Advanced Wind turbine Controller
AWC 500

AWC 500 Application Notes

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Document no.: 4189340736

WIND

Revision

Revision	Author	Date	Description
A	SJE	2012-06-11	Initial release

Contents

1 Using AWC 500 IO rack as standard EtherCAT devices

1.1 Install DEIF EtherCAT Device Description Configuration files

First locate the folder EtherCAT folder of your TwinCAT Installation, default location is: `C:\TwinCAT\Io\EtherCAT\` on your computer. Copy DEIF EtherCAT Device Description Configuration files .xml to the EtherCAT folder.

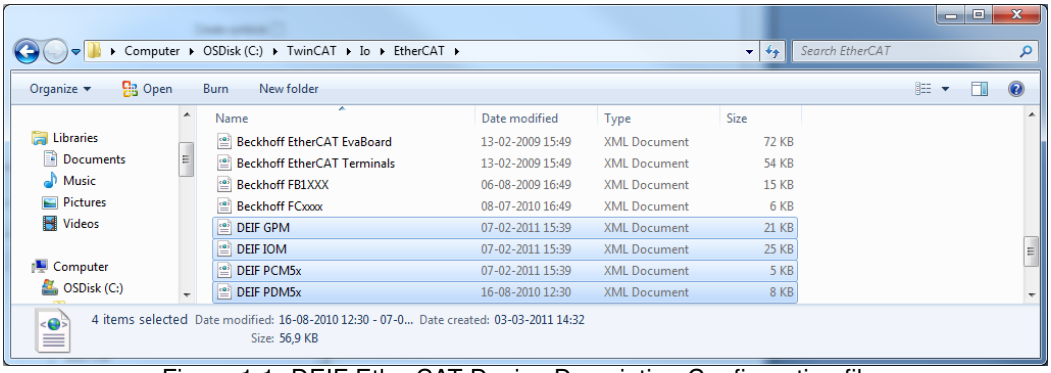


Figure 1.1: DEIF EtherCAT Device Description Configuration files

Now restart System Manager before the changes take effect.

1.2 Example

This example shows how to use the a AWC 500 rack with PDM module and IOM module as standard EtherCAT devices e.g. together with a Beckhoff system.

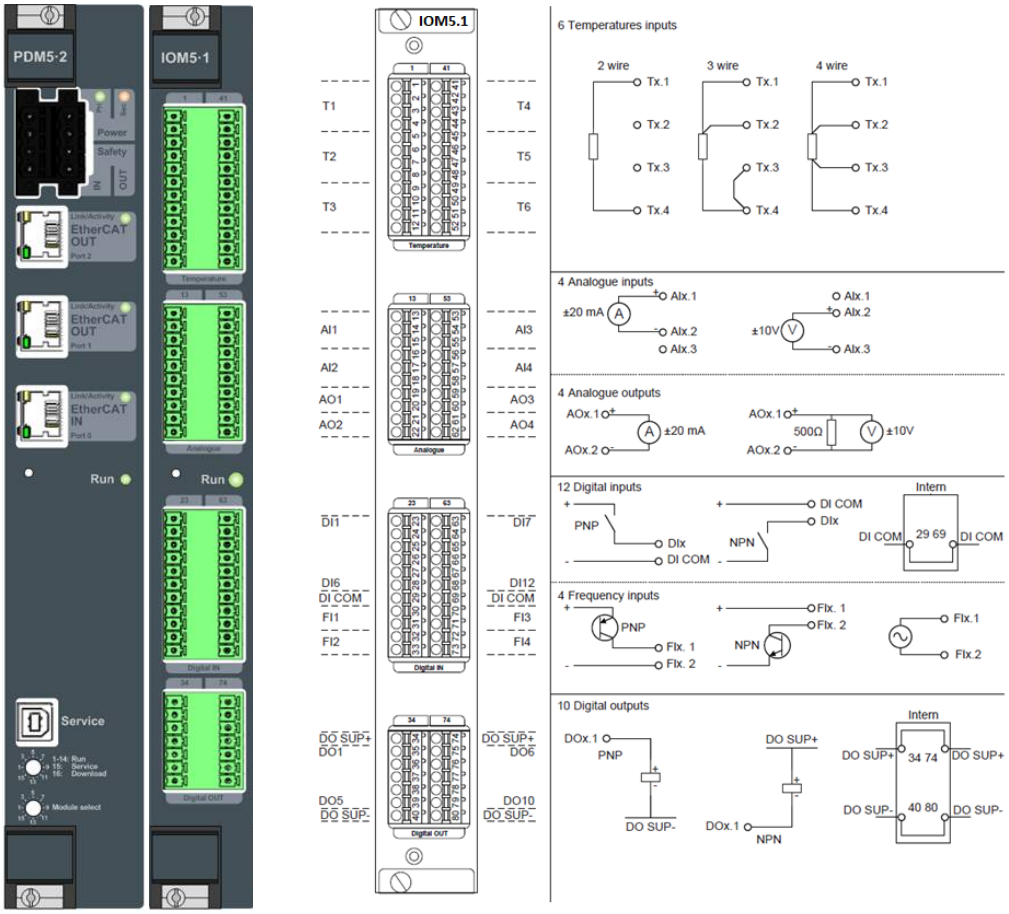


Figure 1.2: DEIF PDM 5.2 and IOM 5.1

The PDM module is connected to the PLC with EtherCAT.

