

Model Selection Table for Network Instrumentation Module model NX- _ _ _

Controller Module

Process controller
(4-channel or 2-channel)



Model NX-D15/25/35 (4-channel)

Basic model No.	Type	Ring connection	Wiring method	Control loops	Output type	Option	Addition	Description
NX-	D15 D25 D35	N R	T S	4	T C D	0 1 2 3		Network Instrumentation Module
								Controller module ±0.3 % FS, 500 ms sampling, 4 loops *1
								Controller module ±0.3 % FS, 200 ms sampling, 4 loops
								Controller module ±0.1 % FS, 100 ms sampling, 4 loops
								Non-ring connection
								Ring connection
								Screw terminal block
								Screwless terminal block
								4 loops
								Transistor output (4 points)
								Analog current output (4 points)
								Analog voltage output (4 points)
							0 None	
							1 Current transformer input (4 points)	
							2 Digital output (4 points)	
							3 Digital input (4 points)	
							0 None	
							D Inspection certificate	
							Y Supports traceability certification	
							T Tropicalization treatment	
							K Anti-sulfide treatment	
							B Tropicalization treatment + inspection certificate	
							L Anti-sulfide treatment + inspection certificate	

*1. Model NX-D15 cannot be used for multi-loop cooperative control and communication between modules.

Model NX-D35 (2-channel)

Basic model No.	Type	Ring connection	Wiring method	Control loops	Output type	Option	Addition	Description
NX-	D35	N R	T S	2	T C D	0 1 2 3 4		Network Instrumentation Module
								Controller module ±0.1 % FS, 100 ms sampling, 2 loops
								Non-ring connection
								Ring connection
								Screw terminal block
								Screwless terminal block
								2 loops
								Transistor output (4 points)
								Analog current output (4 points)
								Analog voltage output (4 points)
								Transistor output (position proportional control) *1
								Isolated analog current output
							Isolated analog voltage output	
							0 None	
							1 Current transformer input (4 points)	
							2 Digital output (4 points)	
							3 Digital input (4 points)	
							4 Digital outputs (2 points, position proportional control) *1*2	
							0 None	
							D Inspection certificate	
							Y Supports traceability certification	
							T Tropicalization treatment	
							K Anti-sulfide treatment	
							B Tropicalization treatment + inspection certificate	
							L Anti-sulfide treatment + inspection certificate	

*1. Connect an external auxiliary relay. The motor is driven via the auxiliary relay.
*2. If the output type is M, option 4 cannot be selected.

Digital Input Module

Digital and pulse input module
(16 inputs)



Basic model No.	Type	Ring connection	Wiring method	Channels	Option	Addition	Description	
NX-	DX1 DX2	N R	T S	16	0		Network Instrumentation Module	
							Digital input (shared by + common and - common)	
							Pulse input (shared by + common and - common) *1	
								Non-ring connection
								Ring connection
								Screw terminal block
								Screwless terminal block
								16 channels
								0 None
								D Inspection certificate
								T Tropicalization treatment
								K Anti-sulfide treatment
							B Tropicalization treatment + inspection certificate	
							L Anti-sulfide treatment + inspection certificate	

*1. Channels 1-8 : 5 kHz. Channels 9-16 : 100 Hz.

Digital Output Module

Digital output module
(16 outputs)



Basic model No.	Type	Ring connection	Wiring method	Channels	Option	Addition	Description	
NX-	DY1 DY2	N R	T S	16	0		Network Instrumentation Module	
							Digital output (Transistor output sink type)	
							Digital output (Transistor output source type)	
								Non-ring connection
								Ring connection
								Screw terminal block
								Screwless terminal block
								16 channels
								0 None
								D Inspection certificate
								T Tropicalization treatment
								K Anti-sulfide treatment
							B Tropicalization treatment + inspection certificate	
							L Anti-sulfide treatment + inspection certificate	

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Network Instrumentation Module

