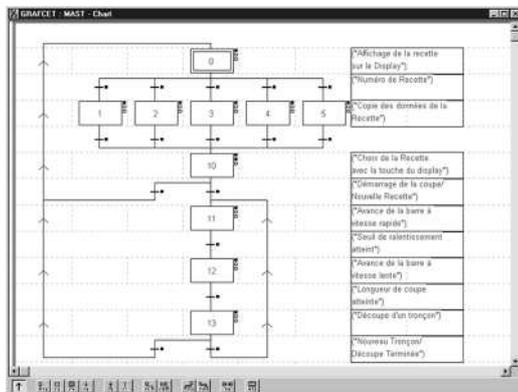


Operation in application server mode



Grafcet SFC language graphic editor



DFB type editor

Presentation

PL7 Micro/Junior/Pro software is designed for Windows 2000, XP, Vista and 7 (all 32-bit) operating systems (1) and, therefore, benefits from all the facilities associated with these operating systems.

The main functions of PL7 software are:

- User-friendliness and productive using contextual menus, context-sensitive help, info balloons, etc.
- Multi-instance, enabling several applications to be worked on simultaneously
- Management of access rights, for limiting and controlling the use of the various PL7 software functions
- Application server. The PL7 Pro software can be launched in OLE Automation server mode from a third-party client application. In this case, certain functions of the PL7 software can be executed following commands sent by an OLE client application

The main functions compared to the previous version V4.4 are:

- Development of the equipment catalogue
- Enhancement of the application data export files (FEF), for better compatibility with the Unity Pro software suite integration

Functions

Four IEC languages

The four graphical or textual languages available in PL7 are used for programming Modicon Premium and TSX Micro automation platforms.

The two graphical languages are:

- Ladder (LD)
- Sequential Function Chart (SFC) or Grafcet

The two textual languages are:

- Structured Text (ST)
- Instruction List (IL)

For these 4 languages, you can use the standard set of instructions compliant with IEC standard 61131-3 to create applications, which can be transferred from one platform to another. PL7 software also provides extensions to this standard set of instructions. As they are specific to Modicon Premium and TSX Micro PLCs, these extensions support the development of more complex applications in order to maximize the potential of the specific features of each of these platforms.

User DFB function blocks (only with Premium)

The user can create their own function blocks for specific application requirements, with Premium PLCs, using PL7 Pro software. Once the function blocks have been created in a library, they can be used with PL7 Junior/Pro software.

These user function blocks can be used to structure an application. They are used when a program sequence is repeated several times in the application or for freezing a standard programming routine. They can be exported to all other PL7 applications.

Using a DFB function block in one or more applications:

- Simplifies program design and entry
- Increases program legibility
- Facilitates program debugging (all variables handled by the DFB function block are identified on its interface)
- Enables the use of internal variables specific to the DFBs, which are independent of the application

(1) Compatibility with Windows 95, 98, Millenium and NT4.0 is no longer assured. For information, Windows 95 and Windows NT 4.0 cannot manage USB ports.

Repère	Symbole / Nom	Valeur courante	Nature
%M16	Trig_vid_melang	0	
%M17	Trig_tempo	0	
%M18	Status_ogole	1	
%M19	Synchro_1	0	
%M20	Cycle	0	
%M21	Raz	0	
%M52	Trig_sect_vidan	1	
	Gest_prod_silo_a		
	Gest_prod_silo_aPlaz	0	IN
	Gest_prod_silo_aPresel	2#0000 0000 0000 0000 00	IN
	Gest_prod_silo_aCount	0	IN
	Gest_prod_silo_aDone	1	OUT
	Gest_prod_silo_aVal_cou	16#00000007	PUBLIC

Animation table

Objet recherché	Adresse	Usage	IO
MAST_ProdukPur - TOP_4		R	I
MAST_ProdukPur - TOP_3 - OUT		R	I
MAST_ProdukPur - TOP_1 - V		R	I
MAST_ProdukPur - TOP_1		R	I
MAST_ProdukPur - TOP_1 - V		R	I

Cross-referencing of variables

Functions (continued)

Debugging tools

PL7 Micro/Junior/Pro software offers a complete set of tools for debugging applications. A tool palette provides direct access to the main functions:

- Setting breakpoints
- Step-by-step program execution
- Independent execution of the master (MAST), fast (FAST) and event-triggered (EVTI) tasks

Other functions available are:

- Animation of program elements when the PLC is in RUN
- Creation of animation tables containing the parameters or variables to be monitored or modified
- Debugging of DFB function blocks via the animation tables
- Debugging of Graficets in online mode
- Debugging of application-specific functions
- Access to general diagnostics of the modules or of each channel (1)

Diagnostics integrated in Modicon Premium platforms

The diagnostics offer for the Premium platform is based on three components:

- System diagnostics
- Diagnostic function blocks (DFBs), for system and application diagnostics
- Error message display system, called viewers, supplied as a standard component of Advanced Panel Magelis XBT G●, Magelis iPC Panel PC/BOX PC with Vijeo Designer/Monitor Pro software and PL7 Pro programming software.

Cross-referencing of variables

For every variable, this function can be used to:

- Search for program modules where this variable is used
- Obtain the list of statements, rungs or expressions
- Display and check activation conditions

Application converters

PL7 Micro/Junior/Pro software includes application converters which enable the reusing of all or part of previous applications written in:

- PL7 2, applications for TSX 17, TSX 27 or TSX 47 10/20/25 PLCs
- PL7 3 (2), applications for TSX/PMX 47...TSX/PMX 107 PLCs
- ORPHEE (2), applications for April Series 1000 PLCs

X-Way communication drivers

Uni-Telway COM port and USB port (PC side) communication drivers are available on the PL7 software CD-ROM.

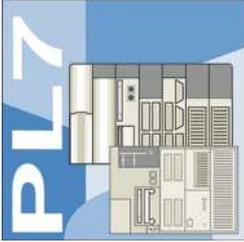
Depending on the user's needs, other drivers may be necessary. In this case, please consult our website www.schneider-electric.com and download the drivers available.

(1) Using ≥ PL7 software V4.0 extends the system diagnostics of the Premium platform. The system bits and words can be monitored as well as automatic displaying of associated time-stamped messages, without any additional programming. This monitoring is of the system elements (processor, memory, tasks, etc.), "In rack" I/O and remote I/O on Fipio bus.
(2) Function or feature requiring PL7 Junior/Pro software.

Software

PL7 software

PL7 Micro/Junior/Pro



References

PL7 Micro/Junior/Pro are multi-language (English, French, German, Italian and Spanish) software packages designed for PC compatibles ⁽¹⁾ with Windows 2000, XP, Vista or 7 (all 32-bit) operating system.

- For a station, the package comprises:
 - 1 CD-ROM containing the multilingual PL7 software, PL7 demonstration applications and the Uni-Telway terminal link driver
 - 2 CD-ROMs containing multilingual technical documentation
 - 1 CD-ROM containing Service Pack 5
- For 3-station packages, the quantities above are tripled.

Note: The operating systems of Modicon TSX Micro/Premium platforms are available on our website www.schneider-electric.com.

Cables for connection to the PC are to be ordered separately and depend on the desired number of users and the type of link (RS 232 or USB port). See separate parts (page 43100/5).

PL7 Micro software packages

PL7 Micro software enables programming in Instruction List, Ladder Diagram, Structured Text and Grafset languages.

It also enables the setting up of application-specific functions, maintenance and diagnostics of the developed applications. It includes the PL7 2 application converter.

Description	For PLCs	Licence type	Reference	Weight kg
PL7 Micro software packages	TSX Micro	Single (1 station)	TLX CD PL7M P45	–
		Group (3 stations)	TLX CD3 PL7M P45	–
PL7 Micro and SyCon V2.10 software packages	TSX Micro	Single (1 station)	TLX CD PL7M PC45	–
Software update for earlier version PL7 Micro software	TSX Micro	Single (1 station)	TLX RCD PL7M P45M	–
		Group (3 stations)	TLX RCD3 PL7M P45M	–
Software update for earlier version PL7 Micro software Supplied with SyCon V2.10	TSX Micro	Single (1 station)	TLX RCD PL7M PC45M	–

PL7 Junior software packages

PL7 Junior software enables programming in Instruction List, Ladder Diagram, Structured Text and Grafset languages.

