



SyncLogic: PC + PLC + HMI



>>> **SyncLogic** is an open architecture PC-based automation system for the control and visualisation of technological processes in automatic machines and in industrial automation.

SyncLogic implements the SoftPLC as well as different methods for providing an operator interface. The PC based hardware also offers all the usual advantages such as standard peripherals and Windows style software.

The system is very similar to the SyncMotion product line, except for the SoftMotion modules which are not included. The main difference is that the basic SyncLogic is a supervision system with a Modbus RTU fieldbus.

A standard PC platform allows to achieve maximum benefits in terms of power, computational speed, cost effectiveness and availability of standard peripherals. SyncLogic hardware is based on low-power CPU (fanless) and the Solid-State-Disk to ensure reliability in industrial environments (no rotating part).

SyncLogic is proposed as a PanelPC with 10.4", 12.1" or 15" TFT and touch screen, ideal for mounting on machine, or as a black box, without integrated display, with the possibility of connecting an external standard monitor.



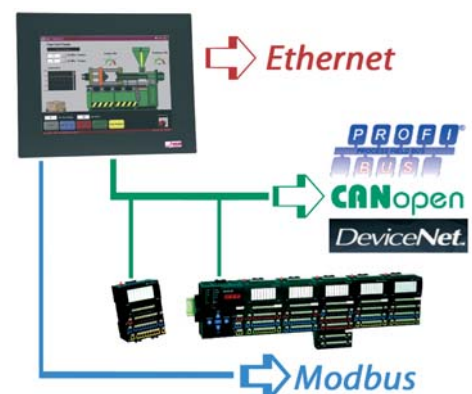
SyncLogic 15"

>>> **Soft-PLC:** the integrated Soft-PLC run-time module is designed for complex and time-critical operations. The engineering tool is a user friendly, graphic oriented environment allowing high level multitasking, **IEC 61131-3** compliant programming. Users can choose from five different programming languages: Instruction List, Ladder Diagram, Function Block, Structured Text or Sequential Flow Chart, to best suit their needs and the application. A symbolic debugger allows step by step execution, breakpoint setting and the monitoring of variables at run-time. Application downloading and debugging is executed through a standard Ethernet TCP/IP communication link between the development tool and the control unit.

>>> **Fieldbus:** SyncLogic can be equipped with a field-bus interface like a Profibus-DP, CANopen or DeviceNet master provided with a dedicated processor to offload the main CPU from the communication process. The distributed modular I/Os are connected directly to the field-bus. A standard configuration tool, accessible from the Soft-PLC development tool, can be used to set-up the field-bus network and to easily add third-party, standard devices.

>>> **Distributed I/O:** in order to complete the SyncLogic product line, PRIMA ELECTRONICS provides a wide range of distributed I/O modules: digital, analogue and experts (positioning, counter, interface for temperature sensors...).

>>> **HMI:** SyncLogic provides the **WinNBI** (Windows Network Based Interface), a software development tool, extremely powerful and easy to use, dedicated to the HMI and used to display, control and supervise any automation application. The WinNBI runs on a standard PC under Windows operating system but it is also possible to modify the screens directly on SyncLogic. It is possible to handle pre-defined graphic objects, alarms and multi-language text. The Remote WinNBI is the distributed version running on a remote PC connected to the control unit through Ethernet TCP/IP.





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SyncLogic Control Units

HARDWARE	Panel PC 10.4"	Panel PC 12"	Panel PC 15"	RACK
CPU	Via Mark 533MHz	Celeron M 600MHz		
Memory	from 128Mb to 256Mb RAM, DiskOnModule from 64Mb to 1Gb			
NVRAM	64Kb retentive memory			
Interfaces	RS232, RS232/422/485, USB 1.1, Ethernet 10/100Mbps, VGA output, PS2			
Led	Power, PLC Run, Fault			
Display	10,4" TFT (800x600)	12" TFT (800x600)	15" TFT (1024x768)	-
Touch Screen	resistive			-
Field bus	CANopen, Profibus-DP or DeviceNet with 1 dedicated processor and dual port interface			
Operating System	Windows CE .Net 5.0			
Power supply	24Vdc ±10%			
Protection	IP54 or IP65	IP65		IP20
Front Panel	Painted steel or INOX + protective film	INOX + protective film		
Dimensions (A x L x P)	250 x 305 x 86 mm	266,5 x 345 x 88 mm	296 x 370 x 89 mm	210 x 197 x 62
Cut-out	234 x 282 mm	248 x 316 mm	272 x 340 mm	-
Temperature	0 ÷ 45° operative (-20°÷60° storage) - Umidity: 10-90% without condensing			
SoftPLC				
Programming	Preemptive multitasking with minimum scheduling time of 2ms			
Languages	IEC 61131-3: Instruction List, Ladder Diagram, Function Block, Structured Text, Sequential Flow Chart			
Tasks	No limits on the number of tasks, 25 created by default. Time driven or event driven tasks (32 predefined events + 32 user defined events). 10 levels of priority can be assigned to each task; round-robin scheduling for tasks with same priority. Watch dog and overrun protection for each task. Cold and warm start behaviour. Possibility of incremental reconfiguration at run-time			
Variables	Input, Output, Input/OutputLocal (unlimited), Global (1Mbyte), Global retentive (128 kbyte)			
Data types	BOOL, BYTE, WORD, DWORD, INT, DINT, REAL, LREAL, TIME, STRING, STRUCT, ARRAY, ARRAY STRUCT			
Function Libraries	IEC 61131-3 Standard libraries: arithmetical, logarithmic and trigonometric functions; string, selection, compare and type conversion functions; system diagnostic functions; time, flip flop, trigger and counter functions. Functions to access files both in reading and writing. User can define proprietary libraries in all IEC 61131-3 available programming languages protecting know how by password.			
HMI				
OSAI WinNBI	WinNBI can directly access the PLC memory, 72kbytes of non retentive variables and 64kbytes of retentive variables. The main characteristics are: possibility to import user defined bitmap; use of pre-defined graphic objects included in a specific library; multi-language text, menu and graphic objects (i.e. text over pushbuttons) management; use of Unicode mode (for special languages like Chinese, Arab and Cyrillic); possibility to activate Visual Basic software through pushbuttons.			