

Because there is sophisticated scene over there.

What's OPC

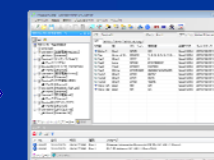
Interface specification for communicating with applications

OPC (Ole for Process Control) is standard interface specification for communication between applications in manufacturing industry system. OPC has an architecture of server and client type. OPC Server communicates with field devices such as PLC. OPC Client provides various functions basing on data of equipments acquired from OPC Server. The OPC define these interface specifications. You will reduce the cost of dependence between a production line and IT system by developing OPC system.

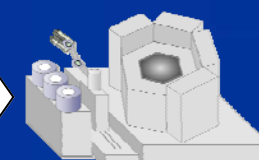
OPC Client



OPC Server



Equipment



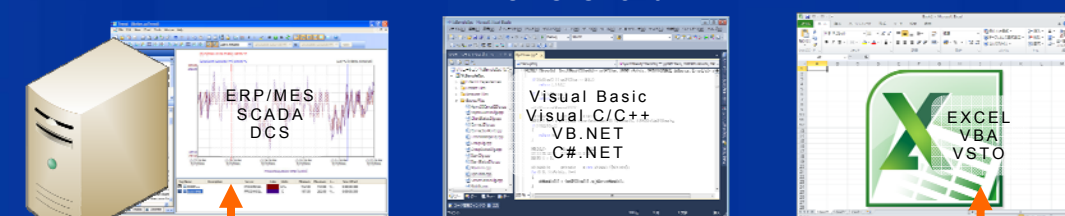
OPC has various interface such as OPC DA for real time communication, OPC HDA for historical data access, OPC AE for Alarm & Event. The specification of OPC is standardized by OPC foundation. Mitsubishi, Omron, Yokogawa, Rockwell, and Siemens, etc more than 350 Japanese, American and European PLC vendors and software package vendors participate in it.

What's DeviceXPlorer

OPC Server providing abundant connectivity

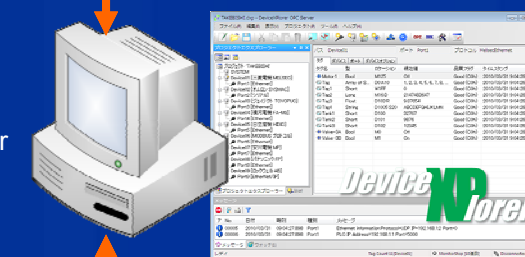
DeviceXPlorer is a OPC Server that communicates with all kinds of fields devices such as PLC and measuring instruments. DeviceXPlorer corresponds with all specification of OPC DA, Ethernet, Serial and original networks, so that it can be useful in any scenes in operating factory.

OPC Client



OPC Interface

DeviceXPlorer
OPC Server



Ethernet/RS232C



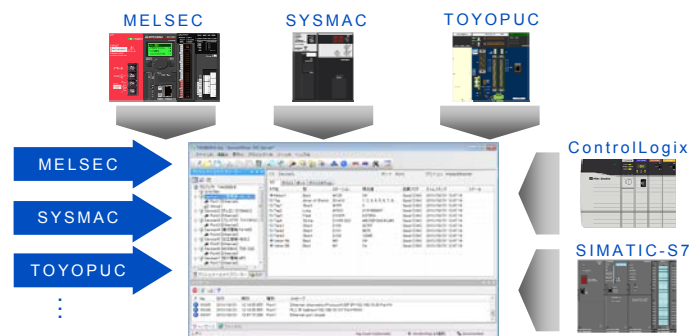
In the evolving facilities or changing scene,
we pursue Operational Excellence.

In developing and evolving manufacturing industry, OPC assume a core of information-oriented. DeviceXPlorer which utilizes its benefit to the full and connects the enterprise top and site. DeviceXPlorer is evolving with PLCs which become more highly functional and speed up. TAKEBISHI contemplates the future in production site and offers the most advanced and appropriate solution.

Features

Connectivity - Multiple PLC

Unified all PLC into single namespace !