Smart Device Gateway* Model NX-SVG



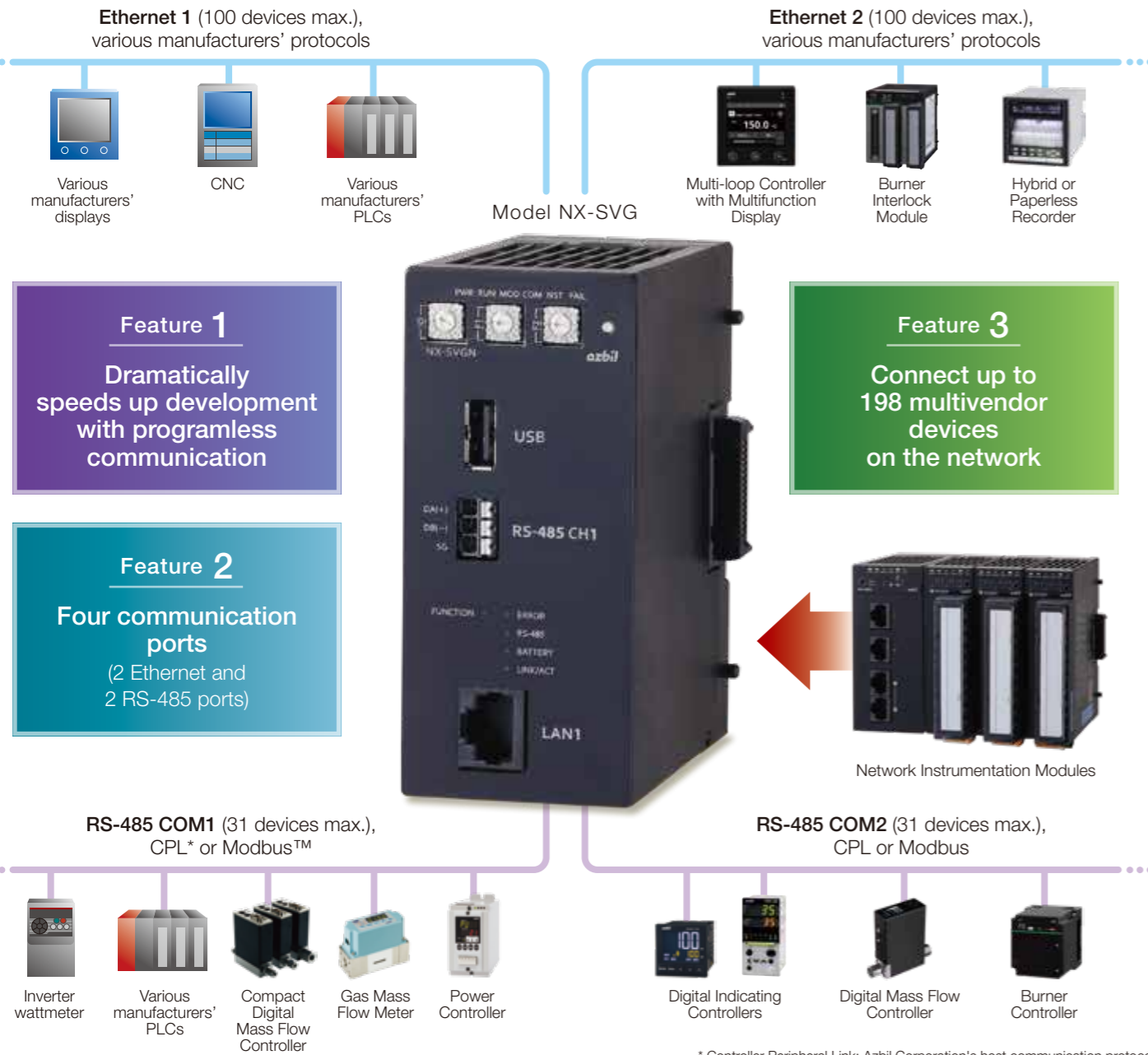
TIME IS MONEY!

* A communication gateway that allows the interchange of information between various kinds of control device without programming, enabling smarter development work.

