



EcoFit™

# Replacement for PLCs

PLC Quick Wiring Adapters offer catalog

Catalog 2024

[se.com/ecofit](https://se.com/ecofit)

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# Modicon

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Edge control for industrial internet of things (IoT)

Modicon IIoT-native edge controllers manage complex interfaces across assets and devices or directly into the cloud, with embedded functional safety and cybersecurity. Modicon provides performance and scalability for a wide range of industrial applications up to high-performance multi-axis machines and high-available redundant processes.

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# EcoFit™ Replacement for PLCs



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# General Contents

## EcoFit™ Replacement for PLCs

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# Dedicated service offers for your installed base



Schneider Electric, with its experts, products, and dedicated tools, provides services such as system design, consultancy, maintenance contracts, modernization of facilities, and project delivery.

The Schneider Electric services offer is structured around several key areas:

- Maintenance and support services:
  - A set of services to help maintain reliability and availability of automated control systems. These services may be the subject of a bespoke maintenance contract to meet your requirements more closely.
- Consultancy services:
  - Diagnostics of the installed base
- Modernization solutions:
  - Migration solutions including consultancy, expertise, tools, and technical support to help ensure a smooth transition to newer technology while retaining the wiring and encoding in most cases.

Customization services are also available to accommodate specific requirements. For more information, please consult the [specific pages on our website](#).

## Maintenance and support services

### Spare parts, exchanges, and repairs



DIA6ED2171102EN

### *Everything you need to get equipment working again as quickly as possible*

Solutions to respond very quickly to requests for spare parts, exchanges, and repairs to your installed automation equipment (automation platforms, Human Machine Interfaces, drives, distributed I/O):

- Spare parts management:
  - Identification of critical parts
  - Stock of spare parts: a Schneider Electric owned stock of spare parts, on your site or in one of our warehouses, with immediate availability on site or a contractually agreed delivery time if stored off site
  - Testing of spare parts stored on site
  - Automatic stock filling
- Repairs:
  - Products that have broken down are repaired in a network of worldwide repair centers. For each repaired product, our experts provide a detailed report.
- On-site repair:
  - Our experts' knowledge and expertise
  - Monitoring of specific repair procedures
  - Availability of our teams to respond 24/7
- Exchanges:
  - With standard replacements, receive a new or reconditioned product before the product that has broken down has even been sent back
  - Fast exchanges offer the option to receive the replacement product within 24 hours (in Europe)

### Preventive maintenance

### *Improving and helping to ensure the long-term reliability and performance of your installations*

Schneider Electric's preventive maintenance expert assesses your site and the equipment to be managed and sets up a maintenance program to accommodate your specific requirements. A list is provided of the tasks to be performed and their frequency, including site-specific tasks, describing how preventive maintenance is to be managed.

### Extended warranty

### *An additional manufacturer warranty covering replacement or repair of the equipment*

The extended warranty offers the option to take out a 3-year warranty. The warranty period can vary according to the geographical area (please contact our Customer Care Center for more information).

### Online support

### *Access to dedicated experts*

Priority access to experts who can answer technical questions promptly concerning equipment and software both on sale and no longer commercially available.

### Software subscription

### *Access to software upgrades and new features*

By subscribing to software updates, users are able to:

- Purchase licences
- Receive updates, upgrades, software migrations, and transitions
- Download software from Schneider Electric's software library

## Consultancy services

### EcoConsult Industrial Automation LifeCycle Audit

*Professional tools and methods, proven experience of managing obsolescence and updating installed bases, helping to reduce downtime and improve performance*

With our maintenance and modernization consultancy offer, Schneider Electric will help you check the state of your installed base by:

- Defining the scope and depth of the analysis in collaboration with you
- Collecting the technical data without shutting down production
- Analyzing and identifying avenues for improvement
- Producing a recommendation plan

Customer benefits:

- Learning about the components that make up the installed base and what their life cycle state is (i.e. commercialized or obsolete)
- Better downtime anticipation
- Expert advice designed to improve performance

## EcoFit PLC Replacement: PLC Modernization and Migration Solutions

### Moving to EcoStruxure

*Proven expertise, tools, and methods to give you a clear vision of the improvement opportunities and guide you towards a successful modernization project*



Find out more about EcoStruxure architectures on our website [www.se.com](http://www.se.com)

Schneider Electric offers gradual solutions of modernization through a set of products, tools, and services that allow you to upgrade your installations with our latest technologies. Our solutions offer you the choice to plan your modernization:

- Partial modernization: replacement of an old set of components with a new one
- Step-by-step modernization: gradual incorporation of new solutions or offers in the system
- Complete modernization: total renovation of the system

The table below lists our various migration offers:

Wide range of migration offers		Moving to Modicon M580/M340 platforms and Modicon X80 station						
Solution	Platform	Solution type			Tools	Solution services		
		Change the CPU and retain the I/O racks and wiring	Change the CPU and the I/O racks and retain I/O field wiring with wiring system	Change the CPU, the I/O racks, and the I/O wiring	Software application conversion tool	Modernization/migration service	Manage your project	Execute your project
	Modicon Premium	✓	✓	✓	✓	✓	✓	✓
	Telemecanique TSX7		✓	✓	✓	✓	✓	✓
	Modicon Quantum	✓	✓	✓	✓	✓	✓	✓
	Modicon 984 & 800 Series I/O	✓	✓	✓	✓	✓	✓	✓
	Modicon Compact		✓	✓	✓	✓	✓	✓
	SquareD Symax	✓	(1)	✓	✓	✓	✓	✓
	April Series 1000		(2)	✓	✓	✓	✓	✓
	April SMC			✓	✓	✓	✓	✓
	Merlin Gerin PB			✓		✓	✓	✓
	AEG A series			✓		✓	✓	✓
	Rockwell SLC500		✓	✓	✓	✓	✓	✓
	Rockwell PLC 5	✓	✓	✓	✓	✓	✓	✓
	Siemens S5 and S7	✓ (3)	✓ (4)	✓	✓	✓	✓	✓



Service available

- (1) Consult Schneider Services - project-specific solution is possible
- (2) For April Series 1000 (April 5000-7000 and April 2000-3000)  
Consult Schneider Services - project-specific solution is possible
- (3) Over Profibus-DP
- (4) With partner

## Customization services

Schneider Electric is able to meet your specific requirements and provide you with adapted products:

- Customized wiring adapters cable lengths to match your specific needs
- The multi-use flying lead I/O adapter can be prepared in the factory before use on request
- Protective coating for HMIs, automation platforms, and distributed I/O modules for use in harsh environments
- Customized front panels for HMIs
- SCADA Software application modernization

**Note:** To check availability of services required, please contact our Customer Care Center.

# Application conversion



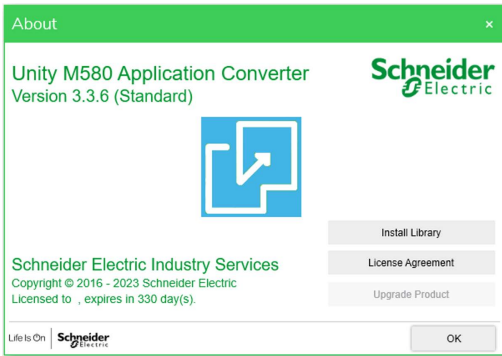
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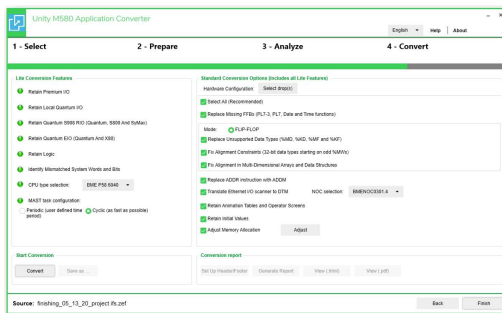
# Application Conversion

- Unity M580 Application Converter
  - Description ..... [page 1/3](#)
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Unity M580 Installation screen



Unity M580 Application Converter

## Offer Description

### Introduction

Unity M580 Application Converter V3.3.6 (UMAC V3.3.6) is a software tool. Its purpose is to convert Unity Quantum and Unity Premium applications to EcoStruxure Control Expert applications.

UMAC is part of the service offer for PLC modernization.

The PLC modernization offer comprises service tools, service products, and service methods to support retrofit and upgrade projects that modernize legacy Schneider PLCs with new M580 systems.

The main elements of a PLC modernization service offer are as follows:

- PLC application conversion
- PLC hardware renewal
- Quick wiring offer for hardware modernization
- Methods and procedures for typical configurations

UMAC Standard version is available to:

- End users with services contracts
- System integrators who are members of the Schneider SI Alliance program
- Authorized service partners
- Schneider Electric pre-sales and post-sales support teams

UMAC Lite version is available to all.

### Value proposition and benefits

#### ■ During the estimation phase:

- The tool provides the means for a rapid assessment and accurate estimation of the application to be converted

#### ■ During the engineering phase:

- The tool makes a fast and accurate conversion – code translation templates and delivered DFB types have been tested in Unity
- Reduced time to perform the application conversion
- A simple-to-understand adaptation of the Unity application, preserving its readability
- A conversion report to keep track of the modifications done on the application

#### ■ During the installation and commissioning phase:

- Less time required due to a high level of consistency

### Benefits in short

Precisely, the tools help provide low risk, low cost, efficient, and high quality PLC modernization for our customers.

With the converter, you get:

- Minimized engineering time on application conversions to Unity M580
- Less risk of human error: all targeted changes completed
- Better quality, less testing, and shorter commissioning time



Unity Pro XL



EcoStruxure Control Expert

**Tool overview**

**Role**

The tool automates the upgrading of Unity applications from Premium and Quantum to EcoStruxure Control Expert with the following benefits:

- Shorter programming and testing time
- Reduced cost of application conversion
- Better quality of converted applications
- Faster availability of a fully functional application inside M580

Premium PL7 and Quantum LL984 or IEC (Modsoft, ProWORX, Concept) applications can also be managed.

The conversion involves two steps:

- Use of the ECE embedded converters to upgrade Premium PL7 to Premium Unity or Quantum LL984/IEC (Modsoft, ProWORX, Concept) to Quantum Unity
- Use of this UMAC tool to upgrade from Premium or Quantum Unity to M580 ePAC

**Environment**

Unity M580 Application Converter is a standalone software tool that can be installed on a Windows PC. The complete conversion process relies on the use of ECE.

**Compatibility**

Please note that UMAC V3.3.6 requires installing Unity Pro XL 12.0 or later, or EcoStruxure Control Expert on the same PC. It is compatible with the latest EcoStruxure Control Expert V16.0.

# EcoFit™ Replacement for PLCs Application Conversion Unity M580 Application Converter

1

## Tool overview (continued)

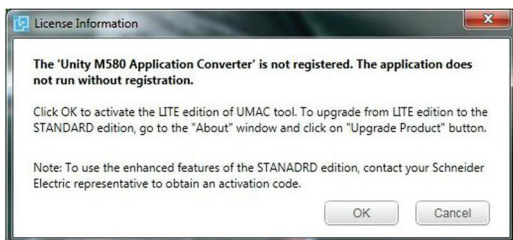
### Unity M580 Application Converter

Version	Main capabilities	Registration (1)	Activation (2)
LITE	Retain existing application	Required The Lite tool is available immediately after user Registration	No activation
STANDARD	Retain existing application and adapt its logic to M580	Required Lite features are available immediately user Registration	Required The Standard tool is available after user Registration and entry of Activation ID. Activation is valid for one year and is renewable

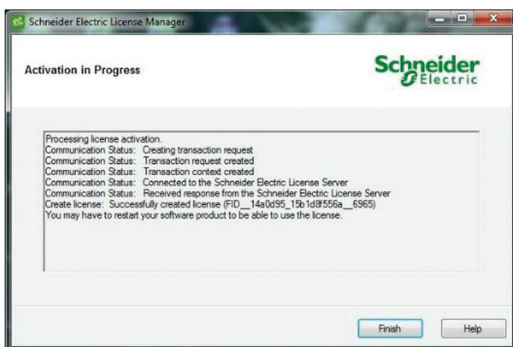
Features	LITE	STANDARD
Retain application program logic	Yes	Yes
Retain Premium I/O configuration	Yes	Yes
Retain Quantum Local I/O and S908 RIO configuration	Yes	Yes
Retain Quantum Redundant S908 RIO configuration	Yes	Yes
Retain Quantum Local I/O and Ethernet I/O HW configuration	Yes	Yes
Upgrade Quantum S908 RIO to Ethernet I/O configuration	Yes	Yes
Choice of M580 CPU selection	Yes	Yes
Choice of Mast task	Yes	Yes
System Bits and Words identification	Yes	Yes
Summary report	Yes	Yes
Benefit estimation	Yes	Yes
<b>Premium</b>	–	Yes
Replace Premium I/O with X80 I/O modules in V3.1	–	Yes
Replace missing functions	–	Yes
Correct invalid Variable Descriptors	–	Yes
Replace ADDR with ADDM functions	–	Yes
<b>Premium and Quantum</b>	–	Yes
Correct 32-bit address alignment	–	Yes
Correct alignment for variables and 2-dimension arrays	–	Yes
Correct animation tables	–	Yes
Correct Operator Screens	–	Yes
Replace Ethernet I/O scanner (CPU) with M580 CPU	–	Yes
Replace Ethernet I/O scanner (ETY/NOE) with M580 NOC	–	Yes
Retain and replace Ethernet I/O Scanner – maintain located addresses	–	Yes
Retain and replace Ethernet I/O Scanner health and control	–	Yes
Choice of M580 NOC selection	–	Yes
Library for IEC missing functionality enhanced in V3.0	–	Yes
Compatibility with legacy Modbus addressing	–	Yes
Retain Initial Values	–	Yes
Adjust memory buffer	–	Yes
<b>Quantum</b>	–	–
Replace Quantum I/O with X80 I/O modules in V3.0	–	Yes
Replace 800 Series I/O with X80 I/O modules in V3.0	–	Yes

(1) "Registration" here relates to the registration of the tool by the user: a software End User License is granted to someone identified by an email address through the "Registration" process.

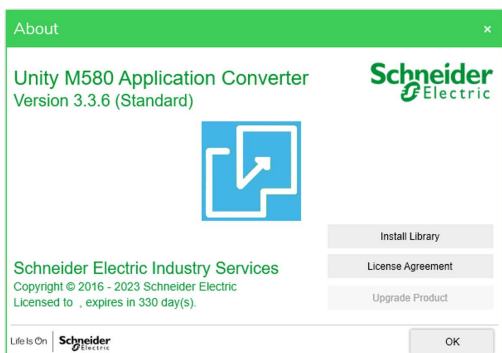
(2) "Activation" here relates to unlocking/making the tool available under the conditions of its End User License Agreement (set of available features, duration, number of simultaneous users, etc.).



License information dialog box



Registration process



Unity M580 Installation screen

## Tool overview (continued)

### Tool access and licensing model

There is only one installation file for both the Lite and Standard versions.

- **Registration:** Before using the Lite version, you will be asked to enter your email address. The Lite tool is available with no time limit.
- **Activation:** An Activation ID is needed to use the Standard version of the tool. Once activated, the tool is accessible for one year, then it falls back to its original “Lite” state until it receives a new Activation ID for a Standard version. An Activation ID is valid for one “seat” (software activated on one PC at a time).

### Registration process

A user needs to install and register the software before they can use the Lite tool. The installation and Registration process is as follows:

- **Step 1: Download the tool**  
An installation file may be downloaded from our website (<https://www.se.com/us/en/download/document/PRMALLIANCE00970/>)
- **Step 2: Install and launch**  
Install the tool and launch it. On the first run, the user will be prompted to complete the Registration procedure.
- **Step 3: Register**  
Complete the Registration procedure required in Step 2 to unlock the tool. The user is requested to provide their name and email address. The Lite version will be unlocked with no time limit.

### Activation process

The Activation process concerns the Standard tool only. A user needs to activate the software with an Activation ID before using it.

Open the “About” window and click on the “Upgrade Product” button. At this stage, the user is requested to provide an Activation ID to activate the tool:

- For Alliance System integrators, the Activation ID is part of the service partners Software Pack.
- For End users, the Activation ID can be obtained from the Customer Care Center that provides a support contract.

The tool will be unlocked for one year.

## References

Description	Reference
LITE Unity M580 Application Converter	<a href="#">1MMCNVXZZSPAZZ (1)</a>
STANDARD email Unity M580 Application Converter	<a href="#">1MMCSVCZMSXAZZ</a>

(1) The Lite tool is free and downloadable from our website [www.se.com](http://www.se.com).

# EcoFit™ Replacement for PLCs EcoStruxure Control Engineering PLC Converter tool when migrating 3rd party brands applications

1

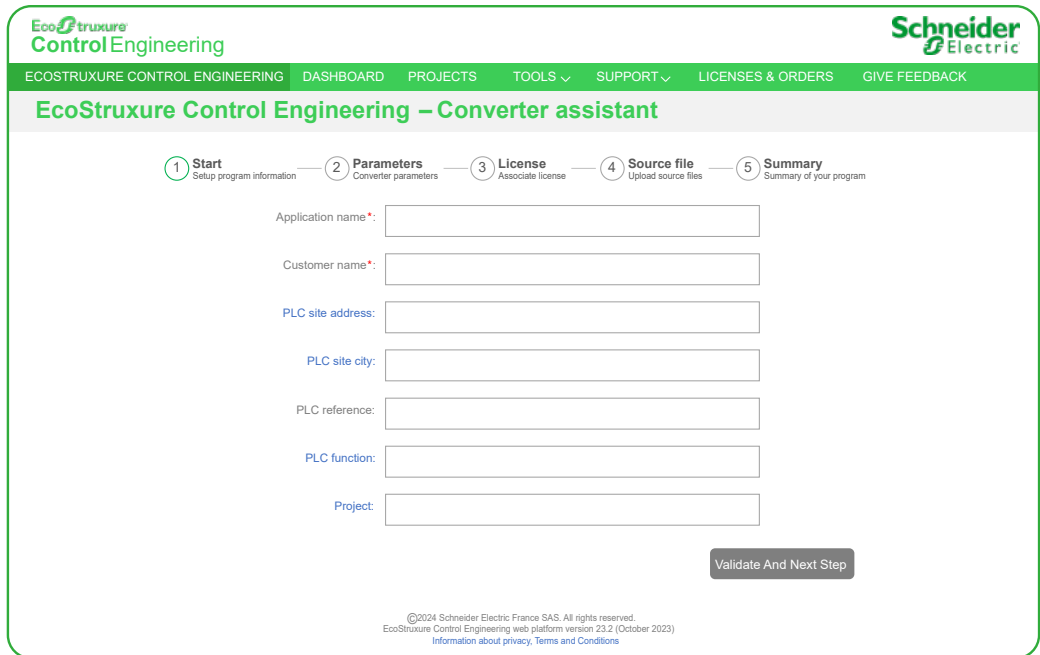


EcoStruxure Control Engineering - Converter

## EcoStruxure Control Engineering - Converter

EcoStruxure Control Engineering - Converter is an automatic conversion and reengineering tool for control applications. The tool supports modernization and migration projects by converting a control program to a different controller brand, model, and/or programming language, while maintaining the same behavior and semantics of the source program.

The main features of this tool are converting from older PLC formats to modern formats or to C language, cross-vendor, and cross-language. The conversion, launched via a simple step-by-step wizard, provides full support of the variables, process code, and comments (1). A report is generated indicating what needs to be addressed manually post-conversion and the tool has a knowledge base available to support users with this. Re-engineering options can be performed during the conversion process, which include mass renaming, addition of comments, selective code cleaning, and merging CPUs.



The EcoStruxure Control Engineering - Converter tool:

- saves project time and costs by automating the conversion of the control application
- minimizes risk related to obsolescence, such as unplanned downtime
- helps to prevent loss of your intellectual property and capitalizes on existing investment and know-how
- supports conversion paths from brands Rockwell, Siemens, Mitsubishi and General Electric to Schneider Electric EcoStruxure Control Expert PLC programming tool

(1) The special features and hardware configurations will have to be revisited post-conversion as they are not automatically converted due to the large number of configuration possibilities.

EcoFit™ Replacement for PLCs  
**EcoStruxure Control Engineering**  
 PLC Converter tool when migrating 3rd party  
 brands applications



EcoStruxure Control Engineering - Converter

EcoStruxure Control Engineering - Converter				
Description	License type	License duration	Cloud/ On Premise	Reference
EcoStruxure Control Engineering Converter - One Program Conversion	Per program	Single conversion	Cloud or On Premise	<a href="#">CEGCNV1PRG</a>

# Solutions for modernizing/migrating to the Modicon X80 platform



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# Solutions for modernizing/migrating to the Modicon X80 platform

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# EcoFit™ Replacement for PLCs Modernization solutions

## Quantum I/O to X80 modules platform

2



Quantum PLC



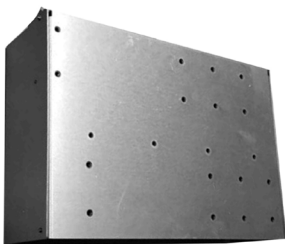
Quantum to X80 dedicated wiring adapter



Quantum to X80 multi-use flying-lead adapter



Front-mount wiring adapter



Quantum to X80 chassis



Quantum to X80 mounting plate



Quantum to X80 assembly

### Presentation

The Modicon Quantum to Modicon X80 modernization solution consists of various I/O adapters, dedicated chassis, and mounting plates. It is used to simplify the replacement of Modicon Quantum PLCs with Modicon M580/M340 PLCs and X80 I/O; existing Modicon Quantum field wiring will be retained.

### Adapters

There are three types of wiring adapters:

- **Dedicated wiring adapters** are designed to mate specific Modicon Quantum I/O modules to specific X80 I/O modules. Fully pre-wired cables are included to make installation quick and easy. 26 references are available in both 0.56 m/2 ft and 1.63 m/5 ft lengths, plus one in one length.
- **Multi-use flying-lead adapters** (10 types available) are designed to be used with fixed sets of I/O module pairs. The cables shipped with the multi-use adapters (flying-lead cables) are not ready-to-use: the flying leads will have to be wired before the commissioning on site, depending on the mating of the concerned Quantum and X80 I/O modules. The Quantum to X80 Instruction sheet contains wiring guides for each of the ten types of multi-use flying-lead adapters. The multi-use flying-lead adapters are also available in both 0.56 m/2 ft and 1.63 m/5 ft lengths.
- **Front-mount wiring adapters** are used for high-density I/O modules (32 and 96 I/O points). They allow field wiring terminal blocks to be removed from the Quantum PLC and plugged directly onto the X80 I/O module (no need for a dedicated chassis).

### Backplanes assemblies

There are two types of assemblies:

- **Chassis** will support both the M580 or M340 backplanes (purchased separately) and new X80 I/O. A chassis can receive one or two X80 backplanes. Different sizes are available depending on the size of the existing Quantum backplane. The chassis is required when dedicated or multi-use I/O adapters are used.
- **Mounting plates** are designed for use with the CableFast cabling system. With CableFast, there is no need to have a chassis assembly to replace a Modicon Quantum I/O rack (the chassis is only required when Modicon Quantum terminal blocks are directly connected to field wiring). The same solution may be used with the Telefast wiring system. The mounting plate, very low compared to the chassis, is also designed for the high-density 32 or 96 I/O modules with front mount wiring adapters. Note that the mounting plate can also be used when the customer is rewiring the terminal blocks to simplify the mounting of X80 backplanes into the control panel.

The offer provides three chassis and three mounting plates together with 29 wiring adapters (including 10 multi-use adapters) that cover most modernization needs between Modicon Quantum I/O modules and X80 I/O modules. All adapters are available in either 0.56 m/2 ft or 1.63 m/5 ft lengths (except for the multi-use BMXFCW301S cable that is available in a 3 m/10 ft length).

**Cable management kits** are used to guide the adapters smoothly under the chassis inside the control panels. Each of the four possible X80 backplane sizes has a dedicated reference.

### Description of the solution

A chassis allows the replacement of a Modicon Quantum I/O rack with an X80 rack (M340 or M580) in the same physical location and with the same footprint as the current system:

- The Modicon Quantum I/O rack is removed and replaced with the chassis metallic base plate that contains an X80 backplane and the selected I/O wiring adapters.
- The backplanes (2 backplanes maximum, purchased separately) are mounted on the chassis front plate, and accommodate the new PLC and X80 modules. The upper backplane is left-aligned on the front plate and the lower backplane is right-aligned on the front plate.
- The appropriate wiring adapters are installed in the lower section of the chassis. These quick wiring adapters allow the existing Modicon Quantum terminal block of the existing installation to be connected to new X80 platform of the new PLC configuration, which means there is no need for on-site rewiring. The original Modicon Quantum connectors are retained. The chassis door can be opened to allow access to the wiring adapters during commissioning and maintenance.

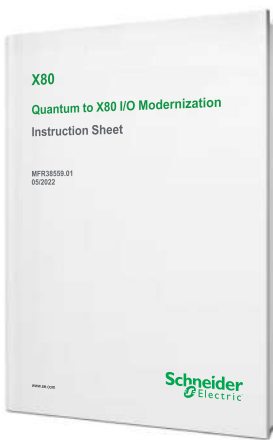
A mounting plate has the same functionality as a chassis when using the CableFast cabling system or only high-density modules.

The most commonly used cables are 0.56 m/2 ft or 1.63 m/5 ft, but 1.63 m/5 ft cables are also available for specific needs, for instance to merge two Modicon Quantum I/O racks into one X80 rack. Cables and terminal blocks are included with the I/O adapters. Replacement cables are also available as spare parts (see [page 2/10](#)). Note that the replacement flying-lead adapters do not include X80 I/O terminal blocks.

## EcoFit™ Replacement for PLCs Modernization solutions Quantum I/O to X80 modules platform



Upgrade your Quantum PLC to Modicon M580  
Watch time: 2m 36s



X80 Quantum to X80 I/O Modernization  
Instruction Sheet (MFR38559)

### Benefits of the solution

The customer benefits are reduced risk and cost of modernization from a Quantum I/O PLC:

- Minimal production downtime with about 1 hour setup time per rack.
- Cost reduction by keeping all sensor/actuator wiring inside existing cabinets, leading to savings in wiring, testing and commissioning, and wiring diagram updates: no electrician or wiring contractor needed.
- Unlike manual rewiring, ordinary production stops can be used for the changeover.
- Due to minimal changes, installations can be restarted within the allotted time with the ability to roll back in the event of any unforeseen matters arising.
- Better reliability brought by dedicated solutions designed by the manufacturer.
- Simple solution that makes modernization easy and provides the lowest risk option.

This modernization solution is part of a larger modernization and migration offer that includes methods, specific migration devices, and dedicated tools for various legacy PLCs from Schneider Electric and the competition as well.

Modernization and migration can be implemented with help from our Schneider Electric services experts.

### Equivalence table

The cross-reference table hereafter shows the possible equivalences between Quantum and X80 I/O modules. Some differences in terminal strips, modularity, common or power connections may have to be addressed: it is recommended that you verify compatibility with our Schneider Electric service representatives.

Before selecting your product, please note:

- Installers of multi-use flying-leads I/O adapters are strongly advised to pre-wire each multi-use I/O adapter before entering the site where the adapter is to be installed. Pre-wiring can be performed on request in the factory. Failure to complete the wiring of each multi-use I/O adapter before entering the job site will result in unwanted delay in completing the task of mounting the X80 modules platform.
- Installers are informed that multi-use flying lead adapters do not contain fuses nor any other devices to help protect against external events such as circuit overload, short circuit, or sensor/pre-actuator voltage errors. Check that sufficient module protection devices are in place.
- The new system (migration chassis or mounting plate + I/O modules and CPU) is deeper than the original Modicon Quantum:
  - Original Modicon Quantum system is 125 mm/4.92 in. deep
  - System depth with migration chassis and 990ADQUAX80ppp I/O adapter is 275 mm/10.8 in. (including terminal block) + 150 mm/+~6 in.
  - System depth with mounting plate and CableFast wiring offer is 153 mm/6 in. (including terminal block).
  - System depth with migration chassis and 990ADPREX80109 I/O adapter is 295 mm/11.6 in. (including terminal block).
- In some cases, the BMXART0814 X80 module may be a suitable replacement for 140ATI03000. The cold junction differences must be evaluated prior to modernization. If the user determines that the BMXART0814 is an acceptable replacement for the installation, they can use 990ADQUAX80102 for the modernization. The user will need to determine the appropriate wiring for the installation.
- The Quantum 140AMM09000 analog channels are differential, whereas the X80 BMXAMM0600 analog channels are single-ended. In some cases, the BMXAMM0600 will not be a suitable replacement for the 140AMM09000. In these cases, individual X80 analog input and output modules can be substituted for the BMXAMM0600 mixed module.
- Quantum current analog output modules 140AMM09000, 140ACO20000, and 140ACO13000 required external loop power supplies to operate. The X80 analog output modules used in current mode are self-powered and do not require external power supplies. Disconnect each of the analog output channel wires from its loop power supply, then connect the individual channel wires together.

