Rockwell Automation

Legacy DCS Modernization GUIDE

Enable a Connected Enterprise with a holistic approach to migration.

BEGIN

Addressing the risks of a **LEGACY DCS**

Producers face many challenges with legacy systems, but these challenges only scratch the surface. In today's rapidly evolving environment, in order to succeed, or even survive, we must challenge the status quo.

THE CHALLENGE OF PRODUCTIVITY

Behind every system and operational challenge is a team striving to win. Yet the ability to innovate can be challenging with disparate systems throughout the enterprise creating bottlenecks and inefficiencies. The sheer amount of information from supply chains, plant assets, and business systems can overwhelm teams trying to function in real-time and create new concepts.

DO MORE WITH LESS TO IMPACT THE BOTTOM LINE

Production teams must do more with less to meet budget expectations throughout their plant's lifecycle. The allocation of approved capital or operational funds must demonstrate a positive return regardless of the scale of investment. Whether tasked with supporting an existing infrastructure or designing a next-generation facility, teams must excel with limited access to resources.

REDUCING OPERATIONAL RISK

Risk is everywhere and takes many forms. Even when contingencies are considered, unforeseen events can impact safe and reliable plant operations. As teams identify factors that contribute to unplanned delays, downtime, product safety, and worker safety, they require systems that can navigate dynamic conditions.

A modern DCS

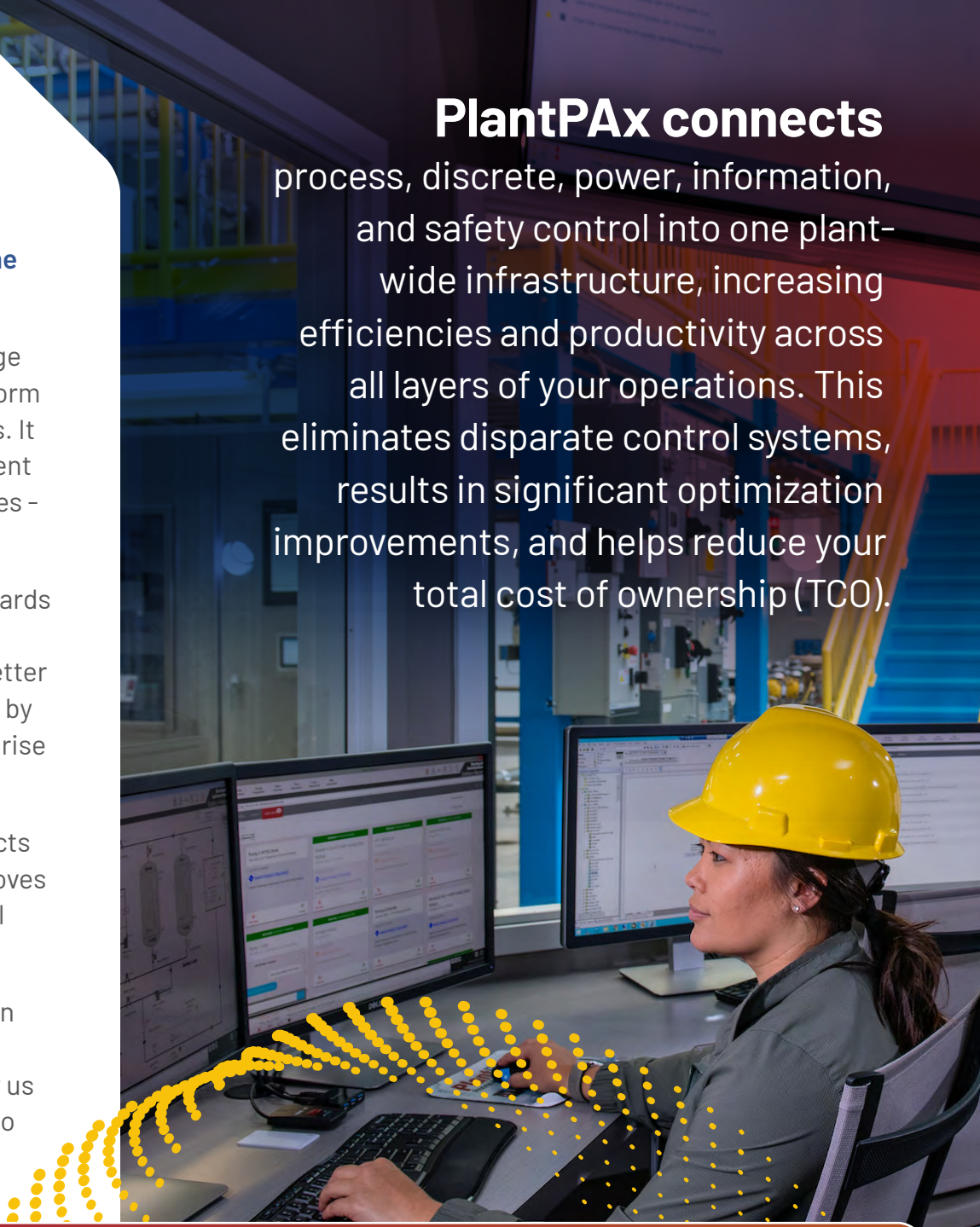
The PlantPAx® system utilizes a common automation platform for seamless ingeration between critical process areas and the balance of your plant.

