 MW200:=4
%MM0:X0 %MM0:X1 %MM0:X2 %MM0:X3 %	MW0 X5 %MW0 X6	-	-OPERATE
			&M#200:=5
%MM0:X0 %MM0:X1 %MM0:X2 %MM0:X3 %	MW0:X5 %MW0:X6		-OPERATE-
			6MW200 =6
%MW0.X0 %MW0.X1 %MW0.X2 %MW0.X3 %	MW0 X5 %MW0 X6		-OPERATE
			6MW200:=7
%M/VOX0 %M/VOX1 %M/VOX2 %M/VOX3	%MW0:X6		-OPERATE
			6MW200 =9
Change of operating mode is	Uber- Zustand Kommando	Bealttion	Bedingung
caused by either reacting to a	gang von->nach 2 3 > 4 Shukdown	keine Resktion	Motor und Encoder sind angeschlopsen,
direct command or control			Zwischenkreisspannung aktiv, erste Inbe- triebnahme erfolgt, Signal
signal A command is passed	3 4 ⇒ <b>5</b> Switch On	Endotute cinachalton	ENADED Signal for TRUE (VC Bolriob)
using the controlword	4 5 > 6 Enable Operation	Vorgegebenen Fahrauftrag	zeradus Signal fot TRUE (VC Botriob)
using the concrotword.		austuhren	bzw. Fetcibus kellert operation enable Kommando
The mode changes 0, 1 and	5 8-55 Disable Operation	n Fahraulbagrabbrechen	bzw. Felchus lietert switch off Kommando
14 are automated and cannot	6 5-54 Shukuwi	Endstule ausschalten	bzw. Feldbuc lietert switch off Kommando
he influenced with a	7 4 -> 3 Disable Voltage	Reine Reaktion	Zwischenkreisspannung ist richt aktiv, Signal 33/98_b163/07 for FALSE poor schwerwiegender Fehler (Klasse 2 / 4)
command	8 6 > 4 Shulldown	Endstute sofort ausschalten, kein Quick Stop	
command.	9 6 % 3 Disable Voltage	Endstute sofort ausschalten, kein Quick Stop	
Mode changes using	10 5 > 3 Disable Voltage	Endstute sofort ausschalten, kein Quick Stop	
command are listed in the	11 6 -> 7 Quick Stop	"Quick Stop"-Hall austühren	Nur bei Fehlerklasse 1
table here:	12 7-> 3 Disable voltage	wenn Ouick Slop noch aktiv	
	15 9 > 3 Fault Hosot	"Fault" zu verlassen	Flanke des Eingangssignals FAUL7_LESET (I'O-Betrieb) oder Feid-
	16 7 > 6 Enable Operation	Aus dem Zustand "Quick Stop"	bus liefelt Kommando fauit_reset Anoteigondo Flanko des Eingangseignals
		eingestellten Fahrauftrag weiter- führon	bus liofert Kommando fault_reset
The operating modi are set in	controlwor	4)	-
the controlword	XXXXX		Zustandsmaschine
Bits 0 to 3 and Bit 7 are used	158	<sup>1</sup> 7 3 0 <sup>1</sup>	
for a change of modus.			
-	controlword Kommando Übergänge Zu	Bit 7, Bi Reset Er standswechsel auf Fault or	it3, Bit2, Bit1, Bit0, nable Quick Disable Switch seration Stop Voltage On
The bit value "X" indicates this	Shutdown 2, 6, 8 4:	Ready to switch on X X	1 1 0
field has no influence for the	Switch on         3         5:           Disable Voltage         7, 9, 10, 12         3:	Switched on X X Switch on disabled X X	1 1 1 x 0 x
given mode change.	Quick-Stop 7, 10 3; 11 7;	Switch on disabled X X Quick Stop activ	0 1 X
	Disable operation 5 5: Enable operation 4.16 6:	Switched on X 0 Operation enable X 1	1 1 1
	Fault reset 15 3:	Switch on disabled 0->1 X	x x x
After switching on, the	Anzeige Betriebszustar	nd	
Lexium05 should automatically	Im E Initialisierung de	er Geräteelektronik (INIT	ialize)
be in mode 4 (rdy)	and Endstufe ist nic	ht einschaltbereit (Not R	eaDY to switch on)
i.e. "Ready to switch on"	a 5 Einschalten der	Endstule ist gesperrt (se	witch on DISabled)
-	rdY Endstule ist ein	schaltbereit, Motor stehl	still (ReaDY to switch on)
	Son Endstufe ist ein	geschaltet (Switch ON)	2
This is indicated on the status	run Gerät arbeitet in	n der eingestellten Betrie	bsarl (RUN)
display of the Lexium05.	SEeP Quick-Stop wire	l ausgeführt (STOP)	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
-	FLE Fehler erkannt	und Fehlerreaktion aktivi	ert (FauLT)
	8888 Anzeige der Fel blinkend	hlernummer abwechslen	d mit FLE oder SEOP











