

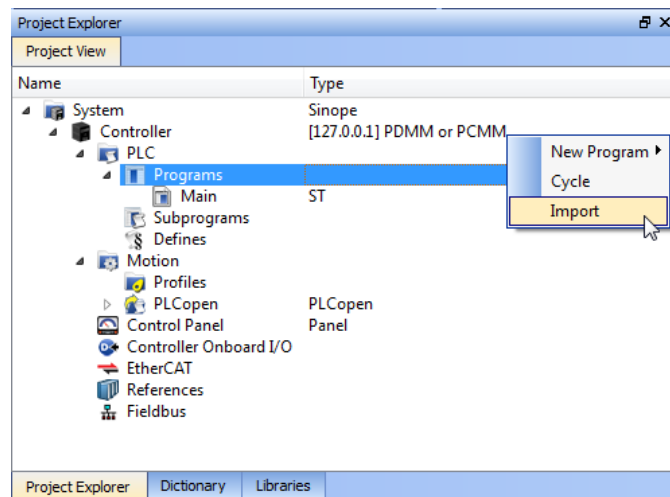
VIEWEING AKD'S ALARMS ON THE AKI HMI THROUGH PDMM CONTROLLER

Overview

To view the AKDs alarms on the HMI AKI is necessary to register all alarms of each drive in the HMI *Alarm Server* and insert code in the PLC source program. This document teaches the use of import tables and PLC source program to facilitate the implementation of alarms in the control project.

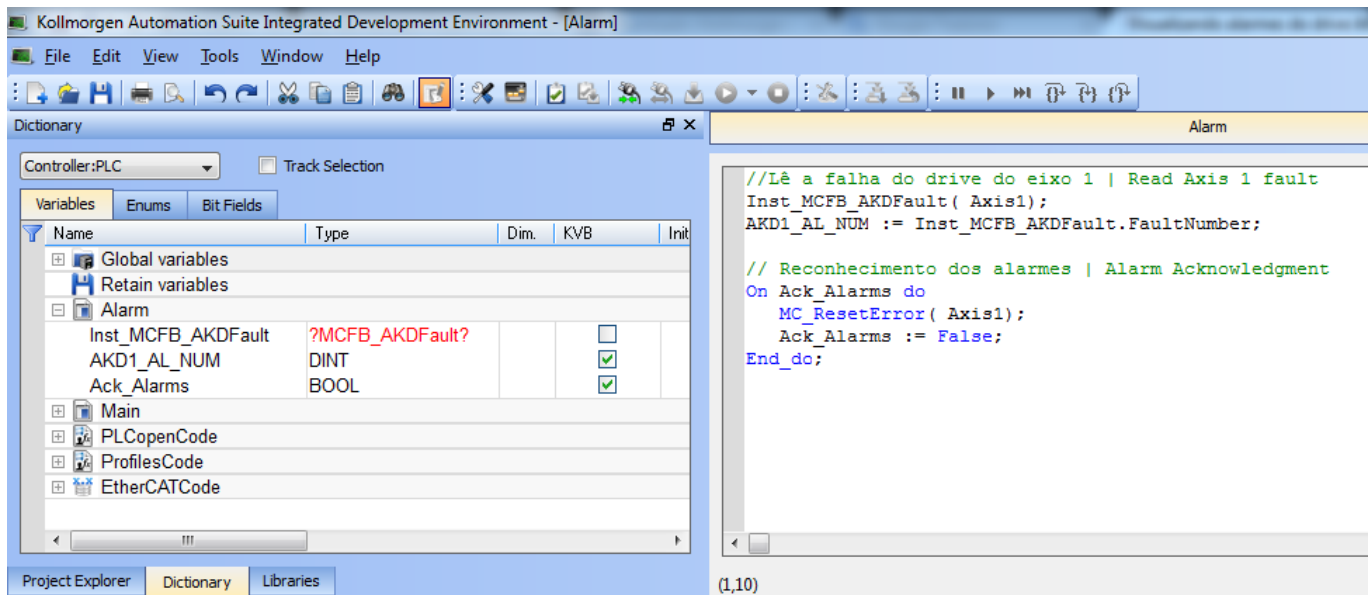
Importing the alarm program to the PLC

The *Alarm.xk5* file contains the code needed to display all alarms for one AKD drive in the HMI. To import the program right click in *Programs* and select *Import* as shown below.