A modern distributed control system (DCS) provides a wide range of architecture options for increased flexibility. The same platform can be used for single stations or large distibuted architectures. It also offers **scalable** system capabilities - HMI, batch management and data collection that does not require extensive architectures - perfect for process skid equipment and rapid integration.

PlantPAx DCS is based on **secured**, open communication standards leverageing EtherNet/IP as its backbone. As a result, real-time information is readily available throughout the enterprise for better business decisions. A modern DCS helps improve productiveity by delivering production intelligence and visibility into your enterprise level systems helping to drive efficiencies.

In addition, it allows the use of commercial off-the-shelf products and supportsthe adoption of the latest IT technology that improves productivity. It addresses industrial security from the individual device on the plant floor to the enterprise level.

Built for **flexible** delivery, we encourage optimal implementation based on your needs. No matter where you are on the lifecycle journey, we can help guide you through it. Whether delivered by us or your local process system integrator, our solutions are built to support you.



PlantPAx connects

process, discrete, power, information, and safety control into one plant-wide infrastructure, increasing efficiencies and productivity across all layers of your operations. This eliminates disparate control systems, results in significant optimization improvements, and helps reduce your total cost of ownership (TCO).

Let us help you through **YOUR JOURNEY**

BUILD TECHNICAL AND FINANCIAL JUSTIFICATION

Modernization Justification ▶

DEFINE STRATEGIES FOR CONVERTING

DCS Modernization Strategy and Implementation ▶

OPTIMIZE YOUR PROCESS

Automation System Optimization ▶

LEARN MORE ABOUT LIFECYCLE IQ™ Services by ROCKWELL AUTOMATION

Increased production

in a Yuhan-Kimberly tissue plant with conversion from Honeywell system to PlantPAx DCS

Yuhan-Kimberly saw improved effectiveness of operation with operator friendly faceplates, historical trends, and real time information allowing for better business decisions.

"Using the PlantPAx® DCS Library of Process Objects, we were able to cut down the system deployment time by 2 months, and we could conduct an independent test and a simulation test effectively before the SAT, which allowed us reliable and fast system startup."

Learn more >

The Mosaic Company **enhances decision-making capabilities and reduces alarms** by 50 percent with modern DCS

The Mosaic Company is the world's leading integrated producer and marketer of concentrated phosphate and potash, two key ingredients in plant fertilizer.

Their legacy system was unproductive with nuisance alarms creating operational challenges. This made it nearly impossible to quickly recognize and respond to legitimate issues in the process. Limited visibility combined with too many alarm notifications resulted in extra work and lost productivity.

Mosaic gained enhanced visualization and clear production data that enabled more informed decision-making capabilities. Overall operational productivity was improved by reducing alarms by 50 percent.

Learn more >

CSU saves annually with **increased system availability**

Prior to Colorado Springs Utilities' (CSU) DCS modernization, it could take three or more days to recover from a forced outage. They now experience nearly 100 percent availability. Their operators remotely monitor and diagnose issues as they arise, before issues cause downtime. CSU has shifted its focus from "maintenance mode" to generating more renewable energy.

The increased availability and maintainability of the hydro plants will help CSU produce more renewable energy, benefiting the company's bottom-line and helping ensure safe, secure power.

Learn more >

DuPont modernization project chooses PlantPAx DCS to **increase operational availability and flexibility**

Dupont was challenged with an obsolete DCS and PLC systems that was no longer supported. They only had a 3-week window to migrate 2,000 I/O points.