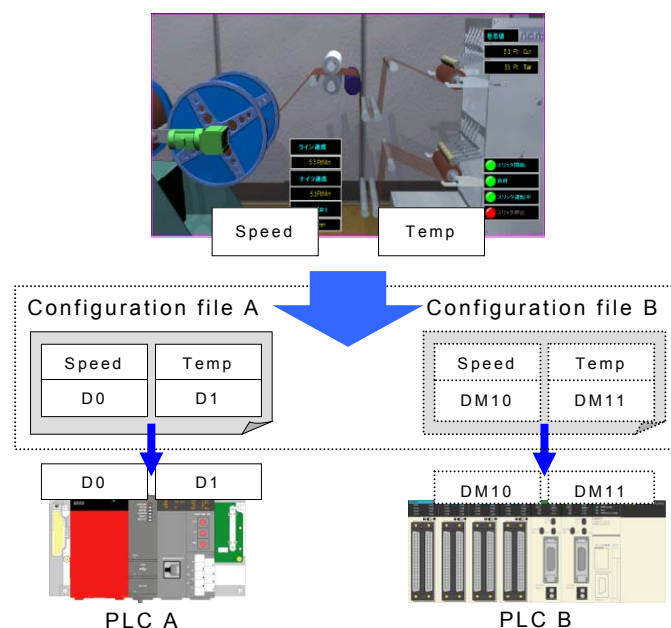


It used each kinds of OPC Server when there were some kinds of PLC in the factory. DeviceXPlorer DXP2007 series integrated all existing products and communicate with multiple PLCs. So, OPC client only access single namespace and then it can access all PLCs.

Static tag and Dynamic tag

Standardization by using alias name

DeviceXPlorer supports Static tag and Dynamic tag. Tags that are defined in advance are called "Static tag" and tags that are not defined in advance are called "Dynamic tags." Using Static tag allows client to access PLC without caring physical devices. Even if PLC vendor has changed, system can be reorganized without physical tags name. So, flexible system can be built with benefit of OPC. Dynamic tags access physical address of PLC directly, so that engineers can save time to specify tags.



Multiple Language

English, Japanese, Chinese

You will switch locale to keep communication by only selecting the target language on Option dialog of Tool menu. So you can select suitable user interface for any engineer operating OPC Server. It supports Japanese, English, Chinese (Simplified Chinese.)

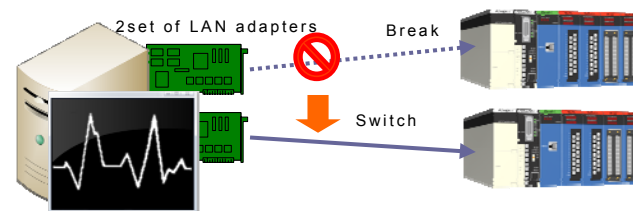


(Windows language pack is required)

Redundant communication

Assigning duplex ports to a device

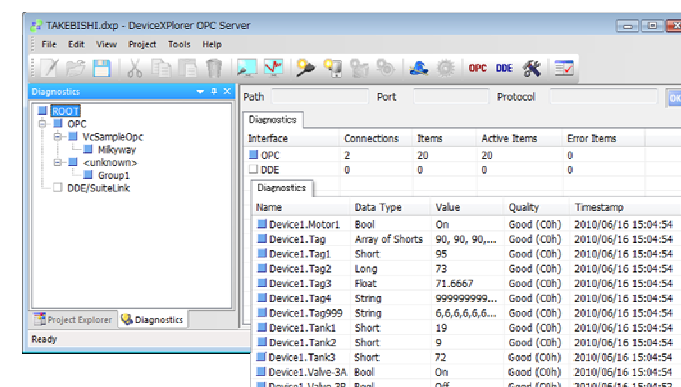
It is possible to construct redundant communication to assign duplex communication ports to a device. When the trouble such as cable breaking occurs in one communication route, it switches to another communication route and continues working. OPC Client doesn't have to care that communication route has been switched.



RAS diagnosis

Finding cause of trouble

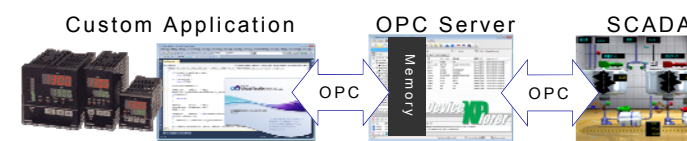
DeviceXPlorer can diagnose status of connections, configured parameter, and tag information and so on for each OPC interface, DDE/SuiteLink interface. RAS diagnosis enables to trace easily of source of unexpected troubles and it shortens the down time.



Shared Memory

Sharing between OPC Clients

You will share the application data between OPC Clients through shared memory in DeviceXPlorer. By developing application which communicates to field device, it also works as a custom OPC Server.



DeviceXPlorer supplies the shared memory by default.

SCADA Ready

Compatible with all of SCADA

We testified DeviceXPlorer communicate with following OPC Client software such as SCADA/DCS/MES.

