Adv139A100

SlimLine

LogicLab IEC61131-3 Cortex M7 CPU

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LogicLab Cortex M7 CPU IEC61131-3

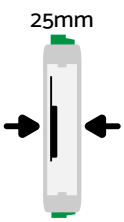
The SlimLine Cortex M7 CPU module is the last introduced Central Processing Unit of this programmable controller (PLC) family. It's equipped with a powerful Cortex M7 processor, with its 2MB Flash memory and a 300MHz clock speed, this breaks down the user program size limits and execution speed. The module is programmable using the 5 languages provided by the IEC61131-3 standard, through LogicLab, a **completely free programming tool**. A wide range of libraries and functional blocks (FB) are provided and selected to perform a variety of functions.

Using non-volatile FRAM technology memory (Ferroelectric RAM), it was possible the elimination of the battery, minimizing the maintenance and the environmental impact at the end of life. This also eliminates the restrictions imposed by the Directives for air transportation of products containing batteries. The FRAM technology also guarantees a number of virtually unlimited write cycles, thereby improving system reliability, and a very low consumption of energy even during writing cycles.

Thanks to the support of Modbus RTU/ASCII protocols, can be connected operator terminals, and/or SCADA software applications. RS485 versions, provide an High-impedance, Fail Safe driver, this allows to connect up to 128 devices on the same network.

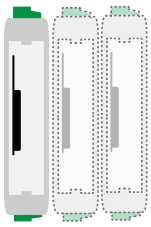
SLIM

Engineered in ultra compact self-extinguishing UL94 V-0 PC/ABS enclosure, suitable for DIN rail mount according to the standard DIN EN60715.



MODULAR

The system is expandable with up to 16 I/O modules, allowing a maximum of 772 digital I/O on local bus.



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Low power

Powered from 10 to 30Vdc @ 1W only, these devices are suitable for **energy critical systems**.

Wide operating temperature

With an operating temperature from -20 to +70°C, these devices are suited for **environment critical applications**.

Web Oriented

Built-in web server for system monitoring and **user-made web pages**.

IoT Ready

REST and MQTT protocols allow to make your system **IoT ready**.

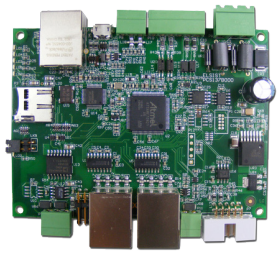
Software investment protection

Designed with the perspective of protecting the investment in programming made by the Customer in terms of portability from/to other platforms, both in terms of copy protection and fraudulent use.

MID
DID

Embedded version available

Build your own custom control system, reducing time to market and keeping costs down thanks to the wide variety of CPUs and I/O cards. Easy integration of custom made I/O cards through the standard I2C bus.



This CPU is equipped with:

- 1 Ethernet Port 10/100BaseT(x)
- 2 COM Port RS232
- 1 MicroUSB port Host/Device (extended versions only)
- 1 Field bus RS485 or CAN bus (depending from version)
- 2 Insulated digital input (1 counter 10kHz)
- 2 Insulated digital output (1 PWM 2kHz)
- 2 Analog input 12bit (extended versions only)
- 1 1-wire port (extended versions only)
- 1 micro-SD card slot
- 1 I2C™ High-speed Expansion bus

The module is available in different versions:

- RS485: 2 RS232C, 1 USB, digital I/O, Eth., 1 insulated RS485,
- CAN: 2 RS232C, 1 USB, digital I/O, Eth., 1 insulated CAN.
- Extended RS485: 2 RS232C, 1 USB, 4 I/O digitali, 2 Analog In, 1 1-Wire, 1 Eth., 1 insulated RS485.
- Extended CAN: 2 RS232C, 1 USB,4 I/O digitali, 2 Analog In, 1 1-Wire, 1 Eth., 1 insulated CAN.

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Version	RS485	CAN	Extended RS485	Extended CAN
Code	MPS054A100	MPS054A110	MPS054A200	MPS054A210
Power supply	10-30Vdc 1.7W (1)			
Power to expansion bus	5V 2.6A max.			
Processor	Cortex M7 300MHz, FlashEPROM 2MBytes, SRAM 96kBytes.			
Program memory	131 kB - Minimum data retention 10 year		262 kB - Minimum data retention 10 years	
Data memory	12 kBytes User data			
Data backup memory	FRAM 6 kBytes User data			
Mass memory	FlashEPROM 4MBytes (398 kBytes User data) Minimum data retention 10 years - SDCard			
File system	On internal FlashEPROM and SDCard			
FTP server	Yes			
Real Time Clock	Yes, with auto Day Light Saving Time Power off functionality is optional (code PCK042*000) SNTP (Simple Network Time Protocol) supported			
USB I/F	None		Yes, on micro-USB AB conn. (Host/device mode)	
Execution time	Logic instructions: 116uS/k (Typ.)			
	Math instructions - Integer: 155uS/k (Typ.) - Float: 399uS/k (Typ.)			
Program memory usage	Logic instructions: 8kB/k (Typ.)			
	Math instructions - Integer: 13kB/k (Typ.) - Float: 29kB/k (Typ.)			
Digital Input	2 Optoisolated PNP/NPN5-30Vdc, 7mA@24V (one can be used as a counter w/Fmax=10kHz)			
Analog Input	None		2 * 0-10Vdc 12Bit	
Digital Output	2 photoMOS 0.25A@40Vdc/ac TOn 0,75mS max, TOff 0,2mS max (2) (one may be used as PWM out)			
1-wire I/F	None		1	
Ethernet I/F	RJ45 10/100base-T(x) Auto-MDIX			
Field bus (Insulated)	Fail Safe RS485	CAN Bus Compatible 2.0B	Fail Safe RS485	CAN Bus Compatible 2.0B
Expansion bus	I2C High-Speed			
Expansion modules	Up to 16			
RS232 I/F	Ports: 2 * DTE on RJ45 conn.			
	Baud rates: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps			
	Data Bit: 7 or 8			
	Stop Bit: 1 or 2			
	Parity: Even, Odd, None			
Supported Protocols	Modbus RTU/ASCII, DMX, DLMS (IEC62056-21), Modbus over IP TCP/IP, UDP (Client/Server supported) HTTP, SNMP, REST, MQTT Client, FTP, NTP. [Option: DMX, DLMS (IEC62056-21)]			
Status indicators	Power, RUN, READY, USB activity, Output status			
Mass-memory	Slot micro-SD HC Up to 32GB (card not supplied)S.O. manages up to 512Mb and 64Files Max.			
User web pages	Yes			
Environment	Operating temperature: from -20 to +70°C			
	Storage temperature: from -40° to +80°C			
	Relative Humidity: Max. 90%			
Dimensions and weight	Dimensions: 22,5 mm L x 101 mm W x 120 mm H			
	Weight: 150g			
Approvals	CE, RoHS			
Warranty	2 Years			
Programming Tool	LogicLab (Vers. 4.0.0 or superior)(Free)			
Supported Languages	All those provided by IEC61131-3 standard (IL, ST, LD, FBD e SFC)			
Firmware Upgrade	RS232, Ethernet		USB, RS232, Ethernet	
Remote programming	Yes, Through TCP/IP connection			
Notes: (1) Worst case (2) @10Vdc Rload=20Ohm