Initially, the modernization would eliminate the risks associated with obsolescence, but they quickly saw other benefits.

"Now we can see grayscale screens making it safer, easier and faster to spot when you have a red or yellow dot."

"The PlantPAx® DCS system brings together unique features that distinguish it in the market, emphasizing virtualization technology with templates already delivered by the manufacturer..."

Learn more >

A major global supplier of Lithium, Bromine, and Catalyst products **faced support challenges of aging infrastructure** and cost concerns of traditional DCS platforms

In addition to combating traditional legacy challenges, they were tasked to meet corporate initiatives to drive connectivity and visibility throughout the enterprise.

Migrating from multiple competitor legacy DCS systems, Rockwell Automation was chosen to modernize due to our industry expertise and complete lifecycle support.

Learn more >

WHO ARE YOU CONVERTING FROM?

Click for cable solutions for direct connection.

ABB/BAILEY DCS

HONEYWELL DCS

SIEMENS/MOORE DCS

EMERSON/FISHER DCS

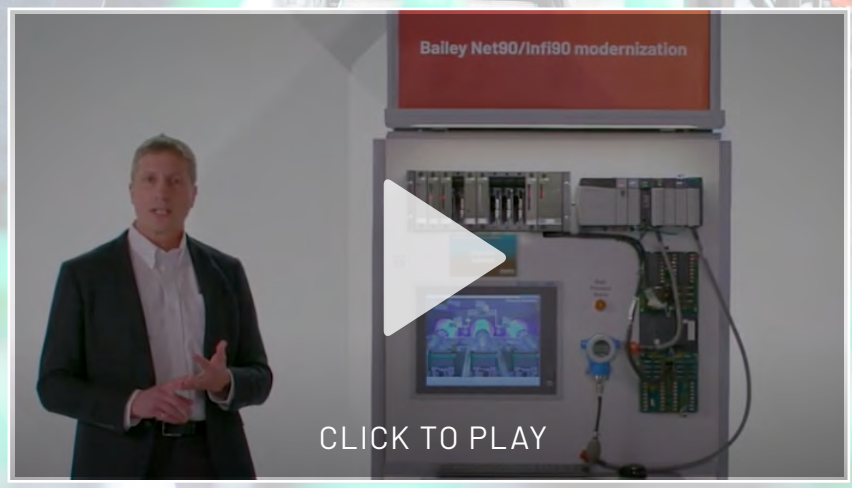
FOXBORO DCS

Cables for Direct Connection from Bailey NET90/Infi90 to ControlLogix® I/O Modules

- Preserve valuable production time and reduce risks associated with legacy I/O removal tasks
- Allow I/O to be removed in minutes and preserve existing field wiring terminations
- Commissioning and startup tasks are faster, easier, less risky and less costly

I90 Scanner for Direct Connection from Bailey I/O to ControlLogix

- Phased Migration Tool (often phase 2)
- Fits in Bailey controller backplane, connects to ControlLogix via Ethernet
- Shadow mode (read only) useful to verify PlantPAx DCS connections to I/O
- Redundancy supported, I/O status and diagnostics included
- Connects in just minutes
- Most Bailey I/O modules supported
- Preserve existing field wiring terminations
- Built, marketed and sold by Encompass™ Partner Aparian
- Commissioning and startup tasks are faster, easier, less risky and less costly
- Easy configuration: Slate configuration tool



BAILEY INFI/NET 90 DCS VIDEO

Cables for Direct Connection from Bailey NET90/Infi90 to ControlLogix® I/O Modules