2

**Equivalence table: Quantum I/O – X80 modules platform**

Type of device	Quantum I/O		X80 modules platform		I/O adapter - PLC I/O chassis - backplane mounting plate	
	Reference	Description	Reference	Type	Description	Reference
Rack to chassis	140XBP00600	Backplane 6-slot, 265 x 290 mm/ 10.4 x 11.4 in.	(2x) BMX/ BMEXBP0400	Chassis	140XBP00600 to BM●XBP chassis - W/O backplane	990CHQUAX80060
	140XBP01000	Backplane 10-slot, 428 x 290 mm/ 16.8 x 11.4 in.	(2x) BMX/ BMEXBP●●●● (up to & including 0800)	Chassis	140XBP01000 to BM●XBP chassis - W/O backplane	990CHQUAX80100
	140XBP01600	Backplane 16-slot, 671 x 290 mm/ 26.4 x 11.4 in.	(2x) BMX/ BMEXBP●●●● (up to & including 1200 or 1600)	Chassis	140XBP01600 to BM●XBP chassis - W/O backplane	990CHQUAX80160
Rack to mounting plate	140XBP00600	Backplane 6-slot, 265 x 290 mm/ 10.4 x 11.4 in.	BMX/BMEXBP0400	Mounting plate	140XBP00600 to BM●XBP mounting plate - W/O backplane	990CHQUAX80061
	140XBP01000	Backplane 10-slot, 428 x 290 mm/ 16.8 x 11.4 in.	BMX/BMEXBP●●●● (up to & including 0800)	Mounting plate	140XBP01000 to BM●XBP mounting plate - W/O backplane	990CHQUAX80101
	140XBP01600	Backplane 16-slot, 671 x 290 mm/ 26.4 x 11.4 in.	(2x) BMX/ BMEXBP●●●● (up to & including 1200 or 1600)	Mounting plate	140XBP01600 to BM●XBP mounting plate - W/O backplane	990CHQUAX80161
Cable management kits	—	—	BMXXBP1600	Accessory	Cable management kit for BMXXBP1600	990CMQUAX80160 (1)
	—	—	BMX/BMEXBP1200	Accessory	Cable management kit for BMX/BMEXBP1200	990CMQUAX80120
	—	—	BMX/BMEXBP0800	Accessory	Cable management kit for BMX/BMEXBP0800	990CMQUAX80080
	—	—	BMX/BMEXBP0600	Accessory	Cable management kit for BMX/BMEXBP0600	990CMQUAX80060
	—	—	BMX/BMEXBP0400	Accessory	Cable management kit for BMX/BMEXBP0400	990CMQUAX80040

(1) At present only available in China. It will be available worldwide from 2025-Q1.

EcoFit™ Replacement for PLCs  
**Modernization solutions**  
 Quantum I/O to X80 modules platform



**Equivalence table: Quantum I/O – X80 modules platform**

Type of device	Quantum I/O		X80 modules platform		I/O adapter - PLC I/O chassis - backplane mounting plate	
	Reference	Description	Reference	Type	Description	Reference
Digital input	140DAI35300	Digital input 24 VAC 32-point (4 groups x 8 points)	(2x) BMXDAl1602	Dedicated	140DAI/DDI●5300 to (2x) BMXDAl/DDI160● (0.56 m/2 ft) 140DAI/DDI●5300 to (2x) BMXDAl/DDI160● (1.63 m/5 ft)	990ADQUAX80100 990ADQUAX80101
	140DAI45300	Digital input 48 VAC 32-point (4 groups x 8 points)	(2x) BMXDAl1603			
	140DDI35300	Digital input 24 VDC 32-point (4 groups x 8 points), sink	BMXDDI3232	Dedicated	140DDI●5300 to BMXDDI3232 (0.56 m/2 ft) 140DDI●5300 to BMXDDI3232 (1.63 m/5 ft)	990ADQUAX80150 990ADQUAX80151
	140DDI85300	Digital input 10-60 VDC 32-point (4 groups x 8 points), sink	BMXDDI3203	Dedicated	140DDI85300 to BMXDDI3203 (0.56 m/2 ft) 140DDI85300 to BMXDDI3203 (1.63 m/5 ft)	990ADQUAX80154 990ADQUAX80155
	140DAI55300	Digital input 115 VAC 32-point (4 groups x 8 points)	(2x) BMXDAl1604	Dedicated	140DAI55300 to (2x) BMXDAl1604 (0.56 m/2 ft) 140DAI55300 to (2x) BMXDAl1604 (1.63 m/5 ft)	990ADQUAX80204 990ADQUAX80205
	140DAI54000	Digital input 115 VAC 16-point Isolated	BMXDAl1614/ BMXDAl16142	Dedicated	140DAI54/74000 to BMXDAl1614/16142/1615 (0.56 m/2 ft) 140DAI54/74000 to BMXDAl1614/16142/1615 (1.63 m/5 ft)	990ADQUAX80110 990ADQUAX80111
	140DAI74000	Digital input 230 VAC 16-point Isolated	BMXDAl1615			
	140DAI34000	Digital input 24 VAC 16-point Isolated	BMXDAl1602	Dedicated	140DAI34000/44000 to BMXDAl1602/1603 (0.56 m/2 ft) 140DAI34000/44000 to BMXDAl1602/1603 (1.63 m/5 ft)	990ADQUAX80130 990ADQUAX80131
	140DAI44000	Digital input 48 VAC 16-point	BMXDAl1603	Dedicated	140DAI34000/44000 to BMXDAl1602/1603 (0.56 m/2 ft) 140DAI34000/44000 to BMXDAl1602/1603 (1.63 m/5 ft)	990ADQUAX80130 990ADQUAX80131
	140DDI84100	Digital input 10-60 VDC 16-point (8 groups x 2 points), sink	BMXDDI1602 or BMXDDI1603	Dedicated	140DDI84100 to BMXDDI1602/1603 (0.56 m/2 ft) 140DDI84100 to BMXDDI1602/1603 (1.63 m/5 ft)	990ADQUAX80132 990ADQUAX80133
	140DAI54300	Digital input 115 VAC 16-point (2 groups x 8 points)	BMXDAl1614/ BMXDAl16142	Dedicated	140DAI54300 to BMXDAl1614/16142 (0.56 m/2 ft) 140DAI54300 to BMXDAl1614/16142 (1.63 m/5 ft)	990ADQUAX80136 990ADQUAX80137
	140DAI75300	Digital input 230 VAC 32-point (4 groups x 8 points)	(2x) BMXDAl1615	Dedicated	140●●● to BMX●●● high-power with 2x 40-pigtail (0.56 m/2 ft) 140●●● to BMX●●● high-power with 2x 40-pigtail (1.63 m/5 ft)	990ADQUAX80218 990ADQUAX80219
	140DDI35310	Digital input 24 VDC (True Low) 32-point (4 groups x 8 points)	BMXDDI3232	Dedicated	140DDI35310 to BMXDDI3232 (0.56 m/2 ft) 140DDI35310 to BMXDDI3232 (1.63 m/5 ft)	990ADQUAX80152 990ADQUAX80153
	140DDI67300	Digital input 125 VDC (True High)	(2x) BMXDDI1604T	Multi-use flying-lead	140●●● to (2x) BMX●●● high-power with 2x 20-pigtail (0.56 m/2 ft) 140●●● to (2x) BMX●●● high-power with 2x 20-pigtail (1.63 m/5 ft)	990ADQUAX80216 990ADQUAX80217
	140DDI36400	Telefast digital input 24 VDC 6 groups x 16-point (True High)	BMXDDI3202K and BMXDDI6402K	Front mount	140DD●36400 to BMXDD●3202K AND DD●6402K	990ADQUAX80246

## EcoFit™ Replacement for PLCs Modernization solutions Quantum I/O to X80 modules platform

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Equivalence table: Quantum I/O – X80 modules platform						
Type of device	Quantum I/O		X80 modules platform		I/O adapter - PLC I/O chassis - backplane mounting plate	
	Reference	Description	Reference	Type	Description	Reference
Digital output	140DDO35300	Digital output 24 VDC 32-point (4 groups x 8 points), source	BMXDDO3202	Dedicated	140DDO35300 to BMXDDO3232 High Power (0.56 m/2 ft) 140DDO35300 to BMXDDO3232 High Power (1.63 m/5 ft)	990ADQUAX80156 990ADQUAX80157
	140DDO35301	Digital output 24 VDC 32-point (4 groups x 8 points), source	(2x) BMXDDO1602		140DDO35301/35310 to (2x) BMXDDO16p2 (0.56 m/2 ft) 140DDO35301/35310 to (2x) BMXDDO16p2 (1.63 m/5 ft)	990ADQUAX80206 990ADQUAX80207
	140DDO35310	Digital output 24 VDC 32-point (4 groups x 8 points), sink	(2X) BMXDDO1612	Dedicated	140DDO3530●/35310 to (2x) BMXDDO16●2 (0.56 m/2 ft) 140DDO3530●/35310 to (2x) BMXDDO16●2 (1.63 m/5 ft)	990ADQUAX80206 990ADQUAX80207
	140DAO84000	Digital output 24-230 VAC 16-point isolated	BMXDAO1615	Dedicated	140DAO84000/84010 to BMXDAO1615 (0.56 m/2 ft) 140DAO84000/84010 to BMXDAO1615 (1.63 m/5 ft)	990ADQUAX80108 990ADQUAX80109
	140DAO84010	Digital output 24-115 VAC 16-point isolated				
	140DAO84210	Digital output 100-115 VAC 16-point (4 groups x 4 points)	BMXDAO1615	Dedicated	140DAO84210/84220 to BMXDAO1615 (0.56 m/2 ft) 140DAO84210/84220 to BMXDAO1615 (1.63 m/5 ft)	990ADQUAX80140 990ADQUAX80141
	140DAO84220	Digital output 24-48 VAC 16-point (4 groups x 4 points)				
	140DAO85300	Digital output 24-240 VAC 32-point (4 groups x 8 points)	(2x) BMXDAO1605	Dedicated	140DAO85300 to (2x) BMXDAO1605 (0.56 m/2 ft) 140DAO85300 to (2x) BMXDAO1605 (1.63 m/5 ft)	990ADQUAX80214 990ADQUAX80215
	140DRA84000	Relay output 16-point NO 2 A/pt	(2x) BMXDRA0815	Dedicated	140DRA84000 to (2x) BMXDRA0815 (0.56 m/2 ft) 140DRA84000 to (2x) BMXDRA0815 (1.63 m/5 ft)	990ADQUAX80228 990ADQUAX80229
	140DRC83000	Relay output 8-point NO/NC 5 A/pt	BMXDRC0805	Dedicated	140DRC83000 to BMXDRC0805 (0.56 m/2 ft) 140DRC83000 to BMXDRC0805 (1.63 m/5 ft)	990ADQUAX80134 990ADQUAX80135
	140DDO84300	Digital output 10...60 VDC 2 groups x 8 points, source module	BMXDDO1602	Multi-use flying-lead	140●●● to BMX●●● high-power with 20-pigtail (0.56 m/2 ft) 140●●● to BMX●●● high-power with 20-pigtail (1.63 m/5 ft)	990ADQUAX80116 990ADQUAX80117
			(2x) BMXDRA0815	Multi-use flying-lead	140●●● to (2x) BMX●●● high-power with 2x 20-pigtail (0.56 m/2 ft) 140●●● to (2x) BMX●●● high-power with 2x 20-pigtail (1.63 m/5 ft)	990ADQUAX80216 990ADQUAX80217
			(2x) BMXDRA0815	Multi-use flying-lead	140●●● to (2x) BMX●●● high-power with 2x 20-pigtail (0.56 m/2 ft) 140●●● to (2x) BMX●●● high-power with 2x 20-pigtail (1.63 m/5 ft)	990ADQUAX80216 990ADQUAX80217
	140DDO88500	Digital output 25...125 VDC 2 groups x 6 points (True High)	(2x) BMXDRA0815	Multi-use flying-lead	140●●● to (2x) BMX●●● high-power with 2x 20-pigtail (0.56 m/2 ft) 140●●● to (2x) BMX●●● high-power with 2x 20-pigtail (1.63 m/5 ft)	990ADQUAX80216 990ADQUAX80217
140DDO36400	Telefast digital input 24 VDC 6 groups x 6 points (True High)	BMXDDO3202K and BMXDDO6402K	Front mount	140DD●36400 to BMXDD●3202K AND DD●6402K	990ADQUAX80246	
Mixed digital input output	140DDM39000	Mixed (2x8 inputs, 2x4 outputs), 24 VDC	(2x) BMXDDM16022	Multi-use flying-lead	140●●● to (2x) BMX●●● high-density with 2x 20-pigtail (0.56 m/2 ft) 140●●● to (2x) BMX●●● high-density with 2x 20-pigtail (1.63 m/5 ft)	990ADQUAX80224 990ADQUAX80225

EcoFit™ Replacement for PLCs  
**Modernization solutions**  
 Quantum I/O to X80 modules platform



**Equivalence table: Quantum I/O – X80 modules platform**

Type of device	Quantum I/O		X80 modules platform		I/O adapter - PLC I/O chassis - backplane mounting plate	
	Reference	Description	Reference	Type	Description	Reference
Analog input	140ACI03000	Analog input 8-channel unipolar high-speed C/V	BMXAMI0810 or BMXAMI0800	Dedicated	140ACI/AVI03000 to BMXAMI0800/0810 (0.56 m/2 ft) 140ACI/AVI03000 to BMXAMI0800/0810 (1.63 m/5 ft)	990ADQUAX80112 990ADQUAX80113
	140AVI03000	Analog input 8-channel bipolar multirange	BMXAMI0810	Dedicated	140ACI/AVI03000 to BMXAMI0800/0810 (0.56 m/2 ft) 140ACI/AVI03000 to BMXAMI0800/0810 (1.63 m/5 ft)	990ADQUAX80112 990ADQUAX80113
	140ACI04000	Analog input 16-channel current	(2x) BMXAMI0800 or (2x) BMXAMI0810	Dedicated	140ACI04000 to BMXAMI0800/0810 (0.56 m/2 ft) 140ACI04000 to BMXAMI0800/0810 (1.63 m/5 ft)	990ADQUAX80226 990ADQUAX80227
	140ARI03010	Analog input 8-channel RTD input 2-, 3-, or 4-wire	BMXART0814	Dedicated	140ARI03010/140ATI03000 to BMXART0814 (0.56 m/2 ft)	990ADQUAX80102
	140ATI03000	Analog input 8-channel thermocouple, J,K,E,T,S,R,B	BMXART0814			
Analog output	140ACO02000	Analog output 4-channel current	BMXAMO0410 (3)	Dedicated	140ACO02000 to BMXAMO0410 (0.56 m/2 ft) 140ACO02000 to BMXAMO0410 (1.63 m/5 ft)	990ADQUAX80122 990ADQUAX80123
	140ACO13000	Analog output 8-channel current	BMXAMO0802 (3)	Dedicated	140ACO13000 to BMXAMO0802 (0.56 m/2 ft) 140ACO13000 to BMXAMO0802 (1.63 m/5 ft)	990ADQUAX80138 990ADQUAX80139
	140AVO02000	Analog output 4-channel bi-polar, V only	BMXAMO0410	Multi-use flying-lead	140●●● to BMX●●● analog with 20-pigtail (0.56 m/2 ft) 140●●● to BMX●●● analog with 20-pigtail (1.63 m/5 ft)	990ADQUAX80142 990ADQUAX80143
Mixed analog input output	140AMM09000	Mixed analog input 4-channel, output 2-channel isolated, bi-polar I & V	BMXAMM0600 (2) (3)	Multi-use flying-lead	140●●● to BMX●●● analog with 20-pigtail (0.56 m/2 ft) 140●●● to BMX●●● analog with 20-pigtail (1.63 m/5 ft)	990ADQUAX80142 990ADQUAX80143

- (2) The Quantum 140AMM09000 analog channels are differential, whereas the X80 BMXAMM0600 analog channels are single-ended. In some cases, the BMXAMM0600 will not be a suitable replacement for the 140AMM09000. In these cases, individual X80 analog input and output modules can be substituted for the BMXAMM0600 mixed module.
- (3) Quantum current analog output modules 140AMM09000, 140ACO02000, and 140ACO13000 required external loop power supplies to operate. The X80 analog output modules used in current mode are self-powered and do not require external power supplies. Disconnect each of the analog output channel wires from its loop power supply, then connect the individual channel wires together.

EcoFit™ Replacement for PLCs  
**Modernization solutions**  
 Quantum I/O to X80 modules platform

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**Equivalence table: Quantum I/O – X80 modules platform**

Type of device	Quantum I/O		X80 modules platform		I/O adapter - PLC I/O chassis - backplane mounting plate	
	Reference	Description	Reference	Type	Description	Reference
Multi-use flying-lead	Not applicable	Not applicable	1 loose 20-pin X80 terminal block and 1 high-density pig-tail cable	Multi-use flying-lead	140●●● to BMX●●● high-density with 20-pigtail (0.56 m/2 ft) 140●●● to BMX●●● high-density with 20-pigtail (1.63 m/5 ft)	990ADQUAX80124 990ADQUAX80125
			1 loose 40-pin X80 terminal block and 1 high-density pig-tail cable	Multi-use flying-lead	140●●● to BMX●●● high-density with 40 pigtail (0.56 m/2 ft) 140●●● to BMX●●● high-density with 40 pigtail (1.63 m/5 ft)	990ADQUAX80146 990ADQUAX80147
			1 loose 40-pin X80 terminal block and 1 high-power pig-tail cable	Multi-use flying-lead	140●●● to BMX●●● high-power with 40-pigtail (0.56 m/2 ft) 140●●● to BMX●●● high-power with 40-pigtail (1.63 m/5 ft)	990ADQUAX80118 990ADQUAX80119
			1 loose 20-pin X80 terminal block and 1 analog pig-tail cable (with shield)	Multi-use flying-lead	140●●● to BMX●●● analog with 20-pigtail (0.56 m/2 ft) 140●●● to BMX●●● analog with 20-pigtail (1.63 m/5 ft)	990ADQUAX80142 990ADQUAX80143
			2 loose 20-pin X80 terminal blocks and 2 analog pig-tail cables (with shields)	Multi-use flying-lead	140●●● to (2x) BMX●●● analog with 2x 20-pigtail (0.56 m/2 ft) 140●●● to (2x) BMX●●● analog with 2x 20-pigtail (1.63 m/5 ft)	990ADQUAX80242 990ADQUAX80243
			1 loose 28-pin X80 terminal block and 1 analog pig-tail cable (with shield)	Multi-use flying-lead	140●●● to BMX●●● analog with 28-pigtail (0.56 m/2 ft) 140●●● to BMX●●● analog with 28-pigtail (1.63 m/5 ft)	990ADQUAX80144 990ADQUAX80145
			2 loose 28-pin X80 terminal blocks and 2 analog pig-tail cables (with shields)	Multi-use flying-lead	140●●● to (2x) BMX●●● analog with 2x 28-pigtail (0.56 m/2 ft) 140●●● to (2x) BMX●●● analog with 2x 28-pigtail (1.63 m/5 ft)	990ADQUAX80244 990ADQUAX80245
Cable-fast	Any	—	Any	Cablefast	CABLEFAST HI POWER PT W/O X80 CONN 15FT CABLEFAST STD POWER PT W/O X80 CONN 15FT	990ADQUAX80148 990ADQUAX80149

Replacement cables						
Type of device	Quantum I/O		X80 modules platform		I/O adapter - PLC I/O chassis - backplane mounting plate	
	Reference	Description	Reference	Type	Description	Reference
Replacement cables	—	—	—	High-power	Replacement X80 cable 40-pin high-power (0.56 m/2 ft)	990X80CABLE021
				High-power	Replacement X80 cable 40-pin high-power (1.63 m/5 ft)	990X80CABLE521
				High-power	Replacement X80 cable high-power 116 (0.4 m/1 ft)	990X80CABLE116
				High-density	Replacement X80 cable high-density 117 (0.4 m/1 ft)	990X80CABLE117
				High-density	Replacement X80 cable high-density 517 (1.63 m/5 ft)	990X80CABLE517
				High-density	Replacement X80 cable 40-PIN high-density 123 (0.4 m/1 ft)	990X80CABLE123
				High-density	Replacement X80 cable 40-PIN high-density 023 (0.56 m/2 ft)	990X80CABLE023
				High-density	Replacement X80 cable 40-PIN high-density 523 (1.63 m/5 ft)	990X80CABLE523
				Analog	Replacement X80 cable analog 118 (0.4 m/1 ft)	990X80CABLE118
				Analog	Replacement X80 cable 28-pin analog AN128 (0.4 m/1 ft)	990X80CABL119
				Analog	Replacement X80 cable analog 518 (1.63 m/5 ft)	990X80CABLE518
				Analog	Replacement X80 cable 28-pin analog AN528 (1.63 m/5 ft)	990X80CABL519
				Multi-use flying-lead	Replacement X80 cable high-power pigtail 116 (0.4 m/1 ft)	990X80CABL116PT
				Multi-use flying-lead	Replacement X80 cable high-density pigtail 117 (0.4 m/1 ft)	990X80CABL117PT
				Multi-use flying-lead	Replacement X80 cable analog pigtail 118 (0.4 m/1 ft)	990X80CABL118PT
				Multi-use flying-lead	Replacement X80 cable high-power pigtail 516 (1.63 m/5 ft)	990X80CABL516PT
				Multi-use flying-lead	Replacement X80 cable high-density pigtail 517 (1.63 m/5 ft)	990X80CABL517PT
				Multi-use flying-lead	Replacement X80 cable analog pigtail 518 (1.63 m/5 ft)	990X80CABL518PT
Multi-use flying-lead	Shielded cable, FCN connection 40-pin pigtail (3 m/10 ft)	BMXFCW301S				

# EcoFit™ Replacement for PLCs Modernization solutions

Modicon Premium to Modicon X80 modules platform

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Modicon Premium PLC



Modicon Premium to X80 multi-use adapter



Modicon Premium to X80 multi-use adapter



Front-mount wiring adapter

## Presentation

The Modicon Premium to Modicon X80 modernization solution consists of various I/O adapters, dedicated chassis, and mounting plates. It is used to simplify the replacement of Modicon Premium PLCs with Modicon M580/M340 PLCs and Modicon X80 modules platform; existing Modicon Premium field wiring will be retained.

## Adapters

There are three types of wiring adapters:

- **Dedicated wiring adapters** are designed to mate specific Modicon Premium I/O modules to specific X80 I/O modules. Fully pre-wired cables are included to make installation quick and easy.
- **Multi-use flying-lead adapters** are designed to be used with fixed sets of I/O module pairs. There are 7 references of flying-lead adapters: for each of them, a wiring guide is included within the Premium to X80 I/O Modernization Instruction Sheet. The flying-lead cables shipped with the multi-use adapters are not fully pre-wired; the X80 connectors will be wired in the field based on the selected module pairs.
- **Front-mount wiring adapters** are used for high-density I/O modules (32 and 64 I/O points). They allow field wiring terminal blocks to be removed from the Modicon Premium PLC and plugged directly onto the X80 I/O module (no need for a dedicated chassis).

## Chassis

The chassis is one of the two types of mechanical assemblies designed to support the backplanes. A chassis will accept both M580 or M340 backplanes (purchased separately) and new X80 I/O modules. A chassis can receive one X80 backplane. Different sizes are available depending on the size of the existing Premium backplane.



Chassis for Modicon Premium PLC modernization



Mounting plate for Modicon Premium PLC modernization

## Mounting plate

The mounting plate, very low compared to a chassis, is designed for the front-mount I/O adapters (high-density 32 or 64 I/O point modules). When only these high-density modules are used, a chassis is not needed to replace a Modicon Premium I/O rack (the chassis is only required when dedicated or multi-use I/O adapters are used). Note that the mounting plate can also be used when the customer is rewiring the terminal blocks to simplify the mounting of the X80 backplanes into the control panel.

The offer provides three chassis and three mounting plates together with two front-mount I/O adapters and 25 wiring adapters (including 7 multi-use flying-lead adapters) that cover most modernization needs between Modicon Premium I/O modules and X80 I/O modules. Cables are available in either 0.4 m/1 ft or 1.63 m/5 ft lengths (except for multi-use BMXFCW301S cable that is available in 3 m/10 ft length).

## Description of the solution

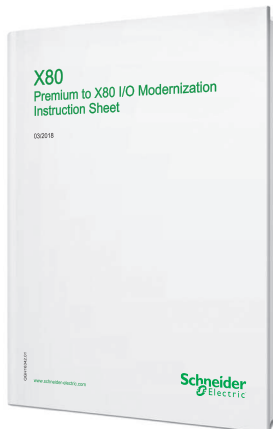
### Solution with a chassis

A chassis allows you to replace a Modicon Premium I/O rack with an X80 I/O rack (M340 or M580) in the same physical location and with the same footprint as the current system:

- The Modicon Premium I/O rack is removed and replaced with a metal chassis that supports an X80 backplane and the selected I/O wiring adapters.
- The backplane (purchased separately) is mounted on the chassis door, and accommodates the new PLC and its X80 I/O modules.
- Appropriate wiring adapters will be installed in the lower section of the chassis. These quick wiring adapters allow the Modicon Premium wiring of the existing installation to be connected to the X80 I/O modules of the new PLC configuration, which means there is no need for on-site machine rewiring. The original Modicon Premium connectors are retained. The chassis door can be opened to allow access to the wiring adapters during commissioning and maintenance.
- Replacement cables are also available as spare parts (see [page 2/14](#)). Note that the replacement flying-lead cables do not include the X80 I/O terminal blocks.



Modicon Premium PLC to Modicon X80 (with chassis)



X80 Premium to X80 I/O Modernization Instruction Sheet (QGH16342)



Upgrade your Modicon Premium PLC to Modicon M580  
Watch time: 7m 09s

## Description of the solution (continued)

### Solution with a mounting plate

A mounting plate has the same functionality as a chassis when only high-density Modicon Premium I/O are installed on the backplane. The benefit of this solution is a much smaller depth compared to the use of a dedicated chassis.

### Adapters

The most commonly used cables are 0.4 m/1 ft long, but 1.5 m/5 ft cables are also available for specific needs, for example, to merge two Modicon Premium I/O racks into one X80 rack, or vice versa. Cables and connectors are provided with the I/O adapters. Replacement cables are also available as spare parts (see [page 2/14](#)).

Note that the Telefast ABE7 systems are compatible with both Premium I/O modules and X80 modules platform ranges. In this case, refer to our Premium to X80 Telefast block cross-reference table in the Premium to X80 I/O Modernization Instruction sheet.

## Benefits of the solution

The customer benefits are reduced risk and cost of modernization from a Modicon Premium PLC:

- Minimal production downtime with about one hour setup time per rack.
- Cost reduction by keeping all sensor/actuator wiring inside existing cabinets, leading to savings in wiring, testing and commissioning, and wiring diagram updates: no electrician or wiring contractor needed.
- Unlike manual rewiring, ordinary production stops can be used for the changeover.
- Due to minimal changes, installations can be restarted within the allotted time with the ability to roll back in the event of any unforeseen matters arising.
- Better reliability brought by dedicated solutions designed by the manufacturer.
- Simple solution that makes modernization easy and provides the lowest risk option.

