Restoring an IEC System to factory Defaults

Introduction

Sometimes it is desirable to restore the system to the factory default state so the designer can begin an application from scratch. This document will detail how to accomplish this with an IEC system.

Resetting amplifier parameters

The first step is to reset all of the servo amplifiers parameters to their default value.

Open MotionWorks IEC and select new project from the file menu. A new project dialog will show various template projects.

Ne	ew Project				×
	Project Wizard	MP2300Siec Template	MP2310iec Template	MP2600iec Template	OK Cancel
	PLC Simulator Template				
					<u>•</u>

Select the template for your controller type and press OK.



To start the configuration application, click on the hardware configuration icon on the top right of the toolbar.



Enter the IP address of the controller and select connect.



Depending on the state of the system, either the dialog above or below will be presented.

🔜 No Startup Configuration on the Controller					
There is no Startup Configuration on the controller.					
Use the configuration found during Auto-Discovery					
C Use the Offline Configuration					
	ОК	Cancel			

Choose either the startup configuration, or the configuration found during auto-discovery depending on which dialog is presented.

MotionWorks IEC - Hardware Configuration							
File Device Tuning Online Help							
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		Reset Default Pn Values	Disconnect	192	2.16	8.20	07 . 208
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Etherhlet/ID	Parameter #	Parameters	Current Value	Units	Min	Max	Default 1
	1200	Reverse Position Limit	-1.797693E+308	Degrees	-1.797	1.797	1.7976
	1201 Re402	Portivic Position Limit	1.737533E+308	v v	-1.797	000	000
	Pn402	Positive Torque Limit	800	% %	0	800	800
Counter	Pn406	Emergency Stop Torque/Thrust	800	%	0	800	800
	Pn407	Speed Limit during Torque Control	10000	ner minut	0	10000	10000
	Pn408.1	Speed Limit	0 - Use Smaller of Motor				0 · Use
	Pn520	Excessive Position Error Alarm Level	5242880	ref units	1	10737	524288(
	4						×

After going online, click on each axis and select the "Reset Default Pn Values" button.

The following confirmation dialog will be shown to insure this operation was not selected by accident. Select OK.



Be sure to do this for each axis.

Note: This operation will restore the amplifiers parameters to the IEC controllers default values (best if the amplifier will be used in the IEC system). To restore to factory defaults SigmaWin Plus or a digital operator must be used.

Resetting the controller

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File Device Tuning Online Help							
Online/Offline	e	t Absolute Encoder Reset Default Pn Values					
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Modbus/TCP	1201	Forward Position Limit	1.797693E+308	Degrees	-1.797	1.797	1.79769
□ IIO-01	Pn402	Positive Torque Limit	800	%	0	800	800
	Pn403	Negative Torque Limit	800	%	0	800	800
· · · · · · · · · · · · · · · · · · ·	Pn406	Emergency Stop Torque/Thrust	800	%	0	800	800
	Pn407	Speed Limit during Torque Control	10000	per minuti	0	10000	10000
	Pn408.1	Speed Limit	0 - Use Smaller of Motor				0 · Use
	Pn520	Excessive Position Error Alarm Level	5242880	ref units	1	10737	524288(
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Click the disconnect button (if connected) and then select "Controller Configuration Utilities" from the Online menu.

Controller Configuration Utilities	×				
Send offline configuration to controller then restart controller					
 Restore controller to factory defaults then restart controller 					
C Create archive of current project on controller					
Send project archive to controller then restart controller					
<u>Execute</u> Close					

Select the "Restore controller to factory defaults then restart controller" radio button and then Execute.

A confirmation dialog will be displayed. Select OK.

Restore Factory Default	x				
Warning!					
All configuration and program files will be deleted from the controlle and SRAM data including absolute encoder offsets will be erased. Drive parameters will not be affected.					
Do you wish to proceed?					
OK Cancel					

After that a dialog will ask if you wish to restart the controller. No should be selected so that power can be cycled on the entire system. Selecting yes and not powering down the system will restore the controller to factory defaults, but leave some amplifier parameters in their non-default state.

Restart Controller	×
Do you wish to restart controller 192.16	8.207.208 now? Connection will be lost.
Yes	No

After power cycling the controller and reconnecting with the hardware configuration application, an alarm will be present showing that the alarm history was corrupted. This is a normal alarm that is shown when ever the system is reset. Clear this alarm using the alarm clear button on the alarms tab of the root node with the default name of MyMachine.

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File Device Tuning Online Help		
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Ty SGDV Rotary - 1	Alarm Code Source of Alarm Description	Details 🔺
SGDV Rotary - 2	3303 0CC0 AXIS1 A.CC0: Multi-turn Limit Disagreement	Different multi-turn limit
E 👘 TCP/IP Settings	4408 0002 Alarm history Alarm history stored in NVRAM was corrupted	The alarm history was
EtherNet/IP		
Modbus/TCP		
LIO-01		
	1	•
	Alam History	Clear Alarms
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If there is an absolute encoder in the system and the multi turn limit was changed from factory default, an alarm will be shown because the multi turn limit stored in the motor is not the same as the multi turn limit stored in amplifier parameter Pn205.

To reset the multi turn limit see the document "Programming applications for absolute encoder motor replacement" for instructions on how to do this through the web server.

Conclusion

Restoring the IEC system to the default settings involves opening the hardware configuration, clicking on each amplifier node and restoring default PN values, going online with the "Controller Configuration Utilities" and resetting the controller, and then cycling power on the entire system.