Technical Note

Creating CSV Files for Kepware Modbus Drivers

1. Introduction

Kepware's Modbus family of drivers utilize the Automatic Tag Database Generation feature available in KEPServerEX® that enables drivers to create tags that access data points used by the device's ladder program. To get for the information needed to build a tag database, a Variable Import File can be created by a third-party device programming application and consumed by KEPServerEX.

The variable import file must be in semicolon delimited. Text (*.txt) format is the default export file format of the Concept device programming application, can be exported by the ProWORX programming application, and can be created as "Data Text" format by Unity Pro XL.

Data Type	Generated Tag Data Type
BOOL	Boolean
Byte	Word
DINT	Long
INT	Short
REAL	Float
TIME	DWord
UDINT	DWord
UINT	Word
Word	Word
String	String

◖ **Notes**:

- Unlocated variables that do not correspond to a physical address in the device are ignored by the driver.

- Comments are allowed and may be included as the generated tag descriptions. For more information, refer to Variable Import Settings in the server help.

- Not all drivers support user-defined data. Records in the export file containing unsupported data types are ignored.

The following instructions are provided for convenience. For application-specific information on creating variable import files, refer to the section(s) on exporting variables in the vendor documentation.
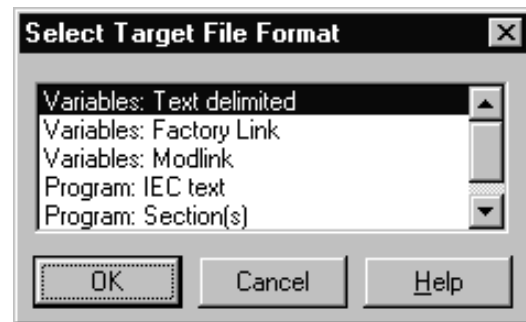
2. Exporting Variables from Concept

As the ladder program is created, the various data points are defined. Symbolic names can be established for the data referenced for using the Variable Editor. Additional symbols and constants that are not used by the ladder program can also be defined.

● **Note**: Although Concept can define variable names that begin with an underscore, KEPServerEX requires that tag names consist of only alphanumeric characters and underscores, and that the first character not be an underscore. The driver modifies invalid imported tag names and notes name changes in the Event Log.

Once the variables have been defined, the data must be exported from the Concept. To do so, follow the instructions below.

1. Select **File | Export**.

2. Select the "**Variables: Text-delimited**" option.

3. Click **OK**.

4. Specify the filter settings (all are supported).

5. Verify the separator is set to semicolon.

6. Click **OK** to generate the file.

3. Exporting Variables from ProWORX

To export variable information from ProWORX, check the Symbols option under **File | Preferences**. Use the Document Editor to define symbolic names for data points.
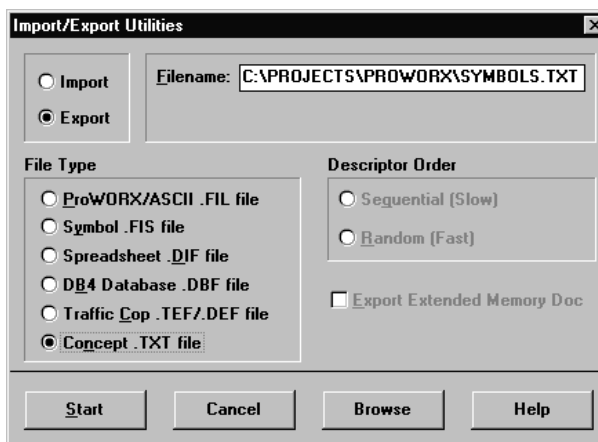
● **Note**: Although ProWORX does not place many restrictions on variable names, KEPServerEX requires that tag names consist of only alphanumeric characters and underscores, and that the first character not be an underscore. The driver modifies invalid imported tag names and notes name changes in the Event Log.

ProWORX assigns a data type of either BOOL or INT to the exported variables. The driver creates tags of type Boolean and Short, respectively. To generate tags with other data types, manually edit the exported file to use any of the supported data types listed in the table above.

Once the variables have been defined, they must be exported from ProWORX.
To do so, follow the instructions below.

1. Select **File | Utilities | Import/Export**.

2. Select the **Export** radio button.

3. Select the **Concept .TXT file** format radio button.

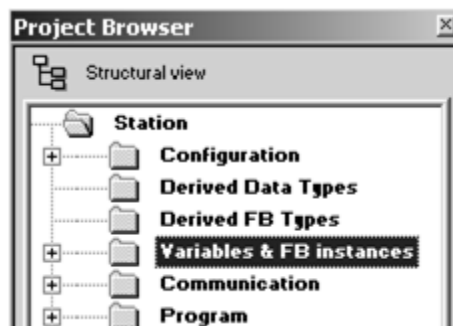4. Click **OK** to generate the file.