The error registers 603F:0 <sub>hex</sub> in the Lexiums are cyclically read using the function Funktion READ_VAR.	%M6 P P		F
List of rung references:			
(1):READ_VAR(ADR#0.1.SYS,'SDC',16#000060;	3F,80,%MW154:2,%MW508:4)		
(2):READ_VAR(ADR#0.1.SYS,'SDC',16#000060;	3F,81,%MW155:2,%MW512:4)		
Function parameters:			
READ_VAR(ADR#0.1.SYS,'SDO',16#0000	0603F,80,%MW154:2,%MW5	08:4)	
Daramatana.	Read st	andard objects	Walnest
Address		dilapies:	ADR#0.1.SYS
Type of Object			: 'SDO'
Object index (pf) and sub-inde	ex (PF) :		: 16†0000603F
Slave adress	:		: 80
Reception Zone Report	: ð • •	MW154:2 MW508:4	
10port			
READ VAR(ADR#0.1.SYS,'SDC',16#0000	603F,81,%MW155:2,%MW5	12:4)	
	Read sta	andard objects	
Parameters:	<u>v</u>	ariables:	Values:
Address Type of Object	:		: ADR#0.1.SYS
Object index (pf) and sub-inde	ex (Pr) :		: 16#0000603F
Slave adress	:		: 81
Reception Zone	18 :	MW155:2	
Report	: 61	AW512:4	
	IF RE %M116 OR FE %M116 THEN		
If the mode AUTO is selected on the Magelis touch	%H0210:=0; %MD105:=0; END_IF;		
screen the PLC starts a	(* 100%s counter *) IF RE %MS AND %M106 THEN %MW210:*%MW210+1:		
speed ramp, passing the	END_IF; (* velocity resp *)		
nominal value to the Lexium.	IF %H116 AND RE %H5 THEN IF %HW210<=600 THEN %MD105:=%MD105+1:(* Acceleration	in up to 600rps in 1 sis *)	
The motor turns.	ELSIF %NW210>=700 AND %NW210<1 %MD105:=%MD105-1:(* 10s at 600) ELSIF %NW210>=2000 AND %NW210<	700 THEN TPA: then negativ acceleration 2600 THEN (* braking until d	on to -600rpa in 2 ain *)
	<pre>%MD105:=%MD105+1: ELSIF %HW210&gt;2700 THEN %MW210:=0:(# 100 ctop #)</pre>	and the to beauty sector a	and some of
	END_IF; END_IF;		
Alternatively you can start the	Powe		10
drive in manual mode.		State machine	6
Magelis are passed directly on	and the second s	F	Ready to
to the Lexium.	Halt 😽	able s erati	witch on
		0	Peration
	Disable R Voltage f	eset ault	enabled
			Voltage
	Quick Stop	c A	isabled
	P	ower	witch on
	Switch u	P 80	lisabled
			Marning
	Drive Control up	Power Dr up 81	rive Drive 80 81



**Einführung** This section describes the steps needed to create the Magelis images. For this we use Vijeo Designer.

The Setup of the HMI is done as follows:

- Create a new project
- Give the project a name
- Specify the hardware
- Select new driver
- New screen
- Setup download
- Configure the Modbus connection
- Configure driver / Configure device
- Create new variables
- Create new screen
- Example of a numerical display
- Characteristics dialog
- Animation setup
- · Check projekt
- Download Projekt





After Starting Vijeo Designer, select	Vijeo-Designer 🛛 🗐 🗙 Welcome to Vijeo-Designer
Create New Project	What would you like to do? Create new Project Deen last Project - Servo_HMI Deen existing Project Don't show this dialog box again
	<zariick weiter=""> Finish Cancel</zariick>
Input a Project Name	Create New Project 😂 🗴
e.g. Servo_HMI	Enter Project Name to Create Project Name Servo_HMI  Description or Comment
	<zurück weiter=""> Finish Cancel</zurück>
Select the target device Targetname: "Platform1" Targettype: "XBT –G Series XBTG Model: "XBT-G2330"	Create New Project         Enter Project Name to Create         Project Name         Target 1/1         New Project/Target         Target Name         Target Type         XBTG Series         XBTG Strict         XBTG Strict         XBTG Series         XBTG Strict         XBTG Series         XBTG Strict         XBTG Strict         XBTG Series         XBTG Strict         XBTG S



Input the ethernet addresses	Create New Project 🔤 🗴
for the target device.	Enter Project Name to Create
	Project Name Servo_HMI
	Target Setup
	Assign the following IP Address
	IP Address 10 . 0 . 1 . 13
	Subnet Mask 255 . 255 . 0
	<zurück weiter=""> Finish Cancel</zurück>
Use Add to select a new	Create New Project
driver	Enter Project Name to Create
	Project Name Servo_HMI
	Target: 1/1
	Equipment List
	Adds drivers and equipment. Define settings in the Navigator window's Driver and Equipment properties.
	Add Delete
	<zurück cancel<="" finish="" th=""></zurück>
Manufacturer:	New Driver
"Schneider Electric Industries	Manufacturer
SAS"	Schneider Electric Industries SAS
Driver: "Uni-Telway"	Driver: Equipment
	Modbus (RTU) Uni-Telway Equipment
Equipment: " Uni-Telway	Modbus TCP/P
Equipment"	Uni-reiway
	OK Cancel Help



The new driver has now		
been added	Create New Project	e si
	E	nter Project Name to Create
	Pr	oject Name Servo_HMI
	Tar	get: 1/1
		quipment List
		ids drivers and equipment. Define settings in the Navigator ndow's Driver and Equipment properties.
		ni-Telway/Uni-Telway Equipment
	(7)	Add Delete
	17	urick Finish Cancel
	#Some HHL - Neo Freme - If angel - familit	
Neu Project Window	The set cadine, sharpe water sept seets not write in 自己になる日間に通 りついようになった。	
	Starts Int	
	I Section Colors	
	Distanti Distanti Distanti (2001)	
	Biter Offener Ster Stat	
	Property Reador 5 m	
	Conclusion Note: 201 Note:	
	fa hok, wowfi	
Select the Download setup	Property Inspector	
the PC and Magolic	Target	
the FC and Magens.	Name	Platform1
As an alternative, you could	Description	1075 5 1
select the ethernet connection.	Type	XBIG Series
		256 COIOFS
	InitialPapelID	1 : Papel1
	Buzzer	Enabled
	StartUpDelay [sec]	0
	ToConfiguration	Top Left Corner
	- Download	Ethernet
		Contract Sector Se
	- IPAddress	Ethernet
	– IPAddress – SubnetMask	Ethernet File System
	- IPAddress - SubnetMask DefaultGateway	Ethernet File System Serial
	IPAddress     SubnetMask     DefaultGateway     Printer	Ethernet File System Serial Disabled
	IPAddress     SubnetMask     DefaultGateway     Printer     Security	Ethernet File System Serial Disabled
	IPAddress     SubnetMask     DefaultGateway     Printer     Security     Input Mode	Ethernet File System Serial Disabled
	<ul> <li>IPAddress</li> <li>SubnetMask</li> <li>DefaultGateway</li> <li>Printer</li> <li>Security</li> <li>Input Mode</li> <li>Alarm Banner</li> </ul>	Ethernet File System Serial Disabled Disabled
	IPAddress     SubnetMask     DefaultGateway     Printer     Security     Input Mode     Alarm Banner	Ethernet File System Serial Disabled Disabled
	IPAddress     SubnetMask     DefaultGateway     Printer     Security     Input Mode     Alarm Banner	Ethernet File System Serial Disabled