Open a new TwinCAT System Manager project:

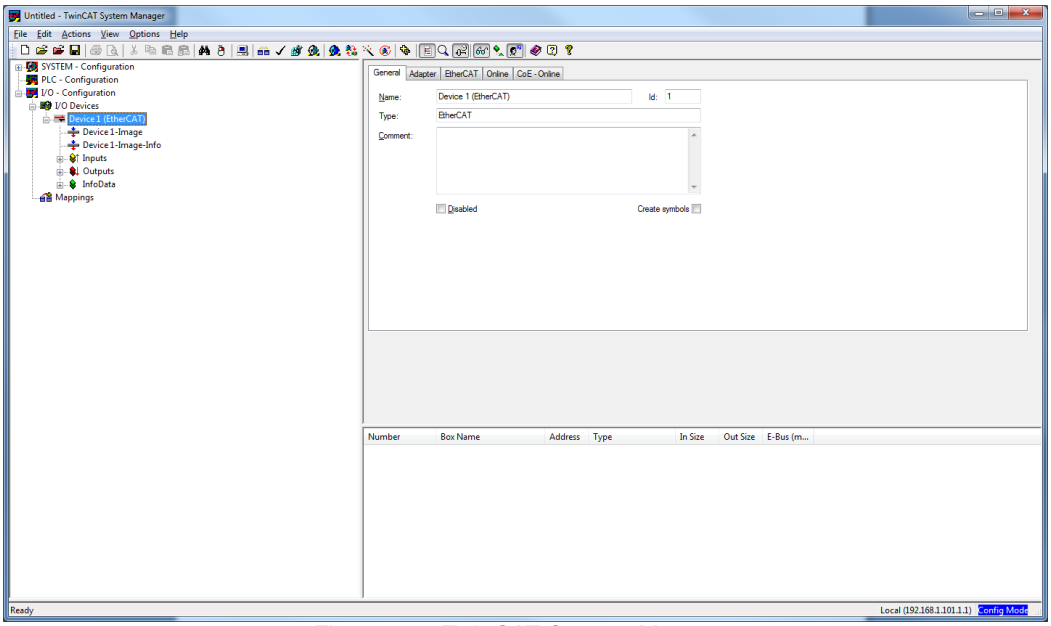


Figure 1.3: TwinCAT System Manager

Scan for connected boxes:

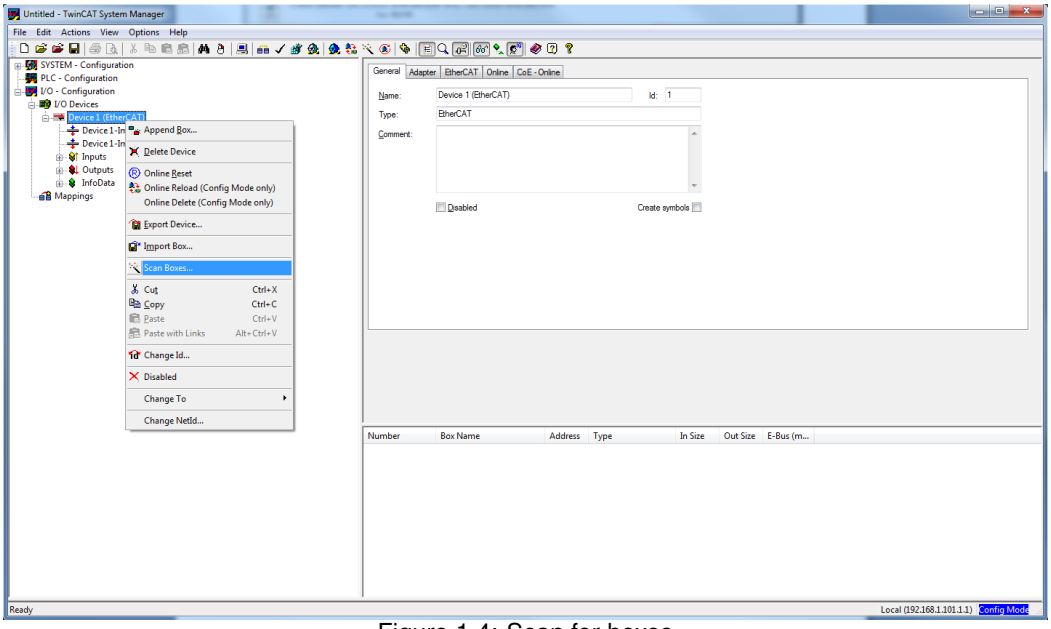


Figure 1.4: Scan for boxes

The Scan should now have found the PDM module:

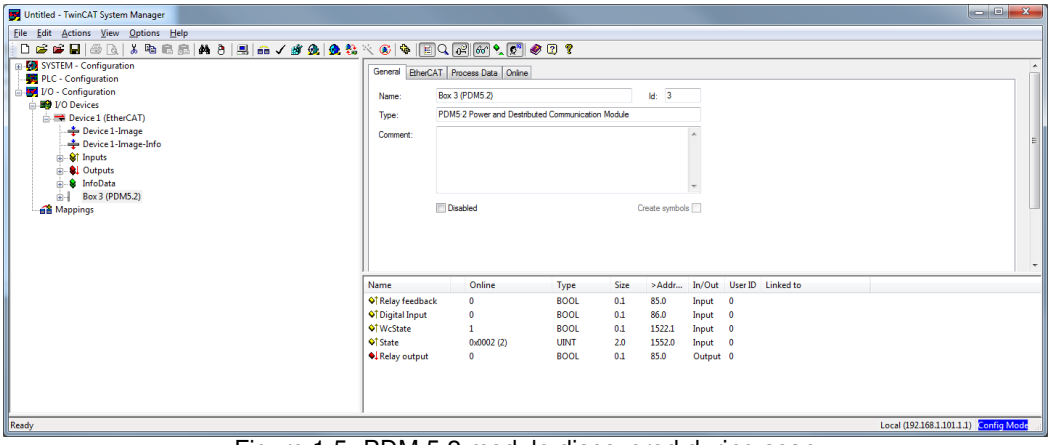


Figure 1.5: PDM 5.2 module discovered during scan

This shows the IOM module.

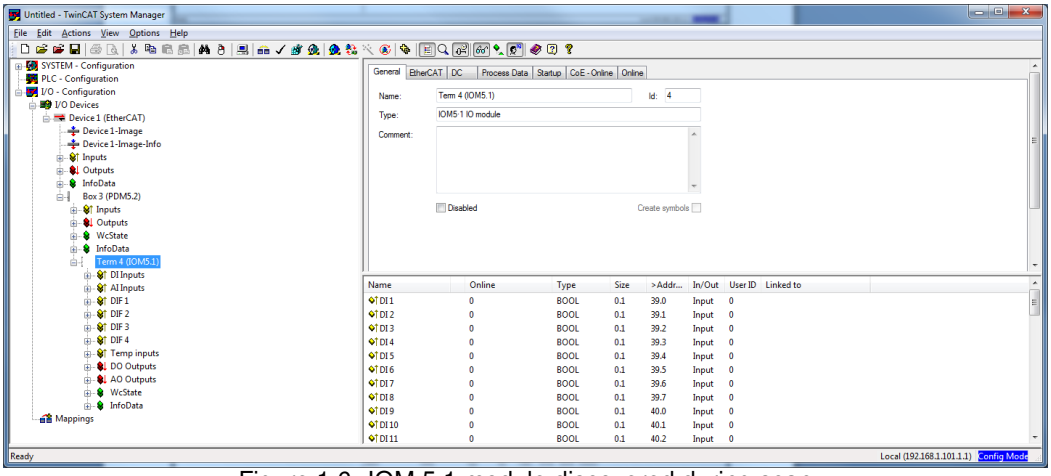


Figure 1.6: IOM 5.1 module discovered during scan

Digital Inputs:

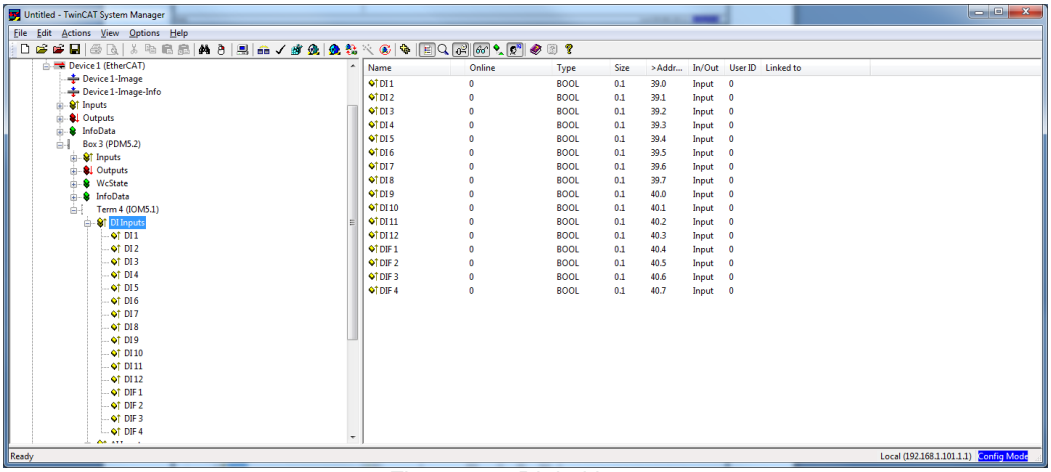


Figure 1.7: Digital inputs

Analog Inputs:

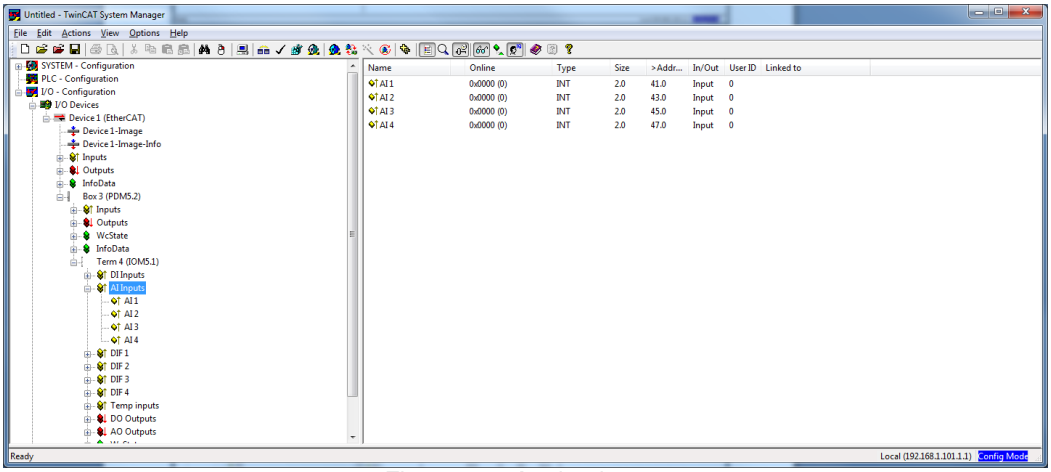


Figure 1.8: Analog inputs

Frequency Counter Inputs:

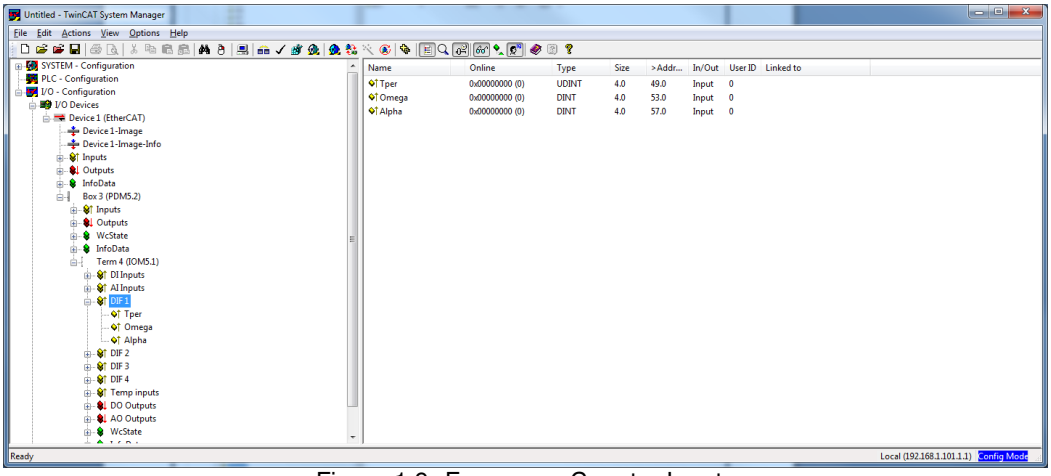


Figure 1.9: Frequency Counter Inputs

Temperature Inputs:

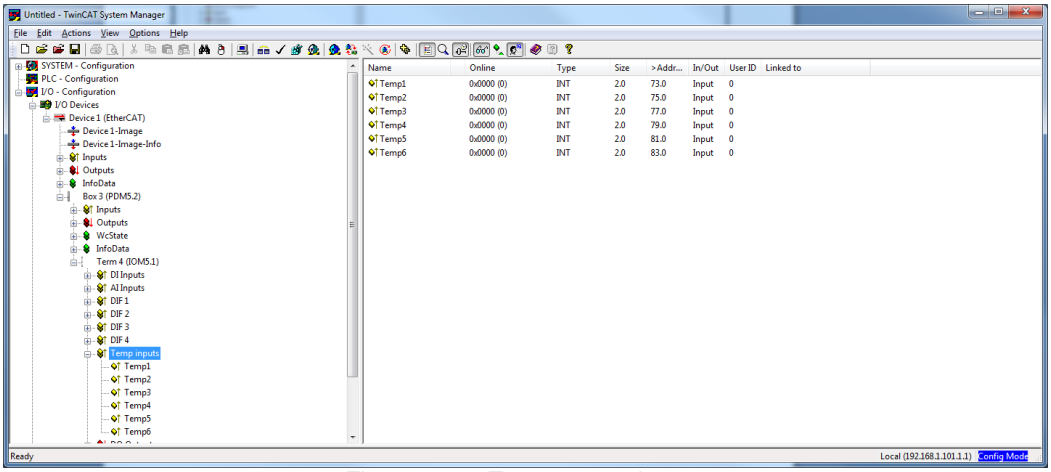


Figure 1.10: Temperature Inputs

Digital Outputs:

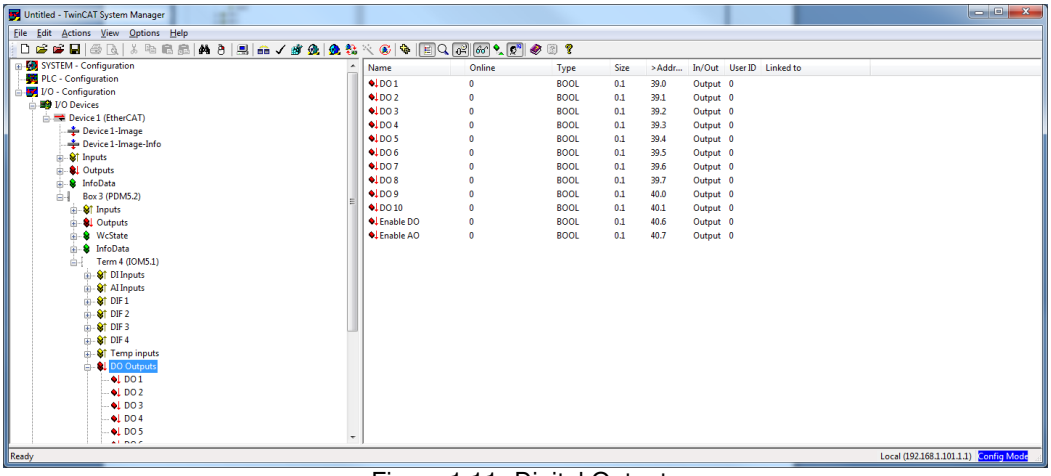


Figure 1.11: Digital Outputs

Analog Outputs:

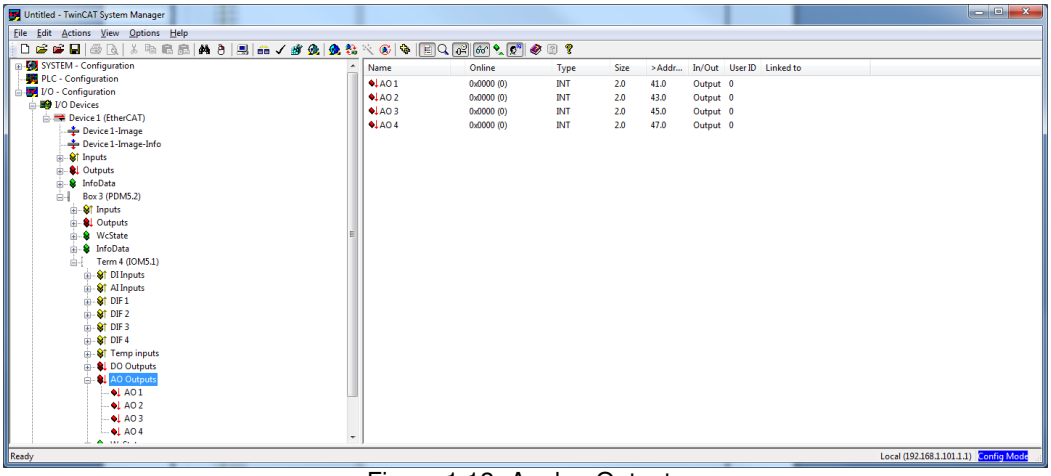


Figure 1.12: Analog Outputs

Analog Outputs:

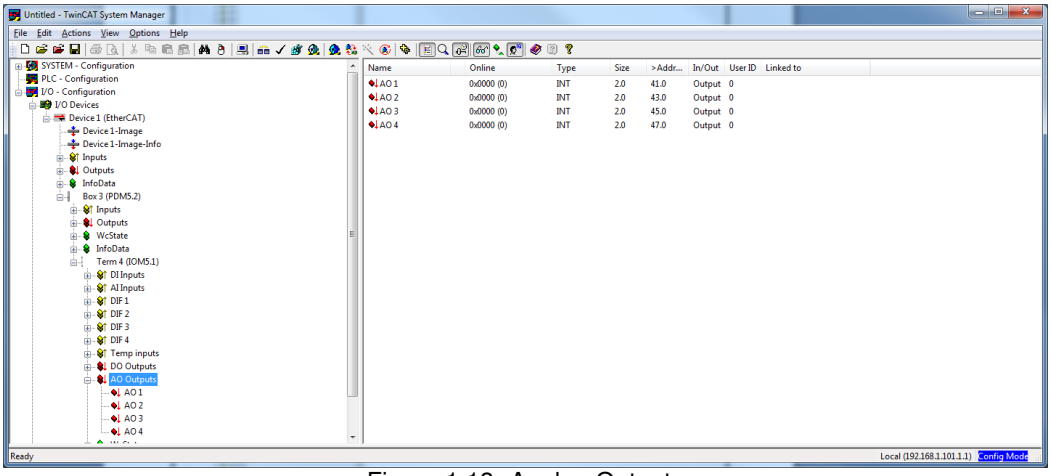
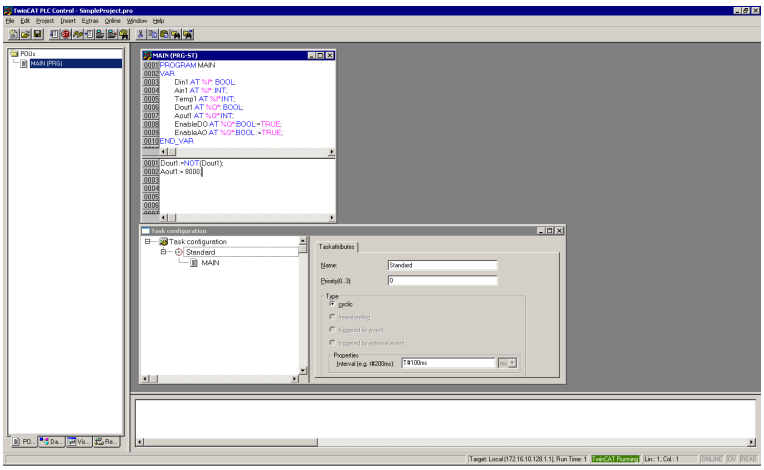


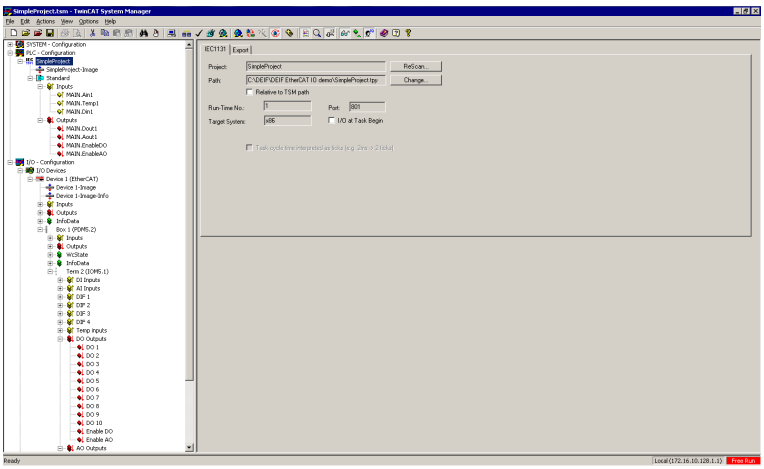
Figure 1.13: Analog Outputs

To test the IO either activate Free Run in Config mode or create a small program.

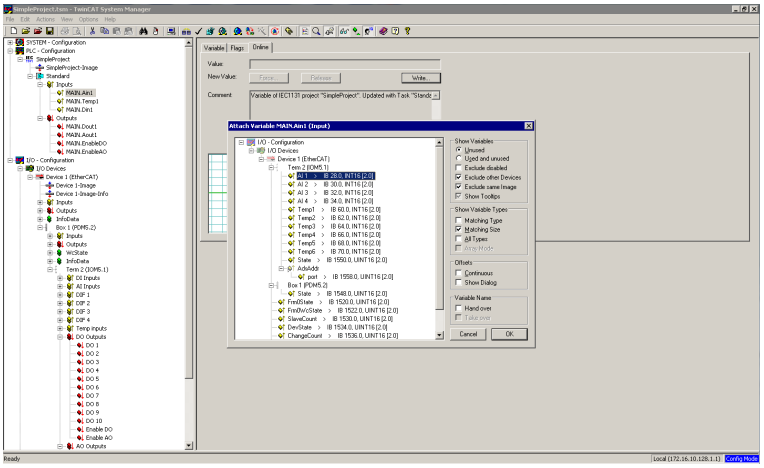
1. Create a TwinCAT PLC project with IO



2. Add the project to the System Manager.
3. Now the PLC variables can be linked to the physical Inputs and outputs of the DEIF IOM5.1