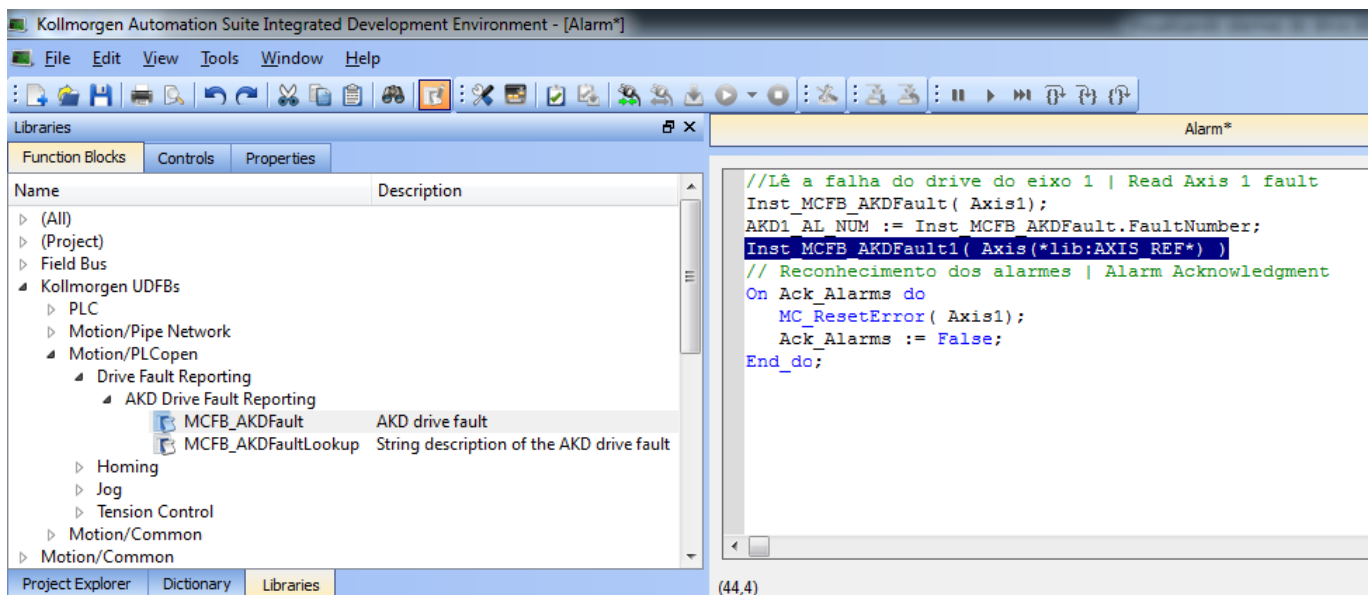


Select the *Alarm.xk5* program and click *Open*.