Vendor	Product
Wonderware	InTouch, Historian, IAS
GE Intelligent Platforms	Cimplicity, iFix
Rockwell Automation	RSView
Siemens	WinCC
ICONICS	Genesis, GraphWorX
National Instruments	LabVIEW
Citect	CitectSCADA
JT Engineering	JoyWatcher
Yamatake (azbil)	Harmonas, PREXION, DGPL2
Yokogawa	ASTMAC, ExaPilot

OPC Server x64 Edition

Compatible with 64bit OS

DeviceXPlorer products bundles 64bit OPC Server which has high performance on Win64 system.

Following connectivity are not support on Windows 64bit operating system.

- DDE/SuiteLink communication
- MELSEC EZSocket communication
- MELSEC PC board communication
- SYSMAC FinsGateway communication
- TOYOPUC CPU port communication
- FANUC FOCAS1/2 communication



Windows 7, Windows Server 2008

Latest Operating System

DeviceXPlorer supports Windows 7 and Vista. But following connectivity are depends on each PLC status.

- MELSEC EZSocket communication
- MELSEC PC board communication
- SYSMAC FinsGateway communication
- TOYOPUC CPU port communication
- FANUC FOCAS1/2 communication

OPC DA 3.0

Provide the latest OPC technology

Our DeviceXPlorer corresponds to OPCDA3.0. Therefore, even if the OPC client is developed with VB/VC etc, some functions added with OPCDA3.0 such as MaxAge and KeepAlive can be used.

OPC Compliance Test

Passing all certifications

DeviceXPlorer is confirmed excellent connectivity between global OPC packages at the OPC Interoperability Workshop. And also DeviceXPlorer corresponds to OPCDA2.0/3.0 compliance certifications.



New model PLC

Mitsubishi, Rockwell AB, Siemens

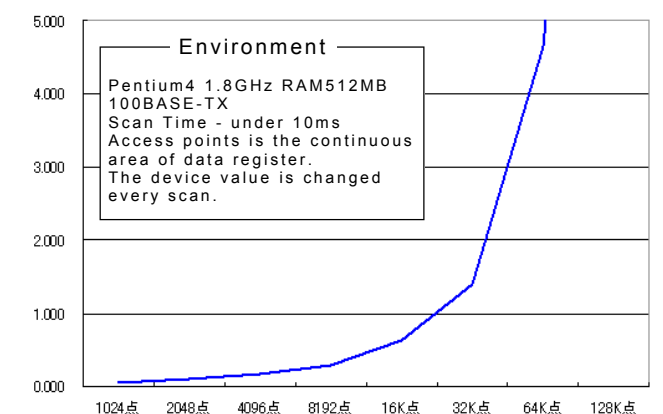
You will access to the newest models of ControlLogix of Rockwell, Simatic-S7 of Siemens, MELSEC of Mitsubishi so we are always expanding device connectivity.



Communication performance

10,000-20,000 points per second

Command is optimized for each PLC protocol, so high performance is achieved. In case of Ethernet communication of MELSEC-Q series, it can access to 20,000 points of register per second at the maximum.



Standard communication performance. (MELSEC-Q series Ethernet communication)

MITSUBISHI MELSEC

Support the new and the legacy MELSEC !



MELSEC-Q is main series. It has Universal Model, Redundant CPU, Process CPU and more.



MELSEC-L series is popular model attached Motion, DIO and field network.



MELSEC-FX series is used as a sensor controller in small system.



MELSEC-QnA series looks like A series on the outside, but software architecture is Q series.



MELSEC-A series is discontinued lines but it is still working in many plants.

Transient Communication

DeviceXPlorer supports to access to target station on MELSECNET/H or CC-Link/IE through Ethernet connecting station.

NETWORK

Network No.

PC No.

Unit Station No.

Unit I/O No. ☐ None ☐ 1 ☐ 2 ☐ 3 ☐ 4

Multiple CPU System

Redundancy CPU System

☐ None ☐ Control ☐ Standby

Control sliding packet

When you use Q4E protocol, it is embedded a sequence number in each request message. And when timeout error is occurred, it protects to happen a lag between request message and reply message.

Tags Device Port Device Option

Connection Test

CPU TYPE

☒ Q ☐ L ☐ FX ☐ QnA ☐ A

☐ Use Q4E Protocol

☐ Use Block Access Command

Multiple CPU and Redundant CPU

You will access to each device memory in Multiple CPU System. And you can build system smoothly so CPU refresh parameter setting is not required. Also, DeviceXPlorer supports to access the data with specifying Control/Standby in redundancy system.

Direct access to SP Unit

DeviceXPlorer supply the way to access buffer memory in each Special Unit. For example, select QD75 as Special unit and then accessing the tag named "G800", you will get the forward present value.

