OMRON

CX-SERVER LITE & OPC

Machine-data visualisation software

OMRON

Cx Server Lite

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Cx Server Lite

» Easy communications with CX-Server LITE

» Visualise data your way

» Open connectivity with CX-Server OPC

realizing

Visualising your machine data made easy

CX-Server LITE and CX-Server OPC allow the development of applications for Omron devices using the most straightforward processes. CX-Server LITE is extremely simple to use, yet it is so feature-rich that complex operations such as uploading and downloading programs to PLCs can be developed quickly and easily.

CX-Server OPC uses OPC Foundation's standard set of interfaces, allowing total freedom in the selection of visualisation software, while being able to rely on Omron's fast and reliable communication protocols. Plug&Play is a reality, ensuring seamless communication between hardware and software from different vendors and enabling efficient integration across even the most complex process.

CX-Server LITE

Simple as ABC so you can forget about code

CX-Server LITE is an easy-to-use yet highly advanced software development package that enables you to build your own applications to read and write data to Omron devices, without the need to write a single line of computer code. You can build applications for both simple and complex operations, all the time using straightforward and intuitive graphical ActiveX controls. An automation interface allows interfacing to any third party ActiveX control. CX-Server Lite comes complete with sample applications for use with Microsoft Excel, Visual Basic and .NET.

Everything you need, in one package

• Read and write to memory
• Read device mode
• Clock read and write
• Program download and upload
• Send raw FINS protocol message

Simple, straightforward, step-by-step

A – Drag 'n' drop CX-Server LITE

Re-use symbols from CX-Programmer

B – Drag 'n' drop a graphical component

Link to your symbols

C – Run your project

That's it, no further settings required!
CX-Server LITE automatically connects to your data

As advanced as $e = mc^2$
Where you can forget about protocols

CX-Server LITE is packed with functionality, but is so easy
to use that you can develop your own complex applications
really quickly, to support all Omron devices and networks.
You can upload and download the PLC program from your own
software, and easily communicate with Omron PLCs, Trajexia,
CelciuX or ZS sensors over any Omron supported network.
Best of all, there's no need to waste time writing code and
developing protocols or network drivers: you just embed the
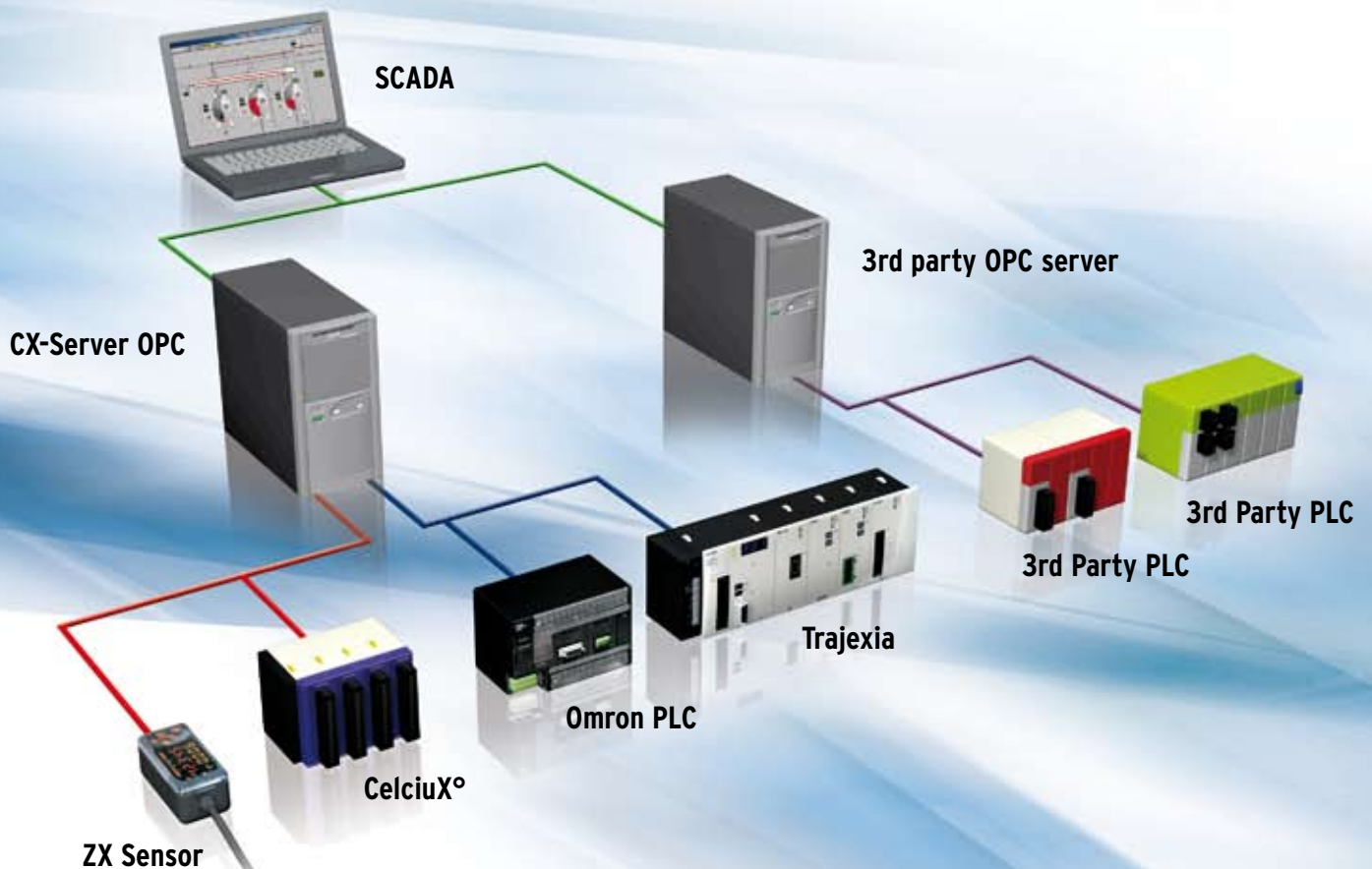.NET object in your software. Simple as that.

