

Presentation

C language function development software, also called SDKC, is a PL7 Micro, PL7 Junior and PL7 Pro software option. It enables new functions to be developed (internal code written in C language) and extends and completes the standard set of functions offered by PL7 software.

SDKC software also integrates a creation and management service for families of functions, so they can be integrated in the PL7 library.

Finally, it can be used to generate the function which ensures the protection of PL7 applications by reading a signature in the PCMCIA card inserted in the PLC.

Setup

C language development software is a genuine tool for managing the entire function which has been created:

- A user-friendly creation interface, integrated in PL7, with automatic file organisation.
- Powerful debug and test tools.
- Management of compatibility and software version for the functions created.
- Generation of disks for the subsequent installation of functions on other development stations.

Management of function families

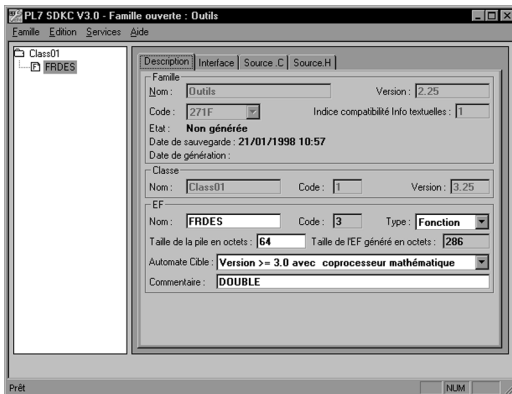
The software enables different function families to be defined. These functions, also known as EF, are classed according to family, allowing the user to create a sequential library of functions written in C language.

These functions, which will eventually form a part of the PL7 library, can be:

- Used in all languages.
- Displayed by the PL7 library tool.
- Classed according to family/function.

The user has the following data at his disposal:

- Date of creation and generation of the function.
- The version number of the function family.

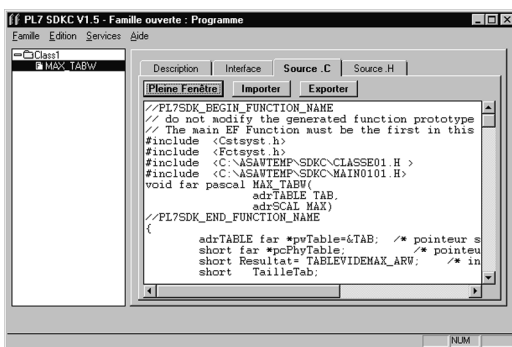


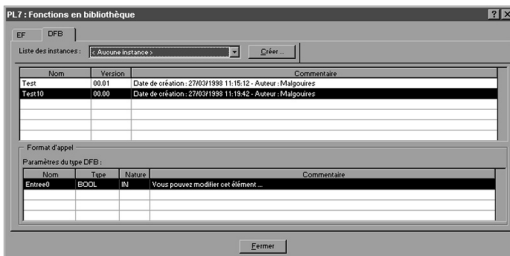
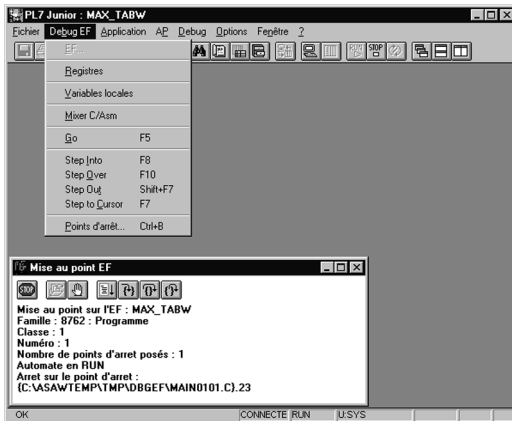
Editing functions

The various SDKC software editor tabs enable the user to create the function by:

- Declaring the interface (name, type and comment) for each input, output or I/O parameter.
- Writing the source code file in C language.
- Declaring the constants as separate files.

A function written in C language can access numerous internal PLC services such as real-time clock, PLC variables, system words, mathematical functions. In particular, it is possible to carry out numerical processing in floating point format, if the target PLC allows.





Setup (continued)

Debugging the functions

The function created must be generated under the “debug” format to be tested. Once it has been inserted in an application and loaded to a PLC, the execution of a function can be checked using numerous debug tools.

A specific function debug menu in C language accesses the following services:

- Breakpoint insertion.
- Step by step execution.
- Display of code with breakpoints shown.
- Display of data manipulations.

Functions library enhancement

After developing, generating, then debugging the function, the last step consists of generating a function family installation disk.

This enables the function library on the user's programming terminal to be enhanced. Managing the versions allows the level of any functions installed on a station to be known at any time.

These functions can be used in all PL7 languages.

Reference

This software extension enables standard functions offered by PL7 Micro, PL7 Junior and PL7 Pro version > V4 software to be extended.

It comprises:

- A set of 3 1/2 disks.
- A bilingual user manual (English and French).

This software is supplied with a Microsoft Visual C++ software package registration card.

PL7 SDKC procedure creation software

Description	Function	Target PLC extension	Reference	Weight kg
PL7 SDKC software extension	Procedure written in C language with access to floating point functions Debug in PLC	PL7 Micro/ Junior/Pro TSX Micro/ Premium	TLX L SDKC PL7 41M	0.930