Enhanced Baby Bear
Programmable Logic Controllers

Divelbiss CORPORATION
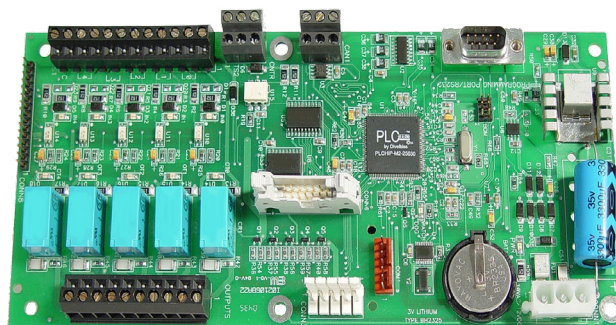
► Full Featured
► Single Board Construction
► Low Mounting Profile
► Fully Industrialized
► Relay Outputs
► SAE J1939 / OptiCAN Connectivity
► Modbus Slave Supported
► High Speed Counter (100KHz)
► Programs in Ladder Diagram / Function Block

ICM-EBB-700 Programmable Logic Controller

Overview:

The Enhanced Baby Bear series of programmable logic controllers offers dimensions and mounting identical to the original Baby Bear product while adding expanded features and versatility. Based on patented PLC on a Chip® technology, the controller is easy to apply and program using the EZ LADDER Toolkit PC based software. The base control board offers 5 inputs and 5 outputs with maximum expansion capability to 120 in and 120 out using standard expander modules.

The Enhanced Baby Bear controllers are ideal for small system control and monitor applications, particularly in instances where panel space is limited. The low profile allows side as well as back-panel mounting in standard NEMA enclosures.

Typical Applications Include:

► Machine Control
► Compressor Control
► Engine Control
► Conveyor Systems

► Water Lift Stations
► Label Machines
► Screen Printers
► Pump Control

► Elevator Control
► Motor Control
► Valve Control

Enhanced Baby Bear Controller Specifications / Features (Refer to the product Manual / Data Sheet for more detailed specifications)		
Processor / Memory / Programming	**128K Flash Models**	**256K Flash Models**
Processor / Memory / EEPROM	M-Series PLC on a Chip™, 128K 8KBytes RAM, 128K Flash / 1768 Bytes EEPROM	M-Series PLC on a Chip™, 256K 12K Bytes RAM, 256K Flash / 2792 Bytes EEPROM
Retentive Memory	100 Bytes	100 Bytes
Programming	Ladder Diagram / Function Block	Ladder Diagram / Function Block
Digital I/O		
Digital Inputs, 10-30VAC/VDC	Qty 5, Sink/Source, Optically Isolated with LED Indicators	Qty 5, Sink/Source, Optically Isolated with LED Indicators
High Speed Counter (12VDC Nominal)	Qty 1, Count Up, 100KHz Max., Optically Isolated (Model Dependent)	Qty 1, Count Up, 100KHz Max., Optically Isolated
Digital Outputs	Qty 5, Relay, with LED Indictors, Dry Contact 1/8 HP, 125VAC / 250VAC 5A@30VDC / 250VAC Resistive	Qty 5, Relay, with LED Indictors, Dry Contact 1/8 HP, 125VAC / 250VAC 5A@30VDC / 250VAC Resistive
I/O Expansion	Expandable using EBB I/O or High Density I/O (Model Dependent)	Expandable using EBB I/O or High Density I/O (Model Dependent)
User Interface		
Status LED Indicators	Watchdog LED, Power LED	Watchdog LED, Power LED
Communications		
Serial Ports	1 Programming, RS232	1 Programming, RS232 Optional (sold separately) Serial Module RS232, RS422, RS485, Modbus Slave
CAN Port	None	SAE J1939 (Read Only), OptiCAN
Other		
Input Power	10VAC or 12VDC	10VAC or 12VDC
Output Power to I/O Expansion	5VDC: +5VDC +/- 5%, 360mADC Maximum +V: 12VDC +/- 15%, 600mADC Maximum	5VDC: +5VDC +/- 5%, 360mADC Maximum +V: 12VDC +/- 15%, 600mADC Maximum
Real Time Clock	Yes, Month, Day, Year, Day of Week, Hour Minute, Seconds, (Model Dependent)	Yes, Month, Day, Year, Day of Week, Hour Minute, Seconds
Style / Mounting	Open Board / Subplate	Open Board / Subplate
Dimensions	8.75" L x 4.00" W x 1.04" H	8.75" L x 4.00" W x 1.04" H
Operating Temperature	-40ºC to +60ºC	-40ºC to +60ºC