This modernization solution is part of a larger modernization and migration offer that includes methods, specific migration devices, and dedicated tools for various legacy PLCs from Schneider Electric and the competition as well.

Modernization and migration can be implemented with help from our Schneider Electric services experts.

## Equivalence table

The cross-reference table hereafter (see [page 2/13](#)) shows the possible equivalences between Modicon Premium and X80 modules. Some differences in terminal strips, modularity, common or power connections may have to be addressed: it is recommended that you verify compatibility with our Schneider Electric service representatives.

The customer benefits are reduced risk and cost of modernization from a Modicon Premium PLC:

Before selecting your product, please note:

- Installers of multi-use flying-leads I/O adapters are strongly advised to pre-wire each multi-use I/O adapter before entering the site where the adapter is to be installed. Pre-wiring can be performed on request in the factory. Failure to complete the wiring of each multi-use I/O adapter before entering the job site will result in unwanted delay in completing the X80 platform mounting task.
- Installers are informed that multi-use flying-lead adapters do not contain fuses nor any other devices to help protect against external events such as circuit overload, short circuit, or sensor/pre-actuator voltage errors. Check that sufficient module protection devices are in place.
- The new system including migration chassis or mounting plate + I/O modules and CPU may be deeper than the original Premium:
  - System depth with migration chassis and 990ADPREX80109 I/O adapter is 295 mm/11.6 in. (including terminal block).
  - System depth with mounting plate and 990ADPREX80109 I/O adapter is 205 mm/8.1 in. (including terminal block).

# Modernization solutions

Modicon Premium to Modicon X80 modules platform

2

Equivalence table: Modicon Premium – X80 modules platform							
Type of module	Premium I/O module		X80 modules platform		I/O adapter – Chassis – Backplane mounting plate		
	Reference	Description	Reference	Type	Description	Reference	
Rack to chassis	TSXRKY4EX	4-slot external rack	BMXXBP0600	Chassis	TSXRKY6 to BM●XBP0600 chassis - W/O backplane	990CHPREX80060	
	TSXRKY6	6-slot rack					
	TSXRKY6EX	6-slot external rack	BME/XXBP0800	Chassis	TSXRKY8 to BM●XBP0800 chassis - W/O backplane	990CHPREX80080	
	TSXRKY8	8-slot rack					
	TSXRKY8EX	8-slot external rack					
	TSXRKY12	12-slot rack					
TSXRKY12EX	12-slot external rack	BME/XXBP1200	Chassis	TSXRKY12 to BM●XBP1200 chassis - W/O backplane	990CHPREX80120		
Rack to mounting plate	TSXRKY4EX	4-slot external rack	BMXXBP0600	Mounting plate	TSXRKY6 to BM●XBP0600 mounting plate - W/O backplane	990CHPREX80061	
	TSXRKY6	6-slot rack					
	TSXRKY6EX	6-slot external rack	BME/XXBP0800	Mounting plate	TSXRKY8 to BM●XBP0800 mounting plate - W/O backplane	990CHPREX80081	
	TSXRKY8	8-slot rack					
	TSXRKY8EX	8-slot external rack					
	TSXRKY12	12-slot rack					
TSXRKY12EX	12-slot external rack	BME/XXBP1200	Mounting plate	TSXRKY12 to BM●XBP1200 mounting plate - W/O backplane	990CHPREX80121		
Digital input	TSXDEY08D2	8I 24 VDC sink terminal block	BMXDDI1602	Dedicated	TSXD●Y08/16pp to BMXD●I/DpO160● (0.4 m/1 ft) TSXD●Y08/16pp to BMXD●I/DpO160● (1.63 m/5 ft)	990ADPREX80104 990ADPREX80105	
	TSXDEY16A2	16I 24 VAC terminal block	BMXDAI1602				
	TSXDEY16A3	16I 48 VAC terminal block	BMXDAI1603				
	TSXDEY16A4	16I 110/120 VAC terminal block	BMXDAI1604				
	TSXDEY16A5	16I 220/240 VAC terminal block	(2x) BMXDAI0805				–
			BMXDAI1615	Multi-use flying-lead	TSXD●Y08/16●● to BMXD●●08/160● PT 40 1FT TSXD●Y08/16●● to BMXD●●08/160● PT 40 5FT	990ADPREX80122 990ADPREX80123	
	TSXDEY16D2	16I 24 VDC sink terminal block	BMXDDI1602	Dedicated	TSXD●Y08/16●● to BMXD●I/D●O160● (0.4 m/1 ft)	990ADPREX80104	
	TSXDEY16D3	16I 48VDC sink terminal block	BMXDDI1603	Dedicated	TSXD●Y08/16p● to BMXD●I/D●O160● (1.63 m/5 ft)	990ADPREX80105	
	TSXDEY16FK	16I FAST 24 VDC sink connection	–	–	–	–	
	TSXDEY32D2K	32I 24 VDC sink connection	BMXDDI3202	Front mount	TSXDEY/DSY32●2 to BMXDDI/DDO3202	990ADPREX80108	
	TSXDEY32D3K	32I 48VDC sink connection	BMXDDI3203	Dedicated	TSXDEY32D3K to BMXDDI3203 1FT TSXDEY32D3K to BMXDDI3203 5FT	990ADPREX80124 990ADPREX80125	
	TSXDEY64D2K	64I 24 VDC sink connection	BMXDDI6402	Front mount	TSXDEY/DSY64●2 to BMXDDI/DDO6402	990ADPREX80109	
	Digital output	TSXDSY08R4D	8Q DC relay terminal block	BMXDRC0805	Multi-use flying-lead	TSXD●Y08/16●● to BMXD●●08/160● PT 40 1FT TSXD●Y08/16●● to BMXD●●08/160● PT 40 5FT	990ADPREX80122 990ADPREX80123
		TSXDSY08R5	8Q relay 50 VA terminal block	BMXDRA1605	Dedicated	TSXDSY16R5 to BMXDRA1605 (0.4 m/1 ft)	990ADPREX80106
BMXDRA0815				Multi-use flying-lead	TSXDSY16R5 to BMXDRA1605 (1.63 m/5 ft)	990ADPREX80107	
TSXDSY08R5A		8Q relay 100 VA terminal block	BMXDRC0805	Multi-use flying-lead	TSXD●Y08/16●● to BMXD●●08/160● pigtail (0.4 m/1 ft)	990ADPREX80120	
					TSXD●Y08/16●● to BMXD●●08/160● pigtail (1.63 m/5 ft)	990ADPREX80121	
TSXDSY08S5		8Q TRIAC 48-240 VAC 2 A	BMXDAO1605 or BMXDRA0815	Multi-use flying-lead	TSXD●Y08/16●● to BMXD●●08/160● PT 40 1FT TSXD●Y08/16●● to BMXD●●08/160● PT 40 5FT	990ADPREX80122 990ADPREX80123	
					TSXD●Y08/16●● to BMXD●●08/160● pigtail (0.4 m/1 ft)	990ADPREX80120	
TSXDSY08T2		8Q 24 VDC 0.5 A source terminal block	BMXDDO1602	Dedicated	TSXD●Y08/16●● to BMXD●I/D●O160● (0.4 m/1 ft)	990ADPREX80104	
					TSXD●Y08/16●● to BMXD●I/D●O160● (1.63 m/5 ft)	990ADPREX80105	
TSXDSY08T22		8Q 24 VDC 2 A source terminal block	–	–	–	–	
TSXDSY08T31		8Q 48 VDC 1 A source terminal block	–	–	–	–	
TSXDSY16R5		16Q relay 50 VA terminal block	BMXDRA1605	Dedicated	TSXDSY16R5 to BMXDRA1605 (0.4 m/1 ft)	990ADPREX80106	
					TSXDSY16R5 to BMXDRA1605 (1.63 m/5 ft)	990ADPREX80107	
TSXDSY16S4		16Q TRIAC 24/127 VAC 1 A	BMXDAO1605	Dedicated	TSXD●Y08/16●● to BMXD●I/D●O160● (0.4 m/1 ft) TSXD●Y08/16●● to BMXD●I/D●O160● (1.63 m/5 ft)	990ADPREX80104 990ADPREX80105	
					TSXD●Y08/16●● to BMXD●●08/160● PT 40 1FT TSXD●Y08/16●● to BMXD●●08/160● PT 40 5FT	990ADPREX80122 990ADPREX80123	
TSXDSY16S5		16Q TRIAC 48-220 VAC 1 A	BMXDAO1605	Dedicated	TSXD●Y08/16●● to BMXD●I/D*O160● (0.4 m/1 ft) TSXD●Y08/16●● to BMXD●I/D*O160● (1.63 m/5 ft)	990ADPREX80104 990ADPREX80105	
					TSXD●Y08/16●● to BMXD●●08/160● PT 40 1FT TSXD●Y08/16●● to BMXD●●08/160● PT 40 5FT	990ADPREX80122 990ADPREX80123	
TSXDSY16T2		16Q 24 VDC 0.5 A source terminal block	BMXDDO1602		TSXD●Y08/16●● to BMXD●I/D●O160● (1.63 m/5 ft)	990ADPREX80105	
TSXDSY16T3		16Q 48 VDC 0.25 A terminal block	–	–	–	–	
TSXDSY32T2K		32Q 24 VDC 0.1 A terminal block	BMXDDO3202K	Front mount	TSXDEY/DSY32●2 to BMXDDI/DDO3202	990ADPREX80108	
TSXDSY64T2K	64Q 24 VDC 0.1 A terminal block	BMXDDO6402K	Front mount	TSXDEY/DSY64●2 to BMXDDI/DDO6402	990ADPREX80109		

(1) Please contact Schneider Electric at [ModiconMigrations@schneider-electric.com](mailto:ModiconMigrations@schneider-electric.com) for information.

**Equivalence table: Modicon Premium – X80 modules platform**

Type of module	Premium I/O module		X80 modules platform		I/O adapter – Chassis – Backplane mounting plate	
	Reference	Description	Reference	Type	Description	Reference
Digital mixed	TSXDMY28FK	16I/12Q 24VCC 0.5 A sink connection	–		–	–
	TSXDMY28RFK	Reflex 16I/12Q sink connection	–		–	–
Analog input	TSXAEY414	4I analog multirange	BMXART0414	Multi-use flying-lead	TSXAEY414 to BMXART0414 W/FCW pigtail (3 m/10 ft)	990ADPREX80110
	TSXAEY420	4I FAST analog high-level	BMXAMI0410	Multi-use flying-lead	TSXAEY420 to BMXAMI0410 pigtail (0.4 m/1 ft)	990ADPREX80116
					TSXAEY420 to BMXAMI0410 pigtail (1.63 m/5 ft)	990ADPREX80117
	TSXAEY800	8I analog high-level	BMXAMI0800	Dedicated	TSXAEY800/810 to BMXAMI0800/0810 (0.4 m/1 ft)	990ADPREX80100
	TSXAEY810	8I analog high-level	BMXAMI0810		TSXAEY800/810 to BMXAMI0800/0810 (1.63 m/5 ft)	990ADPREX80101
	TSXAEY800	8I analog high-level	BMXAMI0800	Dedicated	TSXAEY8●0 to BMXAMI08●0 current mode (0.4 m/1 ft)	990ADPREX80114
	TSXAEY810	8I analog high-level	BMXAMI0810		TSXAEY8●0 to BMXAMI08●0 current mode (1.63 m/5 ft)	990ADPREX80115
	TSXAEY1600	16I analog high-level	(2x) BMXAMI0800	Dedicated	TSXAEY1600 to (2x) BMXAMI0800 (0.4 m/1 ft)	990ADPREX80214
					TSXAEY1600 to (2x) BMXAMI0800 (1.63 m/5 ft)	990ADPREX80215
TSXAEY1600	16I analog high-level	(2x) BMXAMI0800	Dedicated	TSXAEY1600 to (2x) BMXAMI0800 current mode (0.4 m/1 ft)	990ADPREX80220	
				TSXAEY1600 to (2x) BMXAMI0800 current mode (1.63 m/5 ft)	990ADPREX80221	
TSXAEY1614	16I analog thermocouple	–		–	–	
Analog output	TSXASY410	4Q analog high-level, insulated	BMXAMO0410	Dedicated	TSXASY410 to BMXAMO0410 (0.4 m/1 ft)	990ADPREX80102
					TSXASY410 to BMXAMO0410 (1.63 m/5 ft)	990ADPREX80103
	TSXASY800	8Q analog high-level, non-insulated	BMXAMO0802	Dedicated	TSXASY800 to BMXAMO0802 (0.4 m/1 ft)	990ADPREX80112
					TSXASY800 to BMXAMO0802 (1.63 m/5 ft)	990ADPREX80113
TSXASY800	8Q analog high-level, non-insulated	(2x) BMXAMO0410	Multi-use flying-lead	TSXASY800 to (2x) BMXAMO0410 pigtail (0.4 m/1 ft)	990ADPREX80218	
				TSXASY800 to (2x) BMXAMO0410 pigtail (1.63 m/5 ft)	990ADPREX80219	

(1) Please contact Schneider Electric at [ModiconMigrations@schneider-electric.com](mailto:ModiconMigrations@schneider-electric.com) for information.

**Replacement cables**

Type of module	Premium I/O module		X80 modules platform		I/O adapter – Chassis – Backplane mounting plate	
	Reference	Description	Reference	Type	Description	Reference
Replacement cables	–	–	–	High-power	Replacement X80 cable high-power 116 (0.4 m/1 ft)	990X80CABLE116
				High-power	Replacement X80 cable high-power 516 (1.63 m/5 ft)	990X80CABLE516
				High-density	Replacement X80 cable high-density 117 (0.4 m/1 ft)	990X80CABLE117
				High-density	Replacement X80 cable high-density 517 (1.63 m/5 ft)	990X80CABLE517
				Analog	Replacement X80 cable analog 118 (0.4 m/1 ft)	990X80CABLE118
				Analog	Replacement X80 cable analog 518 (1.63 m/5 ft)	990X80CABLE518
				Analog	Replacement X80 cable 28-pin analog AN128 (0.4 m/1 ft)	990X80CABL119
				Analog	Replacement X80 cable 28-pin analog AN528 (1.63 m/5 ft)	990X80CABL519
				Multi-use flying-lead	Replacement X80 cable high-power pigtail 116 (0.4 m/1 ft)	990X80CABL116PT
				Multi-use flying-lead	Replacement X80 cable high-density pigtail 117 (0.4 m/1 ft)	990X80CABL117PT
				Multi-use flying-lead	Replacement X80 cable analog pigtail 118 (0.4 m/1 ft)	990X80CABL118PT
				Multi-use flying-lead	Replacement X80 cable high-power pigtail 516 (1.63 m/5 ft)	990X80CABL516PT
				Multi-use flying-lead	Replacement X80 cable high-density pigtail 517 (1.63 m/5 ft)	990X80CABL517PT
				Multi-use flying-lead	Replacement X80 cable analog pigtail 518 (1.63 m/5 ft)	990X80CABL518PT
Multi-use flying-lead	Shielded cable, FCN connection 40-pin pigtail (3 m/10 ft)	BMXFCW301S				

# EcoFit™ Replacement for PLCs

## Modernization solutions

### 984-800 I/O to Modicon X80 I/O platform

2



984-800 PLC



Dedicated adapter



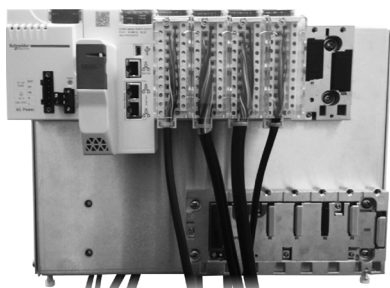
Multi-use flying-lead adapter



Modicon B800 to X80 I/O Modernization Instruction Sheet (NVE4301901)



Chassis for 984-800 modernization



984-800 to X80 solution

### Presentation

The Modicon 984-800 I/O to Modicon X80 I/O modernization solution consists of various pre-wired I/O adapters and racks. They are used to simplify the replacement of 984-800 PLCs with Modicon M580/M340 PLCs and Modicon X80 modules platform; existing B800 I/O field wiring will be retained.

### Adapters

There are three types of wiring adapters:

- **Dedicated wiring adapters** (27 available references for each of the two possible lengths) are designed to mate specific Modicon 984-800 I/O modules to specific X80 I/O modules. Fully pre-wired cables are included to make installation quick and easy.
- **Multi-use flying-lead adapters** (8 types available) are designed to be used with fixed sets of I/O module pairs. The cables shipped with the multi-use adapters (flying-lead cables) are not ready-to-use: the flying leads will have to be wired before commissioning, on site, depending on the mating of the specific 984-800 and X80 I/O modules. The B800 to X80 Instruction Sheet contains wiring guides for each of the 7 types of multi-use flying-lead adapters (27 wiring guides in total).
- **Pre-wired adapters** (27 available references for each of the two possible lengths) are made from the multi-use flying-lead adapters. The wiring workload which could also be carried out by the user before installation on site is in fact carried out beforehand in the factory by ordering specific references. The pre-wired adapters also mate specific B800 I/O modules to specific X80 I/O modules and make installation quick and easy. They do not require installer wiring.

All cables are available in either 0.56 m/2 ft or 1.63 m/5 ft lengths, including our selection of eight replacement cables (see [page 2/22](#)).

### Chassis

The chassis is used to simplify the replacement of legacy 984 PLCs and their B800 I/O modules with M580/M340 PLCs and X80 I/O modules. Two sizes are available depending on the size of the existing Modicon 984-800 backplane (19 or 27 in.). The evolution chassis will accept both M580 or M340 backplanes (purchased separately) and the Modicon X80 modules platform. Two backplanes may be mounted on the same chassis depending on the number of I/O required replacing the legacy I/O.

This modernization solution provides 2 chassis and 62 wiring adapters (including 8 multi-use flying-lead adapters) that cover most modernization needs between 984-B800 I/O modules and X80 I/O modules.

Cable management kits are used to guide the adapters smoothly under the chassis inside the control panels. Each of the four possible X80 backplane sizes has a dedicated reference.

### Description of the solution

An evolution PLC-I/O chassis allows the replacement of a B800 I/O rack with an X80 I/O rack (M340 or M580) in the same physical location and with the same footprint and mounting pattern as the current system:

- The B800 I/O rack is removed and replaced with a metal chassis that contains an X80 backplane and selected I/O wiring adapters.
- The backplanes (2 backplanes maximum, purchased separately) are mounted on the chassis front plate, and accommodate the new PLC and X80 modules. The upper backplane is left-aligned on the front plate and the lower backplane is right-aligned on the front plate.
- The appropriate wiring adapters will be installed in the lower section of the chassis. These adapters allow the existing B800 field wiring to be connected to the mated X80 I/O modules of the new PLC configuration, which means that no on-site rewiring is needed. The original B800 terminal blocks of the installation are retained.

The chassis door can be opened to allow access to the wiring adapters during commissioning and maintenance.

The most commonly used cables are 0.56 m/2 ft but 1.63 m/5 ft cables are also available for specific customer applications, such as to merge two B800 I/O racks into one X80 rack.

Cables and terminal blocks are included with the I/O adapters. Replacement cables are also available as spare parts (see [page 2/22](#)). Note that the replacement flying-lead cables do not include the X80 I/O terminal blocks.

# Modernization solutions

984-800 I/O to Modicon X80 I/O platform



Upgrade your 984-800 PLC to Modicon M580  
Watch time: 7m 19s

## Benefits of the solution

The customer benefits are reduced downtime, risk, and cost of modernization from a 984/800 I/O PLC:

- Minimal production downtime with about 1 hour setup time per rack.
- Cost reduction by keeping all sensor/actuator wiring inside existing cabinets, leading to savings in wiring, testing and commissioning, and wiring diagram updates: no electrician or wiring contractor needed.
- Unlike manual rewiring, ordinary production stops can be used for the changeover.
- Due to minimal changes, installations can be restarted within the allotted time with the ability to roll back in the event of any unforeseen matters arising.
- Better reliability brought by dedicated solutions designed by the manufacturer.
- Simple solution that makes modernization easy and provides the lowest risk option.

This modernization solution is part of a larger modernization and migration offer that includes methods, specific migration devices, and dedicated tools for various legacy PLCs from Schneider Electric and the competition as well. Modernizations and migrations can be implemented with help from our Schneider Electric services experts.

## Equivalence table

The cross-reference table hereafter shows the possible equivalences between B800 I/O modules and X80 I/O modules. Some differences in terminal strips, modularity, common or power connections may have to be addressed: it is recommended that you verify compatibility with our Schneider Electric service representatives.

Note that for I/O adapter assembly information, the column "Type" describes the type of adapter as:

- **Dedicated:** Dedicated adapter assemblies contain a PCB that performs the wiring translations from Quantum to X80 connector pins. These assemblies use the dedicated cables.
- **Multi-use flying-lead:** Multi-use flying-lead adapter assemblies contain a PCB that does not perform the wiring translation. The signal translation is performed by the cable wiring at the X80 field terminal block per the "B800 to X80 Instruction sheet" wiring guide corresponding to the multi-use flying-lead adapter reference also called "generic adapter". This wiring is done by the user before commissioning.
- **Pre-wired adapter assemblies** are multi-use flying-lead adapters that have their wiring done at the factory with an additional cost and extended delivery time. The pre-wired adapter also contains a PCB that does not perform the wiring translation and the signal translation is carried out by the cable wiring at the X80 field terminal block as per the "B800 to X80 Instruction sheet" wiring guide corresponding to the pre-wired adapter reference (also called "generic pre-wired").

## Equivalence table: 984-800 - X80 modules platform

Type of device	B800 I/O module		X80 modules platform	Chassis		Reference
	Reference	Description		Type	Description	
Racks	H819	7 slots, 19"	Without X80 backplane	Chassis	Evolution chassis B800 H819/7 POS - W/O X80 backplane	990CHB80X80819
	H827	11 slots, 27"	Without X80 backplane	Chassis	Evolution chassis B800 H827/11 POS - W/O X80 backplane	990CHB80X80827
Cable management kits	-	-	BMX/BMEXBP1200	Accessory	Cable management kit for BMX/BMEXBP1200	990CMQUAX80120
			BMX/BMEXBP0800	Accessory	Cable management kit for BMX/BMEXBP0800	990CMQUAX80080
			BMX/BMEXBP0600	Accessory	Cable management kit for BMX/BMEXBP0600	990CMQUAX80060
			BMX/BMEXBP0400	Accessory	Cable management kit for BMX/BMEXBP0400	990CMQUAX80040

**Equivalence table: 984-800-X80 modules platform**

Type of device	B800 I/O module		X80 modules platform	I/O adapter assembly information			
	Reference	Description	Reference	Type	Description	Reference	
Digital input	AS-B803-008	115 VAC 8-point input	BMXDAI0814	Multi-use flying-lead	Evolution I/O adapter, Generic1 (0.56 m/2 ft) Evolution I/O adapter, Generic1 (1.63 m/5 ft)	990ADB80X80198 990ADB80X80199	
				Pre-wired	Evolution I/O adapter B803008-DAI0814, pre-wired (0.56 m/2 ft) Evolution I/O adapter B803008-DAI0814, pre-wired (1.63 m/5 ft)	990ADB80X80104 990ADB80X80105	
				Dedicated	Evolution I/O adapter B800016-X80 multi-use (0.56 m/2 ft) Evolution I/O adapter B800016-X80 multi-use (1.63 m/5 ft)	990ADB80X80324 (3) 990ADB80X80325 (3)	
	AS-B805-016	115 VAC 16-point input	BMXDAI1604	Dedicated	Evolution I/O adapter B807132-(2)DAI1604 (0.56 m/2 ft) Evolution I/O adapter B807132-(2)DAI1604 (1.63 m/5 ft)	990ADB80X80428 (3) 990ADB80X80429 (3)	
	AS-B807-x32	115 VAC 32-point input	(2x) BMXDAI1604	Dedicated	Evolution I/O adapter B807132-(2)DAI1604 (0.56 m/2 ft) Evolution I/O adapter B807132-(2)DAI1604 (1.63 m/5 ft)	990ADB80X80428 (3) 990ADB80X80429 (3)	
	AS-B809-016	230 VAC 16-point input	BMXDAI1615	Dedicated	Evolution I/O adapter B809016-DAI1615 (0.56 m/2 ft) Evolution I/O adapter B809016-DAI1615 (1.63 m/5 ft)	990ADB80X80330 (3) 990ADB80X80331	
				(2x) BMXDAI0805 (1)	Multi-use flying-lead	Evolution I/O adapter, Generic1 (0.56 m/2 ft) Evolution I/O adapter, Generic1 (1.63 m/5 ft)	990ADB80X80198 990ADB80X80199
				Pre-wired	Evolution I/O adapter B809016-(2)DAI0805, pre-wired (0.56 m/2 ft) Evolution I/O adapter B809016-(2)DAI0805, pre-wired (1.63 m/5 ft)	990ADB80X80228 990ADB80X80229	
	AS-B817-116	115 VAC 16-point isolated input	BMXDAI1614/ BMXDAI16142	Dedicated	Evolution I/O adapter B81716-DAI1614 (0.56 m/2 ft) Evolution I/O adapter B81716-DAI1614 (1.63 m/5 ft)	990ADB80X80336 990ADB80X80337	
				(2x) BMXDAI0814	Multi-use flying-lead	Evolution I/O adapter, Generic2 (0.56 m/2 ft) Evolution I/O adapter, Generic2 (1.63 m/5 ft)	990ADB80X80296 990ADB80X80297
				Pre-wired	Evolution I/O adapter B817116-(2)DAI0814, pre-wired (0.56 m/2 ft) Evolution I/O adapter B817116-(2)DAI0814, pre-wired (1.63 m/5 ft)	990ADB80X80236 990ADB80X80237	
	AS-B817-216	230 VAC 16-point isolated input	BMXDAI1615	Dedicated	Evolution I/O adapter B81716-DAI1615 (0.56 m/2 ft) Evolution I/O adapter B81716-DAI1615 (1.63 m/5 ft)	990ADB80X80336 990ADB80X80337	
				(2x) BMXDAI0805	Multi-use flying-lead	Evolution I/O adapter, Generic2 (0.56 m/2 ft) Evolution I/O adapter, Generic2 (1.63 m/5 ft)	990ADB80X80296 990ADB80X80297
				Pre-wired	Evolution I/O adapter B817216-(2)DAI0805, pre-wired (0.56 m/2 ft) Evolution I/O adapter B817216-(2)DAI0805, pre-wired (1.63 m/5 ft)	990ADB80X80238 990ADB80X80239	
	AS-B821-108	10-60 VDC 8-point input (True High)	No equivalent module	–	–	–	
	AS-B825-016	24 VDC 16-point input (True High)	BMXDDI1602	Dedicated	Evolution I/O adapter B825016-DDI1602 (0.56 m/2 ft) Evolution I/O adapter B825016-DDI1602 (1.63 m/5 ft)	990ADB80X80338 (3) 990ADB80X80339 (3)	
	AS-B827-032	24 VDC 32-point input (True High)	BMXDDI3232	Dedicated	Evolution I/O adapter B827032-BMXDDI3232 (0.56 m/2 ft) Evolution I/O adapter B827032-BMXDDI3232 (1.63 m/5 ft)	990ADB80X80348 990ADB80X80349	
	AS-B829-116	5V TTL 16-point input (Fast Response)	No equivalent module	–	–	–	
	AS-B833-016	24 VDC 16-point input (True Low)	BMXDAI1602	Dedicated	Evolution I/O adapter B833016-DAI1602 (0.56 m/2 ft) Evolution I/O adapter B833016-DAI1602 (1.63 m/5 ft)	990ADB80X80340 (3) 990ADB80X80341 (3)	
	AS-B837-016	24 VAC/VDC 16-point input (True High)	BMXDDI1602 (VDC)	Dedicated	Evolution I/O adapter B800016-X80 multi-use (0.56 m/2 ft) Evolution I/O adapter B800016-X80 multi-use (1.63 m/5 ft)	990ADB80X80324 (3) 990ADB80X80325 (3)	
BMXDAI1602 (VAC)				Dedicated	Evolution I/O adapter B800016-X80 multi-use (0.56 m/2 ft) Evolution I/O adapter B800016-X80 multi-use (1.63 m/5 ft)	990ADB80X80324 (3) 990ADB80X80325 (3)	
AS-B849-016	48 VAC/DC 16-point input	BMXDDI1603 (VDC)	Dedicated	Evolution I/O adapter B800016-X80 multi-use (0.56 m/2 ft) Evolution I/O adapter B800016-X80 multi-use (1.63 m/5 ft)	990ADB80X80324 (3) 990ADB80X80325 (3)		
			BMXDAI1603 (VAC)	Dedicated	Evolution I/O adapter B800016-X80 multi-use (0.56 m/2 ft) Evolution I/O adapter B800016-X80 multi-use (1.63 m/5 ft)	990ADB80X80324 (3) 990ADB80X80325 (3)	

(1) If modernizing the AS-B809-016 module to (2x) BMXDAI0805's, contact Schneider Electric at [modicon.migrations@schneider-electric.com](mailto:modicon.migrations@schneider-electric.com) for additional information.  
 (3) The dedicated adapter replaces a generic factory pre-wired adapter assembly.