It also enables the setting up of application-specific functions, maintenance and diagnostics of the developed applications. It includes PL7 2, PL7 3 and ORPHEE application converters.

Description	For PLCs	Licence type	Reference	Weight kg
PL7 Junior software packages	TSX Micro, Premium	Single (1 station)	TLX CD PL7J P45	–
		Group (3 stations)	TLX CD3 PL7J P45	–
Software update for earlier version PL7 Junior software	TSX Micro, Premium	Single (1 station)	TLX RCD PL7J P45M	–
		Group (3 stations)	TLX RCD3 PL7J P45M	–
Software upgrade packages from earlier version PL7 Micro	TSX Micro, Premium	Single (1 station)	TLX UCD PL7J P45M	–

PL7 Pro software packages

PL7 Pro software has identical functions to that of PL7 Junior software. In addition, it allows the user to create their own DFB function blocks and graphic runtime screens.

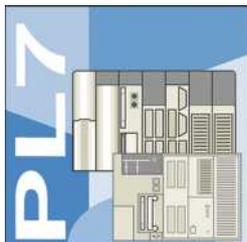
Description	For PLCs	Licence type	Reference	Weight kg
PL7 Pro software packages	TSX Micro, Premium	Single (1 station)	TLX CD PL7P P45	–
		Group (3 stations)	TLX CD3 PL7P P45	–
Software update for earlier version PL7 Pro software	TSX Micro, Premium	Single (1 station)	TLX RCD PL7P P45M	–
		Group (3 stations)	TLX RCD3 PL7P P45M	–
Software upgrade packages from earlier version PL7 Junior	TSX Micro, Premium	Single (1 station)	TLX UCD PL7P P45M	–

⁽¹⁾ The configuration of the PC must correspond to the reference and version of the Windows operating system installed.
 Note: The PC must have a CD-ROM drive.

Software

PL7 software

PL7 Micro/Junior/Pro



References (continued)

PL7 Micro/Pro software licences

Description	For PLCs	Licence type	Reference	Weight kg
PL7 Micro Open Team software licence	TSX Micro	Team (10 stations) (1)	TLX OT PL7M P45M	–
PL7 Pro Open Team software licence	TSX Micro, Premium	Team (10 stations) (1)	TLX OT PL7P P45M	–
PL7 Pro Open Site software licence	TSX Micro, Premium	Site (>10 stations) (1)	TLX OS PL7P P45M	–



TSX PCX 1031

Separate parts

Description	Description	Reference	Weight kg
X-Way drivers package for compatible PC	CD-ROM including X-Way drivers (see page 43100/3) Includes multilingual user documentation	TLX CD DRV20M	–



TSX CUSB 485

Description	Use	Processor port	To PC port	Length	Reference	Weight kg
Compatible PC connection cables	TSX Micro/Premium	Mini-DIN port	RS 232D (SUB-D 15-way connector)	2.5 m	TSX PCX 1031	0.170
			USB port (USB/RS 485 converter)	0.4 m	TSX CUSB 485 (2)	0.144
			USB port (mini-DIN/RJ45 cable)	2.5 m	TSX CRJMD 25 (2)	0.150

Description	Use	Reference	Weight kg
Universal Bluetooth® Interface (UBI)	Provides Bluetooth® connectivity for products such as the Modicon M340/Premium platforms and Altivar/Lexium servo drives, via their serial port (RS 485). Used for setting up and maintenance of products. Designed for permanent installation and can be safely fitted on the inside or outside of electrical enclosures.	TCS WAAC 13FB	0.320

- Protocols supported: Modbus and Uni-Telway
- Powered via the product's RS 485 serial port
- Max. range in direct line of sight: 20 m

The kit comprises:

- A Universal Bluetooth® interface (UBI)
- An RJ45/mini-DIN cable (length 1 m)
- An RJ45/RJ45 cable (length 1 m)
- A fixing clamp for installation inside the electrical enclosure
- A CD with configuration software and user manual



TCS WAAC 13FB

(1) Team user workstations located on the same site.

(2) The TSX CUSB 485 converter requires the use of the TSX CRJMD 25 cordset (equipped with 2 connectors, 1 x mini-DIN and 1 x RJ45).

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