Tags Device Group Port Device Option

☒ Accessing to Intelligent Function Module

Unit No.

Unit Type

QD75P1/P2/P4, QD75D1/D2/D4, QD75M1/M2/M4 Positioning mo
Unit I/O Offset(0) Buffer Offset(10000)

Random Access Buffer

When you access the random access buffer over Ethernet, you can get more fast data exchange not depends on the scan time.

Stand-alone Motion Q170M

DeviceXPlorer supports stand-alone motion controller called Q170M CPU. So you will access to both motion control system and discrete control system.



Batch access for many values

You can get many values at a once by separating tags with slash symbol. For example, when you access 4 point of Device1.D0/D1000/ZR200/M0 at a once, you can get values of 100, 9876, -32768, 1.

Tag	Value	Time	Quality
Device1.D0/D1000/ZR200/M0	100,9876,-32768,1	03/18/10 19:51:11	0xC0
Device1.D0	100	03/18/10 19:50:17	0xC0
Device1.D1000	9876	03/18/10 19:50:48	0xC0
Device1.ZR200	-32768	03/18/10 19:50:58	0xC0
Device1.M0	On	03/18/10 19:51:04	0xC0

OMRON SYSMAC

SYSMAC-CJ2

DeviceXPlorer supports CJ2 series which control with high performance and CP series which deliver high cost performance.

CPU TYPE

☒ SYSMAC-CJ/CS/CP ☐ SYSMAC-CV ☐ SYSMAC-C

SYSMAC-CJ2 SYSMAC-CP SYSMAC-CS

FinsGateway 2003

When you use FinsGateway 2003, DeviceXPlorer enables to access Communication Link Board, SYSMAC Link Board and also CS1D redundant control system.



(It is not compatible SysmacGateway.)

FINS Network

You can access to target station on FINS network by specifying Network number, Node number, and Unit number.

PLC

Network No.

Node No.

Unit No.

PC

Network No.

Node No.

Unit No.

FINS/TCP Communication

You can use FINS/TCP protocol for CJ. DeviceXPlorer communicate with node number published from SYSMAC at established connection.

Expanded data memory (EM)

You can access EM by designating a bank number and device number. For example, you designate "EM1: 9999" so that you access an address 9999 of bank1.

JTEKT TOYOPUC

TOYOPUC-PC10 Series

DeviceXPlorer supports small programmable controller called PC10 series which has high speed calculation CPU, large memory and many communicative useful functions.

CPU TYPE

☒ PC10 ☐ PC3JG ☐ PC3J ☐ PC2

☐ Use Random Read Command



Layer Link Access

DeviceXPlorer supports Layer Link access from ME-NET, FL-net, and HPC Link through connecting station. And it accesses by designating a program number, Link number and Port number of bridge station.

NETWORK

Number of Layers

☐ None ☐ 2 ☒ 3 ☐ 4

Layer Link

Link Settings

Program No.	Link No.	Station No.
2: PC2 Compatible	1	3
3: PC3J/PC10-Program1	2	4
4: PC2 Compatible	1	0

Expanded Buffer Register

DeviceXPlorer is available to access to Extension Buffer register (EB) of PC10/PC3.

General Scale Simulation

Tag Name

☐ Auto Format

Description

Program No.

Device Type PC3JG Extended Buffer Register

Device No. Byte Position

Random Access Command

It is possible to get/poke un-continuous device area at a once by using Random Access command. So, it delivers high throughput on even large system.

YOKOGAWA FA-M3

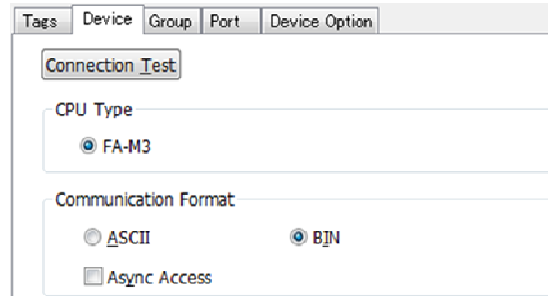
Buffer Access Memory

You can access to buffer memory in the special module (analog input/output, temperature control, or PID control etc...) by designating unit number and slot number of target module. Please use an Ethernet module on and after version Rev.03.00, when you access to the buffer memory (a special module data.)



FA-M3 Unsynchronized Command

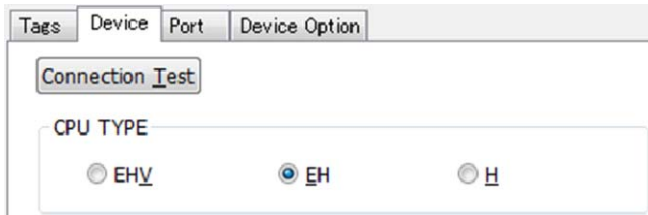
When you use F3LE01-5T, you can use the unsynchronized command which is not affected scan time. The command make it possible to get 502 points as the register value (normally: 251 points) at a once. (Data synchronism is guaranteed by 16 bit.)