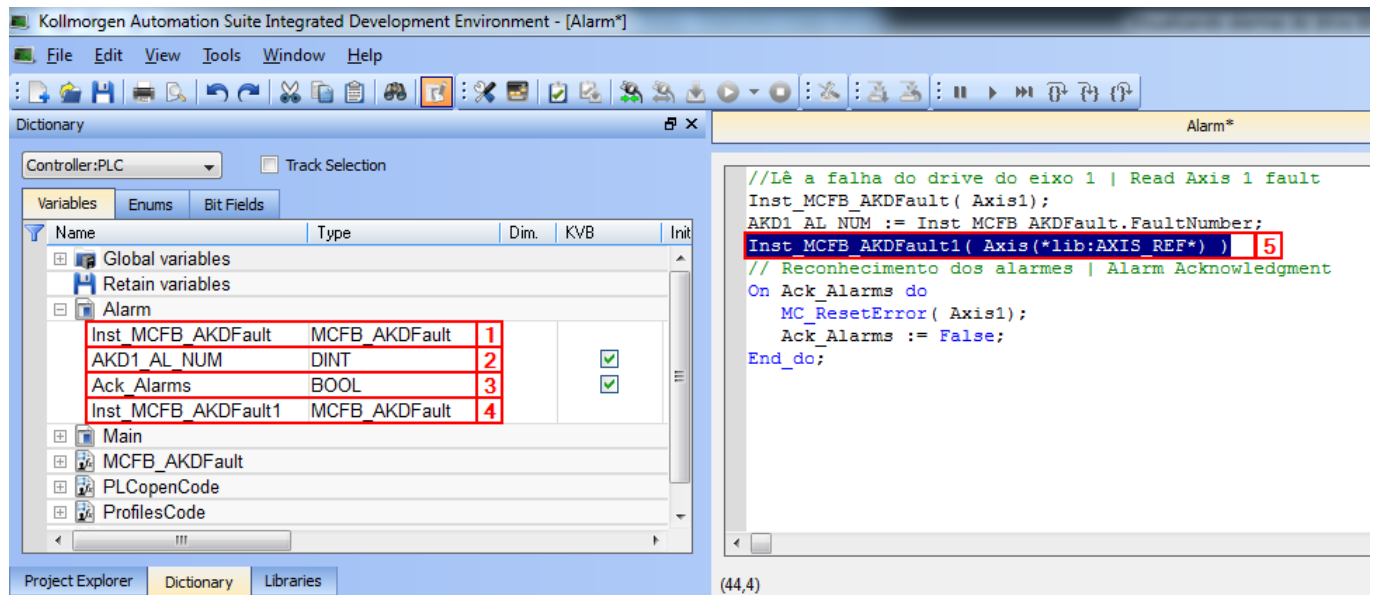
In the *Project Explorer* double-click in *Alarm* to open the source code of the imported program. Click in *Dictionary* and expand the *Alarm* item.



In the program line 2 we have an instance of *MCFB_AKDFault* block. This block collects and provides the fault information entered in the block input parameter (Axis1 this example). The FAULT output becomes *TRUE* when the selected drive enters a fault state. The fault number returned by *FaultNumber* output is the same number as the drive AKD shows on its display. This block comes with missing information about its instance in the *Dictionary* when we import the program, so you must manually enter it. To do so click the *Libraries* tab and drag and drop the function, dropping it within the *Alarm* program source code as shown below:



Note that the instance of default in MCFB_AK Dictionary changed from red to black [1].



If there is more than one axis you can use the *Inst_MCFB_AKDFault1* [5] block to get the alarms for the additional axis.

The variable *AKD1_AL_NUM* [2] receives from the *FaultNumber* output from *Inst_MCFB_AKDFault* block the value corresponding to the active alarm number or 0 if there are no active alarms in *Axis1* axis. For additional axes it is necessary to declare a variable for each additional axis. These variables are the type *DINT* and should have marked KVB field.

Important!

If the KVB field is not marked the variable will not be available for use in the HMI!

If there are no more axes, delete the text [2] program and the instance in the *Dictionary* [4].

The variable *Ack_Alarms* [3] will be used in the HMI to reset the alarms.

A coluna *DataConnection* recebe a variável/tag que contém o valor do alarme. Para o primeiro eixo usamos *Tags.Alarm__AKD1_AL_NUM* e para os eixos seguintes "*Tags.Alarm__*" e o nome escolhido para a variável/tag declarado no *Dictionary* do PLC.

A coluna *ExpressionName* fica em branco. Todas as colunas *ComparerType* ficam com valor *EqualTo*. A coluna *TriggerValue* tem o valor que será comparado ao tag. Desta forma se o tag especificado em *DataConnection* tiver o valor correspondente ao número do alarme ativo e ele for igual ao valor descrito pela coluna *TriggerValue* a IHM mostrará o texto descrito pela coluna *Text*. Todas as outras colunas devem ser ajustas conforme a especificação do projeto.

