



VEBKO ONLINE HELP

XRIO Converter, Part2

Category	tester
Section	Modules Toolbar and Statusbar
Language	English
Generated	2026-10-18

After identifying the problems with “RIO” files, “OMICRON” company decided to implement a new idea. According to this idea, a file format named “XRIO” was created in which a section named “Relay parameter section” was designed for every relay and all relay menus were arranged and addressed exactly the same way as in the relay software.

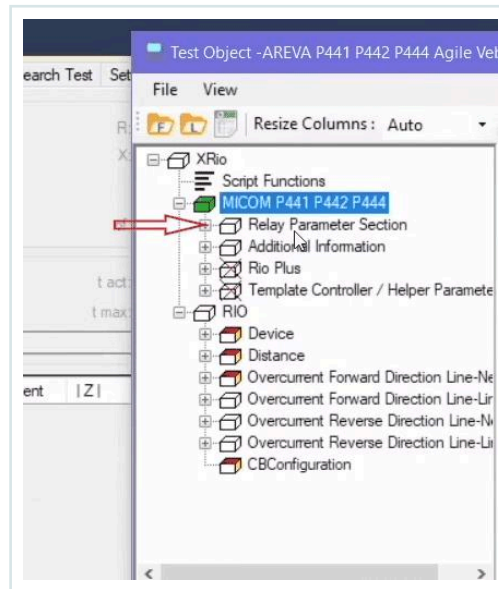


Figure 1

Another section of this file is “Additional information” which includes that necessary information which is not available in the relay software and should be read from its catalogue. For example, if you click on “General information” tree diagram on “General” block, you can see that “AREVA” is recorded as the “Manufacturer” which is not available in the relay menu but is necessary to complete the device information.

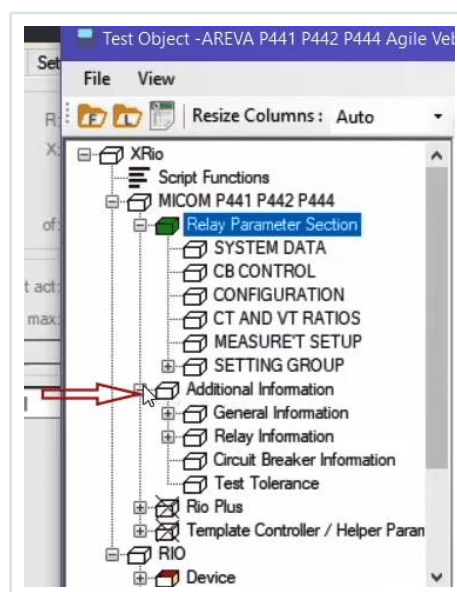


Figure 2

Recalculate Disabled Formula(s) Quick Access Ok Cancel									
General - General Information									
	State	Name	ID	Foreign ID	Description	Value	Type	Min	Max
	☒	Manufacturer	MANUFACTURER		Manufacturer	AREVA	String		
	☒	Device Model	DEVICE_MODEL		Device Model	P441 P442 P444	String		
	☒	Serial Number	SERIAL_NUMBER		Serial Number	E33	String		
	☒	Device Address	DEVICE_ADDRESS		Device Address	1	String		

Figure 3

The important point in getting familiar with "XRio" is that you should know how "XRio" blocks are defined. For example, in "Relay Parameter Section" tree diagram and in the "SYSTEM DATA" block, the "Language" parameter is of "Enumeration" type and its value is defined as "English". Now, if the "XRio" file of this relay is opened in "Notepad++", after opening the "Custom" tag, you can see the "Setting" block, "ID_00" block and parameter with "id=ID_0001". The "Name", "ForeignId" and "DataType" of this parameter are "Language", "0001" and "Enumeration" respectively. In the "EnumList" tag, you can see that, four languages including English, French, German and Spanish are available as "Value" for this section and in this case "English" has been selected.