Catalog Number	Termination Unit (Tu)	Existing Legacy Module		New Rockwell Automation Module
CBL-NTAI05-IF16D16-XXX	NTAI05	IMASM01 IMASI02 IMFBS01 IMFEC11 IMFEC12	NASM01 NASI02	1756-IF16 (Qty. 2)
CBL-NTAI02-IF8U-XXX	NTAI02	IMASM02	NASM02	1756SC-IF8U (Qty. 2)
CBL-NTAI03-IF8U-XXX	NTAI03 NTAI04	IMASM03 IMASM04	NASM03 NASM04	1756SC-IF8U (Qty. 2)
CBL-NTAI06-IF8U-XXX	NTAI06	IMASI03 IMASI13		1756SC-IF8U (Qty. 2)
CBL-NTAO01-OF8-XXX	NTAO01	IMAOM01	NAOM01	1756-OF8
CBL-NTCS02-COMB01-XXX	NTCS02 NTCS04	IMCOM0X IMQRC01 IMQRS0X IMCIS0X	NCOM0X NQRC01 NQRS0X NCIS0X	1756-IF4FXOF2F & 1756-OB16I & 1756-IB16I
CBL-NTDI01-OF8-XXX	NTDI01	IMASO01	NASO01	1756-OF8 (Qty. 2)
CBL-NTDI01-IX16I-XXX	NTDI01	IMDSI02 IMDSI12 IMDSI13 IMDSI15	NDSI02	1756-IB16I (24VDC) 1756-IH16I (125VDC) 1756-IA16I (120VAC)
CBL-NTDI01-OX16I-XXX	NTDI01	IMDSO01 IMDSO02 IMDSO03	NSDO01 NDSO02 NDSO03	1756-OA16I (24-240VAC) 1756-OB16I (10-30VDC) 1756-OW16I (0-240V)
CBL-NTDI01-OC8-XXX	NTDI01	IMDSO02 IMDSO03	NDSO02 NDSO03	1756-OC8 (30-60VDC)
CBL-NTDI01-OH8I-XXX	NTDI01	IMDSO03	NDSO03	1756-OH8I (90-146VDC)
CBL-NTDI01-OB16I-XXX	NTDI01 PCBRLY	IMDSO04 IMDSO14	NDSO04	1756-OB16I
CBL-NTDI01-IBOB16I-XXX	NTDI01	IMLMM02	NLMM02	1756-IB16I & 1756-OB16I

Cables for Direct Connection from Honeywell TDC 3000 to ControlLogix® I/O Modules

- Preserve valuable production time and reduce risks associated with legacy I/O removal tasks
- Allow I/O to be removed in minutes and preserve existing field wiring terminations
- Commissioning and startup tasks are faster, easier, less risky and less costly

PMIO Scanner for Direct Connection from Honeywell to ControlLogix

- Phased Migration Tool (often phase 2)
- Fits directly into ControlLogix 1756 backplane
- Shadow mode (read only) to verify PlantPAx connections to I/O
- IO-Link redundancy supported, I/O status and diagnostics included
- Connects in just minutes
- I/O modules supported: HLAI, AO, DI, DO, LLAI, LLMUX
- Preserve existing field wiring terminations
- Built, marketed and sold by Encompass™ Partner Aparian
- Commissioning and startup tasks are faster, easier, less risky and less costly
- Easy configuration: Slate configuration tool

HONEYWELL DCS VIDEO

Cables for Direct Connection from Honeywell to ControlLogix® I/O Modules

Catalog Number	Termination Unit (Tu)	New Rockwell Automation Module
CBL-ETP00-0V16E-XXX	ETP00	1756-0V16E
CBL-ETP13-0V16E-XXX	ETP13	1756-0V163
CBL-RTP00-0V16E-XXX	RTP00	1756-0V16E
CBL-RTP20-0F8-XXX	RTP20	1756-0F8 (Qty. 2)
CBL-RTP30-0F8-XXX	RTP30	1756-0F8 (Qty. 2)
CBL-RTP40-0V16E-XXX	RTP40	1756-0V16E (Qty. 2)
CBL-TCB00-IF16-XXX	TCB00	1756-IF16
CBL-TCB00-0F8-XXX	TCB00	1756-0F8
CBL-TCB20-IF16-XXX	TCB20	1756-IF16
CBL-TCB20-0F8-XXX	TCB20	1756-0F8
CBL-TCB30-IF16-XXX	TCB30	1756-IF16
CBL-TCB30-0F8-XXX	TCB30	1756-0F8
CBL-RTP00-IB32-XXX	RTP00	1756-IB32
CBL-RTP00-IV32-XXX	RTP00	1756-IV32
CBL-RTP10-IF16-XXX	RTP10	1756-IF26 (Qty. 2)
CBL-RTP80-0X8I-XXX	RTP80	1756-0X8I (Qty. 2)
CBL-ETP11-IB16-XXX	ETP11	1756-IB16
CBL-TCB50-0F8-XXX	TCB50	1756-0F8
CBL-TCB60-IB16-XXX	TCB60	1756-1B16
CBL-TCB60-0B16E-XXX	TCB60	1756-0B16E
CBL-TCB50-IF16-XXX	TCB50	1756-IF16
CBL-TCB50-OPTN3-XXX	TCB50	1756-IB16 1756-0B8
CBL-TCB60-IB32-XXX	TCB60	1756-IB32
CBL-TCB60-IF16-XXX	TCB60	1756-IF16