HITACHI HIDIC

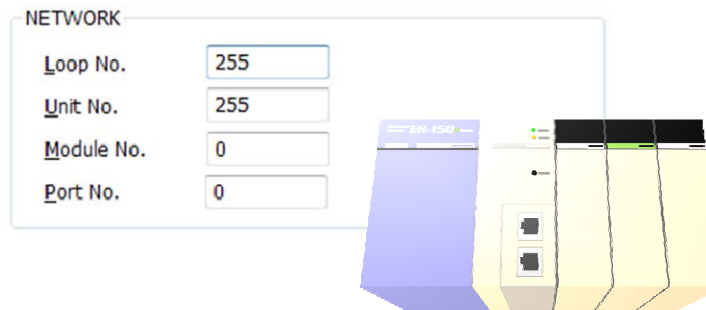
Task Code Version 5

DeviceXPlorer supports the HIDIC Task Code communication version5, so you can access efficiently to enhance CPU such as EH150 series, H-4010 Series. It supports a binary code communication with TCP/IP and UDP/IP.



LUMP Address

You can access to other station through CPU link by designating a LUMP address (loop number, unit number, module number and port number.)



FUJI MICREX

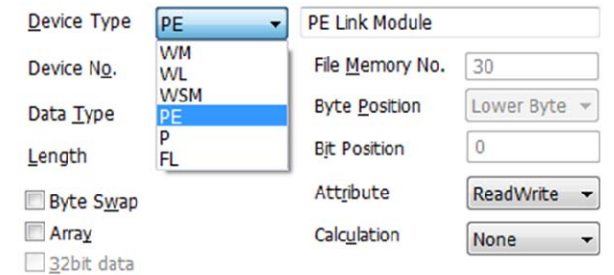
MICREX-SX & MICREX-F

DeviceXPlorer supports SPH3000 series which has high speed and high confidence, SPH2000 series as board type, and MICREX-F series. It provides a wide connectivity from latest facility to legacy facility.



P Link / PE Link Module

You can access to broad cast area in P Link module and PE Link module. Also, DeviceXPlorer supports common memory of FL-net module.



PANASONIC FP

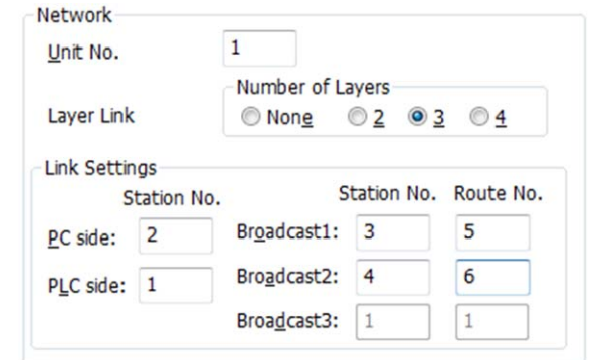
FP-X & FP2

DeviceXPlorer communicates to FP-X series and FP2/FP2SH series across Ethernet. You can access to network station on computer link by designating an unit number of PLC.



Layer Access

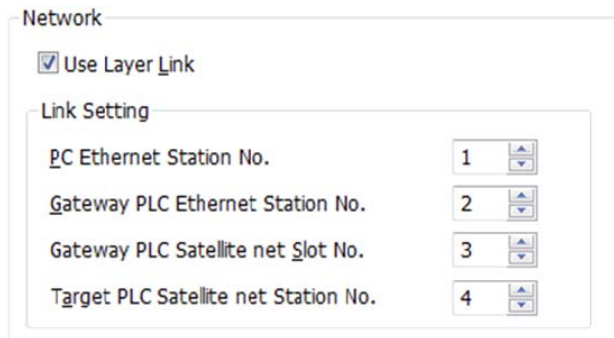
With using FP2/FP2SH series, you can access the layer network by designating a station address of gateway.