Test Object - AREVA P441 P442 P444 Agile Vebko.xrio									
File View Recalculate Disabled Formula(s) Quick Access Ok Cancel									
SYSTEM DATA									
	State	Name	ID	Foreign ID	Description	Value	Type	Min	Max
	☒	Language	ID_0001	0001	Language	English	Enumeration		
	☒	Description	ID_0004	0004	Description	MICOM	String		
	☒	Plant Reference	ID_0005	0005	Plant Reference	AREVA	String		
	☒	Frequency	ID_0009	0009	Frequency	50 Hz	Enumeration		

Figure 4

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3      <Version>2.8.0</Version>
4      <Language>en</Language>
5      <RioConverter>
997    <CUSTOM>
998      <Name>MICOM P441 P442 P444</Name>
999      <Description>Custom defined relay parameters</Description>
1000     <Block Id="SETTINGS">
1001       <Name>Relay Parameter Section</Name>
1002       <Block Id="ID_00">
1003         <Name>SYSTEM DATA</Name>
1004         <ForeignId>ID_00</ForeignId>
1005         <Parameter Id="ID_0001">
1006           <Name>Language</Name>
1007           <Description>Language</Description>
1008           <ForeignId>0001</ForeignId>
1009           <DataType>Enumeration</DataType>
1010           <EnumList>
1011             <EnumValue EnumId="ENG">English</EnumValue>
1012             <EnumValue EnumId="FRA">Francais</EnumValue>
1013             <EnumValue EnumId="DEU">Deutsch</EnumValue>
1014             <EnumValue EnumId="ESP">Espanol</EnumValue>
1015           </EnumList>

```

Figure 5

Now, if you return to the “Vebko AMPro Test” software, you can see the exact same information in the “Test Object” section. This means that by double-clicking on “Relay Parameter Section” in the tree diagram you can see that its “ID” is defined as “SETTINGS”; then by double-clicking on the “System Data” block you can see that its “ForeginID” is defined as “ID_00”. In its parameters table, you can see that “Enumeration” is defined as “Type” for the parameters named “Language” and “ForeignID:0001”. Also, in the “Value” field there are four languages of English, French, German and Spanish available where “English” is selected by default in accordance with the displayed codes.