Equipment Configuration of	Equipment Configuration 🛛 🗂 🗙
the communications device	Address
	Network
	Station 254
	Gate 0
	Selector 0 🚊
	Connection Pt. / Module 254
	Reference / Channel 0
	Communication Optimizaton
	Preferred Frame Length Minimum Possible 💌
	- Variables
	IEC61131 Syntax
	Double Word word order Low word first
	ASCII Display byte order Low byte first
Create a New Variable	Navigator
	New Variable New
	Cut Ctrl+X Discrete
	Copy Ctrl+C Integer
	Paste Ctrl+V Float
	L Delete Delete
	L Duplicate
	Rename F2
	L Properties Alt+Enter
	MI_State [ %MW200 ]
	MI_Switch_on_disabled [ %MW0:X6 ]
	MI_Switched_on [ %MW0:X1 ]
	MI_Target_reached [%MW0:X10]
	Uijeo 🔛 Project 📴 Varia 🧠 Toolc



Setup the	Variable Properties		al xi
	Basic Properties   Data Data	aile   10 Settings   Data Scaling   Alarm	
Variable Properties:	Variable Name:	Description:	_
<ul> <li>Variable Name</li> <li>DataType</li> <li>Data Source – External –</li> </ul>	Data Type: Discrete	Array Dimension: 0	
PLC	Data Source:	ScanGroup: UniTelwayTeilnehmer02	-
Device Address in the PLC	External	Device Address: %M106	
	Navigator	OK Abbrechen H	
	* 8 10	🗄 🗤 N 🛰 🗛 🔡 🔸	
		actual_velocity [ %MW3 ] auto [ %M106 ] irrection [ %M98 ]	
	Vijeo	Project 🔋 Varia 🧌 Toolo	]
			Look and
	Property Inspector	1 [	
	Variable	MT Asks	
	Name	MI_Auto	
	Description Dete Tures	Discrete	
	Source	External	-
	ScapGroup	LipiTelwayTeilpebmer02	-
	DeviceAddress	%M106	
	Indirect Address		
	+ Keep History	Disabled	
	+ Alarm	Disabled	-
Create a New Panel	Servo_HMI		
	🕀 👘 Graphica	New Papel Insert	
	🕕 🎦 Applicatio	Report Ctrl+T	
	Popup W	Paste Panel Ctrl+V	12
	🕀 👼 Language	e: Delete All Panels Delete	
	⊕ 🐢 Languag ⊕ 🔁 Data File Recipes	e: Delete All Panels Delete s Properties Alt+Ent	er









Animation Attributes:	Eigenschaften von Animation
<ul><li>Colour</li><li>Position</li><li>Value</li><li>Visible</li></ul>	Color Position Z Value S Visib.
After activating the animation, you can select how the animation is to be displayed.	Expression       Image: Constraint of the second seco
Some examples of texts, text fields and graphics.	Summary Summary Chemical process Chemical process Settings Product Product Product Settings Product
The final screen with all the attributes for the animation and events.	Newsynamic     1210     0     1210     1200     330       Sorvo_HNI     Plattorni     Plattorni     1000     1000     1000       Plattorni     Plattorni     Plattorni     Plattorni     Plattorni     Plattorni











### Devices

Introduction	The Devices section describes the different steps needed to initialise and parameterise the device logic/behaviour to attain the specified system functionality.
General	Not available