SHARP SATELLITE

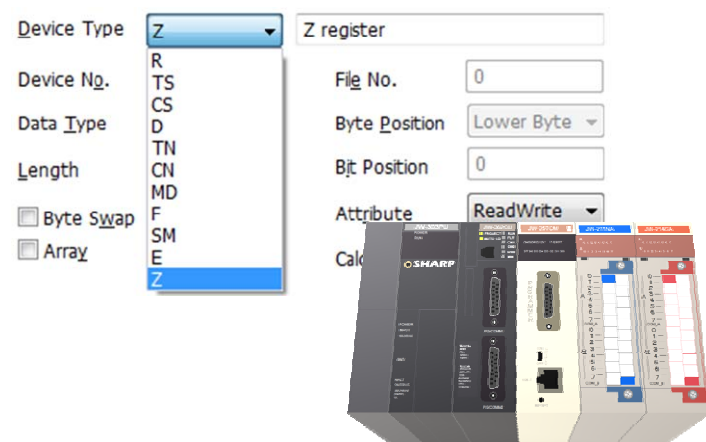
Support for Satellite Net

You can access to any station on Satellite Net through Ethernet connecting station by designating the port number and slot number.



Type of Bit and Byte and Word

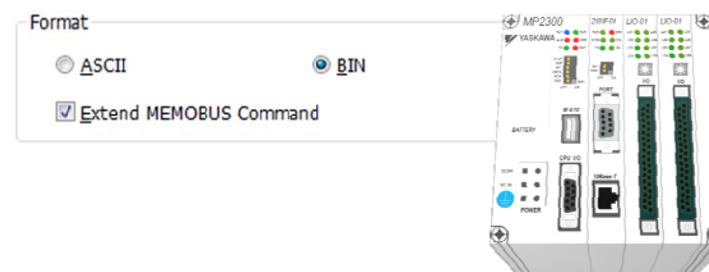
You can access some devices of Bit type, byte type, and word type.



YASUKAWA MP

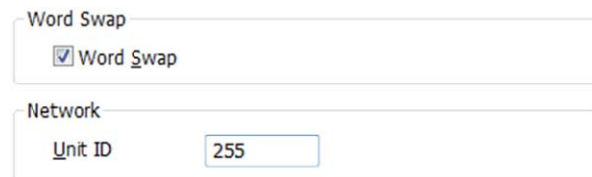
Expanded MEMOBUS

The Ethernet module of MP2000 series is available to use the expanded MEMOBUS command. It is expanded access point of batch reading/write commands and supports random write command to retention register. You will get more high speed communication by using the expanded MEMOBUS command.



Network Access / Word Swap

You can access to network station by designating slave ID of target Ethernet module. when you access data type as LONG type, LONGLONG type, FLOAT type, and DOUBLE type, you can swap upper word and lower word.



KEYENCE KV

KV-5000 & KV-LE20V

You can access to internal Ethernet port of KV-5000 Series. DeviceXplorer supports ASCII code on computer link command, and you will select TCP/IP and UDP/IP. You can communicate with high performance so KV-LE20V is expanded to a maximum of 1000 words per request.

Full-supported Devices

DeviceXplorer supports all of KV devices such as data memory, control memory, and expanded memory etc.

ROCKWELL AB

Symbolic Segment

You can define symbolic segment of global tag as OPC Item. For example, the tag defined "Struct1.Bool1" in ControlLogix is accessed item ID as "Device1.Struct1.Bool1."

名前	値	強制マスク	スタイル	Data Type
STRUCT1	{...}	{...}		TEST_STRUCT
STRUCT1.BOOL1	1		Decimal	BOOL
STRUCT1.BOOLARRAY1	{...}	{...}	Decimal	BOOL[32]

Tags	Device	Port	Device Option
Name	Data Type	Location	
Struct1.Bool1	Long	Struct1.Bool1	
Struct1.BoolArray1	Array of Bools	Struct1.BoolArray1	

EtherNet/IP(CIP Service)

You can access to the CPU supported EtherNet/IP by designated CIP port number (backplane is fixed to "1") and CIP link address.

It is available to set the based data type in CPU.

SIEMENS SIMATIC-S7

S7 Protocol

You can access to Ethernet module of S7-300 Series and S7-400 Series because DeviceXplorer supports S7 protocol (TCP/IP). Also DeviceXplorer supports to access internal Ethernet port of latest Series called S7-1200.

(S5 protocol is not supported.)

Unnecessary CP Card

It is not necessary CP card and SIMATIC NET library on the PC. OPC Server communicate with PLC via native Ethernet.

FANUC PMC

FOCAS1 / FOCAS2

You can get PMC data by using FOCAS1 or FOCAS2 for designated IP address and port number.

(FOCAS1 or FOCAS2 is required.)

Access to device of PMC

You can access device information including internal relay, counter, and data table etc by designating PMC type in each NC.

MODBUS

MODBUS/TCP

DeviceXplorer supports Ethernet communication (MODBUS/TCP) and Serial communication (MODBUS/ASCII, MODBUS/RTU). It is available to swap in the case of LONG, LONGLONG, FLOAT, and DOUBLE.