**Equivalence table: 984-800-X80 modules platform**

Type of device	B800 I/O module		X80 modules platform	I/O adapter assembly information		
	Reference	Description		Reference	Type	Description
Discrete output	AS-B881-508	125 VDC 8-point output (True High)	BMXDRA0804T or BMXDRA0815	Multi-use flying-lead	Evolution I/O adapter, Generic2 (0.56 m/2 ft) Evolution I/O adapter, Generic2 (1.63 m/5 ft)	990ADB80X80296 990ADB80X80297
				Pre-wired	Evolution I/O adapter B881508-DRA0804T, pre-wired (0.56 m/2 ft) Evolution I/O adapter B881508-DRA0804T, pre-wired (1.63 m/5 ft)	990ADB80X80316 990ADB80X80317
				No equivalent module	–	–
	AS-B882-032	24 VDC 32-point discrete output (with point diagnostics)	No equivalent module	–	–	–
	AS-B802-008	115 VAC 8-point output	BMXDRA805 or BMXDRA815	Dedicated	Evolution I/O adapter B802008/B820008-DRA08●5 (0.56 m/2 ft) Evolution I/O adapter B802008/B820008-DRA08●5 (1.63 m/5 ft)	990ADB80X80318 (3) 990ADB80X80319 (3)
				Dedicated	Evolution I/O adapter B804●16-(2)DAO1615 (0.56 m/2 ft) Evolution I/O adapter B804●16-(2)DAO1615 (1.63 m/5 ft)	990ADB80X80320 990ADB80X80321
	AS-B804-x16	115 VAC 16-point output	BMXDAO1615	Dedicated	Evolution I/O adapter B804/808●16-DAO1605 (0.56 m/2 ft) Evolution I/O adapter B804/808●16-DAO1605 (1.63 m/5 ft)	990ADB80X80322 (3) 990ADB80X80323 (3)
				Dedicated	Evolution I/O adapter B804●16-DAO1605 (0.56 m/2 ft) Evolution I/O adapter B804●16-DAO1605 (1.63 m/5 ft)	990ADB80X80322 (3) 990ADB80X80323 (3)
				Multi-use flying-lead	Evolution I/O adapter, Generic1 (0.56 m/2 ft) Evolution I/O adapter, Generic1 (1.63 m/5 ft)	990ADB80X80198 990ADB80X80199
				Pre-wired	Evolution I/O adapter B804016-DRA1605, pre-wired (0.56 m/2 ft) Evolution I/O adapter B804016-DRA1605, pre-wired (1.63 m/5 ft)	990ADB80X80108 990ADB80X80109
	AS-B804-148	48 VAC 2 A 16-point output	No equivalent module	–	–	–
	AS-B806-032	115 VAC 32-point output	(2x) BMXDAO1605	Dedicated	Evolution I/O adapter B806032-(2)DAO1605 (0.56 m/2 ft) Evolution I/O adapter B806032-(2)DAO1605 (1.63 m/5 ft)	990ADB80X80426 (3) 990ADB80X80427 (3)
Multi-use flying-lead				Evolution I/O adapter, Generic2 (0.56 m/2 ft) Evolution I/O adapter, Generic2 (1.63 m/5 ft)	990ADB80X80296 990ADB80X80297	
Pre-wired				Evolution I/O adapter B806032-(2)DRA1605, pre-wired (0.56 m/2 ft) Evolution I/O adapter B806032-(2)DRA1605, pre-wired (1.63 m/5 ft)	990ADB80X80216 990ADB80X80217	
AS-B806-124	24 VAC 32-point output	No equivalent module	–	–	–	
AS-B808-016	230 VAC 16-point output	BMXDAO1605	Dedicated	Evolution I/O adapter B804/808●16-DAO1605 (0.56 m/2 ft) Evolution I/O adapter B804/808●16-DAO1605 (1.63 m/5 ft)	990ADB80X80322 (3) 990ADB80X80323 (3)	
			Multi-use flying-lead	Evolution I/O adapter, Generic1 (0.56 m/2 ft) Evolution I/O adapter, Generic1 (1.63 m/5 ft)	990ADB80X80198 990ADB80X80199	
			Pre-wired	Evolution I/O adapter B808016-DRA1605, pre-wired (0.56 m/2 ft) Evolution I/O adapter B808016-DRA1605, pre-wired (1.63 m/5 ft)	990ADB80X80126 990ADB80X80127	
AS-B810-008	115 VAC 8-point Isolated output	BMXDRA0815	Dedicated	Evolution I/O adapter B810008-DRA0805 (0.56 m/2 ft) Evolution I/O adapter B810008-DRA0805 (1.63 m/5 ft)	990ADB80X80130 (3) 990ADB80X80131 (3)	
			Dedicated	Evolution I/O adapter B810008-DAO1615 (0.56 m/2 ft) Evolution I/O adapter B810008-DAO1615 (1.63 m/5 ft)	990ADB80X80332 990ADB80X80333	
AS-B814-108	NO/NC Power Relay 8-point output	BMXDRC0805	Dedicated (2)	Evolution I/O adapter B814108/B840108-DRC0805 (0.56 m/2 ft) Evolution I/O adapter B814108/B840108-DRC0805 (1.63 m/5 ft)	990ADB80X80334 990ADB80X80335	
			Multi-use flying-lead	Evolution I/O adapter, Generic1 (0.56 m/2 ft) Evolution I/O adapter, Generic1 (1.63 m/5 ft)	990ADB80X80198 990ADB80X80199	
			Pre-wired	Evolution I/O adapter B814108-DRA0805, pre-wired (0.56 m/2 ft) Evolution I/O adapter B814108-DRA0805, pre-wired (1.63 m/5 ft)	990ADB80X80134 990ADB80X80135	

(2) The DRC module relay contact type (NO or NC) is determined by how it is wired at the X80 field connector. This wiring is done by the user to select the correct relay contact type.

(3) The dedicated adapter replaces a generic factory pre-wired adapter assembly.

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**Equivalence table: 984-800-X80 modules platform**

Type of device	B800 I/O module		X80 modules platform	I/O adapter assembly information		
	Reference	Description		Reference	Type	Description
Discrete output	AS-B820-008	10-60 VDC 8-point output (True High)	BMXDRA0815	Dedicated	Evolution I/O adapter B802008/B820008-DRA08●5 (0.56 m/2 ft) Evolution I/O adapter B802008/B820008-DRA08●5 (1.63 m/5 ft)	990ADB80X80318 990ADB80X80319
	AS-B824-016	24 VDC 16-point output (True High)	BMXDDO1602	Multi-use flying-lead	Evolution I/O adapter, Generic1 (0.56 m/2 ft) Evolution I/O adapter, Generic1 (1.63 m/5 ft)	990ADB80X80198 990ADB80X80199
				Pre-wired	Evolution I/O adapter B824016-DDO1602, pre-wired (0.56 m/2 ft) Evolution I/O adapter B824016-DDO1602, pre-wired (1.63 m/5 ft)	990ADB80X80144 990ADB80X80145
	AS-B826-032	24 VDC 32-point output (True High)	(2x) BMXDDO1602	Multi-use flying-lead	Evolution I/O adapter, Generic2 (0.56 m/2 ft) Evolution I/O adapter, Generic2 (1.63 m/5 ft)	990ADB80X80296 990ADB80X80297
				Pre-wired	Evolution I/O adapter B826032-(2)DDO1602, pre-wired (0.56 m/2 ft) Evolution I/O adapter B826032-(2)DDO1602, pre-wired (1.63 m/5 ft)	990ADB80X80248 990ADB80X80249
	AS-B828-016	5 V TTL 16-point output (sink)	No equivalent module	—	—	—
	AS-B832-016	24 VDC 16-point output (True Low)	BMXDDO1612	Dedicated	Evolution I/O adapter B832016-DDO1612 (0.56 m/2 ft) Evolution I/O adapter B832016-DDO1612 (1.63 m/5 ft)	990ADB80X80344 (3) 990ADB80X80345 (3)
	AS-B836-016	24 - 250 VDC 16-point outputs isolated	(2x) BMXDRA0815	Dedicated	Evolution I/O adapter B836016-(2)DRA0815 (0.56 m/2 ft) Evolution I/O adapter B836016-(2)DRA0815 (1.63 m/5 ft)	990ADB80X80442 (3) 990ADB80X80443 (3)
	AS-B838-032	24 VDC 32-point output (True High)	(2x) BMXDDO1602	Dedicated	Evolution I/O adapter B838032-(2)BMXDDO1602 (0.56 m/2 ft) Evolution I/O adapter B838032-(2)BMXDDO1602 (1.63 m/5 ft)	990ADB80X80212 990ADB80X80213
	AS-B840-108	NO/NC Reed relay 8-point output	BMXDRC0805	Dedicated (2)	Evolution I/O adapter B814108/B840108-DRC0805 (0.56 m/2 ft) Evolution I/O adapter B814108/B840108-DRC0805 (1.63 m/5 ft)	990ADB80X80334 990ADB80X80335
				BMXDRA0815	Multi-use flying-lead	Evolution I/O adapter, Generic1 (0.56 m/2 ft) Evolution I/O adapter, Generic1 (1.63 m/5 ft)
			Pre-wired		Evolution I/O adapter B840108-DRA0805, pre-wired (0.56 m/2 ft) Evolution I/O adapter B840108-DRA0805, pre-wired (1.63 m/5 ft)	990ADB80X80162 990ADB80X80163
			BMXDRA0804T	Multi-use flying-lead	Evolution I/O adapter, Generic1 (0.56 m/2 ft) Evolution I/O adapter, Generic1 (1.63 m/5 ft)	990ADB80X80198 990ADB80X80199
				Pre-wired	Evolution I/O adapter B840108-DRA0804T, pre-wired (0.56 m/2 ft) Evolution I/O adapter B840108-DRA0804T, pre-wired (1.63 m/5 ft)	990ADB80X80164 990ADB80X80165
AS-B882-116	16-point discrete outputs	No equivalent module	—	—	—	

(2) The DRC module relay contact type (NO or NC) is determined by how it is wired at the X80 field connector. This wiring is done by the user to select the correct relay contact type.  
 (3) The dedicated adapter replaces a generic factory pre-wired adapter assembly.



**Equivalence table: 984-800-X80 modules platform**

Type of device	B800 I/O module		X80 modules platform	I/O adapter assembly information		
	Reference	Description		Reference	Type	Description
Analog input	AS-B846-001	Analog MUX (16-point voltage to one output)	(2x) BMXAMI0810	Multi-use flying-lead	Evolution I/O adapter, Generic4 (0.56 m/2 ft) Evolution I/O adapter, Generic4 (1.63 m/5 ft)	990ADB80X80292 990ADB80X80293
				Pre-wired	Evolution I/O adapter B846001-(2)AMI0810, pre-wired (0.56 m/2 ft) Evolution I/O adapter B846001-(2)AMI0810, pre-wired (1.63 m/5 ft)	990ADB80X80166 990ADB80X80167
				Multi-use flying-lead	Evolution I/O adapter, Generic4 (0.56 m/2 ft) Evolution I/O adapter, Generic4 (1.63 m/5 ft)	990ADB80X80292 990ADB80X80293
	AS-B846-002	Analog MUX (16-point current to one output)	(2x) BMXAMI0810	Pre-wired	Evolution I/O adapter B846002-(2)AMI0810, pre-wired (0.56 m/2 ft) Evolution I/O adapter B846002-(2)AMI0810, pre-wired (1.63 m/5 ft)	990ADB80X80168 990ADB80X80169
				Multi-use flying-lead	Evolution I/O adapter, Generic4 (0.56 m/2 ft) Evolution I/O adapter, Generic4 (1.63 m/5 ft)	990ADB80X80292 990ADB80X80293
				Pre-wired	Evolution I/O adapter B846002-(2)AMI0810, pre-wired (0.56 m/2 ft) Evolution I/O adapter B846002-(2)AMI0810, pre-wired (1.63 m/5 ft)	990ADB80X80168 990ADB80X80169
	AS-B873-001	4-20 mA, 1-5 V 4-channel analog input	BMXAMI0410	Multi-use flying-lead	Evolution I/O adapter, Generic5 (0.56 m/2 ft) Evolution I/O adapter, Generic5 (1.63 m/5 ft)	990ADB80X80190 990ADB80X80191
				Pre-wired	Evolution I/O adapter B873001-AMI0410, pre-wired (0.56 m/2 ft) Evolution I/O adapter B873001-AMI0410, pre-wired (1.63 m/5 ft)	990ADB80X80182 990ADB80X80183
				Multi-use flying-lead	Evolution I/O adapter, Generic5 (0.56 m/2 ft) Evolution I/O adapter, Generic5 (1.63 m/5 ft)	990ADB80X80190 990ADB80X80191
	AS-B873-002	4-20 mA, 1-5 V 4-channel analog input	BMXAMI0410	Pre-wired	Evolution I/O adapter B873002-AMI0410, pre-wired (0.56 m/2 ft) Evolution I/O adapter B873002-AMI0410, pre-wired (1.63 m/5 ft)	990ADB80X80184 990ADB80X80185
				Multi-use flying-lead	Evolution I/O adapter, Generic5 (0.56 m/2 ft) Evolution I/O adapter, Generic5 (1.63 m/5 ft)	990ADB80X80190 990ADB80X80191
				Pre-wired	Evolution I/O adapter B873002-AMI0410, pre-wired (0.56 m/2 ft) Evolution I/O adapter B873002-AMI0410, pre-wired (1.63 m/5 ft)	990ADB80X80184 990ADB80X80185
	AS-B873-011	-10 V to +10 V 4-channel analog input	BMXAMI0410	Multi-use flying-lead	Evolution I/O adapter, Generic5 (0.56 m/2 ft) Evolution I/O adapter, Generic5 (1.63 m/5 ft)	990ADB80X80190 990ADB80X80191
				Pre-wired	Evolution I/O adapter B873011-AMI0410, pre-wired (0.56 m/2 ft) Evolution I/O adapter B873011-AMI0410, pre-wired (1.63 m/5 ft)	990ADB80X80186 990ADB80X80187
				Multi-use flying-lead	Evolution I/O adapter, Generic5 (0.56 m/2 ft) Evolution I/O adapter, Generic5 (1.63 m/5 ft)	990ADB80X80190 990ADB80X80191
	AS-B873-012	-10 V to +10 V 4-channel analog input	BMXAMI0410	Pre-wired	Evolution I/O adapter B873012-AMI0410, pre-wired (0.56 m/2 ft) Evolution I/O adapter B873012-AMI0410, pre-wired (1.63 m/5 ft)	990ADB80X80188 990ADB80X80189
				Multi-use flying-lead	Evolution I/O adapter, Generic5 (0.56 m/2 ft) Evolution I/O adapter, Generic5 (1.63 m/5 ft)	990ADB80X80190 990ADB80X80191
				Pre-wired	Evolution I/O adapter B873012-AMI0410, pre-wired (0.56 m/2 ft) Evolution I/O adapter B873012-AMI0410, pre-wired (1.63 m/5 ft)	990ADB80X80188 990ADB80X80189
	AS-B875-001	4-20 mA, 1-5 V 8-channel analog input	BMXAMI0810	Multi-use flying-lead	Evolution I/O adapter, Generic7 (0.56 m/2 ft) Evolution I/O adapter, Generic7 (1.63 m/5 ft)	990ADB80X80286 990ADB80X80287
				Pre-wired	Evolution I/O adapter B875001-AMI0810, pre-wired (0.56 m/2 ft) Evolution I/O adapter B875001-AMI0810, pre-wired (1.63 m/5 ft)	990ADB80X80300 990ADB80X80301
Multi-use flying-lead				Evolution I/O adapter, Generic7 (0.56 m/2 ft) Evolution I/O adapter, Generic7 (1.63 m/5 ft)	990ADB80X80286 990ADB80X80287	
AS-B875-002	4-20 mA, 1-5 V 8-channel analog input	BMXAMI0810	Pre-wired	Evolution I/O adapter B875002-AMI0810, pre-wired (0.56 m/2 ft) Evolution I/O adapter B875002-AMI0810, pre-wired (1.63 m/5 ft)	990ADB80X80302 990ADB80X80303	
			Multi-use flying-lead	Evolution I/O adapter, Generic7 (0.56 m/2 ft) Evolution I/O adapter, Generic7 (1.63 m/5 ft)	990ADB80X80286 990ADB80X80287	
			Pre-wired	Evolution I/O adapter B875002-AMI0810, pre-wired (0.56 m/2 ft) Evolution I/O adapter B875002-AMI0810, pre-wired (1.63 m/5 ft)	990ADB80X80302 990ADB80X80303	
AS-B875-011	Selectable 8-channel differential input	BMXAMI0810	Multi-use flying-lead	Evolution I/O adapter, Generic7 (0.56 m/2 ft) Evolution I/O adapter, Generic7 (1.63 m/5 ft)	990ADB80X80286 990ADB80X80287	
			Pre-wired	Evolution I/O adapter B875011-AMI0810, pre-wired (0.56 m/2 ft) Evolution I/O adapter B875011-AMI0810, pre-wired (1.63 m/5 ft)	990ADB80X80304 990ADB80X80305	
			Multi-use flying-lead	Evolution I/O adapter, Generic7 (0.56 m/2 ft) Evolution I/O adapter, Generic7 (1.63 m/5 ft)	990ADB80X80286 990ADB80X80287	
AS-B875-012	Selectable 8-channel differential input	BMXAMI0810	Pre-wired	Evolution I/O adapter B875012-AMI0810, pre-wired (0.56 m/2 ft) Evolution I/O adapter B875012-AMI0810, pre-wired (1.63 m/5 ft)	990ADB80X80306 990ADB80X80307	
			Multi-use flying-lead	Evolution I/O adapter, Generic7 (0.56 m/2 ft) Evolution I/O adapter, Generic7 (1.63 m/5 ft)	990ADB80X80286 990ADB80X80287	
			Pre-wired	Evolution I/O adapter B875012-AMI0810, pre-wired (0.56 m/2 ft) Evolution I/O adapter B875012-AMI0810, pre-wired (1.63 m/5 ft)	990ADB80X80306 990ADB80X80307	
AS-B875-101	Fast selectable 8-channel analog input	BMXAMI0810	Multi-use flying-lead	Evolution I/O adapter, Generic8 (0.56 m/2 ft) Evolution I/O adapter, Generic8 (1.63 m/5 ft)	990ADB80X80284 990ADB80X80285	
			Pre-wired	Evolution I/O adapter B875101-AMI0810, pre-wired (0.56 m/2 ft) Evolution I/O adapter B875101-AMI0810, pre-wired (1.63 m/5 ft)	990ADB80X80308 990ADB80X80309	
			Multi-use flying-lead	Evolution I/O adapter, Generic8 (0.56 m/2 ft) Evolution I/O adapter, Generic8 (1.63 m/5 ft)	990ADB80X80284 990ADB80X80285	
AS-B875-102	Fast selectable 8-channel analog input	BMXAMI0810	Pre-wired	Evolution I/O adapter B875102-AMI0810, pre-wired (0.56 m/2 ft) Evolution I/O adapter B875102-AMI0810, pre-wired (1.63 m/5 ft)	990ADB80X80310 990ADB80X80311	
			Multi-use flying-lead	Evolution I/O adapter, Generic8 (0.56 m/2 ft) Evolution I/O adapter, Generic8 (1.63 m/5 ft)	990ADB80X80284 990ADB80X80285	
			Pre-wired	Evolution I/O adapter B875102-AMI0810, pre-wired (0.56 m/2 ft) Evolution I/O adapter B875102-AMI0810, pre-wired (1.63 m/5 ft)	990ADB80X80310 990ADB80X80311	
AS-B875-111	Selectable 8 diff./16 single channel input	BMXAMI0810	Dedicated	Evolution I/O adapter B875111-AMI0810 W/ AN28 (0.56 m/2 ft) Evolution I/O adapter B875111-AMI0810 W/ AN28 (1.63 m/5 ft)	990ADB80X80120 990ADB80X80121	
AS-B877-111	Selectable 16-channel single-ended input	(2x) BMXAMI0810	Multi-use flying-lead	Evolution I/O adapter, Generic4 (0.56 m/2 ft) Evolution I/O adapter, Generic4 (1.63 m/5 ft)	990ADB80X80292 990ADB80X80293	
			Pre-wired	Evolution I/O adapter B877111-(2)AMI0810, pre-wired (0.56 m/2 ft) Evolution I/O adapter B877111-(2)AMI0810, pre-wired (1.63 m/5 ft)	990ADB80X80412 990ADB80X80413	
		(2x) BMXAMI0810 (voltage)	Pre-wired	Evolution I/O adapter B877111-(2)AMI0810, pre-wired (0.56 m/2 ft) Evolution I/O adapter B877111-(2)AMI0810, pre-wired (1.63 m/5 ft)	990ADB80X80414 990ADB80X80415	
			Pre-wired	Evolution I/O adapter B877111-(2)AMI0810, pre-wired (0.56 m/2 ft) Evolution I/O adapter B877111-(2)AMI0810, pre-wired (1.63 m/5 ft)	990ADB80X80414 990ADB80X80415	
AS-B883-201	8 RTD input	BMXART0814	-	-	-	

(2) The DRC module's relay contact type (NO or NC) is determined by how it is wired at the X80 field connector. This wiring is done by the user to select the correct relay contact type.

(3) The dedicated adapter replaces a generic factory pre-wired adapter assembly.

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**Equivalence table: 984-800-X80 modules platform**

Type of device	B800 I/O module		X80 modules platform	I/O adapter assembly information		
	Reference	Description	Reference	Type	Description	Reference
Analog output	AS-B872-002	4-20 mA, 1-5 V 4-channel analog output	BMXAMO0410	-	-	-
	AS-B872-011	Selectable 4-channel voltage output	BMXAMO0410	No wiring adapter	-	-
	AS-B872-100	4-20 mA 4-channel current output	BMXAMO0410	Dedicated	Evolution I/O adapter B872100-AMO0410 (0.56 m/2 ft) Evolution I/O adapter B872100-AMO0410 (0.56 m/2 ft)	990ADB80X80346 (3) (4) 990ADB80X80347 (3) (4)
	AS-B872-200	Selectable 4-channel voltage output	BMXAMO0410	Multi-use flying-lead	Evolution I/O adapter, Generic6 (0.56 m/2 ft) Evolution I/O adapter, Generic6 (1.63 m/5 ft)	990ADB80X80288 990ADB80X80289
Pre-wired				Evolution I/O adapter B872200-AMO0410, pre-wired (0.56 m/2 ft) Evolution I/O adapter B872200-AMO0410, pre-wired (1.63 m/5 ft)	990ADB80X80180 990ADB80X80181	
Misc	AS-B882-239	2-channel high-speed counter	BMXECH0200	No wiring adapter	-	-
	AS-B883-001					
	AS-B883-101	CAM Emulator	No equivalent module	No replacement	-	-
	AS-B883-111					
	AS-B883-200	10 RTD input	(2x) BMXART0414 BMXART0814	No wiring adapter	-	-
	AS-B884-002	PID - 2 loops	No equivalent module	-	-	-
	AS-B885-002	ASCII Basic - 2 serial ports				
	AS-B885-101	Motion - Single Axis, Resolver				
	AS-B885-111	Motion - Single Axis, Encoder/Resolver				
AS-B984-100	High-speed logic solver, 16 inputs - 8 outputs					
AS-B984-101	High-speed logic solver, 16 inputs - 8 outputs					

(3) The dedicated adapter replaces a generic factory pre-wired adapter assembly.  
 (4) The AS-B872-100 analog output channels are current mode only and require external loop power supplies to operate. The X80 analog output module channels, when configured for current operation, are self-powered and do not require any external supplies. Disconnect each of the analog output channel wires from its loop power supply, then connect the individual channel wires together.

**Equivalence table: 984-800-X80 modules platform**

Type of device	B800 I/O module		X80 modules platform	I/O adapter assembly information		
	Reference	Description		Reference	Type	Description
Multi-use flying-lead adapter	-	-	-	Multi-use flying-lead	Evolution I/O adapter B800 GNRIC01 LD/HP-PT (0.56 m/2 ft)	990ADB80X80198
				Multi-use flying-lead	Evolution I/O adapter B800 GNRIC01 LD/HP-PT (1.63 m/5 ft)	990ADB80X80199
				Multi-use flying-lead	Evolution I/O adapter B800 GNRIC02 HD/HP-PTx2 (0.56 m/2 ft)	990ADB80X80296
				Multi-use flying-lead	Evolution I/O adapter B800 GNRIC02 HD/HP-PTx2 (1.63 m/5 ft)	990ADB80X80297
				Multi-use flying-lead	Evolution I/O adapter B800 GNRIC03 LD/HD-PT (0.56 m/2 ft)	990ADB80X80194
				Multi-use flying-lead	Evolution I/O adapter B800 GNRIC03 LD/HD-PT (1.63 m/5 ft)	990ADB80X80195
				Multi-use flying-lead	Evolution I/O adapter B800 GNRIC04 HD/AN-PTx2 (0.56 m/2 ft)	990ADB80X80292
				Multi-use flying-lead	Evolution I/O adapter B800 GNRIC04 HD/AN-PTx2 (1.63 m/5 ft)	990ADB80X80293
				Multi-use flying-lead	Evolution I/O adapter B800 GNRIC05 AN/AN-PT (0.56 m/2 ft)	990ADB80X80190
				Multi-use flying-lead	Evolution I/O adapter B800 GNRIC05 AN/AN-PT (1.63 m/5 ft)	990ADB80X80191
				Multi-use flying-lead	Evolution I/O adapter B800 GNRIC06 HD/AN-PTx2 (0.56 m/2 ft)	990ADB80X80288
				Multi-use flying-lead	Evolution I/O adapter B800 GNRIC06 HD/AN-PTx2 (1.63 m/5 ft)	990ADB80X80289
				Multi-use flying-lead	Evolution I/O adapter B800 GNRIC07 AN/AN-PTx2 (0.56 m/2 ft)	990ADB80X80286
				Multi-use flying-lead	Evolution I/O adapter B800 GNRIC07 AN/AN-PTx2 (1.63 m/5 ft)	990ADB80X80287

**Replacement cables**

Type of device	B800 I/O module		X80 modules platform	I/O adapter assembly information		
	Reference	Description		Reference	Type	Description
Replacement cables	-	-	-	High-power	Replacement X80 cable high-power 016 (0.56 m/2 ft)	990X80CABLE016
				High-power	Replacement X80 cable high-power 516 (1.63 m/5 ft)	990X80CABLE516
				High-power	Replacement X80 cable 40-PIN high-power 021 (0.56 m/2 ft)	990X80CABL021
				High-power	Replacement X80 cable 40-PIN high-power 521 (1.63 m/5 ft)	990X80CABL521
				High-density	Replacement X80 cable high-density 017 (0.56 m/2 ft)	990X80CABLE017
				High-density	Replacement X80 cable high-density 517 (1.63 m/5 ft)	990X80CABLE517
				Analog	Replacement X80 cable 20-PIN analog 018 (0.56 m/2 ft)	990X80CABLE018
				Analog	Replacement X80 cable 20-PIN analog 518 (1.63 m/5 ft)	990X80CABLE518
				Analog	Replacement X80 cable 28-PIN analog AN028 (0.56 m/2 ft)	990X80CABL019
				Analog	Replacement X80 cable 28-PIN analog AN528 (1.63 m/5 ft)	990X80CABL519
				Multi-use flying-lead	Replacement X80 cable high-power PIGTAIL 016 (0.56 m/2 ft)	990X80CABL016PT
				Multi-use flying-lead	Replacement X80 cable high-density PIGTAIL 017 (0.56 m/2 ft)	990X80CABL017PT
				Multi-use flying-lead	Replacement X80 cable analog PIGTAIL 018 (0.56 m/2 ft)	990X80CABL018PT
				Multi-use flying-lead	Replacement X80 cable high-power PIGTAIL 516 (1.63 m/5 ft)	990X80CABL516PT
				Multi-use flying-lead	Replacement X80 cable high-density PIGTAIL 517 (1.63 m/5 ft)	990X80CABL517PT
Multi-use flying-lead	Replacement X80 cable analog PIGTAIL 518 (1.63 m/5 ft)	990X80CABL518PT				

# EcoFit™ Replacement for PLCs

## Modernization solutions

### TSX7 PLCs to Modicon X80 modules

2



TSX7 PLC example



TSX7 to X80 dedicated wiring adapter



TSX7 to X80 chassis with backplane



TSX7 to X80 assembly

#### Presentation

The TSX7 PLC to Modicon X80 platform modernization solution consists of various pre-wired I/O adapters and racks. The I/O adapters include a set of connectors designed to simplify the replacement of legacy TSX7 PLCs by Modicon M580/M340 PLCs and Modicon X80 modules platform; existing TSX7 field wiring will be retained.