Ordering Information: (See Specifications)

Model	Flash Memory	On-board I/O	I/O Expasion Type	CAN Port	Real Time Clock	Counter Input	Optional COM Port
ICM-EBB-100	128K	5 Inputs 10-32VAC / VDC 5 Relay Outputs	None	No	No	No	None
ICM-EBB-200	128K	5 Inputs 10-32VAC / VDC 5 Relay Outputs	None	No	No	Yes	None
ICM-EBB-300	128K	5 Inputs 10-32VAC / VDC 5 Relay Outputs	None	No	Yes	Yes	None
ICM-EBB-400	128K	5 Inputs 10-32VAC / VDC 5 Relay Outputs	Qty 1: ICM-EBB-IO-54RE-P 8 DC Inputs / 8 Relay Outputs	No	Yes	Yes	None
ICM-EBB-500	128K	5 Inputs 10-32VAC / VDC 5 Relay Outputs	Qty: Multiple, High Density I/O Various Configurations / Voltages up to 120 Inputs / 120 Outputs	No	Yes	Yes	None
ICM-EBB-600	256K	5 Inputs 10-32VAC / VDC 5 Relay Outputs	Qty 1: ICM-EBB-IO-54RE-P 8 DC Inputs / 8 Relay Outputs	Yes	Yes	Yes	RS232 / RS485 / RS422 Module (Sold Separately)
ICM-EBB-700	256K	5 Inputs 10-32VAC / VDC 5 Relay Outputs	Qty: Multiple, High Density I/O Various Configurations / Voltages up to 120 Inputs / 120 Outputs	Yes	Yes	Yes	RS232 / RS485 / RS422 Module (Sold Separately)

Programming the Controller

The Enhanced Baby Bear Series PLCs program in Ladder Diagram using the Divelbiss EZ LADDER® Toolkit, a Ladder Diagram Development Platform. EZ LADDER software parallels the IEC-61131 standard and provides an easy to use interface.
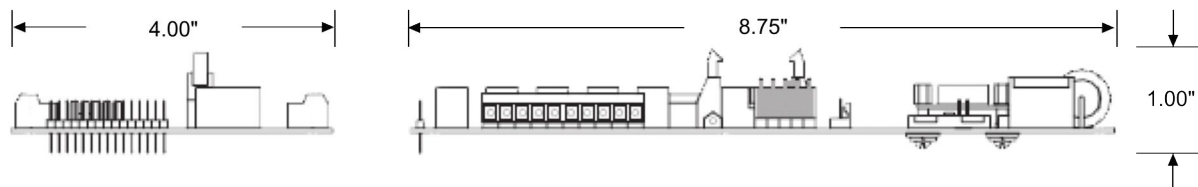
After a ladder diagram program is developed, it can be downloaded to the Enhanced Baby Bear via the programming port. The program is stored on non-volatile FLASH memory and is automatically executed on power up. Once the download is complete, the Enhanced Baby Bear is successfully programmed and begins executing the program.

Refer to the EZ LADDER Toolkit's User Manual for more detail on creating ladder diagram programs, connecting to targets and downloading the program to targets.

Optional Hardware Add-ons/Accessories:

Model #	Description
126-102860	Null Modem Programming Cable
ICM-EBB-RS232	RS232 Serial Port Module for 2nd COM port
ICM-EBB-RS422	RS422 Serial Port Module for 2nd COM port
ICM-EBB-RS485	RS485 Serial Port Module for 2nd COM port
109-101153	Transformer, 115VAC Primary / 10VAC Secondary
109-100924	Transformer, 230VAC Primary / 10VAC Secondary
ICM-EBB-IO-54RE-P	Stackable I/O Expander, 8 DC Inputs / 8 Relay Outputs
ICM-HDIO-XXP	High Density I/O Expanders (Various Models Available)
EZLDCD-01	EZ LADDER Toolkit Development Software on USB Flash Drive (Free with Controller Purchase)

Mechanical Dimensions:

The Enhanced Baby Bear User Manual and EZ LADDER Toolkit can be downloaded from http://www.divelbiss.com.