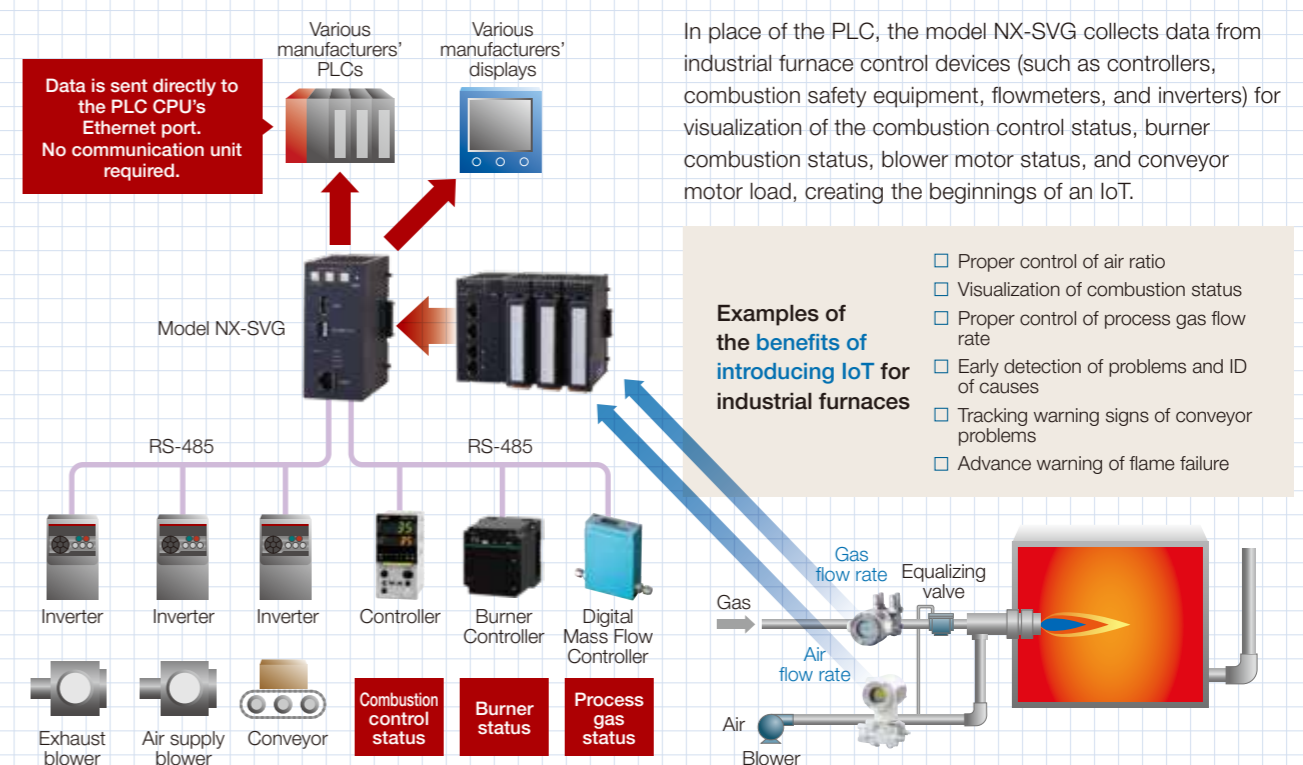
Azbil Corporation

The Network Instrumentation Module Smart Device Gateway model NX-SVG is a **multi-vendor IoT gateway** that links data between devices connected by Ethernet and RS-485 **without the need to create communication programs.**

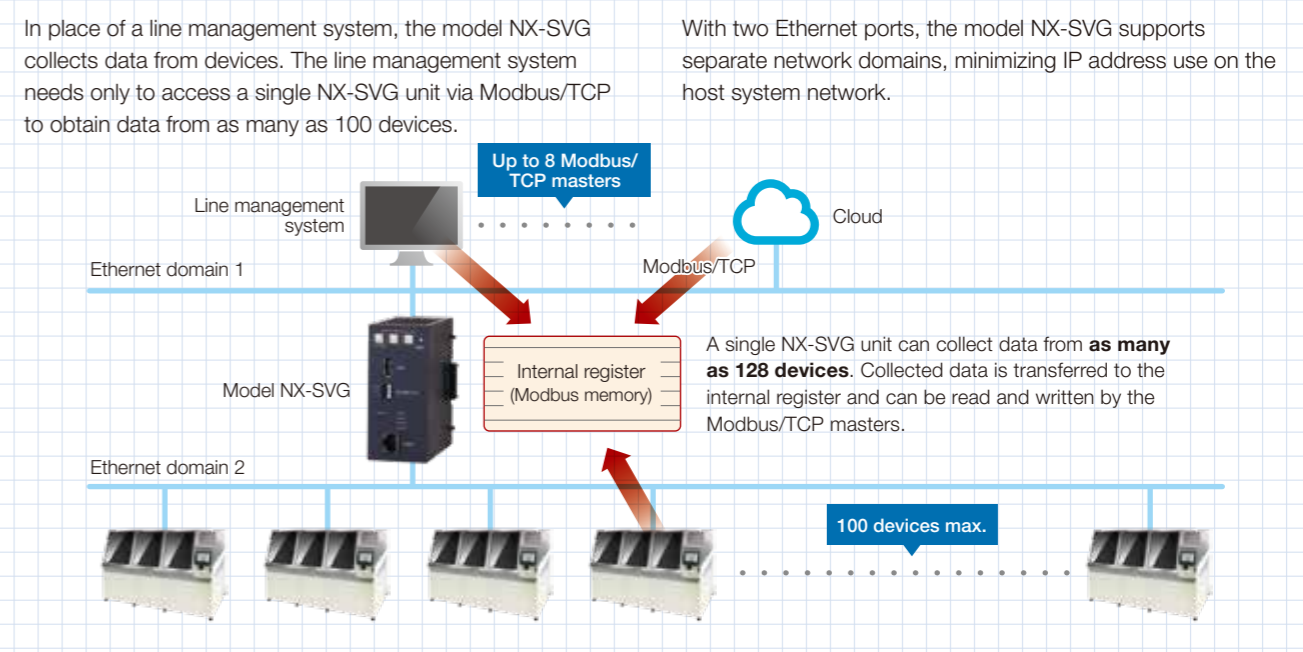
It **significantly enhances the data collection capability** of devices (such as PLC and IPC controllers) and helps integrate IoT devices.



