A-B Migrations : Equivalent SoftPLC Products

Table of Contents

Overview

Many SoftPLC products are equivalent in functionality *(usually with more features/lower cost)* to Rockwell Automation/Allen-Bradley or Encompass partner product(s). This document provides a cross-reference of SoftPLC products to Rockwell/Allen-Bradley *("A-B")* or Encompass Partner products.

For example:

- If you want to take advantage of our migration path from an A-B PLC to SoftPLC and leave the existing I/O in place, the PLC/PAC CPUs section can help you select the right SoftPLC controller.
- As part of an upgrade or if you need to add/replace I/O in an existing system, the I/O Modules section is the place to go.
- For partial migrations, such as upgrading Drives or PanelView HMI's on Remote I/O or Data Highway Plus, use the Communication Interfaces section.
- If your A-B PLC system uses a now obsolete special communication, coprocessor or specialty module, the Communication Interfaces section can help.
- For "drop-in" PanelView HMI replacements, select the HMIs section.

Of course, every product from any vendor is unique and will include a different set of detailed specifications and capabilities. You will need to research the details if your application has strict requirements. Contact us if you have specific questions about the suitability of one of our products for your needs.

Communication Interfaces

The table below lists SoftPLC products to interface to A-B network protocols for use in system upgrades/migrations or in place of obsolete interfaces. Contact us if you need assistance in choosing a communications Gateway Bridge or Protocol Converter for your particular application.

Protocol	SoftPLC Option(s)
DF1	All SoftPLC models
DH+	Smart SoftPLC w/ SPO-BH interface
	NeoPAC SoftPLC w/ SPO-BH interface
	Any SoftPLC w/ external GC-EQ7EDHPLUS interface
	Hardbook SoftPLC w/ SPO-PKTX/-PKTXD interface card
RIO Master / Scanner	Smart SoftPLC w/ SPO-BH interface
	NeoPAC SoftPLC w/ SPO-BH
RIO Adapter / Slave	Smart SoftPLC w/ SPO-BH interface
	NeoPAC SoftPLC w/ SPO-BH interface
DH485	Any SoftPLC w/ external GC-EQ7EDH485 interface
PCCC Ethernet (PLC-5/SLC-500 Ethernet)	All SoftPLC models
Ethernet/IP	All SoftPLC models
ControlNet	All SoftPLC models w/ external 3rd party gateway

Other Modules

A-B co-processor modules *(eg: Basic or C language)* can usually be replaced using SoftPLC's existing loadable functions, or the same functions can be created using the SoftPLC Toolkit.

Third-party and specialty modules are often available as stand-alone products that can connect by ethernet or serial, or other solutions are available. Contact us if you need assistance in discussing alternative(s) for your particular application.

PLC/PAC CPUs

The table below should be used only as a rough guide to help choose a SoftPLC CPU to replace or be used in lieu of an Allen-Bradley controller. Any SoftPLC has more memory and computing capacity than the largest A-B controller. Most SoftPLC's have more built-in ports than any A-B controller.

Choice of a SoftPLC controller is very application dependent, taking into consideration factors such as quantity/type of I/O, communication requirements, environment, physical space and cost. Contact us if you need assistance in choosing a SoftPLC CPU for your particular application.

MicroLogix	Compact or + ControlLogix	SLC-500	PLC-5 PLC-2 PLC-3	SoftPLC
x				MLX MN1
x	x	x	x	Smart
x	x	x	x	NeoPAC
	x			HB-M0QA
	x			HB-MMQAx
	x			HB2-MILEHx
	x			HB-H0QAx
	x	x	x	HB2-HPQAx

All Hardbook models can be used to migrate any A-B CPU. Those excluded in the table above are due to cost or lack of expansion slots for the A-B RIO interface card. If the system does not require A-B RIO (blue-hose), Hardbooks can be used to upgrade SLC-500, PLC-5, PLC-2, or PLC-3 systems.

I/O Modules

SoftPLC's Tealware I/O can be used locally with a Smart SoftPLC, or as remote Ethernet ModbusTCP I/O with any controller. The table below indicates which Tealware module can be used in lieu of Allen-Bradley I/O module for the same signal type and approximate number of channels. Note that the Tealware modules are not a hardware replacement to fit into an existing A-B system, the crossover reference is for use in determining the closest functional match that you would purchase as an alternative to A-B products for a SoftPLC system using Tealware I/O.

As an open architecture platform, SoftPLC controllers support I/O from hundreds of vendors, we only list our own Tealware brand in this chart. If an A-B module is not listed, the functionality you need may be obtained using another vendor's I/O or firmware function within SoftPLC. Contact us if you need assistance in choosing a SoftPLC CPU and/or I/O for your particular application.