Preparing the table for import

Select the worksheet that have the desired language and delete the others.

Only if more than one axis:

In the chosen spreadsheet, the column *Name* contains a sequence name for the organization. There are 200 entries for each axis, so for a second axis the last entry will be *Alarm0400*.

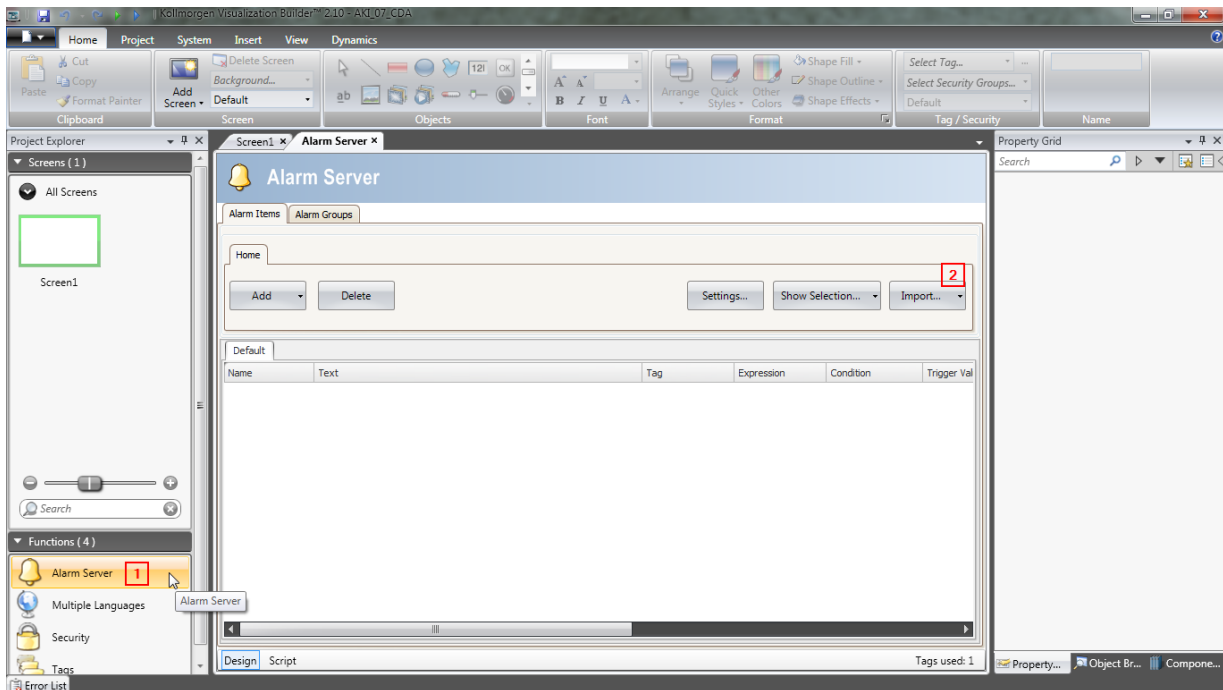
The *Text* column contains the text that appears on the HMI with the occurrence of the alarm. Copy and paste the column itself by changing the text "*AKD1 ...*" to "*... AKDx...*" according to the drive number.

The *DataConnection* column receives the variable/tag that contains the value of the alarm. For the first axis use *Tags.Alarm__AKD1_AL_NUM* and the following axes "*Tags.Alarm__*" and the name chosen for the variable / tag declared in the PLC *Dictionary*.

