SoftPLC Hardbook Controllers

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Overview

Every Hardbook SoftPLC includes the functions and features of all SoftPLC controllers, including:

- Deterministic, high speed program execution
- “Unlimited” user logic and data table memory
- Ladder logic and data table addressing similar to Allen-Bradley PLC-5/SLC-500
- Fully documented applications, all documentation resides in the controller
- Supports user functions written in C++
- Compatible with all HMI/SCADA products

Hardware Features

Although each Hardbook model has unique physical characteristics, they all have the following features in common:

- Multiple Ethernet, serial and USB communication ports
- Heavy Duty Metal Enclosure with mounting brackets or DIN-mount bracket
- Fanless operation, industrial rated environmental specifications
- 2GB RAM minimum
- 8GB minimum flash *(type of disk varies by model)*
- Expansion slot(s) for add-in cards such as I/O, communications or industrial network interfaces *(number/type varies by model)*

Hardbook Models

There are a number of Hardbook SoftPLC models to meet the wide range of application requirements for this powerful level of controller. The most popular models are listed in the table below. If you don't feel any of these meet your needs, other options are available for other form factors *(such as rack mount)*, more option slots, etc. Contact SoftPLC Corporation to discuss your preferences.

To each model, you can add hardware and firmware options *(see next section)*. Each Hardbook SoftPLC CPU is assembled and configured with all of your selected options, then undergoes a system-level test prior to shipment.

Class	Cat No	Picture	Expansion	Dimensions (WxDxH)
Mini Hardbook	HB-M0QA		n/a	2.8 x 6 x 5.5 in (71 x 152 x 139 mm)
	HB2-MMQA		(2) Mini-PCIe	2.8 x 6 x 5.5 in (71 x 152 x 139 mm)
	HB2-MILEH		(2) PCI-104, (1) Mini-PCIe	3.8 x 6 x 5.5 in (96.5 x 152 x 139 mm)
Half-Size Hardbook	HB-H0QA		(2)Mini-PCIe	7.52 x 7.87 x 2.36 in (191 x 200 x 60 mm)
	HB2-HPQA		(2) PCI,(2) Mini-PCIe, SATA (HDD/SSD)	7.7 x 7.87 x 4.37 in (195 x 200 x 111 mm)

Runtime License Size Options

There are (4) available SoftPLC firmware runtime sizes, where runtime size determines the maximum supported number of Ethernet/IP bytes, ModbusTCP servers, logical A-B racks and digital I/O points *(analog I/O is limited only by hardware, not firmware)*. The table below summarizes these choices. Details on these limits are in the communication driver manuals for each protocol.

Specify the size by appending the suffix to the base model Catalog Number. For example, HB2-HPQA-1K is a model HB2-HPQA capable of up to 1024 DI/DO, 512 Ethernet/IP Connection Bytes and/or 16 ModbusTCP Servers.

Cat No Suffix	ModbusTCP Servers	Ethernet/IP Bytes	Logical A-B Racks	Discrete Inputs^	Discrete Outputs^
LT	2	64	1	128	128
1K	16	512	8	1024	1024
2K	32	1024	16	2048	2048
8K	127	4096	64	8192	8192

^ *Select the size based on the larger value in either category. For example, a system with 130 inputs and 24 outputs would require a 1K version. An exception is for A-B RIO which is dictated by logical racks per the A-B RIO definition, details can be found in the A-B RIO driver documentation.*

I/O and Other Options

SoftPLC Hardbooks are control system CPU's. To the CPU, you can interface to and/or attach a wide variety of I/O and other devices such as motion controllers to suit the application needs.

Any Ethernet, serial, USB and/or industrial bus remote I/O can be used providing a driver exists and *(in the case of bus I/O)* the appropriate hardware interface is installed.

I/O, networking, or interfaces implemented with a card that can be installed in the Hardbook CPU is supported as well, for applications with special needs, low I/O counts, etc. Drivers for many popular networks and I/O brands exist. Additional drivers can be developed using the SoftPLC Programmer's Toolkit.

SoftPLC's Tealware I/O can be used as Ethernet remote I/O with any Hardbook using a Smart Adapter.

Resources

Data Sheets

Generic Hardbook Data Sheet

Common features of all Hardbook SoftPLC controller CPUs. Detailed specifications can be found on each model's data sheet linked to in the Hardbook Models section.

Videos

What is a SoftPLC? *An overview of SoftPLC® Controllers* Download or Watch on YouTube.