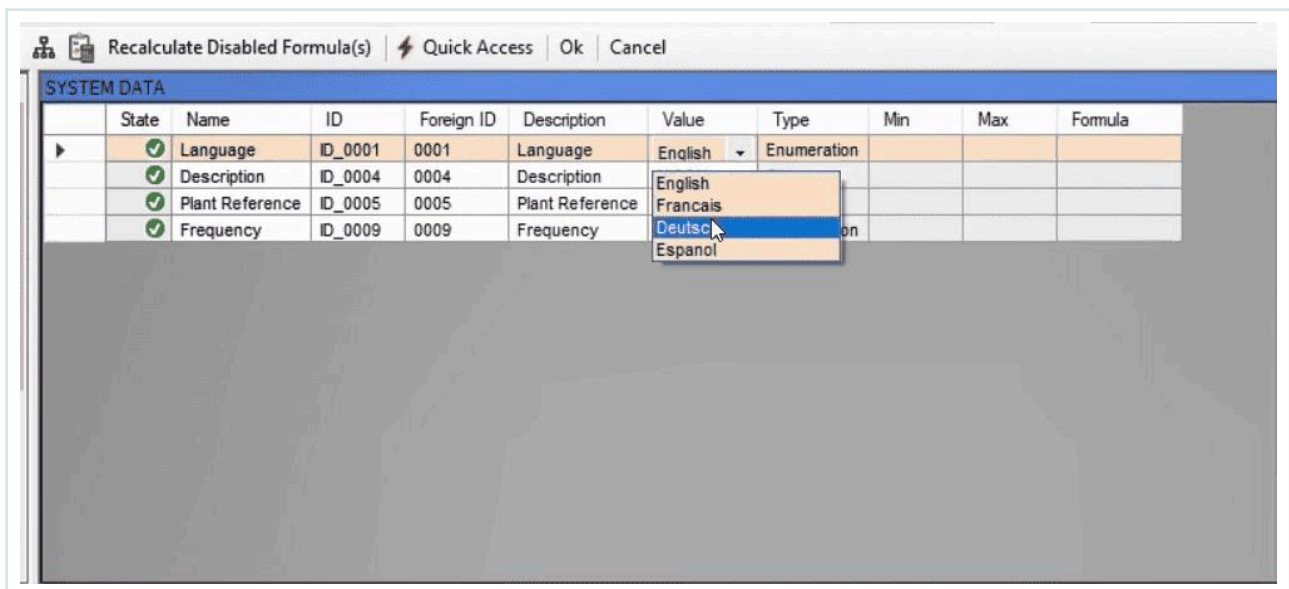


Figure 6

After an “XRio” file is loaded, the necessary settings and information of the “Rio” section are completed accordingly and the cells whose information is dependent on a formula or parameter from the “XRio” file, are turned purple. For example, the value of nominal frequency in the “Nominal Values” block is defined according to a formula from the “Formula” column and if this value is modified manually, the color of the cell changes to pink which means that there is no more a connection between the value of this cell and the formula defined for it. To make the value of this cell again dependent on the formula, right-click on it and select “Recalculate formula”.

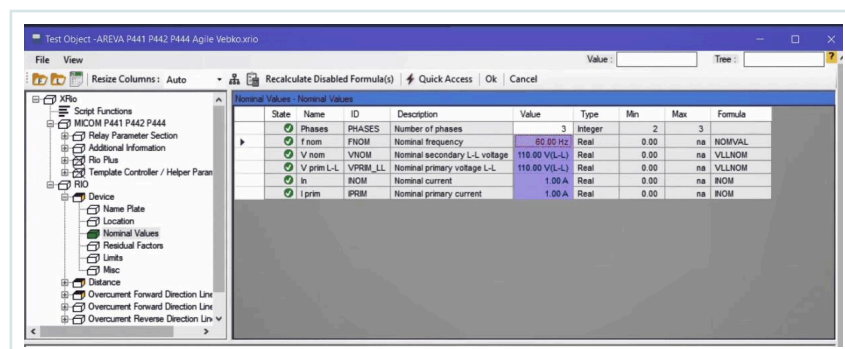


Figure 7

To find out about that how the nominal frequency (with purple color) is defined, first, you should select it and then click on the "Reference Map" icon to view a map of the parameters to which the frequency is dependent. By clicking on any of the boxes in this section, the parameter that affects the final value of the frequency is displayed which, in here, the frequency is taken from "Fnom". The value of "Fnom" parameter is, itself, based on a formula and is dependent on another parameter which by clicking on the "Map" box, you can see that a parameter named "Frequency" is used. This means that, since "50" is set as the value for "Nominal Values", the value for "Fnom" is, according to its formula, "50" too and finally the amount of nominal frequency in "Nominal Values", according to the defined relation, is "50" Hz.

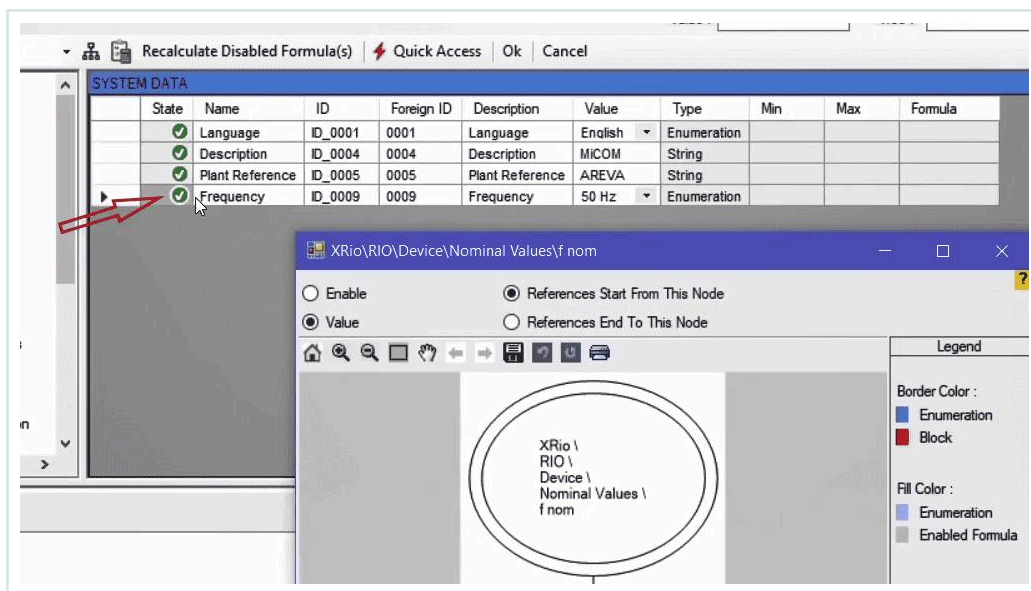


Figure 8