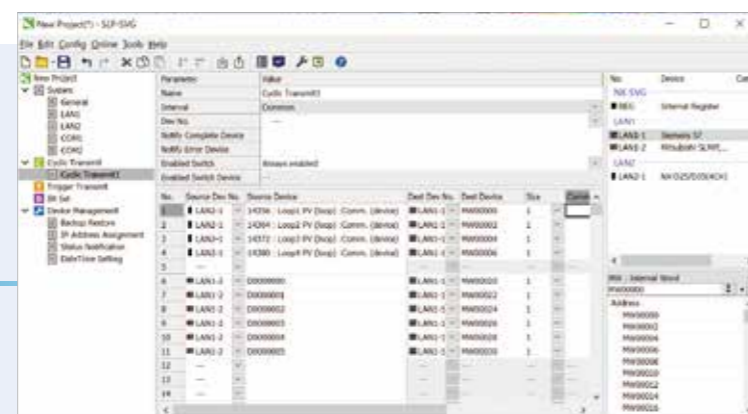
USE CASE 1 For status visualization, collect data from field devices without using the PLC



USE CASE 2 100 x improvement in ability to collect data from devices



Setup tool greatly **accelerates** IoT integration development



Model SLP-SVG

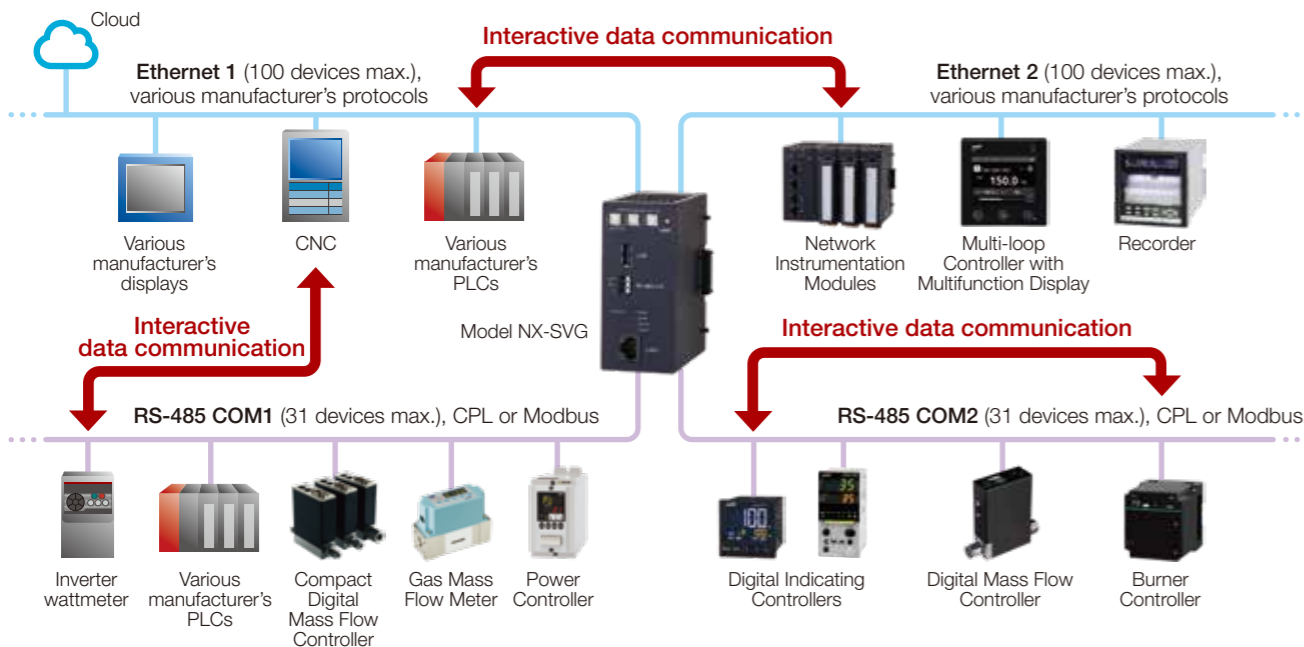
Multi-vendor communication (master communication) / Modbus / TCP server