Digital Modules

Flex (1794)	Micro Logix (1762)	Compact Logix (1769)	Control Logix (1756)	SLC-500 (1746)	PLC-5/-2/-3 (1771)	Tealware
IB8,IB16 IV16	IQ8,IQ16	IQ16	IB16 IV16	IB8,IB16 IV8,IV16	IB,IBD IV *IQ,*IQ16	SXDC10
---	IQ32T	IQ32,IQ32T	IB32 IV32	IB32 IV32	IBN IVN	SXDC20
IG16	---	IG16	IG16	IG16	IGD	SXTTL10
IA8,IA16	IA8	IA16	IA16 *IA32	IA4, IA8, IA16	IA,IAD IM	SXAC10
---	---	---	IN16	IN16	IN,IND	SXAC24
OV16	---	OV16	*OV8I, *OV16I	OV8,OV16	---	SYDC10
OB8,OB16	OB8,OB16	OB8,OB16	*OB8I, *OB16I	OB8,OB16	OBD	SYDC20
OV32	OV32T	OV32T	*OV32E	OV32	OVN	SYDC30
OB32P	OB32T	OB32,OB32T	OB32	OB32	OBN	SYDC40
---	---	---	---	OVP16	---	SYRY10
---	---	---	OB8	OBP8,OBP16	---	SYRY10
OA8,0A16 OM8,OM16	OA8	OA8,OA16	OA16	OA8,OA16	OA,OAD OM,OMD	SYAC10
OW8	OW8,OW16	OW8,OW16	---	OW4,OW8, OW16	OW,OW16	SYRY10
---	---	---	OW16I	---	OWNA	SYRY20
---	OX6I	OW8I	OX8I	OX8	---	SYRY21

** The Tealware module may not have all the characteristics required as an alternative to this A-B module. Check the specifications of both before assuming you can use the Tealware module as an equivalent.*

Analog Modules

Flex (1794)	Micro Logix (1762)	Compact Logix (1769)	Control Logix (1756)	SLC-500 (1746)	PLC-5/-2/-3 (1771)	Tealware
---	IF4	IF4	IF8, *IF6I	NI4	NIVI	AD020
IE8, *IF4I	---	IF8	IF8	NI8	IFE,IFF NIV	AD030A
IE8, *IF4I	---	IF8	IF8	NI8	IFE,IFF NIS	AD031A
IE12	---	IF16V	IF16,IF6I	NI16V	IL	AD046
IE12	---	IF16C	IF16,IF6I	NI16I	IL	AD047
IE4XOE2	IF2OF2	IF4XOF2 IF4FXOF2F	IF4FXOF2F	NIO4V FIO4V	NBV1	AD020 & DA020
IE4XOE2	IF2OF2	IF4XOF2 IF4FXOF2F	IF4FXOF2F	NIO4V FIO4V	NBV1	AD020 & DA020
IE4XOE2	IF2OF2	IF4XOF2 IF4FXOF2F	IF4FXOF2F	NIO4I FIO4I	NBSC, NBVC, NB4S	AD020 & DA020
IE4XOE2	IF2OF2	IF4XOF2 IF4FXOF2F	IF4FXOF2F	NIO4I FIO4I	NBSC, NBVC, NB4S	AD020 & DA020
OE4	OF4	OF2,OF4	OF4	NO4I, NO4V	OFE1,OFE2, OFE3	DA020
OE12	---	OF8V	OF8	NO8V	NOV	DA030
OE12	---	OF8C	OF8	NO8I	NOC	DA031
IR8	IR4	IR6	*IR6I	NR4,NR8	IR,NR	RTD10
IT8	IT4	IT6	*IT6I	NT8,INT4	IXE,NT1	THM10

** The Tealware module may not have all the characteristics required as an alternative to this A-B module. Check the specifications of both before assuming you can use the Tealware module as an equivalent.*

SPECIAL PURPOSE MODULES

Flex (1794)	Micro Logix (1762)	Compact Logix (1769)	Control Logix (1756)	SLC-500 (1746)	PLC-5/-2/-3 (1771)	Tealware
VHSC, IJ2	---	HSC	HSC	HSCE,HSCE2	VHSC,CFM	HSC11
---	---	---	N2	N2	---	DUM10

** The Tealware module may not have all the characteristics required as an alternative to this A-B module. Check the specifications of both before assuming you can use the Tealware module as an equivalent.*

I/O Racks & Power Supplies

The tables below list the components which are used with modules to create complete I/O systems. Note that Tealware bases can hold as many I/O modules as the number of slots, whereas A-B racks hold fewer modules due to slots reserved for CPU's, adapters, and power supplies.

The Tealware components are **not** a hardware replacement to fit into an existing A-B system, the crossover reference is for use in determining the closest functional match that you would purchase as an alternative to A-B products for a SoftPLC system using Tealware I/O.