#### Dedicated adapters

The dedicated adapters are designed to mate a specific TSX7 I/O module to a specific equivalent Modicon I/O module. The adapters enable the installed TSX7 module I/O terminal blocks to be matched to the equivalent Modicon X80 modules by using a corresponding pre-wired cable assembly. These dedicated and fully pre-wired adapters make installation quick and easy.

#### Chassis

The chassis is designed to support the M340/M580 backplane which is pre-mounted and sold with the chassis. Two sizes are available for each M340 and M580 range (8 slots and 12 slots respectively). Note that for M580 you need to use the chassis or support with Ethernet rack or backplane.

The four chassis and 28 I/O adapters available cover the main requirements to modernize TSX7 I/O modules into Modicon X80 modules. They conform to the specifications of both the Modicon M340 and M580 ranges.

#### Description of the solution

The electromechanical modernization solution comprises a chassis equipped with a hinged door on which the Modicon X80 backplane is fixed, combined with a set of I/O adapters.

- The rear of the chassis replaces the TSX7 rack in the same footprint and uses the same mounting pattern for fixing in the control panel. It is designed to accommodate the adapters according to the modules present in the original TSX7 rack.
- The existing TSX7 wiring terminal block is mounted on the matching adapter attached to the rack support behind the hinged door. The other end of the adapter cable is connected to the corresponding I/O module of the Modicon X80 platform.
- The M340 PLC or the M580 PLC is mounted at the front on the hinged door.
- The adapters transmit the same control signals to the installations W/O any changes to the wiring.

#### Benefits of the solution

The customer benefits are reduced risk and cost of modernization from a TSX7 PLC:

- Minimal production downtime with about 1 hour setup time per rack.
- Cost reduction by keeping all sensor/actuator wiring inside existing cabinets, leading to savings in wiring, testing and commissioning, and wiring diagram updates: no electrician or wiring contractor needed.
- Unlike manual rewiring, ordinary production stops can be used for the changeover.
- Due to minimal changes, installations can be restarted within the allotted time with the ability to roll back in the event of any unforeseen matters arising.
- Better reliability brought by dedicated solutions designed by the manufacturer.
- Simple solution that makes modernization easy and provides the lowest risk option.

This modernization solution is part of a larger modernization and migration offer that includes methods, specific migration devices, and dedicated tools for various legacy PLCs from Schneider Electric and the competition as well.

Modernization and migration can be implemented with help from our Schneider Electric services experts.

#### Equivalence table

The cross-reference table hereafter shows the possible equivalences between TSX7 I/O and X80 I/O modules. Some differences in terminal strips, modularity, common or power connections may exist: it is recommended that you verify compatibility with our Schneider Electric service representatives.

EcoFit™ Replacement for PLCs  
**Modernization solutions**  
 TSX7 PLCs to Modicon X80 modules

Equivalence table: TSX7 - X80 modules platform					
Type of module	TSX7 modules		X80 modules	Quick wiring adapters	
	Reference	Description	Reference	Description	Reference
Rack	TSXRKN8/RKS8	8-slot rack	BMEXBP0800	Support an 8-slot Ethernet rack	TSX7SWAEBP0800
	TSXRKN8/RKS8	8-slot rack	BMEXBP1200	Support a 12-slot Ethernet rack	TSX7SWAEBP1200
	TSXRKN8/RKS8	8-slot rack	BMXXBP0800	Support an 8-slot rack	TSX7SWAXBP0800
	TSXRKN8/RKS8	8-slot rack	BMXXBP1200	Support a 12-slot rack	TSX7SWAXBP1200
Discrete input	TSXDET802	8-point 24 VAC input	BMXDAI1602	Adapter (0.4 m/1.31 ft) between: - TSXDET8** - and BMXDAI16** or BMXDDI16**	DET08XXDXI160X
	TSXDET803	8-point 48 VAC input	BMXDAI1603		
	TSXDET812	8-point 24 VDC input	BMXDDI1602		
	TSXDET813	8-point 48 VDC input	BMXDDI1603		
	TSXDET814	8-point 130 VDC input	BMXDDI1604T		
	TSXDET824	8-point 110 VDC/115 VAC input	BMXDAI1604		
	TSXDET1603	16-point 48 VAC input	BMXDAI1603	Adapter (0.4 m/1.31 ft) between: - TSXDET16** - and BMXDAI16** or BMXDDI16**	DET16XXDXI160X
	TSXDET1604	16-point 110...120 VAC input	BMXDAI1604		
	TSXDET1612	16-point 24 VDC input	BMXDDI1602		
	TSXDET1613	16-point 48 VDC input	BMXDDI1603		
	TSXDET1633	16-point 48 VDC input	BMXDDI1603		
	TSXDET3212	32-point 24 VDC input	BMXDDI3202K		
	TSXDET3232	32-point 24 VDC input	BMXDDI3202K	Adapter (1 m/3.28 ft) between: - TSXDET32*2 - and BMXDDI3202K	DET32X2DDI3202K
	TSXDET3242	32-point 24 VDC input	BMXDDI3202K		
	TSXDET3252	32-point 24 VDC input	BMXDDI3202K		

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**Equivalence table: TSX7 - X80 modules platform**

Type of module	TSX7 modules		X80 modules	Quick wiring adapters	
	Reference	Description	Reference	Description	Reference
Discrete output	TSXDST835	8-point 24 VDC/24...240 VAC relay outputs	BMXDRA0815	Adapter (0.4 m/1.31 ft) between TSXDST835 (24 VDC/24...240 VAC/relay) and BMXDRA0815	DST835DRA0805
	TSXDST0804	8-point 110/127 VAC 2 A outputs	BMXDRA0815	Adapter (0.4 m/1.31 ft) between TSXDST0804 (24 VDC/24...240 VAC/relay) and BMXDRA0815	TSXDST0804DRA0805 (1)
	TSXDST1604	16-point 110/127 VAC 0.5 A solid state outputs	BMXDRA1605	Adapter (0.4 m/1.31 ft) between TSXDST1604 (24 VDC/24...240 VAC/relay) and BMXDRA1605	TSXDST1604DRA1605 (1)
	TSXDST1612	16-point 24 VDC outputs	BMXDDO1612	Adapter (0.4 m/1.31 ft) between TSXDST1612 (24 VDC) and BMXDDO1612	DST1612DDO1612
	TSXDST1632	16-point 24 VDC outputs	BMXDDO1602	Adapter (0.4 m/1.31 ft) between TSXDST1632 (24 VDC) and BMXDDO1602	DST1632DDO1602
	TSXDST1632	16-point 24 VDC outputs	BMXDRA1605	Adapter (0.4 m/1.31 ft) between TSXDST1632 (24 VDC/relay) and BMXDRA1605	DST1632DRA1605
	TSXDST1633	16-point 24...240 VAC outputs	BMXDRA1605	Adapter (0.4 m/1.31 ft) between TSXDST1633 (24...240 VAC/relay) and BMXDRA1605	DST1633DRA1605
	TSXDST1634	16-point 48...130 VDC outputs	(2x) BMXDRA0804T	Adapter (0.4 m/1.31 ft) between 1 TSXDST1634 (125 VDC) and 2 BMXDRA0804T	DST1634DRA0804T
	TSXDST1635	16-point 24...240 VAC outputs	BMXDAO1605	Adapter (0.4 m/1.31 ft) between TSXDST1635 (24...240 VAC/triac) and BMXDAO1605	DST1635DAO1605
	TSXDST1635	16-point 24...240 VAC outputs	BMXDRA1605	Adapter (0.4 m/1.31 ft) between TSXDST1635 (48...240 VAC/relay) and BMXDRA1605	DST1635DRA1605
	TSXDST1682	16-point 24 VDC outputs	BMXDDO1602	Adapter (0.4 m/1.31 ft) between TSXDST1682 (24 VDC) and BMXDDO1602	DST1682DDO1602
	TSXDST2472	24-point 24 VDC outputs	(2x) BMXDDO1602	Adapter (0.5 m/1.64 ft) between 1 TSXDST24*2 (24 VDC) and 2 BMXDDO1602	DST24X22DDO1602
	TSXDST2482	24-point 24 VDC outputs	(2x) BMXDDO1602		
	TSXDST2472	24-point 24 VDC outputs	BMXDDO3202K	Adapter (0.5 m/1.64 ft) between TSXDST24*2 (24 VDC) and BMXDDO3202K	DST24X2DDO3202K
	TSXDST2482	24-point 24 VDC outputs	BMXDDO3202K		
	TSXDST3292	32-point 24 VDC outputs	BMXDDO3202K	Adapter (1 m/3.28 ft) between TSXDST3292 (24 VDC) and BMXDDO3202K	DST3292DDO3202K

(1) Product on request, due to its rarity. Please contact Schneider Electric at [ModiconMigrations@schneider-electric.com](mailto:ModiconMigrations@schneider-electric.com).

**Equivalence table: TSX7 - X80 modules platform**

Type of module	TSX7 modules		X80 modules	Quick wiring adapters	
	Reference	Description	Reference	Description	Reference
Analog input	TSXAEM411	4-channel voltage/current inputs	BMXAMI0410	Adapter (0.4 m/1.31 ft) between TSXAEM411 and BMXAMI0410 (Current type)	AEM0411AMI0410C
	TSXAEM411	4-channel voltage/current inputs	BMXAMI0410	Adapter (0.4 m/1.31 ft) between TSXAEM411 and BMXAMI0410 (Voltage type)	AEM0411AMI0410V
	TSXAEM413	4-channel Pt 100 inputs 3- or 4-wire	BMXART0414	Adapter (0.4 m/1.31 ft) between TSXAEM413 and BMXAMI0414 (RTD type)	AEM0413ART0414
	TSXAEM811	8-channel voltage/current inputs	BMXAMI0810	Adapter (0.4 m/1.31 ft) between TSXAEM811 and BMXAMI0810 (Current type)	AEM0811AMI0810C
	TSXAEM811	8-channel voltage/current inputs	BMXAMI0810	Adapter (0.4 m/1.31 ft) between TSXAEM811 and BMXAMI0810 (Voltage type)	AEM0811AMI0810V
	TSXAEM821	8-channel voltage/current inputs	BMXAMI0800	Adapter (0.4 m/1.31 ft) between TSXAEM821 and BMXAMI0800 (Current type)	AEM0821AMI0800C
	TSXAEM821	8-channel voltage/current inputs	BMXAMI0800	Adapter (0.4 m/1.31 ft) between TSXAEM821 and BMXAMI0800 (Voltage type)	AEM0821AMI0800V
	TSXAEM1601	16-channel inputs	(2x) BMXAMI0800	Adapter (0.5 m/1.64 ft) between 1 TSXAEM1601 and 2 BMXAMI0800 (Voltage type)	AEM1601AMI0800V
	TSXAEM1602	16-channel inputs	(2x) BMXAMI0800	Adapter (0.5 m/1.64 ft) between 1 TSXAEM1602 and 2 BMXAMI0800 (Current type)	AEM1602AMI0800C
Analog output	TSXASR200	2-channel voltage/current output	BMXAMO0210	Adapter (0.5 m/1.64 ft) between TSXASR200 and BMXAMO0210	ASR0200AMO0210
	(2x) TSXASR200	(2x) 2-channel voltage/current outputs	BMXAMO0410	Adapter (0.5 m/1.64 ft) between 2 TSXASR200 and 1 BMXAMO0410	2ASR0200AMO0410
	TSXASR0401	4-channel voltage output	BMXAMO0410	Adapter (0.4 m/1.31 ft) between TSXASR040* and BMXAMO0410	ASR040XAMO0410
	TSXASR0402	4-channel current output	BMXAMO0410		
	TSXASR0403	4-channel current output	BMXAMO0410		
TSXAST200	2-channel voltage/current output	BMXAMO0210	Adapter (0.4 m/1.31 ft) between TSXAST200 and BMXAMO0210	AST0200AMO0210	

# EcoFit™ Replacement for PLCs Modernization solutions

Modicon Compact PLCs to Modicon X80 modules platform

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Modicon Compact PLC



Quick wiring adapter



Compact and X80 assembly

## Presentation

The Modicon Compact to Modicon X80 modernization solution consists of various quick wiring adapters comprising a set of connectors designed to simplify the replacement of legacy Modicon Compact PLCs with Modicon M580 or M340 PLCs and Modicon X80 modules platform; existing Modicon Compact field wiring will be retained.

## Adapters

The adapters enable the I/O field connectors of the Compact PLC in an existing installation to be matched to the equivalent I/O modules of the X80 modules platform.

Thirteen references provide the wiring translations between the I/O modules of Compact PLCs and those of the Modicon X80 modules platform. They fully meet the mechanical and environmental specifications of the X80 PLC system.

## Description of the solution

The quick wiring adapters have the same look and feel as the standard I/O module terminal block of the X80 platform, except that the new connectors increase the depth and extend below the X80 I/O module.

- The quick wiring adapters use the same mounting/retaining screws for attaching the adapter to the X80 platform module.
- The sockets of the adapters accept the two field wiring connectors of the Compact I/O module.
- A clear protective cover is sized to retain the wiring harness.
- The cover also has a provision for attaching the wiring label that was used on the Compact module.

## Benefits of the solution

The customer benefits are reduced risk and cost of modernization from a Modicon Compact PLC:

- Minimal production downtime with about 1 hour setup time per rack.
- Cost reduction by keeping all sensor/actuator wiring inside existing cabinets, leading to savings in wiring, testing and commissioning, and wiring diagram updates: no electrician or wiring contractor needed.
- Unlike manual rewiring, ordinary production stops can be used for the changeover.
- Due to minimal changes, installations can be restarted within the allotted time with the ability to roll back in the event of any unforeseen matters arising.
- Better reliability brought by dedicated solutions designed by the manufacturer.
- Simple solution that makes modernization easy and provides the lowest risk option.

This modernization solution is part of a larger modernization and migration offer that includes methods, specific migration devices, and dedicated tools for various legacy PLCs from Schneider Electric and the competition as well.

Modernization and migration can be implemented with help from our Schneider Electric services experts.

## Equivalence table

The cross-reference table hereafter shows the possible equivalences between Modicon Compact PLCs and X80 I/O modules. However, some differences in terminal strips, modularity, common or power connections may have to be addressed. Therefore, it is recommended that you verify compatibility with our Schneider Electric service representatives.

### Note:

- Extended temperature modules for the X80 I/O platform are distinguished by having the suffix «H» added to the reference.
- The Modicon Compact range of PLCs had an extended temperature range of -40 to +70 °C/-40 to +158 °F. The extended temperature range of the X80 modules platform is 25 to +70 °C/13 °F to 158 °F. Derating the temperature may impose limits on some applications.
- As with any PLC migration, even an exact module-to-module replacement might not provide identical results (due to scan time, etc.).
- The meaning of the color code used in the “Compact module – X80 platform compatibility” column is as follows:

- A green background with no comments indicates a full functional equivalent between the X80 I/O platform module and the Compact module.
- A green background with comments indicates functional equivalent with differences noted. Check with your application.

- An Orange background indicates that, in most cases, the inputs of the X80 I/O platform fully replace those of the Compact module, but differences are noted, such as the maximum current per point. Check with your application.

- A red background indicates that while there are no direct replacements, alternative solutions are available. Please consult Schneider Electric for further assistance.

# Modernization solutions

Modicon Compact PLCs to Modicon X80 modules platform



## Equivalence table: Compact module – X80 modules platform

Type of module	Compact module		X80 platform		Compact module – X80 platform compatibility	Quick wiring adapter reference
	Reference	Description	Reference	Description		
Discrete input	AS-BDE0216	16-point 24 VDC input	BMXDDI1602	16-point 24 VDC sink input	OK	990XSM00206
	AS-BDEP208	8-point 230 VAC input	BMXDAI0805	8-point 200 to 240 VAC input	OK	990XSM00201
	AS-BDEP209	8-point 120 VAC input	BMXDAI1604	16-point 110 VAC input	OK	990XSM00213
	AS-BDEP210	8-point 115 VAC input	BMXDAI1604	16-point 110 VAC input	OK	990XSM00213
	AS-BDEP211	8-point 115 VAC input	BMXDAI1604	16-point 110 VAC input	OK	None
	AS-BDEP214	16-point 12-60 VDC input	BMXDDI1602	16-point 24 VDC input	For the 24 VDC module check that the input current threshold at switch on is compatible with the application. The input voltage threshold of BMXDDI1603 is 34 V compared with 12 V for AS-BDEP214. No replacement for 12 VDC and 60 VDC.	990XSM00206
			BMXDDI1603	16-point 48 VDC input		
	AS-BDEP215	16-point 5 VDC TTL input	–	–	No exact replacement but can be replaced with HMI functionality.	None
	AS-BDEP216	16-point 24 VDC input	BMXDDI1602	16-point 24 VDC sink input	OK	990XSM00206
	AS-BDEP217	16-point 24 VDC input	BMXDAI1602	16-point 24 VDC sink input	OK but requires negative logic.	990XSM00201
	AS-BDEP218	16-point 115 VAC input	BMXDAI1604	16-point 110 VAC input	OK	990XSM00201
	AS-BDEP220	16-point 24 VDC fast input	–	–	Response time is a deciding factor when selecting replacement modules.	None
	AS-BDEP254	16-point 12-60 VDC input	BMXDDI1602H	16-point 24 VDC input	For the 24 VDC module check that the input current threshold at switch on is compatible with the application. The input voltage threshold of BMXDDI1603 is 34 V compared with 12 V for AS-BDEP254. The temperature range for BMXDDI1603 is 0 to 60 °C compared with -40 °C to +70 °C for ASBDEP254. No replacement for 12 VDC and 60 VDC.	990XSM00206
			BMXDDI1603H	16-point 48 VDC input		
	AS-BDEP254C	16-point 12-60 VDC input module, extended temperature + coating	BMXDDI1602H BMXDDI1603H	16-point 24 VDC input 16-point 48 VDC input	For the 24 VDC module check that the input current threshold at switch on is compatible with the application. The input voltage threshold of BMXDDI1603 is 34 V compared with 12 V for AS-BDEP254. The temperature range for BMXDDI1603 is 0 to +60 °C compared with -40 °C to +70 °C for ASBDEP254. No replacement for 12 VDC and 60 VDC.	990XSM00206
	AS-BDEP256	16-point 24 VDC input module	BMXDDI1602H	16-point 24 VDC sink input	The nominal temperature range of BMXDDI1602 is only 0 to +60 °C compared with -40 to +70 °C for AS-BDEP256.	990XSM00206
	AS-BDEP256C	16-point 24 VDC input module, extended temperature + coating	BMXDDI1602H	16-point 24 VDC sink input	The nominal temperature range of BMXDDI1602 is only 0 to +60 °C compared with -40 to +70 °C for AS-BDEP256C.	990XSM00206
	AS-BDEP257	16-point 110 VDC inputs, extended temperature	BMXDDI1604T	16-point 125 VDC input	Nominal input voltage for BMXDDI1604T is 100 to 150 VDC compared with 55 to 170 VDC for AS-BDEP257. Response time for BMXDDI1604T is 9 ms compared with 6 ms for AS-BDEP257. Temperature range for BMXDAI1604T from -25 to +70 °C compared with -40 to +70 °C.	990XSM00206
	AS-BDEP257C	16-point 110 VDC input, extended temperature + coating	BMXDDI1604T	16-point 125 VDC input	Nominal input voltage for BMXDDI1604T is 100 to 150 VDC compared with 55 to 170 VDC for AS-BDEP257. Response time for BMXDDI1604T is 9 ms compared with 6 ms for AS-BDEP257. Temperature range for BMXDDI1604T from -25 to +70 °C compared with -40 to +70 °C. No conformal coating available.	990XSM00206
	AS-BDEP296	16-point 60 VDC inputs	–	–	No replacement	–
AS-BDEP297	16-point 48 VDC inputs	BMXDDI1603	16-point 48 VDC input	OK	990XSM00206	

# Modernization solutions

Modicon Compact PLCs to Modicon X80 modules platform

**Equivalence table: Compact module – X80 modules platform**

Type of module	Compact module		X80 platform		Compact module – X80 platform compatibility	Quick wiring adapter reference
	Reference	Description	Reference	Description		
Discrete output	AS-BDAO216	16-point 24 VDC output module	BMXDDO1602	16-point 24 VDC output	OK, but with slightly slower response time. BMXDDO1602 response time of 1.2 ms compared with < 1 ms for AS-BDAO216.	990XSM00206
	AS-BDAP204	4-point relay (NO) module	BMXDRA0815	8-point relay outputs	OK, 4 relays on Compact, 8 on X80 I/O.	990XSM00203
	AS-BDAP204	4-point relay (NO) module	BMXDRA0804T	8-point 125 VDC output relay	OK, 4 relays on Compact, 8 on X80 I/O.	990XSM00203
	AS-BDAP208	8-point relay (NO) module	BMXDRA0815	8-point relay outputs	OK	990XSM00206
	AS-BDAP258	8-point relay (NO) module	BMXDRA0815H	8-point relay outputs	OK, but different extended temperatures.	990XSM00206
	AS-BDAP258C	8-point 24 VDC relay (NO) module, extended temperature + coating	BMXDRA0815H	8-point relay outputs	OK. Temperature between 0 and +60°C compared with -40 to +70°C for BMXDRA0815H.	990XSM00206
	AS-BDAP209	8-point, 1 A, 120 VAC output module	BMXDAO1605	16-point 110 VAC to 230 VAC output	Lower current availability. BMXDAO1605 is limited to 600 mA compared with 1 A for AS-BDAP210. For AS-BDAP210, the nominal voltage goes down to 85 V compared with 100 V for BMXDAO1605.	990XSM00204
	AS-BDAP210	8-point, 24-230 VAC output module	BMXDAO1605	16-point 110 VAC to 230 VAC output	Lower current availability. BMXDAO1605 is limited to 600 mA compared with 1 A for AS-BDAP210. For AS-BDAP210, the nominal voltage goes down to 85 V compared with 100 V for BMXDAO1605.	990XSM00204
	AS-BDAP212	8-point 24 VDC input/4-point 2 A output	BMXDDM16025	8-point 24 VDC input + 8-point relay output	Compact: 2 groups of 2 outputs; X80 I/O: 1 group of 8. Consequently, different input isolation.	990XSM00205
	AS-BDAP252	8-point 24 VDC input/4-point 2 A output	BMXDDM16025H	8-point 24 VDC input + 8-point relay output	Compact: 2 groups of 2 outputs; X80 I/O: 1 group of 8. Consequently, different input isolation. Different extended temperatures.	990XSM00205
	AS-BDAP216	16-point 24 VDC output module	BMXDDO1602	16-point 24 VDC output	Compact: 2 groups of 8; X80 I/O: 1 group of 16. Consequently, different input isolation.	990XSM00206
	AS-BDAP256	16-point 24 VDC output module	BMXDDO1602H	16-point 24 VDC output	Compact: 2 groups of 8; X80 I/O: 1 group of 16. Consequently, different input isolation. Different extended temperatures.	990XSM00206
	AS-BDAP217	16-point 5-24 VDC output module	BMXDDO1612	16-point 24 VDC sink output	Slightly slower response time. BMXDDO1612 response time of 1.2 ms compared with < 1 ms for AS-BDAP217. Also, Compact: 2 groups of 8; X80 I/O: 1 group of 16.	990XSM00206
	AS-BDAP218	16-point 24-240 VAC output module	BMXDAO1605	16-point 110 VAC to 230 VAC	Lower current availability. BMXDAO1605 is limited to 600 mA compared with 1 A for AS-BDAP210. For AS-BDAP210, the nominal voltage goes down to 24 V compared with 100 V for BMXDAO1605. If 24 V is required, select a different module.	990XSM00202
	AS-BDAP211	Combined press and stamp module, 120 VAC, inputs controlling the outputs	–	–	None	None

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# Modernization solutions

Modicon Compact PLCs to Modicon X80 modules platform

2

Equivalence table: Compact module – X80 modules platform						
Type of module	Compact module		X80 platform		Compact module – X80 platform compatibility	Quick wiring adapter reference
	Reference	Description	Reference	Description		
Discrete input/output	AS-BDAP220	8-point 24 VDC, 2 A, input/output module	BMXDDM16022	8-point 24 VDC input + 8-point 24 VDC output	BMXDDM16022 is limited to 0.625 A per channel compared with 2 A for AS-BDAP220. Also, the response time is 1.2 ms compared with < 1 ms for AS-BDAP220.	990XSM00207
	AS-BDAP250	8-point, 24 VDC, input/output module	BMXDDM16022H	8-point 24 VDC input + 8-point 24 VDC output	BMXDDM16022 is limited to 0.625 A per channel compared with 2 A for AS-BDAP220 and is not conformally coated. Also, the response time is 1.2 ms compared with < 1 ms for AS-BDAP220. BMXDDM16022 temperature range of 0 to +60 °C compared with -40 to +70 °C for AS-BDAP250C.	990XSM00207
	AS-BDAP250C	8-point, 24 VDC, input/output module, extended temperature + coating	BMXDDM16022H	8-point 24 VDC input + 8-point 24 VDC output	BMXDDM16022 is limited to per channel compared with 2 A for AS-BDAP250. Also, the response time is 1.2 ms compared with < 1 ms for AS-bDaP220. DDM16022 temperature range of 0 to +60 °C compared with -40 to +70 °C for AS-BDAP250C.	990XSM00207
	AS-BDAP212	8 inputs, 4 outputs, 24 VDC	BMXDDM16025	8-point 24 VDC input + 8-point relay output	Compact: 2 groups of 2 outputs; X80 I/O: 1 group of 8. Consequently, different input isolation.	990XSM00205
	AS-BDAP252	8 inputs, 4 outputs, 24 VDC	BMXDDM16025H	8-point 24 VDC input + 8-point relay output	BMXDDM16025 temperature range of 0 to +60 °C compared with -40 to +70 °C. Compact: 2 groups of 2 outputs; X80 I/O: 1 group of 8. Consequently, different input isolation.	990XSM00205
	AS-BDAP252C	8 inputs, 4 outputs, 24 VDC, extended temperature + coating	BMXDDM16025H	8-point 24 VDC input + 8-point relay output	BMXDDM16025 temperature range of 0 to +60 °C compared with -40 to +70 °C. Compact: 2 groups of 2 outputs; X80 I/O: 1 group of 8. Consequently, different input isolation.	990XSM00205
	AS-BDAP253	8 inputs, 4 outputs, 110 VDC	BMXDDM16025H	8-point 24 VDC input + 8-point relay output	1) Compact inputs: 110 VDC; X80 I/O: 24 VDC. 2) Compact outputs: 2 groups of 2 outputs; X80 I/O: 1 group of 8. a) Different isolation b) 4 unused references	None
	AS-BDAP253C	8 inputs, 4 outputs, 110 VDC, extended temperature + coating	BMXDDM16025H	8-point 24 VDC input + 8-point relay output	1) Compact inputs: 110 VDC; X80 I/O: 24 VDC. 2) Compact outputs: 2 groups of 2 outputs; X80 I/O: 1 group of 8. a) Different isolation b) 4 unused references	None
	AS-BDAP292	8 inputs, 4 outputs, 60 VDC	–	–	No exact replacement. Please consult Schneider Electric for a solution.	None