The model NX-SVG easily handles data transfer between devices, whether the connection methods are Ethernet-Ethernet, Ethernet-RS-485, or RS-485-RS-485, without the need to create communication programs.

With the Modbus/TCP server function, data can be displayed on or written to devices from a programmable display, cloud service, etc., without using a PLC.

Compatible with multi-vendor communication protocols

- Ethernet communication**
 - Azbil CPL/TCP master
 - SLMF master (MC protocol 3E)
 - Yokogawa Electric FA-M3 PC link master
 - Omron FINS TCP/UDP master
 - JTEKT Corp. TOYOPUC computer link master
 - Siemens AG S7 communication master
 - Modbus/TCP master
 - Modbus/TCP server
- RS-485 communication**
 - Azbil CPL master
 - Modbus/RTU master

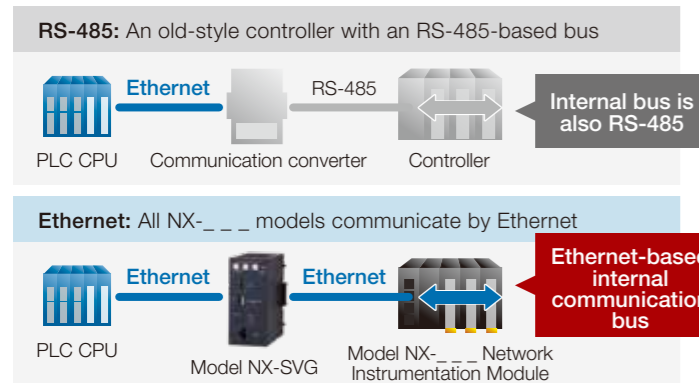


Ethernet high-speed large-capacity data link

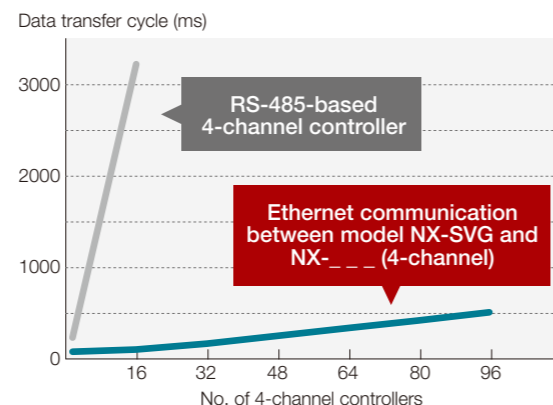
The Network Instrumentation Module models NX-___, have an Ethernet bus to facilitate internal communication between modules. This achieves unprecedented high-speed large-capacity data link communication between PLCs and the modules, all via Ethernet. In a conventional controller with an

RS-485-based internal communication bus, data communications must wait for their turn. By contrast, the modules' Ethernet-based internal communication bus allows parallel communication, and its communication performance is overwhelmingly superior to that of conventional controllers.

Comparison of configuration between an old-style RS-485-based controller and the Ethernet-based Network Instrumentation Module



Comparison of communication cycles between models NX-___ and RS-485-based controller



Simple setup of data links just by device addressing

Data transfer can be easily configured by specifying the source and destination devices. No PLC ladder program is needed for

communication. Moreover, fixed values (such as decimal "1234") can be written to devices to set them up.