Contact us if you need assistance in choosing a SoftPLC CPU and/or I/O for your particular application.

BASES

ControlLogix (1756)	SLC-500 (1746)	PLC-5,-2,-3 (1771)	Tealware
A4,A7	A4,A7	A1B,A2B	IOBASE06
A10	A10	A2B,A3B	IOBASE08

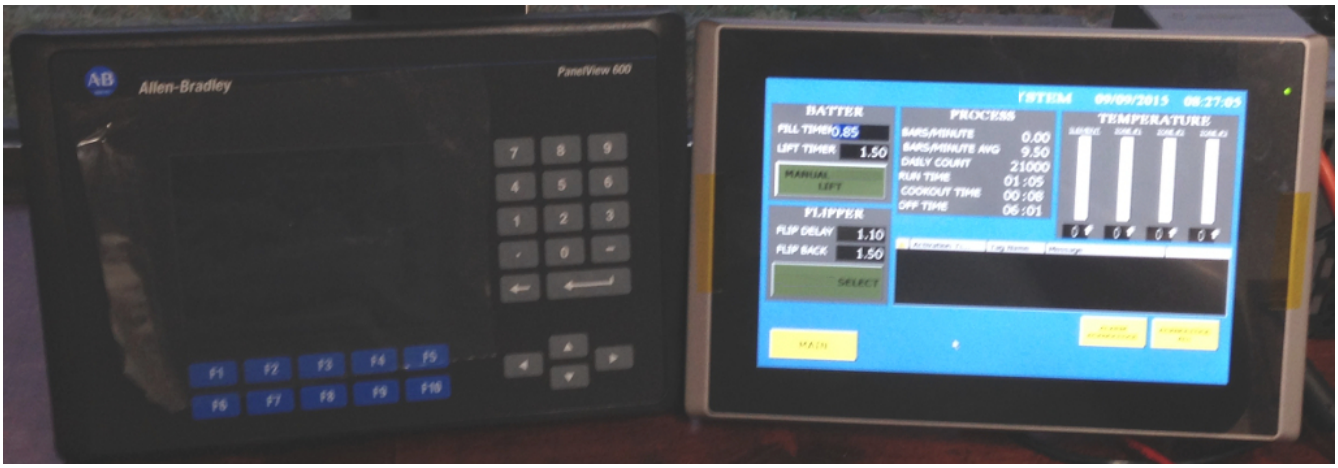
POWER SUPPLIES

CompactLogix (1769)	ControlLogix (1756)	SLC-500 (1746)	PLC-5,-2,-3 (1771)	Tealware
PA2,PA4	PA72,PA75	P1,P2, P4	P4S, P7,PS7	PWS11
PB2,PB4	PB72,PB75	P3,P7	P5	PWS20C

HMIs

This PanelView crossover chart lists SoftPLC Web Studio HMI "drop-in" crossover replacements for obsolete PanelView models. The first chart includes cutout comparisons, while the second compares network protocols.

Combined with Web Studio's automated HMI application conversion utility, upgrading old PanelView's, FactoryTalk or PanelMate HMIs becomes easy.



By "drop-in" we mean that the Web Studio HMI will fit into the existing panel cut-out. In almost all cases, the Web Studio HMI is slightly larger than the PanelView, so no coverplate would be required, just minor filing/cutting. Where the Web Studio HMI is smaller than the PanelView, the difference is usually minor.

Contact us if you need assistance in choosing product(s) for your PanelView upgrade, Web Studio HMI product options and details.

Resources

Data Sheets

A-B PLC Migrations Data Sheet

Overview of PLC CPU Migrations using a Smart SoftPLC.

Smart SoftPLC Data Sheet

Smart SoftPLC features/specifications overview.

SoftPLC NeoPAC Data Sheet

NeoPAC SoftPLC features/specifications overview.

Tealware Datasheet

Overview features/specifications of the Tealware I/O family of products.

Tealware I/O System Configurations

Configurations and required products for the Tealware I/O system.

PanelView Replacement Chart

Chart of SoftPLC Web Studio equivalent to PanelView models with cutout dimensions comparison. Also includes available drivers, cables for various communication network protocols.

Web Studio HMI Overview

Generic description of Web Studio HMI products.

Web Studio HMI Datasheet

Product options, details and specifications.

Videos/Presentations

A-B Control System Migrations

Describes how SoftPLC Gateways provide great solutions for customers with A-B PLC's to do partial and phased migrations of automation systems to modern technology.

AB Upgrades

Slide show highlighting features and benefits of of SoftPLC upgrades/migration of older A-B PLC systems.

SoftPLC Gateways

Slide show highlighting features of SoftPLC Gateway products.