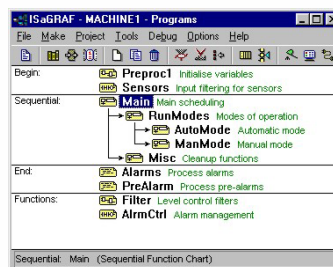


EMBEDDED PLC™ for the BL2500 Single Board Computer

The EMBEDDED PLC™ for the BL2500 Single Board Computer is an executable binary that converts the Rabbit Semiconductor BL2500 single board computer into an embedded Programmable Logic Controller (PLC)

The EMBEDDED PLC™ executes all five IEC61131-3 programming languages written in the ISaGRAF V3.50 Workbench (available separately). The IEC61131-3 languages include:

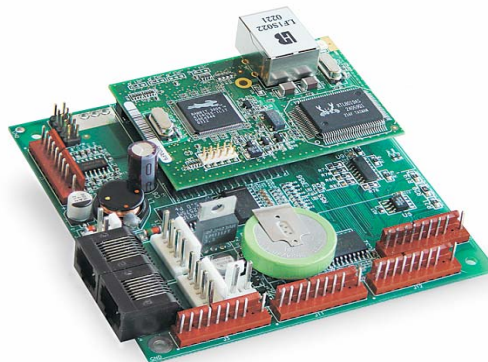
- Sequential Function Chart (SFC)
- Function Block Diagram (FBD)
- Ladder Diagram (LD)
- Structured Text (ST)
- Instruction List (IL)



The EMBEDDED PLC™ reads variables and I/O points, executes your process control application and writes to variables and I/O points in a cyclic loop.

BL2500 SPECIFICATION

The BL2500 is an advanced single board computer that incorporates flash memory, SRAM, digital I/O ports, A/D converter inputs, RS232/RS485 ports and Ethernet interface (10/100 Mbps). The BL2500 single board computer gives PLC designers extremely low-cost embedded control for high-volume applications such as product control, factory equipment control, access control, HVAC, and vending machines.



The BL2500's compact board size of 100 x 100 mm is easily mountable in standard 100 mm DIN rail trays. External connections via polarized locking industry standard Molex® type connectors enable rapid assembly with wire harnesses. These connectors also provide dependable cable harness connectivity to I/O.

Customized BL2500 models (OEM2500 versions) can be manufactured to user-specified configurations in volumes greater than 500. Customization helps OEMs realize an extremely low-cost, yet maintain a reliable and rugged industrial PLC solution.

EMBEDDED PLC

BL2500 SBC

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EMBEDDED PLC™ for the BL2500

Single Board Computer

SBC model supported:

BL2500 with 10/100BaseT, 512K Flash, 256K + 512K SRAM, 44.2 MHz clock (Rabbit Semiconductor P/N: 101-0602)

I/Os supported:

- 16 Digital Inputs
- 8 Digital Sinking Outputs
- 1 Analogue Input (connected through AD0): 10 bits resolution, 0 - 3.3V
- 1 Analogue Output (connected through DA1): 10 bits resolution, 0 - 3.3V

For further details refer to the BL2500 technical specification.

Communications:

- Communication parameters are configurable using the **EMBEDDED PLC™** Utility for the Rabbit Processor
- Modbus TCP (using static IP address)
- Modbus RTU over RS232 (using BL2500 serial port E)
- Modbus RTU over RS485 (two-wire mode, using BL2500 serial port D)
- Modbus RTU serial communication configuration (fixed):
 - Baud rate: 19200 or 9600
 - Parity: None
 - Data bits: 8
 - Stop bits: 1
 - Flow control: None

Performance:

- Digital Inputs scan time = 200 µsec
- Analogue Input scan time = 83 msec
- Digital Output update time = 30 µsec per output
- Analogue Output update time = 120 µsec
- Boolean instruction = 30 µsec
- Program execution overhead = 100 µsec per program

Memory space:

- Maximum size of the ISaGRAF application database is 50000 bytes.
- Size of ISaGRAF real-time database (holds variables, SFC engine data) is 10000 bytes
- Free root memory is approximately 9000 bytes.
- **EMBEDDED PLC™** kernel code size is approximately 260000 bytes.

ISaGRAF 3.50 features that are not supported by the EMBEDDED PLC™

- On-line modification. This feature enables the user to modify the application while the process is running.
- Uploading the application stored in the target.