MODBUS Expanded Area

DeviceXplorer supports Input status, Output coil, Input register, and Extended register. It is available to access a normal address and extended address of 10000 address and more. And You can connect to network station by designating MODBUS slave ID.

OPCDA

Third Party OPC Server

DeviceXplorer wraps third party OPC Server and provide OPC interface adapted OPC certification. You will use OPC Server which does not compatible with OPC full-interface in the system.

Synchronous / Asynchronous

DeviceXplorer supports 4 interfaces in the case of reading from OPC Server, such as Synchronous Read (device/cache read), Asynchronous Read, Advise, and Item I/O Read.

If OPC Server does not support the write I/F, you can choose it to "NONE."

Module List

Vendor	Series	CPU	Ethernet	Serial	Others
MITSUBISHI	MELSEC-Q	Q26UD(E)H Q25(H/PH/PRH) Q20UD(E)H Q13UD(E)H Q12(H/PH/PRH) Q10UD(E)H Q06(H/PH/UDH/UDEH) Q04UD(E)H Q03UD(E) Q02(U/H/PH) Q01(U) Q00(U)(J)	QJ71E71-100 QJ71E71-B2 QJ71E71-B5 CPU Ethernet port	QJ71C24N QJ71C24N-R2 QJ71C24N-R4 CPU USB port CPU Serial port	Q81BD-J71LP21-25 Q81BD-J61BT11 Q80BD-J71GP21(S)-SX Q80BD-J71LP21(S)-25 Q80BD-J71LP21G Q80BD-J71BR11 Q80BD-J61BT11N GX-Simulator ^{*1}
		Q170M	CPU Ethernet port		
	MELSEC-L	L26CPU-BT L02CPU	CPU Ethernet port	LJ71C24 LJ71C24-R2 CPU USB port	
	MELSEC-FX	FX3U(C) FX3G FX2N(C) FX1(S/N/NC) FX0(S/N)	FX3U-ENET(-L)	FXxx-232-BD FXxx-485-BD FXxx-232ADP FXxx-485ADP CPU Serial port	
	MELSEC-QnA	Q4A(R) Q3A Q2A(S/SH)(-S1)	A(1S)J71QE71(N)-T A(1S)J71QE71(N)-B2 A(1S)J71QE71(N)-B5	AJ71QC24(N)(-R2/-R4) A1SJ71QC24(N)(-R2) CPU Serial port	
DXPMEL-U	MELSEC-A	A4U A3(N/A/U) A2(N/A/U)(S/SH)(-S1) A1(N)(S/SH)	AJ71E71(-S3) A(1S)J71E71(N)-T A(1S)J71E71(N)-B2 A(1S)J71E71(N)-B5	AJ71UC24 ^{*2} AJ71C24-S8 A1SJ71UC24 CPU Serial port	
OMRON	SYSMAC-CJ	CJ2H CJ1G CJ1H CJ1M	CJ1W-ETN11/21 CJ1W-EIP21 ^{*3} CPU Ethernet port	CJ1W-SCU42/32/22 CJ1W-SCU41/31(-V1) CJ1W-SCU21(-V1) CPU Serial port	Controller Link, etc ^{*4}
	SYSMAC-CS	CS1G CS1H CS1D	CS1W-ETN21/11/01 CS1W-EIP21 ^{*3} CS1D-ETN21D	CS1W-SCU31/21(-V1) CS1W-SCB41/21(-V1) CPU Serial port	
	SYSMAC-CP	CP1E CP1L CP1H	CP1W-CIF41 CJ1W-ETN21 CJ1W-EIP21 ^{*3}	CP1W-CIF12/11/01 CJ1W-SCU41/31(-V1) CJ1W-SCU21(-V1)	
	SYSMAC-CV	CVM1(D) CV2000 CV1000 CV500	CV500-ETN01	CV500-LK201 CPU Serial port	
	SYSMAC-C	C200H CQM1(H) CPM1/2 C2000H/C1000H		C500-LK203/201 C500-LK103/101 C200-LK202/201/101 C120-LK202/201/101 CPU Serial port	
DXPSYS-U	SYSMAC-One NSJ	NSJ	NSJW-ETN21 CPU Ethernet port		
JTEKT ^{*5}	TOYOPUC-PC10	PC10G PC10GE	EN-I/F(-T) FL/ET-net-5 FL/ET-T-V2(H) CPU Ethernet port	CPU Serial port	
	TOYOPUC-PC3J	PC3J(L/D/M/NM/NF) MULTI-GW	EN-I/F(-T) FL/ET-net-5 FL/ET-T-V2(H)	CPU Serial port	
DXPTYP-U	TOYOPUC-PC2J	PC2J(C/S/R) PC2J16(R/H/PR/HR)	EN-I/F(-T) FL/ET-net-5 FL/ET-T-V2(H)	CPU Serial port	
YOKOGAWA	FA-M3(R)	F3SP67-6S F3SP66-4S F3SP59-7S F3SP58-6H/S F3SP53-4H/S F3SP38-6N/S F3SP35-5N F3SP28-3S/N F3SP25-2N F3SP21-0N F3SP08-0P F3SP05-0P	F3LE12-0T F3LE11-0T F3LE01-5T	F3LC12-1F F3LC11-2F/1F F3LC11-2N/1N	
DXPFAM-U					
HITACHI	HIDIC EH150-EHV	EHV-CPU128/64/32/16	EH-ETH		
	HIDIC EH150	EH-CPU548/516/316A EH-CPU208A/104A	EH-ETH		
DXPHID-U	HIDIC-H	H-4010 H-2002 H-1002 H-702 H-302 H-252	LAN-ETH(2)		