Now, if you open the "XRio" file in "Notepad++", you can view the path that was used to find the affective parameters in the software in the codes of this file. Follow the path "Rio->Device->Nominal Value" in the codes of this file until you find "Fnom". You can see that this parameter has a value of "50" but has a "ValueRefList" whose affective parameters are in the mentioned "Reference". To find this parameter, you need to follow the mentioned path which is "CUSTOM.RIOPLUS.POWERSYSTEMPARAMETERS.FNOM". You can see that type, value, unit and formula of this parameter are mentioned in this path. It is mentioned in the formula of this section that if "ID_0009=FIFTY", the value for this parameter is 50, otherwise it equals 60. It is also necessary to define the two phrases "ID_0009" and "FIFTY". To view the definition of these two phrases, you need to open the "ValueRefList" tag. You can see that there is a "Value reference list" mentioned for each of these phrases. For "ID_0009" you should follow the path "CUSTOM.SETTINGS.ID_00" and find the value of "ID_0009". In this case, you can see that this parameter is named "Frequency" and its "ForeginID:0009" and is of the "Enumeration" type. Also, in the "EnumList" tag, "50" Hz is defined for "FIFTY" while "60" Hz is defined for "SIXTY".

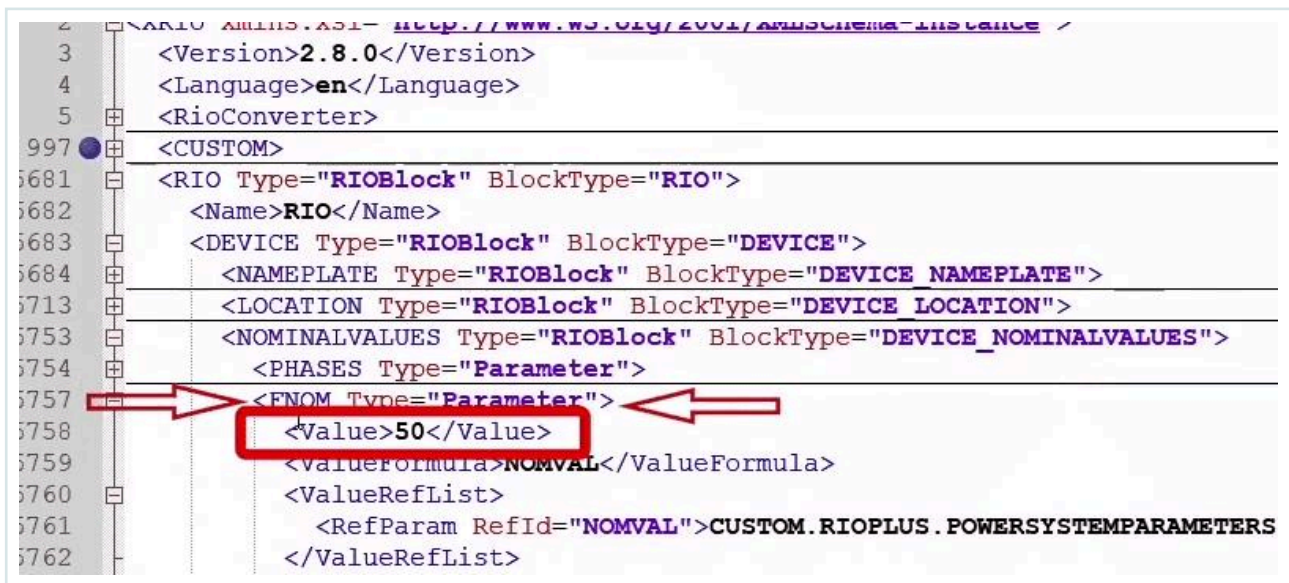


Figure 9

The explained case is a very simple example of defining parameters values of a relay for test. An another example, it is possible to select and open the "ZONE P GROUND" block from the tree diagram of the distance block and then click on "M3" to view its parameters in the table. If the "Reference Map" of the "Angle" parameter is opened, you can see that this parameter is dependent on many other parameters. By clicking on any of the available boxes in this "Reference Map", the given parameter for address is displayed.

[jg1]XRio_Converter_Part2