No.	Source Dev No.	Source Device	Dest Dev No.	Dest Device	Sta	Comment
1	LAN2-2	14352 : Loop1 READY/RUN :Comm. (device)	LAN1-1	M00000.1	1	Read RUN / READY state
2	LAN2-2	14356 : Loop1 PV (loop) :Comm. (device)	LAN1-1	MW00008	1	Read PV1
3	LAN2-2	14357 : Loop1 SP :Comm. (device)	LAN1-1	MW00010	1	Read SP1
4	LAN2-2	14358 : Loop1 NV :Comm. (device)	LAN1-1	MW00012	1	Read MV1
5	---	---	---	---	---	---
6	LAN1-1	MW00010	LAN2-2	14593 : Loop1 LSP :Comm. (operation)	1	Write LSP1
7	---	---	---	---	---	---
8	REG	K1000	LAN2-2	04326 : Event1 main setting	1	Upper limit value 1000 write
9	---	---	---	---	---	---
10	---	---	---	---	---	---
11	---	---	---	---	---	---

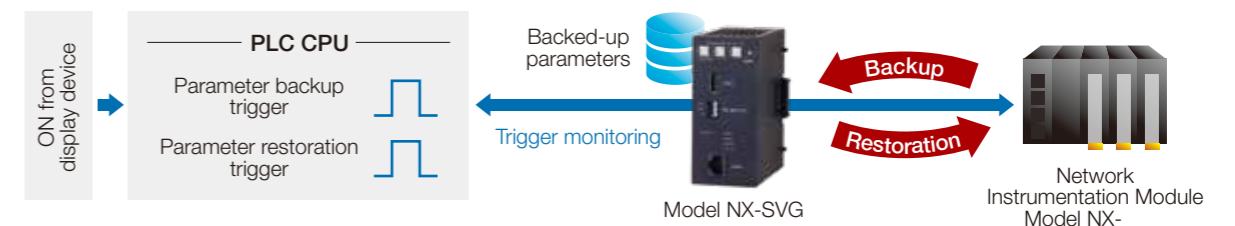
[Specify the source device] [Specify the destination device] [Enter comments]

Backup and restoration functions make the management of NX-___ models easy

When the backup trigger signal from the PLC is turned on, the model NX-SVG automatically reads setup parameters from the other modules and backs them up internally. When the

restoration trigger signal from the PLC is turned on, the model NX-SVG restores the backed-up setup parameters to the modules. Backing up parameters is that easy.

Easy parameter backup by turning a trigger ON

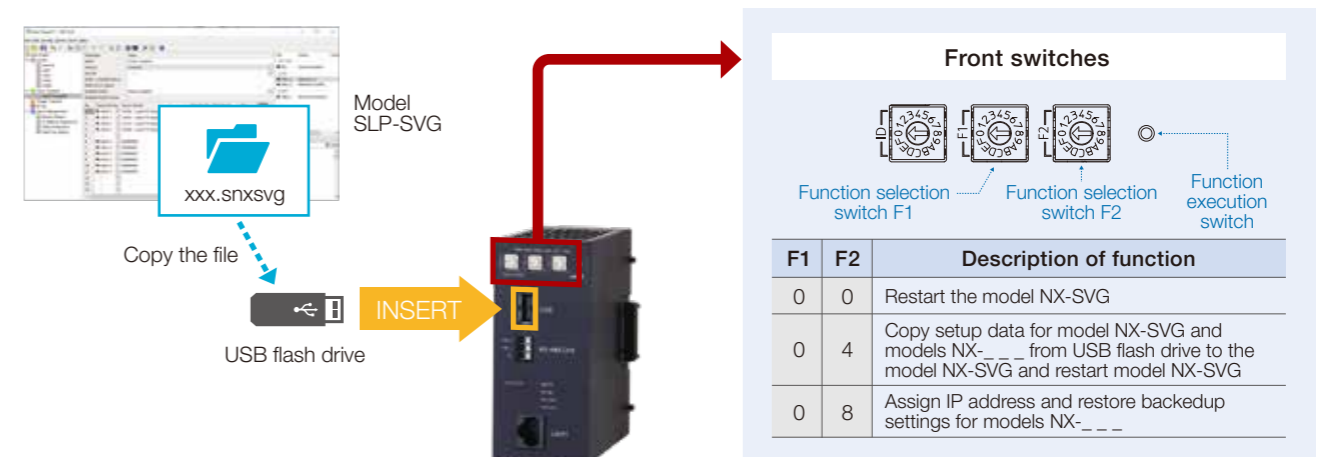


Ethernet high-speed large-capacity data link

Writing setup data from a USB flash drive (on-site setup without setup tools)