# Modernization solutions

Modicon Compact PLCs to Modicon X80 modules platform

**Equivalence table: Compact module – X80 modules platform**

Type of module	Compact module		X80 platform		Compact module – X80 platform compatibility	Quick wiring adapter reference
	Reference	Description	Reference	Description		
Analog input	AS-BADU204	4-channel ± 0.5 V register, PT100, 11-bit	BMXART0414	4-channel TC/RTD, isolated, analog inputs	OK, but ± 0.5 V missing. Also, X80 I/O has channel-to-channel and channel-to-bus isolation.	None
	AS-BADU205	4-channel register input	BMXAMI0410	4-channel, isolated, analog current/voltage input	OK, scaling differences.	990XSM00208
	AS-BADU205	4-channel register input	BMXAMM0600	4-channel, non-isolated, analog current/voltage input and 2-channel, non-isolated, 2-channel current/voltage output	OK, scaling differences.	990XSM00209
	AS-BADU206	4-channel, isolated, register input	BMXAMI0410	4-channel, isolated, analog current/voltage input	OK, but X80 I/O does not have ± 1 V range.	990XSM00210
	AS-BADU206	4-channel, isolated, register input	BMXAMM0600	4-channel, non-isolated, analog current/voltage input and 2-channel, non-isolated, 2-channel current/voltage output	OK, but X80 I/O does not have ± 1 V range. No isolation.	990XSM00211
	AS-BADU210	4-channel, isolated, analog voltage/current input	BMXAMI0410	4-channel, isolated, analog current/voltage input	OK, scaling differences. X80 I/O does not have all the corresponding voltage ranges.	990XSM00210
	AS-BADU210	4-channel, isolated, analog voltage/current input	BMXAMM0600	4-channel, non-isolated, analog current/voltage input and 2-channel, non-isolated, 2-channel current/voltage output	OK, scaling differences. X80 I/O does not have all the corresponding voltage ranges. No isolation.	990XSM00211
	AS-BADU211	8-channel analog input thermal module	BMXART0814	8-channel TC/RTD, isolated, analog inputs	OK, X80 I/O does not have 2, 5, or 10 V inputs nor 4-20 mA, ± 20 mA, nor the 24 V external voltage.	None
	AS-BADU212	8-channel analog input thermal module	BMXART0814	8-channel TC/RTD, isolated, analog inputs	OK, X80 I/O does not have 2, 5, or 10 V inputs nor 4-20 mA, ± 20 mA, nor the 24 V external voltage.	None
	AS-BADU214	4/8-channel multi-range analog/discrete inputs	BMXART0414	4-channel TC/RTD, isolated, analog inputs	X80 I/O has no 0-10 V, 1-5 V, or 2-10 V voltage ranges nor loop capability.	None
	AS-BADU216	4/8-channel, isolated, thermocouple	BMXART0814	8-channel TC/RTD, isolated, analog inputs	OK	None
	AS-BADU254	4-channel register input	BMXAMI0410H	4-channel, isolated, analog current/voltage input	OK, X80 I/O has CAN/CAN and CAN/bus isolation whereas Compact has none. Different extended temperatures.	None
	AS-BADU254	4-channel register input	BMXAMM0600H	4-channel analog current/voltage input and 2-channel current/voltage output	OK, X80 I/O has 4 inputs and 2 outputs. Different extended temperatures.	None
	AS-BADU254C	4-channel register input, extended temperature + coating	BMXAMI0410H	4-channel, isolated, analog current/voltage input	OK, X80 I/O has CAN/CAN and CAN/bus isolation whereas Compact has none. Different extended temperatures.	None
	AS-BADU254C	4-channel register input, extended temperature + coating	BMXAMM0600H	4-channel analog current/voltage input and 2-channel current/voltage output	OK, X80 I/O has 4 inputs and 2 outputs. No isolation. Different extended temperatures.	None
	AS-BADU256	4-channel, isolated, register input	BMXAMI0410H	4-channel, isolated, analog current/voltage input	OK, but different extended temperatures.	None
AS-BADU256	4-channel, isolated, register input	BMXAMM0600H	4-channel analog current/voltage input and 2-channel current/voltage output	OK, X80 I/O has 4 inputs and 2 outputs. No isolation. Different extended temperatures.	None	

# Modernization solutions

Modicon Compact PLCs to Modicon X80 modules platform



Equivalence table: Compact module – X80 modules platform						
Type of module	Compact module		X80 platform		Compact module – X80 platform compatibility	Quick wiring adapter reference
	Reference	Description	Reference	Description		
Analog input	AS-BADU256C	4-channel, isolated, register input, extended temperature + coating	BMXAMI0410H	4-channel, isolated, analog current/ voltage input	OK, but different extended temperatures.	990XSM00210
	AS-BADU256C	4-channel, isolated, register input, extended temperature + coating	BMXAMM0600H	4-channel analog current/voltage input and 2-channel current/ voltage output	OK, X80 I/O has 4 inputs and 2 outputs without isolation.	990XSM00211
	AS-BADU257	8-channel thermocouple	BMXART0814H	8-channel TC/RTD, isolated, analog inputs	OK, but different extended temperatures.	None
	AS-BADU257C	8-channel thermocouple, extended temperature + coating	BMXART0814H	8-channel TC/RTD, isolated, analog inputs	OK, but different extended temperatures.	None
Analog output	AS-BDAU202	2-point analog outputs, ± 10 V, ± 20 mA	BMXAMO0210	2-channel, isolated, analog current/ voltage output	X80 I/O has no negative 20 mA capability.	990XSM00212
	AS-BDAU204	4-channel, opto-isolated, analog output	BMXAMO0210	2-channel, isolated, analog current/ voltage output	X80 I/O does not support 0 to 1 V, 0 to 5 V, ± 1 V ranges. ± 5 V.	None
	AS-BDAU204	4-channel, opto-isolated, analog output	BMXAMO0410	4-channel, isolated, analog current/ voltage output	X80 I/O does not support 0 to 1 V, 0 to 5 V, ± 1 V ranges. ± 5 V.	990XSM00214
	AS-BDAU208	8-channel register output	–	–	No 8-point analog output. Two modules need to be used.	None
	AS-BDAU252	2-point analog outputs, ± 10 V, ± 20 mA, extended temperature	BMXAMO0210H	2-channel, isolated, analog current/ voltage output	X80 I/O has no negative 20 mA capability. Different extended temperatures.	990XSM00212
	AS-BDAU252C	2-point analog outputs, ± 10 V, ± 20 mA, extended temperature + coating	BMXAMO0210H	2-channel, isolated, analog current/ voltage output	X80 I/O has no negative 20 mA capability. Different extended temperatures.	990XSM00212

# Modernization solutions

Modicon Compact PLCs to Modicon X80 modules platform

2

**Equivalence table: Compact module – X80 modules platform**

Type of module	Compact module		X80 platform		Compact module – X80 platform compatibility	Quick wiring adapter reference
	Reference	Description	Reference	Description		
Communication	AS-BBKF202	Interbus-S slave	–	–	No replacement	None
	AS-BBKF201-16	16-word Interbus-S master	–	–	No replacement	None
	AS-BBKF201-64	64-word Interbus-S master	–	–	No replacement	None
	CM900	Auto interface	–	–	No replacement	None
Service communication	AS-BKOS260-24	24-word universal communication	–	–	Please consult Schneider Electric for assistance in finding the optimum solution. READ_VAR functionality could be a replacement solution.	None
	AS-BKOS260-64	64-word universal communication	–	–	Please consult Schneider Electric for assistance in finding the optimum solution. READ_VAR functionality could be a replacement solution.	None
	M7251	Programmable limit switch	–	–	No replacement, no movement	None
	M7350	Resolver-decoder	–	–	No replacement, no movement	None
Motion	AS-BMOT201	Axis motion control encoder	–	–	Please consult Schneider Electric for assistance in finding the optimum solution.	None
	AS-BMOT202	Axis motion control resolver/encoder	–	–	Please consult Schneider Electric for assistance in finding the optimum solution.	None

# Modernization solutions

Modicon Compact PLCs to Modicon X80 modules platform

2

Equivalence table: Compact module – X80 modules platform						
Type of module	Compact module		X80 platform		Compact module – X80 platform compatibility	Quick wiring adapter reference
	Reference	Description	Reference	Description		
Counter	AS-BFRQ204	4-point frequency	BMXEHC0200	2-channel high-speed counter	No 5 V input. Please consult Schneider Electric for the exact replacement.	None
	AS-BFRQ254C	4-channel frequency , extended temperature + coating	BMXEHC0200H	2-channel high-speed counter	No 5 V input. Please consult Schneider Electric for the exact replacement.	None
	AS-BVIC200 VRC200	4 high-speed pulse or 4 VRC inputs	–	–	Please consult Schneider Electric for assistance in finding the optimum solution.	None
	AS-BVIC205 CTR205	4 high-speed pulse or 4 x 5 V TTL inputs	–	–	Please consult Schneider Electric for assistance in finding the optimum solution.	None
	AS-BVIC212 CTR212	4 high-speed pulse or 12 VDC inputs	–	–	Please consult Schneider Electric for assistance in finding the optimum solution.	None
	AS-BVIC224 CTR224	4 high-speed pulse or 24 VDC inputs	BMXEHC0800	8-channel high-speed counter	Please consult Schneider Electric for assistance in finding the optimum solution.	None
	AS-BZAE201	High-speed counter/ positioner (2 relays)	BMXEHC0200	2-channel high-speed counter	12 V counter OK, no relay outputs, no 5 V, no positioning.	None
	AS-BZAE204	4-channel high-speed counter/positioner	BMXEHC0800	8-channel high-speed counter	OK. No outputs.	None
CPU	AS-B984-A145 up to E984-285	–	BMXP342020 + BMXCPS3020	–	Only 1 Modbus port on CPU, 2-port NOM serial module available.	None
	AS-P120000	105...240 VAC inputs, 24 VDC 1.0 A outputs	BMXCPS2000/ BMXCPS3500	–	–	None

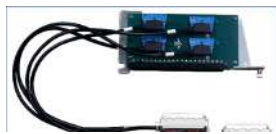
# EcoFit™ Replacement for PLCs Modernization solutions

Rockwell PLC5 1771 I/O to Modicon X80 modules platform

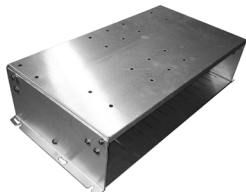
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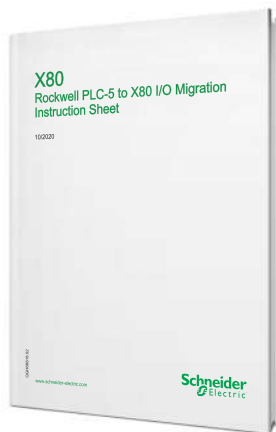
PLC5 to X80 migration solution with chassis



Dedicated adapter for PLC5



Chassis for Rockwell PLC5 migration solution



Rockwell PLC-5 to X80 I/O Migration Instruction Sheet (QGH66818)

## Presentation

The Rockwell PLC5 to Modicon X80 migration solution consists of various I/O adapters and dedicated chassis. It is used to simplify the replacement of Rockwell PLC5 PLCs with Modicon M580/M340 PLCs and the Modicon X80 modules platform; existing Rockwell PLC5 field wiring will be retained.

The offer provides 31 wiring adapters (including 6 multi-use flying-lead adapters) and two chassis that cover most modernization needs between Rockwell PLC5 1771 I/O modules and X80 I/O modules.

## Adapters

There are two types of adapters :

- **Dedicated wiring adapters** (25 available references for both possible lengths) are designed to mate specific Rockwell PLC5 I/O modules to specific X80 I/O modules. Fully pre-wired cables are included to make installation quick and easy.
- **Multi-use flying-lead adapters** (five types available for both possible lengths plus one in one length) are designed to be used with fixed sets of I/O module pairs. The cables shipped with the multi-use adapters (Flying Lead cables) are not ready-to-use. The flying leads will have to be wired before the commissioning on site, depending on the mating of the concerned Rockwell PLC5 and X80 I/O modules.  
The Rockwell PLC5 to X80 Instruction Sheet contains wiring guides for each of the six types of multi-use flying-lead adapters.

All cables are available in either 0.8 m/2 ft or 1.63 m/5 ft lengths (except for the multi-use BMXFCW301S i cable that is available in a 3 m/10 ft length).

## Chassis

The chassis accepts both the M580 or M340 backplanes (purchased separately) and the new X80 I/O modules. Two sizes are available depending on the size of the replaced Rockwell PLC5 backplane.

## Description of the solution

A chassis allows the replacement of a Rockwell PLC5 1771 I/O with an X80 I/O rack (M340 or M580) in the same physical location and with the same footprint as the current system:

- The Rockwell PLC5 I/O rack is removed and replaced by the metal base plate of the chassis that contains one or two X80 backplane(s) and the selected I/O wiring adapters.  
To define the combination between the chassis and the X80 backplanes, refer to the Equivalence table below or the Rockwell PLC5 to X80 Migration Instruction sheet.
- The backplane(s), purchased separately, is (are) mounted on the front plate of the chassis and accommodate(s) the new PLC and X80 I/O modules.
- The appropriate wiring adapters will be installed in the lower section of the chassis. These quick wiring adapters allow the Rockwell PLC5 wiring of the existing installation to be connected to the X80 I/O module of the new PLC configuration, which means there is no need for on-site rewiring. The original Rockwell PLC5 connectors are retained. The chassis door can be opened to allow access to the wiring adapters during commissioning and maintenance.

Note that the new system (migration chassis + I/O modules and CPU) is deeper than the original Rockwell PLC5:

- Depth:
  - with BMPE58 processor : 296 mm/11.66 in.
  - with 990ADPC5X80 I/O adapter : 291 mm/11.45 in. (including X80 terminal block)
- Width:
  - 483 mm/19.01 in. with a 12-position chassis
  - 610 mm/24.01 in. with a 16-position chassis
- Height : 315.3 mm/12.41 in.

The most commonly used cables are 0.8 cm/2 ft long, but 1.63 m/5 ft cables are also available for specific needs, such as to merge two Rockwell PLC5 I/O racks into one X80 rack. Cables and terminal blocks are included with the I/O adapters. Replacement cables are also available as spare parts (see [page 2/39](#)).

# Modernization solutions

Rockwell PLC5 1771 I/O to Modicon X80 modules platform



Migrate your Rockwell PLC5 to Modicon M580  
Watch time: 1m 45s

## Benefits of the solution

The customer benefits are reduced risk and cost of migration from a Rockwell PLC5:

- Minimal production downtime with setup time of about one hour per rack
- Cost savings through the retention of all wiring to sensors/actuators inside the existing cabinets (savings in wiring, testing and commissioning, update of wiring diagrams). Typically, no electrician or wiring contractor is needed.
- Unlike manual rewiring, ordinary production stops can be used for the changeover.
- Due to minimal changes, installations can be restarted within the allotted time with the ability to roll back in the event of any unforeseen matters arising.
- Better reliability brought by dedicated solutions designed by the manufacturer.
- Simple solution that makes modernization easy and provides the lowest risk option.

This migration solution is part of a larger modernization and migration offer that includes methods, specific migration devices, and dedicated tools for various legacy PLCs from Schneider Electric and the competition as well.

Modernizations and migrations can be implemented with help from our Schneider Electric services experts.

## Equivalence table

The cross-reference table hereafter shows the possible equivalences between Rockwell PLC5 1771 I/O modules and X80 I/O modules. Some differences in terminal strips, modularity, common or power connections may have to be addressed: it is recommended that you verify compatibility with our Schneider Electric service representatives.

Note that for I/O adapter assembly information, the column "Type" describes the type of adapter as:

- **Dedicated:** Dedicated adapter assemblies contain a PCB that performs the wiring translations from PLC5 1771 I/O to X80 connector pins. These assemblies use dedicated cables.
- **Multi-use flying-lead:** Multi-use flying-lead adapter assemblies contain a PCB that does not perform the wiring translation. The signal translation is performed by the cable wiring at the X80 field terminal block as per the Rockwell PLC5 to X80 I/O Migration Instruction Sheet wiring guide corresponding to the multi-use flying-lead adapter reference also called "generic adapter". This wiring is done by the user before commissioning.

## Equivalence table: PLC5 1771 I/O module – X80 modules platform

Type of device	PLC5 1771 I/O module		X80 modules platform			
	Reference	Description	Reference	Type	Description	Reference
Racks	1771-AxB	I/O chassis (supports up to 2 each of 4-, 6-, 8-slot racks, see note)	BM●XBP●●●●(H)	Chassis	PLC evolution chassis W/O XBP 12-slot	990CHPC5X80120
	1771-AxB	I/O chassis (supports up to 2 each of 4-, 6-, 8-, 12-slot racks, see note)	BM●XBP●●●●(H)	Chassis	PLC evolution chassis W/O XBP 16-slot	990CHPC5X80160

**Note:** X80 racks are available in standard or industrially hardened versions. A hardened version has the suffix H at the end of the reference. The table below shows the number of available slots for the power supply modules (CPS) and modules (CPU and Modicon X80 modules) for each rack reference.

### Number of slots in X80 racks

References		CPS slots	Module slots		
			Total	Ethernet and Bus X	Bus X (only)
Bus X racks	BMXXBP0400 (H)	1	4	-	4
	BMXXBP0600 (H)	1	6	-	6
	BMXXBP0800 (H)	1	8	-	8
	BMXXBP1200 (H)	1	12	-	12
	BMXXBP1600 (H)	1	16	-	16
Dual Ethernet and Bus X racks	BMEXBP0400 (H)	1	4	4	0
	BMEXBP0800 (H)	1	8	8	0
	BMEXBP1200 (H)	1	12	8	4 (1)
Redundant power supply racks	BMEXBP0602(H)	2	6	6	0
	BMEXBP1002(H)	2	10	8	2 (2)

(1) Bus X connector only for module slot number 02, 08, 10, and 11.  
(2) Bus X connector only for module slot number 02 and 08.

# Modernization solutions

Rockwell PLC5 1771 I/O to Modicon X80 modules platform

## Equivalence table: PLC5 I/O module – X80 module platform

Type of device	PLC5 1771 I/O		X80 modules platform	Evolution I/O adapter - PLC I/O chassis		
	Reference	Description		Reference	Type	Description
Digital input	1771-IM	AC input 8-channel	BMXDAI0805	Dedicated	1771-IM to BMXDAI0805 (0.8 m/2 ft) 1771-IM to BMXDAI0805 (1.63 m/5 ft)	990ADPC5X80102 990ADPC5X80103
	1771-IAD	AC/DC input 16-channel	BMXDAI1604 (AC) BMXDDI1604T (DC)	Dedicated	Evolution I/O adapter 1771-I●D to BMXD●I160●, unfused (0.8 m/2 ft) Evolution I/O adapter 1771-I●D to BMXD●I160●, unfused (1.63 m/5 ft)	990ADPC5X80104
	1771-IBD	Digital 16-channel 10-30 VDC input	BMXDDI1602			990ADPC5X80105
	1771-ID	AC/DC input 6-channel	BMXDAI0814	Dedicated	1771-ID (AC) to BMXDAI0814 (0.8 m/2 ft) 1771-ID (AC) to BMXDAI0814 (1.63 m/5 ft)	990ADPC5X80110 990ADPC5X80111
			BMXDDI1604T	Dedicated	1771-ID (DC) to BMXDDI1604T (0.8 m/2 ft) 1771-ID (DC) to BMXDDI1604T (1.63 m/5 ft)	990ADPC5X80122 990ADPC5X80123
	1771-IBD	DC input 16-channel	BMXDDI1602	Dedicated	1771-IBD to BMXD●●160●, fused (0.8 m/2 ft) 1771-IBD to BMXD●●160●, fused (1.63 m/5 ft)	990ADPC5X80128 990ADPC5X80129
	1771-ICD	DC input 16-channel	BMXDDI1603			
	1771-IAD	AC/DC input 16-channel used in AC	BMXDAI1604			
	1771-IAD	AC/DC input 16-channel used in DC	BMXDDI1604T			
	1771-IND	AC/DC input 16-channel used in AC	BMXDAI1602			
	1771-IND	AC/DC input 16-channel used in DC				
	1771-IMD	AC/DC input 16-channel	BMXDAI1615	Dedicated	1771-I●N to (2) BMXD●I160● (0.8 m/2 ft) 1771-I●N to (2) BMXD●I160● (1.63 m/5 ft)	990ADPC5X80130 990ADPC5X80131
	1771-IBN	DC input 32-channel	(2x) BMXDDI1602	Dedicated	1771-I●N to (2) BMXD●I160● (0.8 m/2 ft) 1771-I●N to (2) BMXD●I160● (1.63 m/5 ft)	990ADPC5X80200 990ADPC5X80201
	1771-IAN	AC input 32-channel	(2x) BMXDAI1604			
	1771-IQ16 (pos)	DC input 16-channel	BMXDDI1602	Dedicated	1771-I●16 to BMXDDI160● (0.8 m/2 ft) 1771-I●16 to BMXDDI160● (1.63 m/5 ft)	990ADPC5X80134 990ADPC5X80135
	1771-ID16	AC/DC input 16-channel used in DC	BMXDDI1604T			
	1771-IVN	DC input 32-channel	(2x) BMXDAI1602	Dedicated	1771-IVN to (2) BMXDAI1602 (0.8 m/2 ft) 1771-IVN to (2) BMXDAI1602 (1.63 m/5 ft)	990ADPC5X80202 990ADPC5X80203
	1771-IV	DC input 8-channel	BMXDAI1602	Multi-use flying-lead	GEN1 WA to (1) HP-PT 20/40-pin X80 (0.8 m/2 ft)	990ADPC5X80300
					GEN1 WA to (1) HP-PT 20/40-pin X80 (1.63 m/5 ft)	990ADPC5X80301
	1771-IQ16 (neg)	DC input 16-channel	BMXDAI1602	Multi-use flying-lead	GEN5 WN to (2) HP-PT 20-pin X80 (0.8 m/2 ft)	990ADPC5X80310
					GEN5 WN to (2) HP-PT 20-pin X80 (1.63 m/5 ft)	990ADPC5X80311
	1771-IA/IA2	AC input 8-channel	BMXDAI1604	Dedicated	Evolution I/O adapter 1771-I● to BMXD●I160● (0.8 m/2 ft) Evolution I/O adapter 1771-I● to BMXD●I160● (1.63 m/5 ft)	990ADPC5X80140 990ADPC5X80141
		DC input 8-channel	BMXDAI1604T			
	1771-IB	DC input 8-channel	BMXDDI1602			
	1771-IC	DC input 8-channel	BMXDDI1603			
	1771-IH	DC input 8-channel (48VDC)	BMXDDI1603			
	1771-IN	AC input 8-channel	BMXDAI1602			
1771-IQ (pos)	DC input 8-channel	BMXDDI1602				
1771-IQ (neg)	DC input 8-channel	BMXDAI1602				
1771-IT	DC input 8-channel	BMXDDI1602				

2

# Modernization solutions

Rockwell PLC5 1771 I/O to Modicon X80 modules platform

## Equivalence table: PLC5 I/O module – X80 module platform

Type of device	PLC5 1771 I/O		X80 modules platform		Evolution I/O adapter - PLC I/O chassis	
	Reference	Description	Reference	Type	Description	Reference
Digital output	1771-OB	Digital 8-channel DC 10-27V output	BMXDDO1602	Dedicated	Evolution I/O adapter 1771-OB to BMXDDO1602 (0.8 m/2 ft) Evolution I/O adapter 1771-OB to BMXDDO1602 (1.63 m/5 ft)	990ADPC5X80100 990ADPC5X80101
	(2x) 1771-OB	Digital 8-channel DC 10-27V output	BMXDDO1602	Multi-use flying-lead	Evolution I/O adapter (2)1771-OB to BMXDDO1602 (0.8 m/2 ft) Evolution I/O adapter (2)1771-OB to BMXDDO1602 (1.63 m/5 ft)	990ADPC5X80302 990ADPC5X80303
	1771-OW16	Digital Contact 16-channel output with WN wiring arm	BMXDRA1605	Dedicated	Evolution I/O adapter 1771-OW16 to BMXDRA1605 (0.8 m/2 ft) Evolution I/O adapter 1771-OW16 to BMXDRA1605 (1.63 m/5 ft)	990ADPC5X80106 990ADPC5X80107
			(2x) BMXDRA0815	Dedicated	Evolution I/O adapter 1771-OW16 to (2)DRA0805 (0.8 m/2 ft) Evolution I/O adapter 1771-OW16 to (2)DRA0805 (1.63 m/5 ft)	990ADPC5X80208 990ADPC5X80209
	1771-OAD	Digital 16-channel 120 VAC output	BMXDAO1605	Dedicated	Evolution I/O adapter 1771-OAD to BMXDAO1605 (0.8 m/2 ft) Evolution I/O adapter 1771-OAD to BMXDAO1605 (1.63 m/5 ft)	990ADPC5X80112 990ADPC5X80113
	1771-OB	10-60 VDC 16-point output	BMXDDO1602	Dedicated	Evolution I/O adapter 1771-OB to BMXDDO1602 (0.8 m/2 ft) Evolution I/O adapter 1771-OB to BMXDDO1602 (1.63 m/5 ft)	990ADPC5X80114 990ADPC5X80115
	1771-OQ	DC output 8-channel	BMXDDO1602	Dedicated	1771-OQ to BMXDDO1602 (0.8 m/2 ft) 1771-OQ to BMXDDO1602 (1.63 m/5 ft)	990ADPC5X80124 990ADPC5X80125
	1771-OP	AC output 4-channel	BMXDAO1605	Multi-use flying-lead	GEN5 WN to (2) HP-PT 20-pin X80 (0.8 m/2 ft)	990ADPC5X80300
	1771-OX	Relay output 4-channel	BMXDRC0805	Multi-use flying-lead	GEN5 WN to (2) HP-PT 20-pin X80 (1.63 m/5 ft)	990ADPC5X80301
	1771-OB	DC output 32-channel	(2x) BMXDDO1602	Multi-use flying-lead	GEN5 WN to (2) HP-PT 20-pin X80 (0.8 m/2 ft) GEN5 WN to (2) HP-PT 20-pin X80 (1.63 m/5 ft)	990ADPC5X80310 990ADPC5X80311
	1771-OB	DC output 32-channel	(2x) BMXDDO1612			
	1771-OQ16	DC output 16-channel	BMXDDO1612			
	1771-OA	AC output 32-channel	(2x) BMXDAO1605			
	1771-OW	Relay output 32-channel	(2x) BMXDRA1605			
	1771-OD	AC output 6-channel isolated	BMXDAO1615			
	1771-OR	AC output 6-channel isolated				
	1771-ODZ	AC output 8-channel isolated				
	1771-OW	Relay output 8-channel NO/NC		BMXDRC0805		
	1771-OYL	Relay output 8-channel NO/NC	BMXDRA0815	Multi-use flying-lead	GEN4 WH to (1) HP-PT 40-pin X80 (0.8 m/2 ft) GEN4 WH to (1) HP-PT 40-pin X80 (1.63 m/5 ft)	990ADPC5X80308 990ADPC5X80309
	1771-OZL	Relay output 8-channel NO				
	1771-OND	AC output 16-channel	BMXDAO1615	Multi-use flying-lead	GEN4 WH to (1) HP-PT 40-pin X80 (0.8 m/2 ft) GEN4 WH to (1) HP-PT 40-pin X80 (1.63 m/5 ft)	990ADPC5X80308 990ADPC5X80309
	1771-OA	AC output 8-channel	BMXDAO1615	Dedicated	1771-OA/-OM/-ON to BMXDAO1615 (0.8 m/2 ft) 1771-OA/-OM/-ON to BMXDAO1615 (1.63 m/5 ft)	990ADPC5X80116 990ADPC5X80117
	1771-OM	AC output 8-channel				
	1771-ON	AC output 8-channel				
	(2x) 1771-OA	AC output 8-channel	BMXDAO1615	Dedicated	2x 1771-OA/-OM/-ON to BMXDAO1615 (0.8 m/2 ft) 2x 1771-OA/-OM/-ON to BMXDAO1615 (1.63 m/5 ft)	990ADPC5X80216 990ADPC5X80217
	(2x) 1771-OM	AC output 8-channel				
	(2x) 1771-ON	AC output 8-channel				
	1771-OD16	AC output 16-channel	BMXDAO1615	Dedicated	1771-OD16/1771-ODD to BMXDAO1615 (0.8 m/2 ft) 1771-OD16/1771-ODD to BMXDAO1615 (1.63 m/5 ft)	990ADPC5X80118 990ADPC5X80119
	1771-ODD	AC output 16-channel				
	1771-OD	AC output 6-channel isolated	BMXDAO1615	Dedicated	1771-OD/-ODC/-OR to BMXDAO1615 (0.8 m/2 ft) 1771-OD/-ODC/-OR to BMXDAO1615 (1.63 m/5 ft)	990ADPC5X80120 990ADPC5X80121
	1771-ODC	AC output 6-channel isolated				
	1771-OR	AC output 6-channel isolated				
	(2x) 1771-OD	AC output 6-channel isolated		Dedicated	(2x)1771-OD/-ODC/-OR to BMXDAO1615 (0.8 m/2 ft) (2x)1771-OD/-ODC/-OR to BMXDAO1615 (1.63 m/5 ft)	990ADPC5X80220 990ADPC5X80221
	(2x) 1771-ODC	AC output 6-channel isolated				
(2x) 1771-OR	AC output 6-channel isolated					