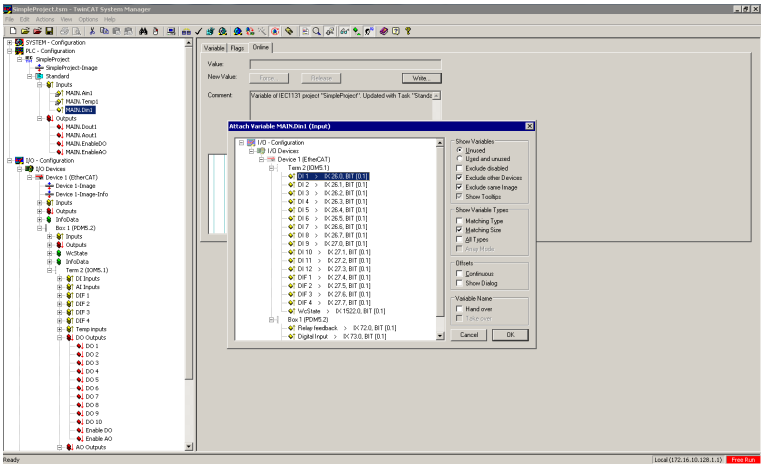


4. Linking an Analog Input variable:

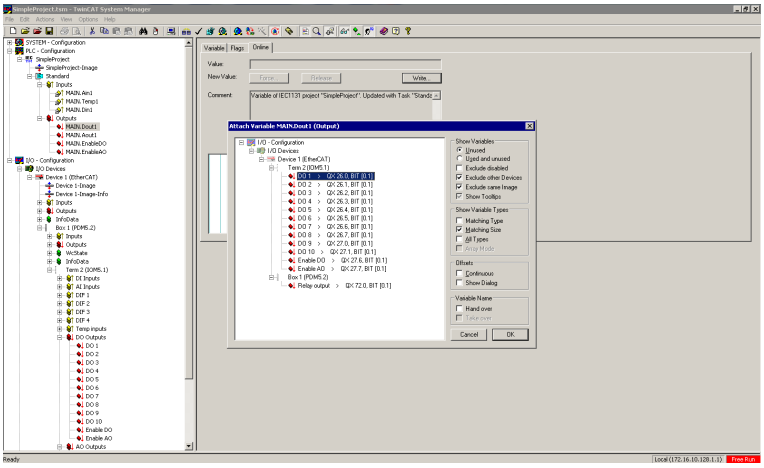


5. Linking a Temperature Input variable, like above

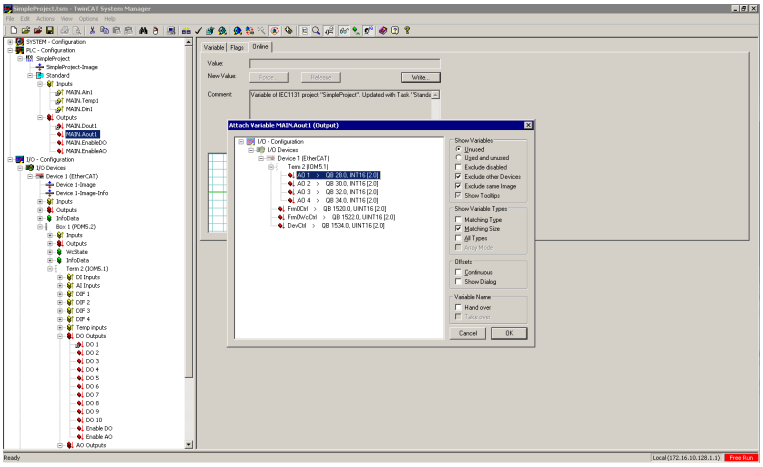
6. Linking a Digital Input variable:



7. Linking a Digital Output variable:

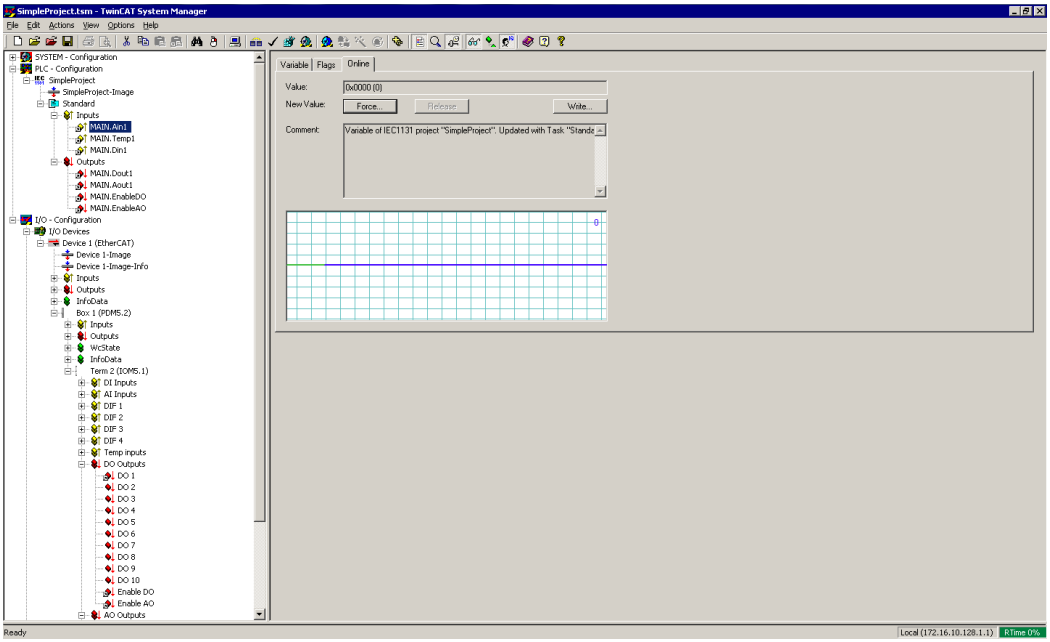


8. Linking a Analog Output variable

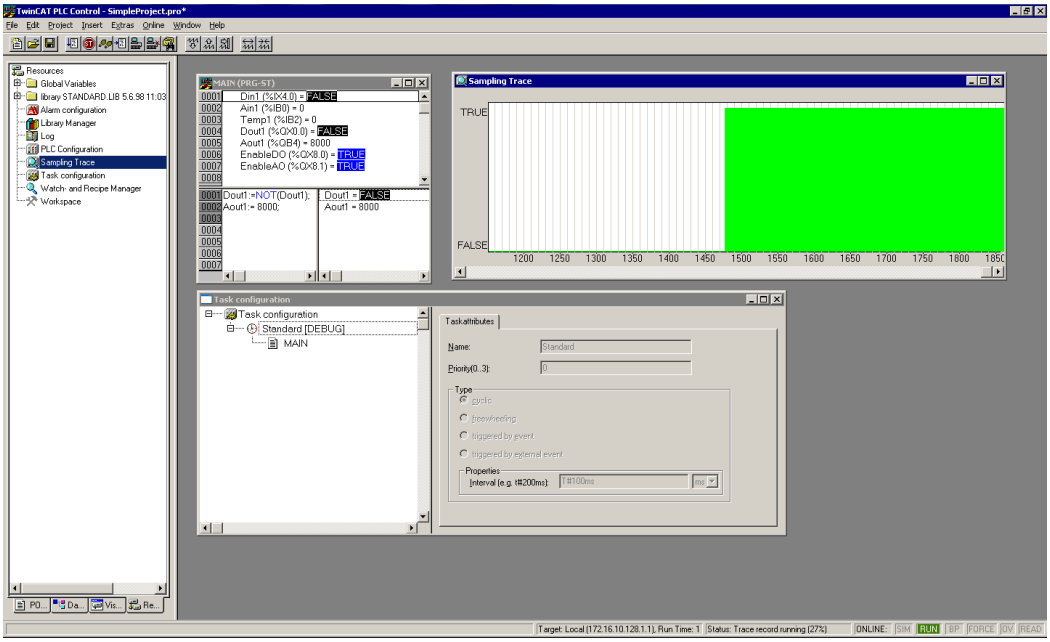


9. Finally link EnableDO and EnableAO.

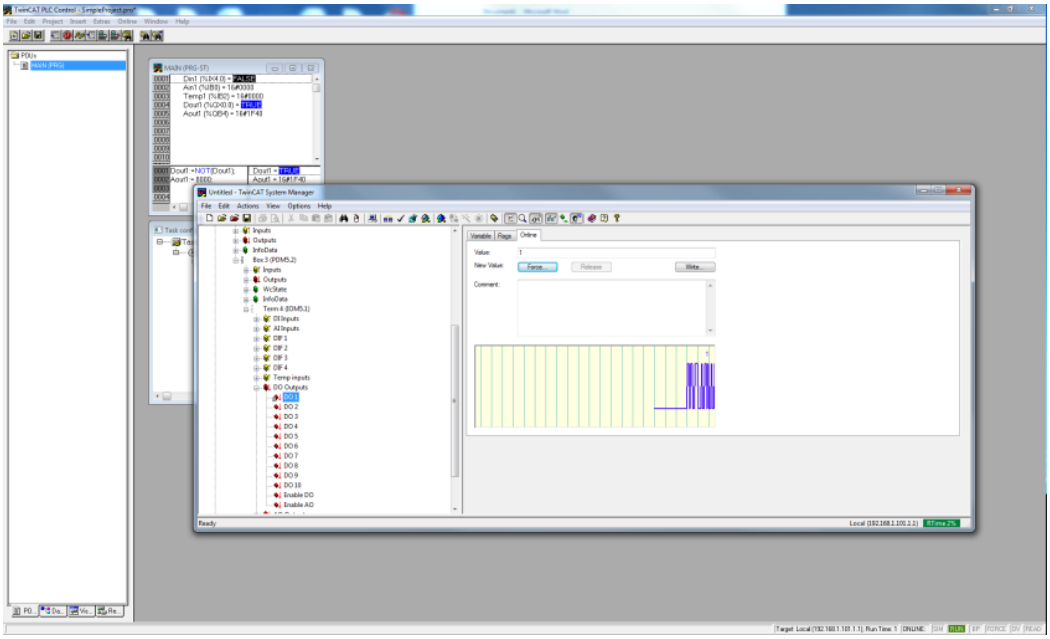
10. Activate the configuration. And change System Manager to Run mode.



11. Finally Login and download the PLC application and run the application.



12. View the output in Online view.



DEIF A/S reserves the right to change any of the above.