### **Detailed Component List**

	Type / Software	Revision/Version
ABL7RE2403 VCF02GE XALK174G	POWER SUPPLY 240VAC 1PH 24VDC 3A EMERGENCY ON/OFF MAINS SWITCH HOUSING BEST.M.PILZ SWITCH RT,1S 2Ö	
TSX3722101 TSXDMZ64DTK TSXDEZ32D2 TSXDSZ32T2 TSXPCX1031 TSXCPP110	MODICON TSX MICRO:TSX37-22, DIGITAL I/O-MODULE 32In/32Out DIG.INPUT MODULE,32In(24V)SCHR DIG. OUTPUT MODULE 32Out COMMUNICATION CABLE MULTIFUNCTIONAL CANopen PC-Card Type III	
<ul> <li>STBPDT3100</li> <li>STBNCO2212</li> <li>STBXCA4002</li> <li>STBXBA3000</li> <li>STBXBA2200</li> <li>STBDRC3210</li> <li>STBAC1230</li> <li>STBAC1230</li> <li>STBACM2100</li> <li>STBXMP1100</li> <li>STBXTS2100</li> <li>STBXBA2000</li> <li>STBXBA2000</li> <li>STBXTS1100</li> <li>STBXTS1100</li> <li>STBXTS1110</li> <li>STBXTS1120</li> <li>STBXTS1130</li> </ul>	Power Supply. 24VDC PDM STD. BUS connector CANOPEN NIM STD. Configuration Cable RS232 SUBD/HE13 2M SOCKETI/O TYP3 27MM SOCKET PDM 18MM MODULE 2A RELAIS C 24VDC / 2A MODULE 2A RELAIS C 24VDC / 2A MODULE 6E 24VDC SINK 2 WIRE 0.1MS FIX. S BUS TERMINAL MODULE ISLAND BUS MODULE 2CHAN. 12BIT 020MA PLUG I/O 6 CONNECT. FEDERZUGKL. (20ST) SOCKET VO TYPE1 13.5MM SOCKET VO TYPE1 13.5MM SOCKET VO TYPE2 18MM PLUG I/O 6CONNECT. SCREW. (20ST) PLUG NIM 2CONNECT. SCREW. (10 ST) PLUG PDM 2 CONNECT. SCREW. (10 ST)	
XBTG2330 XBTZG915 XBTZG999	Colour TFT LCD 256 Colours 5,7 Inch Programming Cable Cable adapter	
LXM05AD10M2 GEA2M0AAAA003 GEA2EAAAAA003	Lexium05 230V/1F 750W Motor cable – 3m Geber cable – 3m	
TLXCDPL7PP44M STBSPU1000 VJDSPULFUCDV1 SYCSPULFUCD28 ???	Software PL7 Pro V4.4 M Software ADVANTYS Incl. Cable RS232 0M Software Vijeo Designer M Field bus Configurator SyCon V2.8 PowerSuite	V4.4 V1.2 V4.1 V2.8 V2.0



#### Components

#### PLC Micro TSX3722101

I/O :

Program Memory : Data Memoryr : Networks : Expert modules : Programming :

max. 256 digital I/Os max. 32 analog I/Os up to 128 KBytes up to 35 KBytes CANopen (via PCMCIA) Counters, Emergency off (not used) PL7-Micro (4 Languages IEC1131-3)



#### Motor Control Lexium05 LXM05AD10M2

Performance output	from 0,75 kW (Model Size 1)
Voltage	230 V ~, 1-phasig
Fieldbus Interface	CANopen
Signal Interface	2 analog +/- 10 V Inputs
	and 8 digital I/Os
RS 422-Interface	for Pulse-/Direction – or A/B-Signal inputs or Encoder simulation



#### Servo motor SER3683L5S

Performance RPM Nominal torque Torsion max. Voltage max.

Ouput Voltage 24 V = Output power 3,0 A

0,6 kW 12000 min<sup>-1</sup> 0,48 Nm 3,0 Nm 230 V ~



#### Phaseo Power Supply Unit ABL7RE2403 100...240 V ~, single phase, 50/60 Hz Input Voltage





#### Components Magelis full graphics Touch Panel XBTG2330

Contd.

Display type Display Dimensions Protocol Connections Voltage

LCD-TFT 256 Colours 5,7" (320x240) Unitelway , Modbus, Modbus TCP/IP RS232C/RS485 , Ethernet 10BaseT 24 V = external



#### PL7 MICRO Programming software TLXCDPL7PP44M

Programming with Instruction List, Contact Plan and Structured Text Access to all application elements using the navigator Simplified hard- and software-configuration using special editors Two types of application: Mono-task or Multi-task Structuring of the Master- and Fast-task in sections Selection of a different programming language in each section Simple testing using automatically assembled animation tables



#### Vijeo Designer VJDSPULFUCDV10M

The user friendly configurations software, Vijeo Designer, allows for simple and fast development of projekts using configuration windows. Vijeo Designer allows the processing of process data using the touch panel XBT G and Java-Script.

Some of the features: Navigator, Library of animated graphical objects, Online-Help, Error Report Display, Object Attributes Display, Variablelists.





### Contact

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