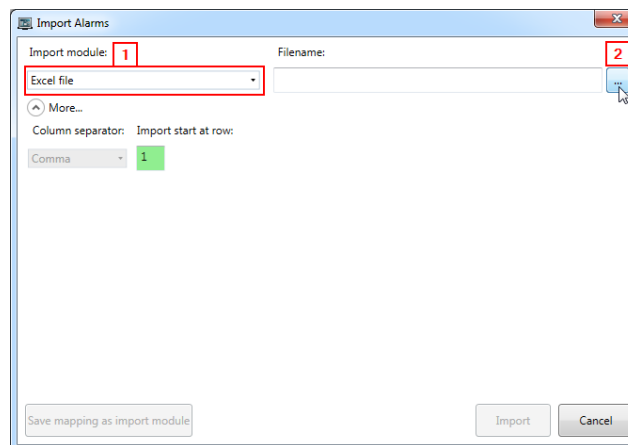
The *ExpressionName* column stays in blank. All rows of *ComparerType* column are *EqualTo* value. The *TriggerValue* column has the value to be compared to the tag. Thus if the specified tag in *DataConnection* have the value corresponding to the active alarm number and it is equal to the value described by *TriggerValue* column HMI will show the text described by the column *Text*. All other columns should be adjusted according to the project specification.

Importanto a tabela na IHM

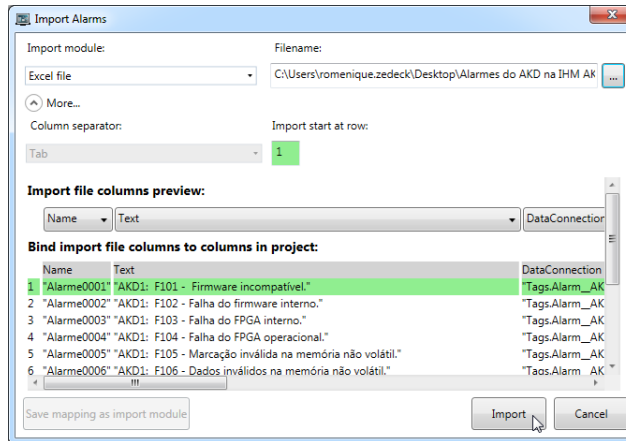
The Alarm Server tab contains the data of all alarms that the HMI displays. To view it click Alarm Server **[1]** and a new tab will open:



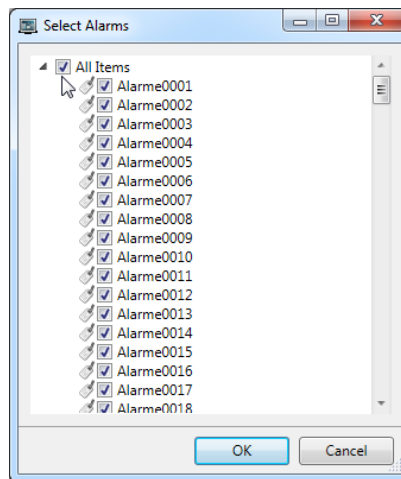
Click in Import [2] to import the table prepared in the previous step. In the *Import Alarms* window, you have to select *Excel file* in *Import Module* [1] and in [2] select the table.



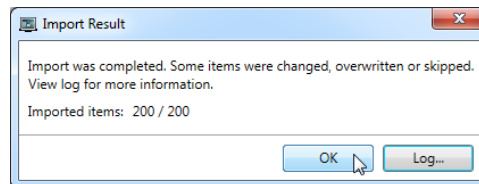
Click Import when the wizard has finished loading the table.



Select the All Items option and click **OK**

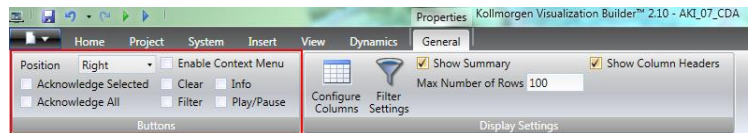


If the import is completed successfully the following message will show:



Creating a button to reset the alarms

For a button on the HMI to acknowledge and reset the drive alarms you must create a button to do both actions. First disable the default buttons of the *Alarm Viewer* by clicking on it and *General*. Uncheck the button items as shown below:



Then create a button and in its actions configure as shown below:

