

xCoupler Modules for Allen-Bradley® ControlLogix® PACs

xCoupler Enterprise Transaction Modules Connect the Factory Floor to Business Systems

xCoupler modules are factory floor appliances specifically designed to enable two-tier exchange of manufacturing and processing data from proprietary devices to business systems. They are available as bi-directional so commands from the business system, such as manufacturing orders, can be sent directly to production equipment.



Comparison of a typical plant floor multi-tier system versus the xCoupler two-tier system

In addition to eliminating cumbersome patchwork systems, these modules are less costly to install and configure, and are virtually maintenance-free. xCoupler modules are also scalable to accommodate expansion, provide timely and accurate data, and are extremely secure.

How Fast and Easy?

First, choose from the many database, messaging or communications adapters available. Next, snap one of these modules into an Allen-Bradley ControlLogix backplane that manages manufacturing and processing data. Then, use the xCoupler WorkBench™ software tool to drag and drop configurations – that’s all there is to it. No special languages to know, no special training required, and no enterprise drivers are required.

How Secure?

The functionality of the xCoupler module is totally independent of factory floor device operation and its operation can only be changed by authorized personnel using the WorkBench software. It also operates on a platform that is impervious to viruses and includes strategic authentication and access methods.



xCoupler modules are designed to interface and install in the backplane of Allen-Bradley ControlLogix PACs.

xCoupler Package

At a minimum, the xCoupler system will consist of the xCoupler module for use with Allen-Bradley ControlLogix PACs, the appropriate transport adapters installed in the xCoupler, and the WorkBench configuration utility.

To meet specific data communications requirements, xCoupler modules are available in two data transaction modes:

- Uni-directional modules provide plant floor equipment performance monitoring at the enterprise level.
- Bi-directional modules provide plant floor equipment performance monitoring at the enterprise level and the ability to send commands to plant floor from enterprise servers.

xCoupler Transport Adapters

The following adapters are available to operate with Allen-Bradley ControlLogix PACs. Additional adapters are being developed.

For a complete list, visit www.oldi.com.

Messaging Adapter

- IBM® WebSphere® MQ

Database Adapters

- IBM DB2 and DB2/400, Oracle®, Microsoft® SQL and MySQL™

Communications Adapters

- SMTP Email Messaging and TCP/IP Communications

xCoupler Modules for Allen-Bradley ControlLogix PACs

Features

ControlLogix Compatible

- Module simply snaps into the ControlLogix backplane to exchange data with connected plant floor devices and messaging, database and communications systems.
- Provides non-intrusive communications with the ControlLogix processor.
- Communicates to remote ControlLogix and CompactLogix PACs through Ethernet or ControlNet.
- Developed for factory floor durability, proven reliability 24/7.

Compatible with Popular Messaging and Database Systems

- No need for communication drivers or applications.
- Bi-directional communication based on ControlLogix:
 - Events may be either Tag or Message Instruction-based
 - Executes a WHERE CLAUSE (database query) or a STORED PROCEDURE (database macro/application)
 - Returned information is loaded into ControlLogix tag
- Communicates with messaging and database systems in their native language and reads and writes to any available ControlLogix variable by tag name.

Includes Store and Forward Data Protection

- Immediately stores data on a 1 GB compact flash drive should a loss of data occur to minimize upstream downtime caused by loss of communications through the network.
- Storage is configurable by message age or available storage.
- Flash drive can be removed and inserted into another module should damage to the xCoupler occur.

Comprehensive Reporting

- Audit Log tracks all system changes made by users.
- Exception Log records all trigger, transport, system warnings and error messages.
- Transaction Log records all messages between the xCoupler and database or messaging systems.
- Data in these logs cannot be altered.

Provides Automatic Notifications

- Store and forward data status changes.
- Warning or error messages.
- Automatic exporting of Audit and Exception logs.
- User specified events.

Maintenance Free

- No programming required when updates are made to ControlLogix connected devices.
- No annual maintenance or licensing fees are required.

WorkBench Utility Provides Easy Setup

- WorkBench setup utility features a simple drag and drop interface to configure projects, data transports and administration rights – no programming skills required.



- Security access tool enables configuration of individual xCoupler user access based on:

- Project Editor
- Administration
- Transport Editor
- Tag Writing

Secure Operation

- The WorkBench utility can establish rights for specific users.
- The xCoupler's operation cannot be altered on the factory floor.
- Not susceptible to PC-type viruses.

Solve a Wide Variety of Plant Floor to Business System Data Exchange Applications

xCoupler modules are available for a wide variety of plant floor equipment and enterprise systems to help develop and deploy critical solutions such as:

- Business intelligence
- Data warehousing
- Enterprise resource planning
- Customer relationship management
- Supply chain management

These modules can also provide storage and retrieval capabilities for:

- Production tracking
- Quality data
- Downtime reporting
- Inventory tracking
- Plant operations reporting
- Plant floor manufacturing ordering and sequencing
- Batch recipes to processing equipment

Adapters and modules are also available to provide electronic mail capabilities using SMTP for:

- Alerts for equipment failure
- Alerts for process running out of pre-defined specifications
- Alerts for low inventory levels
- Alerts for quality problems
- Development of periodic production reports

Adapters with TCP/IP are also available to send data across networks to support:

- Custom business applications
- Alerts to wireless devices such as PDAs
- Custom manufacturing operations
- File systems
- Custom quality systems



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