» VB » C#
» C/C++

CX-Server OPC

Communicate and control – easily

CX-Server OPC gives you total freedom in the selection of visualization software, while ensuring total connectivity and interoperability between devices, whatever the manufacturer, whatever the hardware, whatever the software. The system comes complete with a set of graphical ActiveX controls to make it easy to work intuitively in Excel or Visual Basic: a toolbar is added to Microsoft Excel so that these components can be simply dragged into a work sheet. Yet for all this simplicity, CX-Server OPC has the sophistication to allow the design of systems to control everything from a device to a complete manufacturing plant.

Adaptable to every change in your environment

• Increased flexibility, reduced costs, complete freedom

• Eliminate the barriers between different software and hardware

• Graphical components included to simplify development

• Fully compliant with the OPC Data Access specification v1.0 and v2.0

• Plug&Play connectivity is here and now

SCADA

3rd party OPC server

CX-Server OPC

3rd Party PLC

3rd Party PLC

Trajexia

Omron PLC

CelciuX°

ZX Sensor

Building a multivendor network in your machine is easy with OPC technology.

Reliability where it matters

How it works...

CX-Server OPC has all the functionality needed to switch automatically within a system of redundant PLCs and networks, allowing software to see the configuration as a single PLC. This makes it ideal for applications where in-built redundancy protects against malfunction or damage. This redundancy is further enhanced by PLC function blocks that enable two PLCs to decide which is active and which is on standby – with no intervention from the user. A sample function-block included in CX-Server OPC can be added to a PLC program to deliver the redundancy feature. Each PLC has two network connections which are tried in turn before fail-over happens.

CX-Server OPC automatically switches communications without data loss, making it ideal for applications requiring redundancy, such as the marine industry.

About OPC

OPC is a standard published by the OPC Foundation. It enables suppliers of industrial-control hardware to produce drivers (called OPC Servers) and visualization software vendors such as SCADA to produce applications (called OPC Clients) that use a standard methodology for data exchange. In turn, this allows hardware and software from different vendors to be used together.

Available Products

Indicator		Description
CX-LITE-EV☐	CD	CX-Server LITE single licence*
CX-OPC-EV☐	CD	CX-Server OPC single licence*

* multi licence sheets are available on special request. Contact your Omron sales
 representative for more information.