● **Tip**: Descriptors are allowed and can be included as the generated tag descriptions.
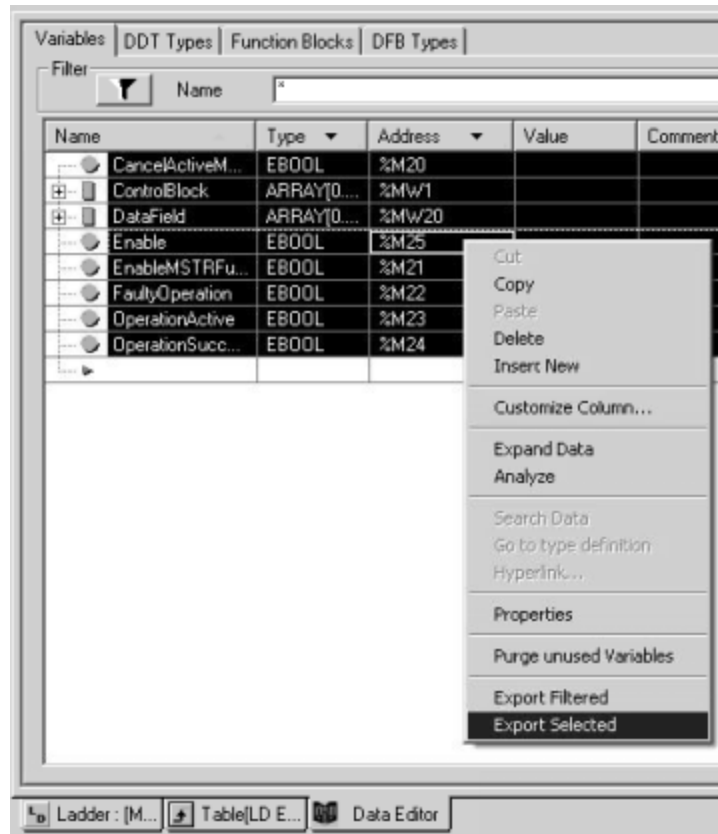● *For more information, refer to Variable Import Settings.*

4. Exporting Variables from Unity Pro XL

Once the variables have been defined, they must be exported from Unity Pro XL.
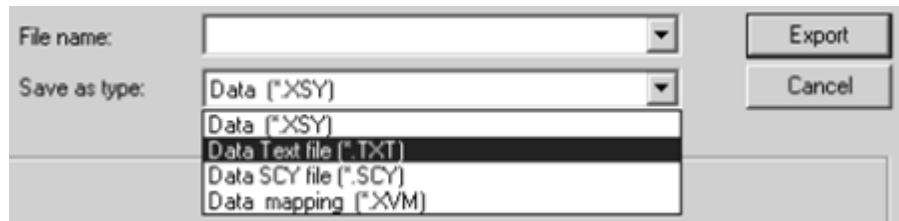To do so, follow the instructions below.

1. To start, open a Unity Pro XL project.

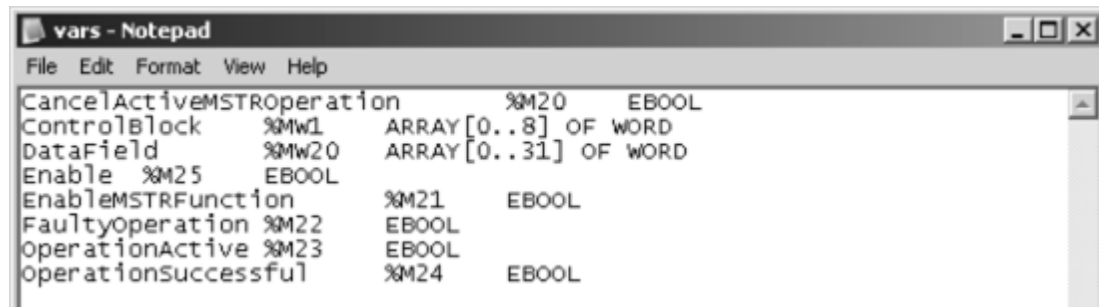2. In the Project Browser, double-click on **Variables & FB Instances**.

3. Select the variables to be imported into KEPServerEX for tag generation.

4. Right-click and select **Export Selected**.

5. In Save As type, select **Data Text file (*.TXT)** from the drop-down menu.

6. Click **Export**.

7. Verify that the resulting text file has format similar to the following.

5. Summary / Conclusion

Once the file has been exported as a semicolon-delimited file, it can be imported into KEPServerEX for automatic tag database generation. Consult the server documentation for details about importing or tag generation.