

Vykon, is a suite of products, powered by the revolutionary Niagara Framework<sup>™</sup>, designed to integrate diverse devices and protocols into a unified, distributed automation system.

Vykon integrates LonWorks<sup>™</sup>, BACnet<sup>™</sup>, MODBUS and Internet standards into a common object model, embedded at the controller level and supported by a standard Web browser interface.

Vykon also includes integrated network management tools to support the design, configuration, installation and maintenance of interoperable networks.

The Vykon Configurable Serial Driver (CSD) makes it possible to create communication interfaces to third-party devices without “writing code” or requiring custom development services from Tridium. All you need is the CSD software and access to, and knowledge of the protocol for the third-party device, to enable an application engineer to create a robust interface.

The Vykon Configurable Serial driver consists of software that is loaded into a JACE (Java Application Control Engine). The application engineer sets configuration parameters, which define the way in which the CSD will communicate with external devices over a serial connection – RS232 port or RS-485 bus.

Protocols that are request/response oriented or that simply feed data unsolicited out of a communications port can be interpreted by the driver. Analog, binary, and multi-state point types are supported for both inputs and outputs. Support for “CRC” and “checksums” is also included.

## Applications

The CSD is appropriate for many types of devices that support communications via a serial port and utilize a simple, defined protocol for data access and command execution. The CSD can be used with RS-232 or RS-485 serial communications and support multiple devices on a bus as long system does not require “deterministic”, timing-critical, messaging (e.g. a token-passing protocol).

For systems that utilize “exception-based communications” (such as alarm dial outs, alarm printer ports, etc.), the CSD can be set up to accept an unsolicited message configuration, with definitions for the end of message, point reference location, and data value/state reference locations.

For systems that allow for request of a single point of data, read/write requests are configured at the point level. For systems that employ a “device read” (or write) request where the entire block of data is read/written at a time, read/write requests are configured at the device level, and an offset configuration at the point level is used to extract data from the device message. Systems producing unsolicited messages are configured in the network configuration.

Commands can also be sent to the device(s) as allowed by the interface in the device. This driver can be configured to monitor and control analog inputs and outputs, binary inputs and outputs, and multi-state inputs and outputs. Once integrated, the data from the integrated points may be linked to standard Niagara objects to provide enhanced functionality such as trending, alarming, graphic data displays, scheduling, and integration with global control applications like demand limiting, etc.

Performance with the CSD depends solely on the protocol, the speed of serial communications, and the response time of the device for requests.

## Configurable Serial Driver Data Sheet

## Features

- Enables communication drivers to be created without writing “code”
- Enables integration of simple “request / response” protocol devices
- Enables commanding of points in the integrated device
- Integrated devices can take advantage of the Niagara Framework objects for trending, alarming, scheduling, and other applications
- Message checksums and CRCs are supported
- ASCII and ASCII Hex protocols are supported
- Analog, binary, and multi-state point types are supported

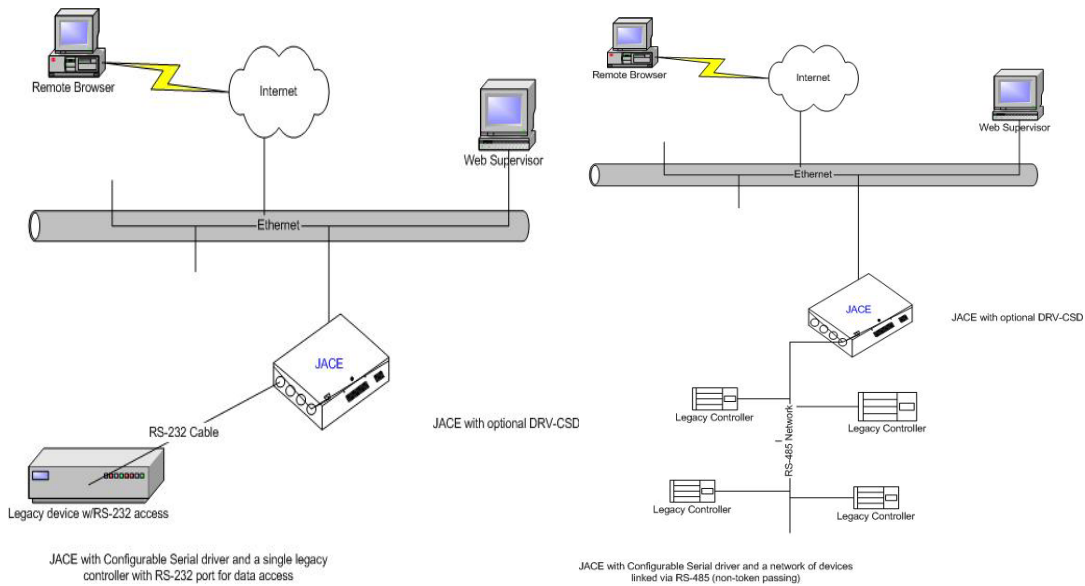
## Ordering Information

### ■ DRV-CSD

One copy of the Configurable Serial driver for a single RS-232 port or RS-485 port.

Order by the model number **DRV-CSD**

## Typical Architecture



## Specifications

- The Configurable Serial Driver (CSD) is suitable only for devices and protocols that do not require deterministic or critical bus message timing; token pass or other time dependent messaging cannot be accomplished with this driver
- One copy of this driver is required for each legacy product integrated or each port utilized for communication
- Tridium cannot assist in learning legacy protocols; it is assumed the user is knowledgeable in the protocol to be implemented; Tridium cannot be held responsible for intellectual property rights of the legacy product manufacturer when the CSD is used by anyone to develop an interface for those products
- The CSD does not support a "learn" mode for the legacy protocols to be integrated
- The CSD is not intended to be used to enable a JACE to replace, or become the primary annunciator, for any fire or security system. Secondary alarm-monitoring usage is acceptable
- The CSD Supports:
  - Analog input / output, binary input / output, and multi-state input / output point types are supported
  - Device status and "Change of State" reporting depending on legacy device capability
  - Input and output point overrides depending on the legacy device capabilities
  - Alarm generation via Vykon points linked to the legacy integrated points
  - Legacy points may be trended using Vykon trend objects, and Vykon schedule objects may be connected to legacy binary points, depending on the capabilities of the legacy device(s)
  - "Poll on Demand" feature to provide fast polling of points that need only to be viewed in Graphics
  - "Poll Always" feature for points that must be monitored for alarms or used in JACE based applications
  - Checksums and Cyclic Redundancy Codes are supported
  - ASCII and ASCII HEX Protocols are supported
  - Poll rates are determined by the legacy system capabilities. In cases with older "terminal mode" interfaces running at 1200 baud, scan rates can be as slow as 10 seconds per point.

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