General

Supported Devices	PLCs	CS1H / CS1G / CS1H-H / CS1G-H / CS1G-H Ver.2.0 / CS1G-H Ver.3.0 / CS1G-H Ver.4.0 / CS1D-H Ver.1.2 / CS1D-S Ver.2.0
		CJ1H-H-R / CJ1G / CJ1H-Hw / CJ1G-H / CJ1M / CP1H / CP1L / NSJ Ver.3.0 / NSJ*-*-G5D, M3D
		C**H / CV500 / C**K / CV1000 / C**P / CV2000 / C20 / CVM1 / C500 / CVM1-V2
		C200H / C200HS / CS1G / C1000H / CS1H / C2000H / SRM1-V2 / C200HE / C200HG / C200HX / C200HE-Z / C200HG-Z / C200HX-Z
		CQM1 / CQM1H / CPM1 (CPM1A) / CPM2*/CPM2*-S* SRM1
	Trajexia – Motion controller	TJ1 - MC04 TJ1 - MC16
	CelciuX° – Temperature controllers	EJ1N-TC2 EJ1N-TC4 EJ1N-HFU advanced unit
	ZX – Sensor	ZX-LDA ZX-LDA-N ZX-EDA ZX-TDA
Supported Networks (when supported by the device)		Ethernet ProfiNet Ethernet/IP Controller Link Serial (SYSWAY, Toolbus) USB Note that there are no longer a serial only versions – all networks are supported by v2.0 or CX-Server Lite and CX-Server OPC
Number of Tags		› 5000 on › 50 PLCs These are only guidelines, the limitations of tags and PLCs are defined by the application's use of local system resources and your bandwidth requirements.
System Requirements		› 600MHz Intel or compatible processor 256 Mbytes RAM 100 Mbytes of available hard disk space 1024x768 XGA display CX-Server Lite and CX-Server OPC will work with most Industrial PCs (IPCs) running XP Embedded including the Omron DyaloX IPC.
Operating System and Environments		CX-Server Lite and CX-Server OPC support the following operating systems: Windows Vista Business or Enterprise Edition XP Professional XP Embedded Windows 2000
ActiveX Containers		The .Net or ActiveX components included with CX-Server Lite and the OPC Client included with CX-Server OPC are recommended for use within: Microsoft Excel Microsoft Visual Basic 6.0 Microsoft Visual Studio .Net 2003 Microsoft Visual Studio .Net 2005 ActiveX and .Net components can be used in a large variety of 3rd party containers depending on the requirements of the user.

CX-Server LITE

Advanced functionality available to software developers using CX-Server Lite	Read and write values or memory areas in your device.
	Receive or stop updates of a specific value on your device at a specified regular interval.
	Perform operations when CX-Server Lite receives data from the device.
	Open or Close the connection with each device to reduce network bandwidth use.
	Change the run mode of your PLC.
	Check if there is a suspected problem with the communications by checking the 'quality'
	Check the status of your device
	Change the settings for a device
	Upload or download programs and function blocks to your PLC.
	Get and set the current PLC clock time.
	Send raw FINS messages to the device – allowing you to perform complex operations on device using FINs.
Supported Data types	Variant Integer Boolean Float String
Support for Arrays	Yes

CX-Server OPC

OPC Data Types Supported	Boolean Byte Char Double Float Long Short String Unsigned long Unsigned short
Support for Arrays	Yes
CX-Server OPC compatibility	Support for OPC data access v1.0 or v2.0
	CX-Server OPC will work with any OPC compliant client supporting v1.0 or v2.0 of OPC data access.
	CX-Server OPC has been tested and is currently used with many leading SCADA packages
Support for Redundant PLCs	Any PLC supporting function blocks and Ethernet can have an identical partner configured
	CJ series CS series CP series
Support for Redundant Networks	CX-Server OPC supports Ethernet networks for redundant configurations.
	Each network for the each device can be configured with a secondary network Together with the device redundancy this can allow up to 4 levels of redundancy.
	PLCs configured as a redundant pair will both write to the device network so the device network must be able to handle this. ProfiNet is the recommended network for this.
Functionality available to software developers using CX-Server OPC client software	Read and write OPC items synchronously
	Receive or stop updates of a specific OPC item at a specified regular interval.
	Perform operations when CX-Server OPC receives and updated item.