# Modernization solutions

Rockwell PLC5 1771 I/O to Modicon X80 modules platform

2

Equivalence table: PLC5 I/O module – X80 module platform						
Type of device	PLC5 1771 I/O		X80 modules platform	Evolution I/O adapter - PLC I/O chassis		
	Reference	Description		Reference	Type	Description
Analog input	1771-IFE/A/B/C	Analog 8 differential inputs 12-bit	(2x) BMXAMI0800	Dedicated	Evolution I/O adapter 1771-IFE to (2x) AMI0800 (0.8 m/2 ft)	990ADPC5X80210
		Analog 16 single-ended inputs 12-bit			Evolution I/O adapter 1771-IFE to (2x) AMI0800 (1.63 m/5 ft)	990ADPC5X80211
	1771-IL	Analog input 8-channel	BMXAMI0810	Dedicated	1771-IL to BMXAMI0810 (0.8 m/2 ft) 1771-IL to BMXAMI0810 (1.63 m/5 ft)	990ADPC5X80126 990ADPC5X80127
	1771-IFE 1771-IFF	Analog input 8-channel	BMXAMI0810	Dedicated	1771-IF• to BMXAMI0810 (0.8 m/2 ft)	990ADPC5X80132
	1771-IE				1771-IF• to BMXAMI0810 (1.63 m/5 ft)	990ADPC5X80133
	1771-IE	Analog input 8-channel	BMXAMI0800	Dedicated	1771-IE to BMXAMI0800 (0.8 m/2 ft) 1771-IE to BMXAMI0800 (1.63 m/5 ft)	990ADPC5X80136 990ADPC5X80137
	1771-IR	RTD 8-channel	BMXART0814	Multi-use flying-lead	GEN3 WF/WI to (2) 40-pin FCN X80 (3 m/10 ft)	990ADPC5X80306
	1771-IXE	Thermocouple 8-channel				
1771-IXHR	Thermocouple 8-channel					
Analog output	1771-OFE1/2	Analog output 4-channel	BMXAMO410	Dedicated	1771-OFE1/-OFE2 to BMXAMO0410 (0.8 m/2 ft) 1771-OFE1/-OFE2 to BMXAMO0410 (1.63 m/5 ft)	990ADPC5X80108 990ADPC5X80109
Replacement cables					Replacement X80 cable high-power 016 (0.8 m/2 ft)	990X80CABLE016
					Replacement X80 cable high-power 516 (1.63 m/5 ft)	990X80CABLE516
					Replacement X80 cable 28-pin analog AN028 (0.8 m/2 ft)	990X80CABL019
					Replacement X80 cable 28-pin analog AN528 (1.63 m/5 ft)	990X80CABL519

# Modernization solutions

Rockwell SLC500 I/O to Modicon X80 modules platform



Rockwell SLC500 PLC assembly



Quick wiring adapter



Migrate your Rockwell SLC500 to Modicon M580  
Watch time: 7m 30s



Discrete Input/Output Modules User Manual  
(35012474K01000)



Analog Input/Output Modules User Manual  
(35011978K01000)

## Presentation

Rockwell SLC500 to Modicon X80 migration solution consists of various wiring adapters comprising a set of connectors designed to simplify the replacement of legacy Rockwell SLC500 PLCs with M340 or M580 PLCs integrating the Modicon X80 modules platform; existing Rockwell SLC 500 field wiring will be retained.

## Adapters

The adapters enable the existing ROCKWELL SLC500 I/O field connectors in an existing installation to be matched to the equivalent I/O modules of the X80 modules platform.

Ten references provide the wiring translations between the I/O modules of Rockwell SLC500 and those of the Modicon X80 modules platform. They fully meet the mechanical and environmental specifications of the X80 PLC system.

## Description of the solution

The quick wiring adapters have the same look and feel as the standard X80 module terminal block, except that the new connectors increase the depth and extend below the I/O module.

- The quick wiring adapters use the same mounting/retaining screws for attaching the adapter to the X80 module.
- A clear cover is sized to retain the wiring harness.
- The cover also has enough room for attaching the wiring label that was used on the Rockwell SLC500 module.

## Benefits of the solution

The customer benefits are reduced risk and cost of modernization from a Rockwell SLC500 I/O to the X80 platform:

- Minimal production downtime with about 1 hour setup time per rack.
- Cost reduction by keeping all sensor/actuator wiring inside existing cabinets, leading to savings in wiring, testing and commissioning, and wiring diagram updates: no electrician nor wiring contractor needed.
- Unlike manual rewiring, ordinary production stops can be used for the changeover.
- Due to minimal changes, installations can be restarted within the allotted time with the ability to roll back in the event of any unforeseen matters arising.
- Better reliability brought by dedicated solutions designed by the manufacturer.
- Simple solution that makes modernization easy and provides the lowest risk option.

This migration solution is part of a larger modernization and migration offer that includes methods, specific migration devices, and dedicated tools for various legacy PLCs from Schneider Electric and the competition as well.

Modernization and migration can be implemented with help from our Schneider Electric services experts.

## Equivalence table

The cross-reference table hereafter shows the possible equivalences between Rockwell SLC500 I/O modules and X80 modules. However, some differences in terminal strips, modularity, common or power connections may have to be addressed: it is recommended that you verify compatibility with our Schneider Electric service representatives.

If there are questions on the applications, please review each of the technical documents.

Note:

- Extended temperature modules for M340 have an H or T suffix at the end of the part number. The hardened modules have H suffix (conformal coating).
- The SLC500 line had a temperature range of 0 to +60 °C/32 to 140 °F. The M340 range has a temperature range 0 to +60 °C/32 to 140 °F and an extended temperature of -25 to +70 °C/-13 to +158 °F (H or T suffix part number modules only). Derating of temperature might apply in certain applications (consult individual module user documentation for specifics).
- As with any PLC migration even an exact module-to-module replacement might not yield the same results (due to scan time, etc.).

Refer to related manuals for specific module installation and protection requirements (fuses, snubbers, etc.).

# Modernization solutions

Rockwell SLC500 I/O to Modicon X80 modules platform

2

## Equivalence table: SLC500 I/O module – X80 module platform

Type of module	SLC500 I/O modules		X80 modules platform		Quick wiring adapters	
	Reference	Description	Reference	Description	X80 compatibility	Reference
AC discrete input	1746-IA4	4-channel 120 VAC discrete input module	BMXDAI1604	120 VAC discrete input module, 16-channel/1 group	OK, good module compatibility, but M340 is faster than the SLC500, check that this is OK for application.	None. Must be rewired.
	1746-IA8	8-channel 120 VAC discrete input module	BMXDAI1604	120 VAC discrete input module, 16-channel/1 group	OK, good module compatibility, but M340 is faster than the SLC500, check that this is OK for application.	None. Must be rewired.
	1746-IA16	120 VAC discrete input module, 16-channel/1 group	BMXDAI1604	120 VAC discrete input module, 16-channel/1 group	OK, good module compatibility, but M340 is faster than the SLC500, check that this is OK for application. NOTE: If using QWA, if any field wiring is present on the terminal block lower right pin, move it to the lower left pin, then wire input power to lower right pin.	990SLC00102
	1746-IM4	4-channel 220/240 VAC discrete input module	BMXDAI0805	200...240 VAC 8-channel/1 group discrete input module	OK, good cross-reference. Check turn on/off voltage/current thresholds and signal delays.	None. Must be rewired.
	1746-IM8	8-channel 220/240 VAC discrete input module	BMXDAI0805	200...240 VAC 8-channel/1 group discrete input module	OK, good cross-reference. Check turn on/off voltage/current thresholds and signal delays.	None. Must be rewired.
	1746-IM16	220/240 VAC discrete input 16-channel/1 group	(2x) BMXDAI0805	200...240 VAC 8-channel/1 group discrete input module	As of Jan 2013, M340 does not have a 16-channel 220 VAC input module. Therefore, can manually wire to 2x DAI0805 (8-channel). NOTE: QWA does not exist for this.	None. Must be rewired.
	1746-IN16	Discrete input 24 VAC/VDC sinking, 16-channel/1 group	BMXDAI1602	Discrete input 24 VAC/VDC, 16-channel/1 group sinking or sourcing	OK, good module compatibility, but the turn on/off thresholds should be evaluated versus application requirements for acceptability. NOTE: If any field wiring is present on the lower right pin, move it to the lower left pin, then wire input power to lower right pin.	990SLC00102

Green: Generally, a good module cross-reference SLC500 to M340, with minimal differences noted.

Orange: An acceptable module cross-reference with differences noted to be verified against application requirements for compatibility.

Red: Generally, not a good cross-reference, however there may be a possibility of compatibility if application verified. Consult factory for possible workarounds.

# Modernization solutions

Rockwell SLC500 I/O to Modicon X80 modules platform

2

## Equivalence table: SLC500 I/O module – X80 module platform

Type of module	SLC500 I/O modules		X80 modules platform		Quick wiring adapters	
	Reference	Description	Reference	Description	X80 compatibility	Reference
DC discrete input	1746-IG16	16-channel 5 VDC TTL discrete input module	—	—	As of July 2024, M340 does not have a 5 VDC TTL module.	None. Must be rewired.
	1746-IB8	8-channel 24 VDC discrete input module	BMXDDI1602	Discrete 24 VDC input, 16-channel/1 group	OK, good module compatibility.	None. Must be rewired.
	1746-IB16	16-channel 24 VDC discrete input module	BMXDDI1602	Discrete 24 VDC input, 16-channel/1 group	OK, good module compatibility. NOTE: If using QWA, if any field wiring is present on the lower right pin, move it to the lower left pin, then wire input power to lower right pin.	990SLC00102
	1746-IV8	8-channel 24 VDC discrete input module	BMXDAI1602	Discrete input 24 VDC sourcing (True Low/negative logic/sourcing), 16-channel/1group	Off-state voltage threshold difference.	None. Must be rewired.
	1746-IV16	Discrete input 24 VDC sourcing (True Low), 16-channel/1group	BMXAI1602	Discrete input 24 VDC sourcing (True Low/negative logic/sourcing), 16-channel/ 1 group	Off-state voltage threshold difference. NOTE: If any field wiring is present on the lower right pin, move it to the lower left pin, then wire dc return (common) to lower right pin.	990SLC00102
	1746-ITV16	Discrete input 24 VDC FAST sourcing (True Low), 16-channel/1group	BMXDAI1602	Discrete input 24 VDC sourcing (True Low), 16-channel/1group	As of July 2024, M340 does not have equivalent 24 VDC Sourcing Fast input module. SLC500 has higher off-state current. Can use QWA: 990SLC00102 if module is deemed acceptable for application. NOTE: If using QWA, if any field wiring is present on the lower right pin, move it to the lower left pin, then wire dc return (common) to lower right pin.	990SLC00102
	1746-ITB16	Fast 24 VDC discrete input, 16-channel/1 group	BMXDDI1602	Discrete 24 VDC input, 16-channel/1 group	As of July 2024, M340 does not have equivalent 24 VDC Fast input module. SLC500 has higher off-state current. Can use QWA: 990SLC00102 if module is acceptable for application. NOTE: If using QWA, if any field wiring is present on the lower right pin, move it to the lower left pin, then wire input power to lower right pin.	990SLC00102

Green: Generally, a good module cross-reference SLC500 to M340, with minimal differences noted.  
 Orange: An acceptable module cross-reference with differences noted to be verified against application requirements for compatibility.  
 Red: Generally, not a good cross-reference, however there may be a possibility of compatibility if application verified. Consult factory for possible workarounds.

# Modernization solutions

Rockwell SLC500 I/O to Modicon X80 modules platform

2

## Equivalence table: SLC500 I/O module – X80 module platform

Type of module	SLC500 I/O modules		X80 modules platform		Quick wiring adapters	
	Reference	Description	Reference	Description	X80 compatibility	Reference
DC discrete input	1746-IB32	32-channel/4 groups 24 VDC discrete input module	BMXDDI3202K	32-channel/2 groups 24 VDC discrete input module	Generally, a good cross-reference. Must combine 4 groups into 2 groups. Check that slower M340 max. speed-of-response is acceptable for application.	None. Must be rewired.
	1746-IV32	32-channel 24 VDC discrete input module	BMXDDI3232	32 channel 12/24 VDC positive & negative logic	OK, good module compatibility.	None. Must be rewired.
	1746-IC16	Discrete 48 VDC input, 16-channel/1 group	BMXDDI1603	Discrete 48 VDC input, 16-channel/1 group	Type 1 inputs (<0.5 mA off-state current) - verify acceptable for application. NOTE: If any field wiring is present on the lower right pin, move it to the lower left pin, then wire input power to lower right pin.	990SLC00102
	1746-IH16	Discrete input 125 VDC, 16-channel/1group	BMXDDI1604T	Discrete input 125 VDC, 16-channel/1group	OK, good module compatibility. Review module "Maximum points ON versus Temperature" for any de-rate effects for application in M340 manual 35012474. Check that M340 lower OFF-state current is acceptable for application. NOTE: If any field wiring is present on the lower right pin, move it to the lower left pin, then wire input power to lower right pin.	990SLC00102
	1746-OA8	8-channel 120/240 VAC discrete output module	BMXDAO1605	16-channel/4 groups 100...240 VAC	M340 module has lower maximum current rating. Please check against the application requirements.	None. Must be rewired.
	1746-OA16	16-channel/2 groups 120/240 VAC	BMXDAO1605	16-channel/4 groups 100...240 VAC	OK, good module compatibility.	990SLC00109
	1746-OAP12	12-channel 120/240 VAC high-current discrete output module	BMXDAO1615	16 channel isolated outputs 24-240 VAC 3 A / channel	OK, good module compatibility.	None. Must be rewired.

Green: Generally, a good module cross-reference SLC500 to M340, with minimal differences noted.  
 Orange: An acceptable module cross-reference with differences noted to be verified against application requirements for compatibility.  
 Red: Generally, not a good cross-reference, however there may be a possibility of compatibility if application verified. Consult factory for possible workarounds.

# Modernization solutions

Rockwell SLC500 I/O to Modicon X80 modules platform



Equivalence table: SLC500 I/O module – X80 module platform						
Type of module	SLC500 I/O modules		X80 modules platform		Quick wiring adapters	
	Reference	Description	Reference	Description	X80 compatibility	Reference
DC discrete & relay output	1746-OB8	8-channel 24 VDC discrete output module	BMX DDO 1602	24 VDC discrete output, 16-channel/1 group	M340 lower operating voltage range and lower output current capability. Verify module is acceptable for application.	None. Must be rewired
	1746-OB6EI	6-channel 24 VDC discrete output module, individually isolated electronically fused	BMXDRA0815	8-channel individual relay 24 VDC (24...240 VAC)	As of July 2024, there is not an individually point-isolated 24 VDC discrete output module. Check to see if relay module BMXDRA0815 can work in application. M340 needs external fusing added (see user documentation). Significantly slower speed of response.	None. Must be rewired
	1746-OV8	8-channel 24 VDC discrete output module, operating voltage 10...50 VDC sink	BMXDDO1612	Discrete output, 16-channel/1 group, operating voltage range: 19...30 VDC negative logic	M340 module less voltage operation range. M340 higher on/off signal delays. Verify acceptable for application. M340 max. current 0.5 A.	None. Must be rewired
	1746-OB16	Discrete output, 6-channel/1 group 10...50 VDC	BMXDDO1602	Discrete output, 16-channel/1 group, operating voltage range: 19...30 VDC	M340 module less voltage operation range. M340 higher on/off signal delays. Verify acceptable for application.	990SLC00104
	1746-OB16E	Discrete output, 16-channel/1 group 10...30 VDC	BMXDDO1602	Discrete output, 16-channel/1 group 19...30 VDC	SLC500 module lower voltage operation range. M340 higher on/off signal delays. Verify acceptable for application.	990SLC00104
	1746-OV16	Discrete output, Sinking (neg. logic), 16-channel/1 group, operating voltage: 10...50 VDC	BMXDDO1612	Discrete output, Sinking (neg. logic) 16-channel/1 group, operating voltage range: 19...30 VDC	SLC500 module lower voltage operation range. M340 higher on/off signal delays. Verify acceptable for application.	990SLC00104
	1746-OBP8	8-channel 24 VDC high-current discrete output module	BMXDDO1602	Discrete output, 16-channel/1 group, operating voltage range: 19...30 VDC	SLC500 module lower voltage operation range. M340 higher on/off signal delays. SLC500 has higher point max. current up to 30 °C. Verify acceptable for application.	None. Must be rewired.
	1746-OBP16	Discrete output, 16-channel/1 group 10...30 VDC	BMXDDO1602	Discrete output, 16-channel/1 group, operating voltage range: 19...30 VDC	M340 higher on/off signal delays. SLC500 has higher point max. current up to 30 °C. Verify acceptable for application.	990SLC00104
	1746-OVP16	Discrete output, 16-channel/1 group, operating voltage: 20.4...25.4 VDC	BMXDDO1612	Discrete output, sinking (neg. logic) 16-channel/1 group, operating voltage range: 19...30 VDC	M340 higher on/off signal delays. M340 lower max. current rating. Verify acceptable for application.	None. Must be rewired.
	1746-OG16	16-channel 5 VDC Sinking discrete output module, operating voltage 5 VDC sink	—	—	As of July 2024, M340 does not have an equivalent 5 VDC sinking discrete module.	None. Must be rewired.
	1746-OB32 (D and E)	32-channel/2 groups 24 VDC discrete output module	BMXDDO3202K	32-channel/2 groups 24 VDC discrete output module	M340 has significantly lower output current. Verify against application requirements.	None. Must be rewired.
	1746-OV32	32-channel 24 VDC Sinking discrete output module, operating voltage 5...50 VDC sink	(2x) BMXDDO1612	Discrete output, 16-channel/1 group, operating voltage range: 19...30 VDC	As of July 2024, M340 does not have an equivalent 32 channel negative logic module. Possible workaround 2x BMXDDO1612.	None. Must be rewired.
	1746-OX8	8-channel, individually isolated high-current relay contact outputs., operating voltage 5...125 VDC	BMXDRA0815 BMXDRA0804T	DRA0805: 8-channel individual relay 24 VDC (24...240 VAC) (consult user guide for higher currents versus reduced switching cycle curves) DRA0804T: 8-channel individual relay 125 VDC @ 0.3 A max.	Verify the M340 relay module has the required application load requirements (consult the module user documentation). If high voltage DC is required, can substitute the BMXDRA0804T at reduced current levels. Compare against application needs.	990SLC00110

Green: Generally, a good module cross-reference SLC500 to M340, with minimal differences noted.

Orange: An acceptable module cross-reference with differences noted to be verified against application requirements for compatibility.

Red: Generally, not a good cross-reference, however there may be a possibility of compatibility if application verified. Consult factory for possible workarounds.

# Modernization solutions

Rockwell SLC500 I/O to Modicon X80 modules platform

2

## Equivalence table: SLC500 I/O module – X80 module platform

Type of module	SLC500 I/O modules		X80 modules platform		Quick wiring adapters	
	Reference	Description	Reference	Description	X80 compatibility	Reference
DC discrete & relay output	1746-OW4	4-channel, relay contact outputs, operating voltage 5...125 VDC, 5...265 VAC	BMXDRA1605	Relay outputs, 16-channel/2 groups. 24 VAC...240 VAC, 24 VDC (5...125 VDC)	OK, good module compatibility. M340 module BMXDRA1605 is capable of 12 A/ group.	None. Must be rewired.
	1746-OW8	8-channel, relay contact outputs, operating voltage 5...125 VDC, 5...265 VAC. 2 groups of 4 outputs	BMXDRA1605	Relay outputs, 16-channel/2 groups. 24 VAC...240 VAC, 24 VDC (5...125 VDC)	OK, good module compatibility. M340 module BMXDRA1605 is capable of 12 A/ group. (1)	None. Must be rewired.
	1746-OW16	Relay outputs, 16-channel/2 groups. 120/220 VAC, 125 VDC, 24 VDC	BMXDRA1605	Relay outputs, 16-channel/2 groups. 24 VAC...240 VAC, 24 VDC (5...125 VDC)	OK, good module compatibility. M340 module BMXDRA1605 is capable of 12 A/ group. The QWA is limited to 8 A/group maximum, which is consistent with SLC500 1746-OW16. If need to exceed 8A/ group, do not use the QWA, and hand wire the BMXDRA1605. (1)	None. Must be rewired.
	1746-OW16	Relay outputs, 16-channel/2 groups. 120/220 VAC, 125 VDC, 24 VDC	BMXDRA1605	Relay outputs, 16-channel/2 groups. 24 VAC...240 VAC, 24 VDC (5...125 VDC)	OK, good module compatibility. M340 module BMXDRA1605 is capable of 12 A/ group. The QWA is limited to 8 A/group maximum, which is consistent with SLC500 1746-OW16. If need to exceed 8 A/group, do not use the QWA, and hand wire the BMXDRA1605. (1)	990SLC00101
Discrete mixed I/O	1746-IO4	Combination of 120 VAC inputs (2) and relay contact outputs (2). Input, operating voltage 85...132 VAC, outputs, operating voltage 5...125 VDC, 5...265 VAC. Current per output (max.): 1.5 A at 120 VAC, 1.2 A at 24 VDC	—	—	As of July 2024, M340 does not have mixed AC input modules with relays. Workaround to utilize individual modules: 120 VAC input DAI1604 and relay module DRA0804T, DRA0805, or DRA1605 (choice depending on best fit to application requirements).	None. Must be rewired.
	1746-IO8	Combination of 120 VAC inputs (4) and relay contact outputs (4). Input, operating voltage 85...132 VAC, outputs, operating voltage 5...125 VDC, 5...265 VAC. Current per output (max.): 1.5 A at 120 VAC, 1.2 A at 24 VDC	—	—	As of July 2024, M340 does not have mixed AC input modules with relays. Workaround to utilize individual modules: 120 VAC input DAI1604 and relay module DRA0804T, DRA0805, or DRA1605 (choice depending on best fit to application requirements).	None. Must be rewired.
	1746-IO12	Combination of 120 VAC inputs (6) and relay contact outputs (6). Input, operating voltage 85...132 VAC, outputs, operating voltage 5...125 VDC, 5...265 VAC. Current per output (max.): 1.5 A at 120 VAC, 1.2 A at 24 VDC	—	—	As of July 2024, M340 does not have mixed AC input modules with relays. Workaround to utilize individual modules: 120 VAC input DAI1604 and relay module DRA0804T, DRA0805, or DRA1605 (choice depending on best fit to application requirements).	None. Must be rewired.
	1746-IO12DC	Combination of 24 VDC inputs (6) and relay contact outputs (6). Input, operating voltage 10...30 VDC, outputs, operating voltage 5...125 VDC, 5...265 VAC. Current per output (max.): 1.5 A at 120 VAC, 1.2 A at 24 VDC	BMXDMM16025	Combination module: 8-channel 24 VDC discrete inputs/1 group 8-channel relays/1 group. Max. switching load: 264 VAC/125 VDC 1.5 A (see user guide for current versus cycle time)	OK	990SLC00103

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# Modernization solutions

Rockwell SLC500 I/O to Modicon X80 modules platform

## Equivalence table: SLC500 I/O module – X80 module platform

Type of module	SLC500 I/O modules		X80 modules platform		Quick wiring adapters	
	Reference	Description	Reference	Description	X80 compatibility	Reference
Analog input	1746-NI4 (V)	4-channel analog input module. Per point selectable voltage/ current -10 VDC...+10 VDC; 0...10 VDC; 0...5 VDC; 1...5 VDC; -20...+20 mA; 0...20 mA; 4...20 mA	BMXAMI0410	4-channel isolated analog input module -10 VDC...+10 VDC; 0...10 VDC; 0...5 VDC; 1...5 VDC; -20...+20 mA; 0...20 mA; 4...20 mA	QWA is pre-wired for voltage mode. If need individual channel(s) current mode, install 250-ohm resistor at channel. If need current-mode for all four channels, use QWA: 990SLC00106. To run channels single-ended, the Rockwell channel-common shorting convention (ANL COM) is maintained.	990SLC00105
	1746-NI4 (C)	4-channel analog input module. Per point selectable voltage/ current -10 VDC...+10 VDC; 0...10 VDC; 0...5 VDC; 1...5 VDC; -20...+20 mA; 0...20 mA; 4...20 mA	BMXAMI0410	4-channel isolated analog input module -10 VDC...+10 VDC; 0...10 VDC; 0...5 VDC; 1...5 VDC; -20...+20 mA; 0...20 mA; 4...20 mA	QWA is pre-wired for current mode for all channels. If need mixed voltage/current mode at channels (Rockwell was selectable), use the voltage-mode QWA: 990SLC00105 and install 250-ohm resistors at desired current-mode channels. To run channels single-ended, the Rockwell channel-common shorting convention (ANL COM) is maintained.	990SLC00106
	1746-NI8	8-channel analog input module. Per point selectable voltage/ current -10 VDC...+10 VDC; 0...10 VDC; 0...5 VDC; 1...5 VDC; -20...+20 mA; 0...20 mA; 4...20 mA	BMXAMI0800	8-channel analog input module with no channel-to-channel isolation, +/-5 V, +/-10 V, 0...5 V, 0...10 V, 1...5 V, +/-20 mA, 0...20 mA, 4...20 mA	Must configure analog inputs as current or voltage mode to match the replacement module's function. Verify error budget and module resolutions are acceptable for the application.	None. Must be rewired.
	1746-NI16I	16-channel analog current input module. Per point selectable current (±20 mA, 4...20 mA, 0...1 mA, or 0...20 mA)	(2x) BMXAMI0800	8-channel analog input module with no channel-to-channel isolation, +/-5 V, +/-10 V, 0...5 V, 0...10 V, 1...5 V, +/-20 mA, 0...20 mA, 4...20 mA	As of July 2024, M340 does not have a 16-channel analog input module. Can utilize 2x BMXAMI0800 wired for current-mode. Verify error budget and module resolutions are acceptable for the application.	None. Must be rewired.
	1746-NI16V	16-channel analog voltage input module. Per point selectable voltage (±10 VDC, 1...5 VDC, 0...5 VDC, or 0...10 VDC)	(2x) BMXAMI0800	8-channel analog input module with no channel-to-channel isolation, +/-5 V, +/-10 V, 0...5 V, 0...10 V, 1...5 V, +/-20 mA, 0...20 mA, 4...20 mA	As of July 2024, M340 does not have a 16-channel analog input module. Can utilize 2x BMXAMI0800 wired for voltage-mode. Verify error budget and module resolutions are acceptable for the application.	None. Must be rewired.