Vendor	Series	CPU	Ethernet	Serial	Others
SHARP	SATELLITE-JW	JW300 JW100H JW70H JW50H JW30H/20H	JW-255CM JW-25TCM JW-51CM		
DXPSTL-U	J-Board	Z-300 Z-500	Z339J		
FUJI	MICREX-SX	SPH3000 SPH300 SPH300EX SPH2000 SPH200	NP1L-ET1 NP1L-ET2 CPU Ethernet port	NP1L-RS1 NP1L-RS2 NP1L-RS3 NP1L-RS4 NP1L-RS5	
DXPMRX-U	MICREX-F	F150S F140S F120S F120H F80H F70 F55	FFU170B NC1L-ET1	FFU120B NC1L-RS2 NC1L-RS4 NV1L-RS2	
PANASONIC	FP-X	FP-X C60R/T/P(D) FP-X C30R/T/P(D) FP-X C14R/T/P(D)	FP-X COM5		
DXPPFP-U	FP2	FP2 FP2SH	FP2 ET-LAN		
YASUKAWA ^{*6}	MP2000	MP2400 MP2310 MP2300(S) MP2200	2181F-01 2181F-02 CPU Ethernet port		
DXPYMP-U	MP900	MP920	2181FA		
KEYENCE	KV	KV-5000 KV-3000 KV-1000 KV-700	KV-LE20V KV-LE20A KV-LE20		
DXPKKV-U					
ROCKWELL ^{*7}	AB ControlLogix	1756	1756-ENBT		
	AB CompactLogix	1769-L35E 1769-L32E 1768	1768-ENBT CPU Ethernet port		
	AB FlexLogix	1794	1788-ENBT		
DXPALB-U	AB DriveLogix	5730/5720	1788-ENBT		
SIEMENS	SIMATIC-S7	S7-1200 S7-400 S7-300	CP443-1 CP343-1 CPU Ethernet port		
DXPSMT-U					
FANUC ^{*8}	FANUC PMC	320i 310i 300i 210 160i-L 160i-W,180i-W 160i-P,180i-P 160i-B,180i-B,210i-B 160i-A,180i-A,210i-A 160 180 150i 150 0i-A 0i-B	CPU Ethernet port PCMCIA Ethernet card		
DXPGFC-U	FANUC Power Mate	PMi-H PMi-D	CPU Ethernet port PCMCIA Ethernet card		
(General)	MODBUS	MODBUS devices HIOKI 2300 SmartSite M-SYSTEM R3 Series etc	MODBUS/TCP	MODBUS/RTU MODBUS/ASCII	
	OPCDA	(OPC DA Server) ^{*9}			OPC DA2.05A/3.0
	(Shared Memory)	(MEMORY MAPED FILE)			

^{*1} Unsupported GX-Simulator2.
^{*2} Support communication protocol of MELSEC-A Series as type1 and type4.
^{*3} Support Fins protocol. Unsupported EtherNet/IP communication.
^{*4} FinsGateway is required for Controller Link communication. For Ethernet and Serial communication, FinsGateway is not required.
^{*5} JTEKT "communication library"(TJA-2067) is required for CPU internal port communication.
^{*6} Support Expanded MEMOBUS protocol.
^{*7} Support EtherNet/IP (CIP service) communication.
^{*8} FUNUC "FOCAS1" or "FOCAS2" are required.
^{*9} Available to connect to SCADA or third party's OPC Server through OPC DA interface.