Catalog Number	Termination Unit (Tu)	New Rockwell Automation Module
CBL-TAOX02-0F8-XXX	TAOX02	1756-0F8
CBL-TAOY22-0F8-XXX	TAOY22	1756-0F8 (Qty. 2)
CBL-TAOY23-0F8-XXX	TAOY23	1756-0F8 (Qty. 2)
CBL-TDOA13-0V16E-XXX	TDOA13	1756-0V16E
CBL-TDOD11-0V16E-XXX	TDOD11	1756-0V16E
CBL-TDOD12-0V16E-XXX	TDOD12	1756-0V16E
CBL-TDOD13-0V16E-XXX	TDOD13	1756-0V16E
CBL-TDOD23-0V16E-XXX	TDOD23	1756-0V16E
CBL-TDOR12-0V16E-XXX	TDOR12	1756-0V16E
CBL-TDOR22-0V16E-XXX	TDOR22	1756-0V16E
CBL-TDOR52-0V16E-XXX	TDOR52	1756-0V16E
CBL-TDOY22-0V16E-XXX	TDOY22	1756-0V16E (Qty. 2)
CBL-TDOY23-0V16E-XXX	TDOY23	1756-0V16E
CBL-THA011-0F8-XXX	THA011	1756-0F8 (Qty. 2)
CBL-TDIA11-IV32-XXX	TDIA11	1756-IV32
CBL-TDIY22-IB32-XXX	TDIY22	1756-IB32
CBL-TSTX03-IF16-XXX	TSTX03	1756-IF16 (Qty. 2)
CBL-TSTX13-IF16-XXX	TSTX13	1756-IF16 (Qty. 2)
CBL-TAIH01-IF16-XXX	TAIH01	1756-IF16 (Qty. 2)
CBL-TAIH02-IF16-XXX	TAIH02	1756-IF16 (Qty. 2)
CBL-TAIH03-IF16-XXX	TAIH03	1756-IF16 (Qty. 2)
CBL-TAIH12-IF16-XXX	TAIH12	1756-IF16 (Qty. 2)
CBL-TAIH22-IF16-XXX	TAIH22	1756-IF16 (Qty. 2)
CBL-TAIH52-IF16-XXX	TAIH52	1756-IF16 (Qty. 2)
CBL-TAIH53-IF16-XXX	TAIH53	1756-IF16 (Qty. 2)
CBL-TDIA11-IB32-XXX	TDIA11	1756-IB32
CBL-TDIA12-IV32-XXX	TDIA12	1756-IV32
CBL-TDIA52-IV32-XXX	TDIA52	1756-IV32
CBL-TDID12-IV32-XXX	TDID12	1756-IV32
CBL-TDOD14-0V16E-XXX	TDOD14	1756-0V16E
CBL-TAOX01-0F8-XXX	TAOX01	1756-0F8

Cables for Direct Connection from Siemens Moore APACS to ControlLogix® I/O Modules

- Preserve valuable production time and reduce risks associated with legacy I/O removal tasks
- Allow I/O to be removed in minutes and preserve existing field wiring terminations
- Commissioning and startup tasks are faster, easier, less risky and less costly

Siemens Moore APACS Scanner

- Mitigates risk by "shadowing" a running system, enabling thorough testing of HMI graphics and process controller configuration before cut-over
- Allows the user to remove their existing obsolete controllers and keep the I/O modules in place
- Does not require any programming – all configuration software is included
- Enables low risk and low-cost conversions to PlantPAx

SIEMENS MOORE APACS DCS VIDEO

Cables for Direct Connection from Siemens Moore APACS to ControlLogix® I/O Modules

Catalog Number	Termination Unit (Tu)	New Rockwell Automation Module
CBL-ODM-OX16I-XXX	ODM	1756-OX16I (Qty. 2)
CBL-VIM-IF8U-XXX	VIM	1756-IF8U (Qty. 2)
CBL-EAM-CRNT-OF8-XXX	CRNT	1756-OF8 (Qty. 2)
CBL-IDM-IX16I-XXX	IDM	1756-IX16I (Qty. 2)
CBL-SAM-IF16-XXX	SAM	1756-IF16 (Qty. 2)
CBL-SAM-OF8-XXX	SAM	1756-OF8 (Qty. 4)
CBL-EAM-CRNT-IF16-XXX	EAM Current	1756-OF8 (Qty. 2)
CBL-EAM-VOLT-IF16-XXX	EAM Voltage	1756-IF16
CBL-SDM-IB32-XXX	SDM	1756-IB32
CBL-HFM-IF8H-XXX	HFM	1756-IF8H (Qty. 2)
CBL-IDO-OX161-XXX	IDO	1756-OX161
CBL-RTM-IF8U-XXX	RTM	1756-IF8U (Qty. 2)
CBL-SDI-IA161-XXX	SDI	1756-IB32
CBL-SDI-IB32-XXX	SDI	1756-IB32
CBL-SDM-OB32-XXX	SDM	1756-OB32

Cables for Direct Connection from Fisher PROVOX to ControlLogix® I/O Modules

- Preserve valuable production time and reduce risks associated with legacy I/O removal tasks
- Allow I/O to be removed in minutes and preserve existing field wiring terminations
- Commissioning and startup tasks are faster, easier, less risky, and less costly
- For Series 10 and Series 20 I/O

Catalog Number	Existing Legacy Module	New Rockwell Automation Module
CBL-DM6362-IB16I-XXX	DM6362	1756-IB16I
CBL-CL6781-XB16I-XXX	CL6781	1756-OB16I AND 1756-IB16I
CBL-CL6781-IB16I-XXX	CL6781	1756-IB16I
CBL-CL6783-XB16I-XXX	CL6783	1756-IB16I
CBL-CL6871-OF8-XXX	CL6871	1756-OF8
CBL-DM6421-OF4-XXX	DM6421	1756-OF4
CBL-DM6321-IF16-XXX	DM6321	1756-IF16
CBL-DM6322-IF16-XXX	DM6322	1756-IF16
CBL-DM6363-IN16-XXX	DM6363	1756-IN16
CBL-DM6461-OB161-XXX	DM6461	1756-OB16I
CBL-DM6461-XXX	DM6461	1756-OX161
CBL-RTM-IF8U-XXX	CL6761	1756-IF8U
CBL-SDI-IA161-XXX	CL6897	1756-IB32
CBL-SDI-IB32-XXX	CL6773	1756-IB32
CBL-SDM-OB32-XXX	CL6775	1756-OB32
CBL-SDI-IB32-XXX	CL6781	1756-IB16I
CBL-CL6783-OB16I-XXX	CL6783	1756-OB16I
CBL-DM6463-OB16I-XXX	DM6463	1756-OB16I
CBL-DM6361-IB16I-XXX	DM6361	1756-IB16I

Cables for Direct Connection from Foxboro to ControlLogix® I/O Modules

- Preserve valuable production time and reduce risks associated with legacy I/O removal tasks
- Allow I/O to be removed in minutes and preserve existing field wiring terminations
- Commissioning and startup tasks are faster, easier, less risky and less costly
- For series 100 I/O

Catalog Number	Existing Legacy Module	New Rockwell Automation Module
6278-01	FBM01	IF6CIS (2X)
6278-02	FBM02	IT6I (2X)
6278-03	FBM03	IR6I (2X)
6278-04	FBM04	IF6CIS, OF6CI
6278-05	FBM05	IF6CIS, OF6CI
6278-06	FBM06	CFM (2X), OF6CI
6278-07	FBM07A/12A	IB16I, OR IH16I
6278-08	FBM08/13	IA16I
6278-09	FBM09C/14C	IB16I, OB8I
6278-10	FBM10/15	IA16I & OA16I
6278-11	FBM11/16	IM16I, OA8
6278-12	FBM20/21	IM16I
6278-13	FBM04	OF8CI & IF8CIS

BACK

Stay ahead of challenges, we can help!

You know the daily challenges that come with legacy systems, but these challenges only scratch the surface. In today's rapidly evolving environment, in order to succeed, or even survive, we must challenge the status quo.

Learn more at **rok.auto/dcsmigration**

or **talk to a Rockwell Automation consultant**

Connect with us.

rockwellautomation.com — expanding **human possibility**®

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