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# Modernization solutions

Rockwell SLC500 I/O to Modicon X80 modules platform

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**Equivalence table: SLC500 I/O module – X80 module platform**

Type of module	SLC500 I/O modules		X80 modules platform		Quick wiring adapters	
	Reference	Description	Reference	Description	X80 compatibility	Reference
Analog output	1746-NO4I	4-channel analog output module, current-mode 0...20 mA	BMXAM00410	4-channel analog output module -10...+10 V; 0...20 mA, 4...20 mA	Must configure analog outputs as current or voltage mode to match the replacement module's function. Verify error budget and module resolutions are acceptable for the application. Note that the QWA has a dummy connection point for the external power supply 2-wire terminal but has no function as M340 does not have external supply option.	990SLC00107
	1746-NO4 V	4-channel analog output module Voltage-mode ±10 VDC	BMXAM00410	4-channel analog output module -10...+10 V; 0...20 mA, 4...20 mA	Must configure analog outputs as current or voltage mode to match the replacement module's function. Verify error budget and module resolutions are acceptable for the application. Note that the QWA has a dummy connection point for the external power supply 2-wire terminal but has no function as M340 does not have external supply option.	990SLC00107
	1746-NO8I	8-channel analog output module, current-mode	(2x) BMXAM00410	4-channel analog output module -10...+10 V; 0...20 mA, 4...20 mA	Must configure analog outputs as current or voltage mode to match the replacement module's function. Verify error budget and module resolutions are acceptable for the application.	None. Must be rewired.
	1746-NO8V	8-channel analog output module, current-mode ±10 VDC	(2x) BMXAM00410	4-channel analog output module -10...+10 V; 0...20 mA, 4...20 mA	Must configure analog outputs as current or voltage mode to match the replacement module's function. Verify error budget and module resolutions are acceptable for the application.	None. Must be rewired.
Analog mixed I/O	1746-NIO4I	2-channel differential voltage/current (selectable) inputs 2-channel current outputs (non-isolated) 0...20 mA; 4...20 mA	BMXAMM0600	4-channel non-isolated analog inputs -10...+10 V; 0...10 V; 0...5 V; 1...5 V; 0...20 mA; 4...20 mA 2 non-isolated analog outputs -10...+10 V; 0...20 mA; 4...20 mA	M340 lower resolution 12-bit versus 14-bit. Verify error budget and module resolutions are acceptable for the application	990SLC00108 (1)
	1746-NIO4 V	2-channel differential voltage/current (selectable) inputs, 2-channel voltage outputs (non-isolated)	BMXAMM0600	4-channel non-isolated analog inputs -10...+10 V; 0...10 V; 0...5 V; 1...5 V; 0...20 mA; 4...20 mA 2 non-isolated analog outputs -10...+10 V; 0...20 mA; 4...20 mA	Analog output does not have 0...10 V (has +/-10 V). M340 lower resolution 12-bit versus 14-bit. Verify error budget and module resolutions are acceptable for the application.	990SLC00108 (1)
	1746-FIO4I	2-channel Fast differential voltage/current (selectable) inputs (differential, 0...10 VDC, 0...20 mA) 2-channel current outputs (non-isolated) 2 outputs (0...20 mA)	BMXAMM0600	4-channel non-isolated analog inputs -10...+10 V; 0...10 V; 0...5 V; 1...5 V; 0...20 mA; 4...20 mA 2 non-isolated analog outputs -10...+10 V; 0...20 mA; 4...20 mA	Slower speed of response for M340 module. On AMM0600 can reduce the ON channels from 4 to 2 for a faster input response of analog inputs (3 m/10 ft). Check application requirements to see if AMM0600 is acceptable. M340 lower resolution 12-bit versus 14-bit.	990SLC00108 (1)
	1746-FIO4 V	2-channel Fast differential voltage/current (selectable) inputs (differential, 0...10 VDC, 0...20 mA), 2-channel voltage outputs (non-isolated) (±10 VDC)	BMXAMM0600	4-channel non-isolated analog inputs -10...+10 V; 0...10 V; 0...5 V; 1...5 V; 0...20 mA; 4...20 mA 2 non-isolated analog outputs -10...+10 V; 0...20 mA; 4...20 mA	Slower speed of response for M340 module. On AMM0600 can reduce the ON channels from 4 to 2 for a faster input response of analog inputs (3 m/10 ft). Check application requirements to see if AMM0600 is acceptable. M340 lower resolution 12-bit versus 14-bit.	990SLC00108 (1)

(1) For current-mode install jumpers: pins 0 to 6, and 3 to 9.

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# Modernization solutions

Rockwell SLC500 I/O to Modicon X80 modules platform



Equivalence table: SLC500 I/O module – X80 module platform						
Type of module	SLC500 I/O modules		X80 modules platform		Quick wiring adapters	
	Reference	Description	Reference	Description	X80 compatibility	Reference
Analog RTD & thermocouple	1746-NR4	4 RTD/resistance inputs 100 ohms, 200 ohms, 500 ohms Platinum 120 ohms Nickel 604 ohms Nickel/Iron 10 ohms Copper 150 ohms, 500 ohms, 1000 ohms, 3000 ohms direct resistance	BMXART0414	RTD, thermocouple, and voltage input, isolated 4-channel RTD IEC Pt100/ Pt1000, US/JIS Pt100/pt1000, Cu10, Ni100/ Ni1000, in 2-, 3-, or 4-wire. Input ranges: +/-40 mV, +/-80 mV, +/-160 mV, +/-320 mV, +/-640 mV, 1.28V CJC: internal compensation use Telefast ABE-7CPA412, external: channel 0 2-/3-wire Pt100 Thermocouple: B, E, J, K, L, N, R, S, T, U (see the M340 module user documentation for further specifications)	Consult M340 user documentation and verify the M340 module specifications against the application requirements for compatibility.	None. Must be rewired.
	1746-NR8	8 RTD/resistance inputs 100 ohms, 200 ohms, 500 ohms Platinum 120 ohms Nickel 604 ohms Nickel/Iron 10 ohms Copper 150 ohms, 500 ohms, 1000 ohms, 3000 ohms direct resistance	BMXART0814	RTD, thermocouple, and voltage input, isolated 8-channel RTD IEC Pt100/ Pt1000, US/JIS Pt100/pt1000, Cu10, Ni100/ Ni1000, in 2-, 3-, or 4-wire. CJC: internal compensation use Telefast ABE-7CPA412, external: channel 0 2-/3-wire Pt100 Thermocouple: B, E, J, K, L, N, R, S, T, U (see the M340 module user documentation for further specifications)	Consult M340 user documentation and verify the M340 module specifications against the application requirements for compatibility.	None. Must be rewired.
	1746-NT4	4 thermocouple/mV inputs B, E, J, K, N, R, S, T Thermocouple and ±50 mV or ±100 mV	BMXART0414	RTD, thermocouple, and voltage input, isolated 4-channel RTD IEC Pt100/ Pt1000, US/JIS Pt100/pt1000, Cu10, Ni100/ Ni1000, 2-, 3-, or 4-wire. Input ranges: +/-40 mV, +/-80 mV, +/-160 mV, +/-320 mV, +/-640 mV, 1.28V CJC: internal compensation use Telefast ABE-7CPA412, external: channel 0 2-/3-wire Pt100 Thermocouple: B, E, J, K, L, N, R, S, T, U (see the M340 module user documentation for further specifications)	Consult M340 user documentation and verify the M340 module specifications against the application requirements for compatibility.	None. Must be rewired.
	1746-NT8	8 thermocouple inputs B, E, J, K, N, R, S, T Thermocouple and ±50 mV or ±100 mV	BMXART0814	RTD, thermocouple, and voltage input, isolated 8-channel RTD IEC Pt100/ Pt1000, US/JIS Pt100/pt1000, Cu10, Ni100/ Ni1000, in 2-, 3-, or 4-wire. Input ranges: +/-40 mV, +/-80 mV, +/-160 mV, +/-320 mV, +/-640 mV, 1.28V CJC: internal compensation use Telefast ABE-7CPA412, external: channel 0 2-/3-wire Pt100 Thermocouple: B, E, J, K, L, N, R, S, T, U (see the M340 module user documentation for further specifications)	Consult M340 user documentation and verify the M340 module specifications against the application requirements for compatibility.	None. Must be rewired.

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# Modernization solutions

Rockwell SLC500 I/O to Modicon X80 modules platform

**Equivalence table: SLC500 I/O module – X80 module platform**

Type of module	SLC500 I/O modules		X80 modules platform		Quick wiring adapters	
	Reference	Description	Reference	Description	X80 compatibility	Reference
Analog RTD & thermocouple	1746-INT4	4 isolated thermocouple/ mV inputs B, C, D, E, J, K, N, R, S, T Thermocouple and ±50 mV or ±100 mV	BMXART0414	RTD, thermocouple, and voltage input, isolated 4-channel RTD IEC Pt100/ Pt1000, US/JIS Pt100/pt1000, Cu10, Ni100/ Ni1000, in 2-, 3-, or 4-wire. CJC: internal compensation use Telefast ABE-7CPA412, external: channel 0 2-/3- wire Pt100 Thermocouple: B, E, J, K, L, N, R, S, T, U (see the M340 module user documentation for further specifications)	Consult M340 user documentation and verify the M340 module specifications against the application requirements for compatibility.	None. Must be rewired.
Special	1746-BTM	Barrel temperature control module	None	—	No direct replacement. Contact for a possible workaround.	None. Must be rewired.
	1746-HSCE	High-speed counter module	None	—	No direct replacement. Contact for a possible workaround.	None. Must be rewired.
	1746-HSCE2	High-speed counter module	None	—	No direct replacement. Contact for a possible workaround.	None. Must be rewired.
	1746-HSTP1	SLC stepper controller module	None	—	No direct replacement. Contact for a possible workaround.	None. Must be rewired.
	1746-QS	Synchronized axis control module	None	—	No direct replacement. Contact for a possible workaround.	None. Must be rewired.
	1746-QV	Open-loop velocity control module	None	—	No direct replacement. Contact for a possible workaround.	None. Must be rewired.
Networking	1746-BAS	SLC BASIC module	None	—	No direct replacement. Contact for a possible workaround.	None. Must be rewired.
	1746-BAS-T	SLC BASIC-T module	None	—	No direct replacement. Contact for a possible workaround.	None. Must be rewired.
	1747-KE	DH-485/DF1 Interface module	None	—	No direct replacement. Contact for a possible workaround.	None. Must be rewired.
	1747-KFC15	ControlNet RS-232	None	—	No direct replacement. Contact for a possible workaround.	None. Must be rewired.
	1747-DCM	Direct Communication module	None	—	No direct replacement. Contact for a possible workaround.	None. Must be rewired.
	1747-SCNR	ControlNet scanner module	None	—	No direct replacement. Contact for a possible workaround.	None. Must be rewired.
	1747-SDN	Device Net scanner module	None	—	No direct replacement. Contact for a possible workaround.	None. Must be rewired.
	1747-SN	Remote I/O scanner module	None	—	No direct replacement. Contact for a possible workaround.	None. Must be rewired.
	1747-BSN	Backup scanner module	None	—	No direct replacement. Contact for a possible workaround.	None. Must be rewired.
	1203-SM1	SCAN port communication module	None	—	No direct replacement. Contact for a possible workaround.	None. Must be rewired.

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# Notes

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1203-SM1	2/48	1746-IN16	2/40	1771-ID16	2/36
140ACI03000	2/7	1746-INT4	2/48	1771-IE	2/38
140ACI04000	2/7	1746-IO12	2/44	1771-IFE	2/38
140ACO02000	2/7	1746-IO12DC	2/44	1771-IFE/A/B/C	2/38
140ACO13000	2/7	1746-IO4	2/44	1771-IFF	2/38
140AMM09000	2/7	1746-IO8	2/44	1771-IH	2/36
140ARI03010	2/7	1746-ITB16	2/41	1771-IL	2/38
140ATI03000	2/7	1746-ITV16	2/41	1771-IM	2/36
140AVI03000	2/7	1746-IV16	2/41	1771-IMD	2/36
140AVO02000	2/7	1746-IV32	2/42	1771-IN	2/36
140DAI34000	2/5	1746-IV8	2/41	1771-IND	2/36
140DAI35300	2/5	1746-NI16I	2/45	1771-IND	2/36
140DAI44000	2/5	1746-NI16V	2/45	1771-IQ	2/36
140DAI45300	2/5	1746-NI4	2/45	1771-IQ16	2/36
140DAI54000	2/5	1746-NI8	2/45	1771-IR	2/38
140DAI54300	2/5	1746-NIO4V	2/46	1771-IT	2/36
140DAI55300	2/5	1746-NIO4I	2/46	1771-IV	2/36
140DAI74000	2/5	1746-NO4V	2/46	1771-IVN	2/36
140DAI75300	2/5	1746-NO4I	2/46	1771-IXE	2/38
140DAO84000	2/6	1746-NO8I	2/46	1771-IXHR	2/38
140DAO84010	2/6	1746-NO8V	2/46	1771-OA	2/37
140DAO84210	2/6	1746-NR4	2/47	1771-OAD	2/37
140DAO84220	2/6	1746-NR8	2/47	1771-OAN	2/37
140DAO85300	2/6	1746-NT4	2/47	1771-OB	2/37
140DDI35300	2/5	1746-NT8	2/47	1771-OBDB	2/37
140DDI35310	2/5	1746-OA16	2/42	1771-OBDB	2/37
140DDI36400	2/5	1746-OA8	2/42	1771-OD	2/37
140DDI67300	2/5	1746-OAP12	2/42	1771-OD16	2/37
140DDI84100	2/5	1746-OB16	2/43	1771-ODC	2/37
140DDI85300	2/5	1746-OB16E	2/43	1771-ODD	2/37
140DDM39000	2/6	1746-OB32	2/43	1771-ODZ	2/37
140DDO35300	2/6	1746-OB6EI	2/43	1771-OFE1/2	2/38
140DDO35301	2/6	1746-OB8	2/43	1771-OM	2/37
140DDO35310	2/6	1746-OBP16	2/43	1771-OND	2/37
140DDO36400	2/6	1746-OBP8	2/43	1771-OP	2/37
140DDO84300	2/6	1746-OG16	2/43	1771-OQ	2/37
140DDO88500	2/6	1746-OV16	2/43	1771-OQ16	2/37
140DRA84000	2/6	1746-OV32	2/43	1771-OR	2/37
140DRC83000	2/6	1746-OV8	2/43	1771-OVN	2/37
140XBP00600	2/4	1746-OVP16	2/43	1771-OW	2/37
140XBP01000	2/4	1746-OW16	2/44	1771-OW16	2/37
140XBP01600	2/4	1746-OW4	2/44	1771-OWN	2/37
1746-BAS	2/48	1746-OW8	2/44	1771-OWNA	2/37
1746-BAS-T	2/48	1746-OX8	2/43	1771-OX	2/37
1746-BTM	2/48	1746-QS	2/48	1771-OYL	2/37
1746-FIO4V	2/46	1746-QV	2/48	1771-OZL	2/37
1746-FIO4I	2/46	1747-BSN	2/48	1MMCNVXZZSPAZZ	1/5
1746-HSCE	2/48	1747-DCM	2/48	1MMCSVCZMSXAZZ	1/5
1746-HSCE2	2/48	1747-KE	2/48	2ASR0200AMO0410	2/25
1746-HSTP1	2/48	1747-KFC15	2/48	990ADB80X80104	2/16
1746-IA16	2/40	1747-SCNR	2/48	990ADB80X80105	2/16
1746-IA4	2/40	1747-SDN	2/48	990ADB80X80108	2/17
1746-IA8	2/40	1747-SN	2/48	990ADB80X80109	2/17
1746-IB16	2/41	1771-AxB	2/35	990ADB80X80120	2/19
1746-IB32	2/42	1771-IA/IA2	2/36	990ADB80X80121	2/19
1746-IB8	2/41	1771-IAD	2/36	990ADB80X80126	2/17
1746-IC16	2/42	1771-IAN	2/36	990ADB80X80127	2/17
1746-IG16	2/41	1771-IB	2/36	990ADB80X80130	2/17
1746-IH16	2/42	1771-IBD	2/36	990ADB80X80131	2/17
1746-IM16	2/40	1771-IBN	2/36	990ADB80X80134	2/17
1746-IM4	2/40	1771-IC	2/36	990ADB80X80135	2/17
1746-IM8	2/40	1771-ICD	2/36	990ADB80X80144	2/18
		1771-ID	2/36	990ADB80X80145	2/18
				990ADB80X80162	2/18
				990ADB80X80163	2/18
				990ADB80X80164	2/18
				990ADB80X80165	2/18
				990ADB80X80166	2/19
				990ADB80X80167	2/19
				990ADB80X80168	2/19
				990ADB80X80169	2/19
				990ADB80X80180	2/20
				990ADB80X80181	2/20
				990ADB80X80182	2/19
				990ADB80X80183	2/19
				990ADB80X80184	2/19
				990ADB80X80185	2/19
				990ADB80X80186	2/19
				990ADB80X80187	2/19
				990ADB80X80188	2/19
				990ADB80X80189	2/19
				990ADB80X80190	2/19
				990ADB80X80191	2/19
				990ADB80X80194	2/21
				990ADB80X80195	2/21
				990ADB80X80198	2/16
				990ADB80X80199	2/16
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990ADPC5X80117	2/37	990ADPREX80116	2/13	990CHPREX80120	2/12	990XSM00205	2/28	AS-B875-002	2/19
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990ADPC5X80131	2/36	990ADQUAX80101	2/5	990CMQUAX80120	2/4	<b>A</b>		AS-B883-111	2/20
990ADPC5X80132	2/38	990ADQUAX80102	2/7		2/15	AEM0411AMI0410C	2/25	AS-B883-200	2/20
990ADPC5X80133	2/38	990ADQUAX80110	2/5	990CMQUAX80160	2/4	AEM0411AMI0410V	2/25	AS-B883-201	2/19
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990ADPC5X80135	2/36	990ADQUAX80112	2/7	990SLC00102	2/40	AEM0811AMI0810C	2/25	AS-B884-002	2/20
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990ADPC5X80140	2/36	990ADQUAX80119	2/7	990SLC00103	2/44	AEM0821AMI0800V	2/25	AS-B885-111	2/20
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990ADPC5X80200	2/36	990ADQUAX80123	2/7	990SLC00105	2/45	AEM1602AMI0800C	2/25	AS-B984-101	2/20
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990ADPC5X80209	2/37	990ADQUAX80132	2/5	990SLC00110	2/43	AS-B805-016	2/16	AS-BADU210	2/30
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990ADPC5X80211	2/38	990ADQUAX80136	2/5	990X80CABL017PT	2/21	AS-B806-124	2/17	AS-BADU212	2/30
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990ADPC5X80217	2/37	990ADQUAX80138	2/7	990X80CABL019	2/21	AS-B808-016	2/17	AS-BADU216	2/30
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990ADPC5X80300	2/36	990ADQUAX80143	2/7	990X80CABL116PT	2/13	AS-B814-108	2/17	AS-BADU256	2/30
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990ADPC5X80301	2/36	990ADQUAX80145	2/7	990X80CABL118PT	2/13	AS-B817-216	2/16	AS-BADU257	2/31
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990ADPC5X80303	2/37	990ADQUAX80147	2/7		2/21	AS-B824-016	2/18	AS-BBKF201-64	2/32
990ADPC5X80304	2/37	990ADQUAX80148	2/7	990X80CABL517PT	2/13	AS-B825-016	2/16	AS-BBKF202	2/32
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990ADPC5X80308	2/37	990ADQUAX80151	2/5		2/21	AS-B828-016	2/18	AS-BDAP208	2/28
990ADPC5X80309	2/37	990ADQUAX80152	2/5	990X80CABL519	2/13	AS-B829-116	2/16	AS-BDAP209	2/28
990ADPC5X80310	2/36	990ADQUAX80153	2/5		2/21	AS-B832-016	2/18	AS-BDAP210	2/28
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990ADPREX80102	2/13	990ADQUAX80216	2/5	990X80CABLE018	2/21	AS-B840-108	2/18	AS-BDAP217	2/28
990ADPREX80103	2/13	990ADQUAX80217	2/5	990X80CABLE116	2/13	AS-B846-001	2/19	AS-BDAP218	2/28
990ADPREX80104	2/12	990ADQUAX80218	2/5	990X80CABLE117	2/13	AS-B846-002	2/19	AS-BDAP220	2/29
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990ADPREX80106	2/12	990ADQUAX80246	2/5	990X80CABLE118	2/13	AS-B872-002	2/20	AS-BDAP250C	2/29
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990ADPREX80110	2/13	990CHPC5X80160	2/35	990X80CABLE518	2/13	AS-B873-001	2/19	AS-BDAP253C	2/29
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AS-BDAP258	2/28		2/31		2/12		2/18	TSXAEM1601	2/25
AS-BDAP258C	2/28	BMXAMI0800	2/7		2/17		2/24	TSXAEM1602	2/25
AS-BDAP292	2/29		2/13		2/24		2/28	TSXAEM411	2/25
AS-BDAU202	2/31		2/38		2/28		2/43	TSXAEM413	2/25
AS-BDAU204	2/31	BMXAMI0810	2/7	BMXDAO1615	2/6	BMXDRA0815	2/6	TSXAEM413	2/25
AS-BDAU208	2/31		2/13		2/12		2/12	TSXAEM811	2/25
AS-BDAU252	2/31		2/19		2/17		2/18	TSXAEM821	2/25
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AS-BDEO216	2/27	BMXAMM0600	2/7		2/37		2/28	TSXAEM811	2/25
AS-BDEP208	2/27		2/30		2/42		2/37	TSXAEM811	2/25
AS-BDEP209	2/27		2/46				2/43	TSXAEM811	2/25
AS-BDEP210	2/27	BMXAMM0600H	2/30	BMXDDI1602	2/12	BMXDRA0815H	2/28	TSXAEM811	2/25
AS-BDEP211	2/27		2/31		2/16	BMXDRA1605	2/12	TSXAEM811	2/25
AS-BDEP214	2/27	BMXAMO0210	2/31		2/23		2/17	TSXAEM811	2/25
AS-BDEP215	2/27	BMXAMO0210H	2/31		2/27		2/17	TSXAEM811	2/25
AS-BDEP216	2/27	BMXAMO0410	2/7	BMXDDI1602H	2/27		2/28	TSXAEM811	2/25
AS-BDEP217	2/27		2/13	BMXDDI1603	2/12		2/37	TSXAEM811	2/25
AS-BDEP218	2/27		2/31		2/16	BMXDRA805	2/17	TSXAEM811	2/25
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AS-BDEP220	2/27		2/13		2/27	BMXDRC0805	2/6	TSXAEM811	2/25
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AS-BDEP254C	2/27	BMXAMO410	2/7	BMXDDI1603H	2/27		2/17	TSXAEM811	2/25
AS-BDEP256	2/27	BMXART0414	2/7	BMXDDI1604T	2/5		2/18	TSXAEM811	2/25
AS-BDEP256C	2/27		2/13		2/23	BMXEHC0200	2/33	TSXAEM811	2/25
AS-BDEP257	2/27		2/30		2/27	BMXEHC0200H	2/33	TSXAEM811	2/25
AS-BDEP257C	2/27	BMXART0814	2/7		2/36	BMXEHC0800	2/33	TSXAEM811	2/25
AS-BDEP296	2/27		2/48		2/42	BMXFCW301S	2/13	TSXAEM811	2/25
AS-BDEP297	2/27			BMXDDI3202	2/12	BMXP342020	2/33	TSXAEM811	2/25
AS-BFRQ204	2/33			BMXDDI3202K	2/5	BMXXBP0400	2/35	TSXAEM811	2/25
AS-BFRQ254C	2/33	BMXART0814H	2/31		2/23	BMXXBP0600	2/12	TSXAEM811	2/25
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AS-BKOS260-64	2/32	BMXCPS2000	2/33	BMXDDI3203	2/5	BMXXBP0800	2/23	TSXAEM811	2/25
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AS-BMOT202	2/32	BMXCPS3500	2/33	BMXDDI3232	2/5	BMXXBP1200	2/23	TSXAEM811	2/25
AS-BVIC200VRC200	2/33	BMXDAI0805	2/12		2/16		2/35	TSXAEM811	2/25
AS-BVIC205CTR205	2/33		2/16	BMXDDI6402	2/12	<b>C</b>		TSXAEM811	2/25
AS-BVIC212CTR212	2/33		2/27	BMXDDI6402K	2/5	CEGCNV1PRG	1/7	TSXAEM811	2/25
AS-BVIC224CTR224	2/33		2/36	BMXDDM16022	2/6	CM900	2/32	TSXAEM811	2/25
AS-BZAE201	2/33	BMXDAI0814	2/16		2/29	<b>D</b>		TSXAEM811	2/25
AS-BZAE204	2/33		2/36	BMXDDM16022H	2/29	DET08XXDXI160X	2/23	TSXAEM811	2/25
AS-P120000	2/33	BMXDAI1602	2/5	BMXDDM16025	2/28	DET16XXDXI160X	2/23	TSXAEM811	2/25
ASR0200AMO0210	2/25		2/16		2/29	DET32X2DDI3202K	2/23	TSXAEM811	2/25
ASR040XAMO0410	2/25		2/23	BMXDDM16025H	2/28	DST1612DDO1612	2/24	TSXAEM811	2/25
AST0200AMO0210	2/25		2/27		2/29	DST1632DDO1602	2/24	TSXAEM811	2/25
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BMEXBP0400	2/4	BMXDAI1603	2/5		2/12	DST1633DRA1605	2/24	TSXAEM811	2/25
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BMEXBP0600	2/4	BMXDAI1604	2/5	BMXDDO1602H	2/28	DST1635DRA1605	2/24	TSXAEM811	2/25
	2/15		2/12	BMXDDO1612	2/6	DST1682DDO1602	2/24	TSXAEM811	2/25
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BMEXBP0800	2/4		2/23		2/24	DST24X22DDO3202K	2/24	TSXAEM811	2/25
	2/15		2/27		2/18	DST3292DDO3202K	2/24	TSXAEM811	2/25
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BMEXBP1002	2/35	BMXDAI1604T	2/36		2/37	E984-285	2/33	TSXAEM811	2/25
BMEXBP1200	2/4	BMXDAI1614	2/5	BMXDDO3202	2/43	<b>H</b>		TSXAEM811	2/25
	2/15		2/16	BMXDDO3202K	2/6	H819	2/15	TSXAEM811	2/25
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BMXXBP1600	2/5	BMXDAI1615	2/5		2/43	M7251	2/32	TSXAEM811	2/25
BMXAI1602	2/41		2/12	BMXDDO6402K	2/6	M7350	2/32	TSXAEM811	2/25
BMXAMI0410	2/13		2/16		2/12	<b>T</b>		TSXAEM811	2/25
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	2/30				2/28	TSX7SWAEBP1200	2/23	TSXAEM811	2/25
	2/45				2/12	TSX7SWAXBP0800	2/23	TSXAEM811	2/25

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TSXDSY08R5A	2/12
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TSXDSY08T2	2/12
TSXDSY08T22	2/12
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TSXDSY16R5	2/12
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TSXRKY12	2/12
TSXRKY12EX	2/12
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