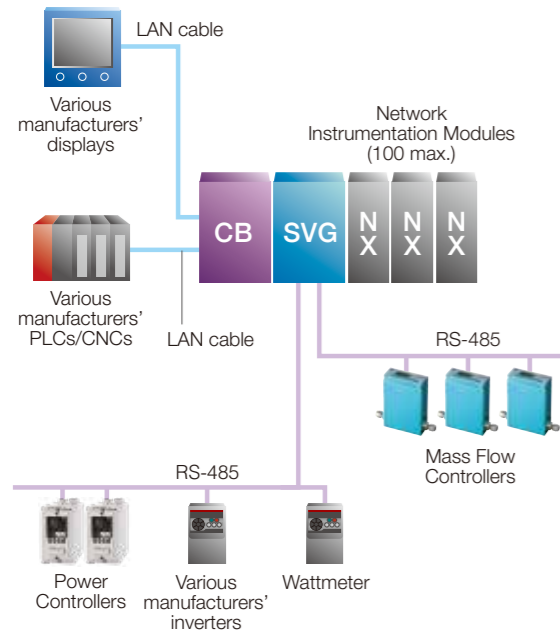
The model NX-SVG and other Network Instrumentation Modules can be set up using only a USB flash drive. No setup tools are needed. To set parameters for the model NX-SVG and models NX-___, just copy the setup data (xxx.snxsug or xxx.nxsug)

generated by the model SLP-SVG to the USB flash drive, insert the drive into the model NX-SVG's USB port, and select setup writing with the function selection switches on the front of the unit.

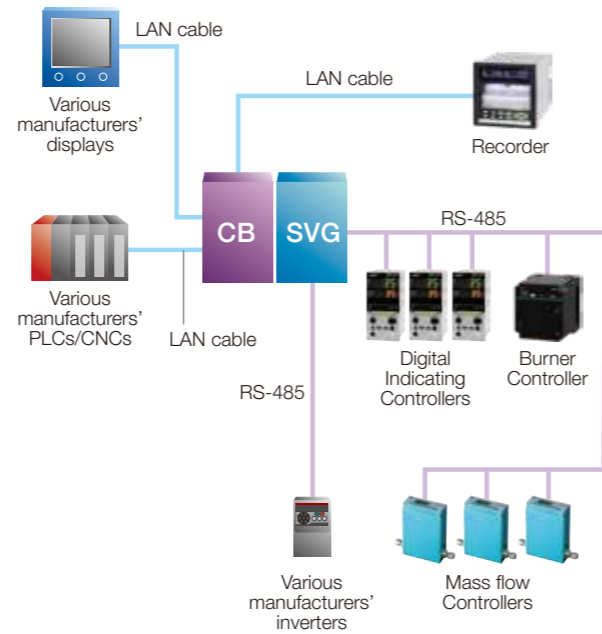


Sample System Configurations

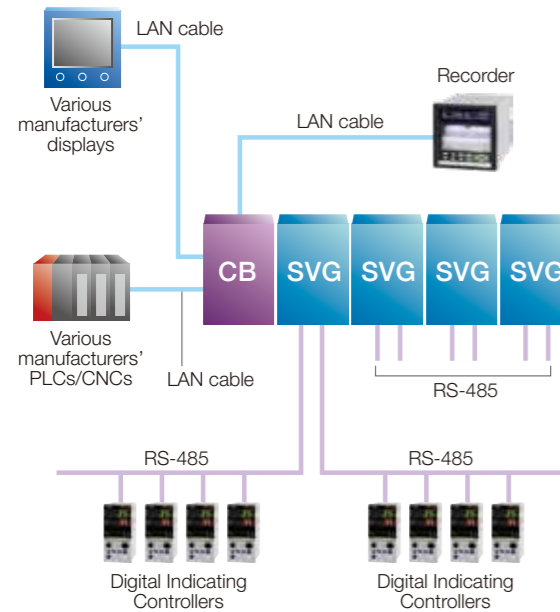
Mixed NX-___ models and RS-485 devices



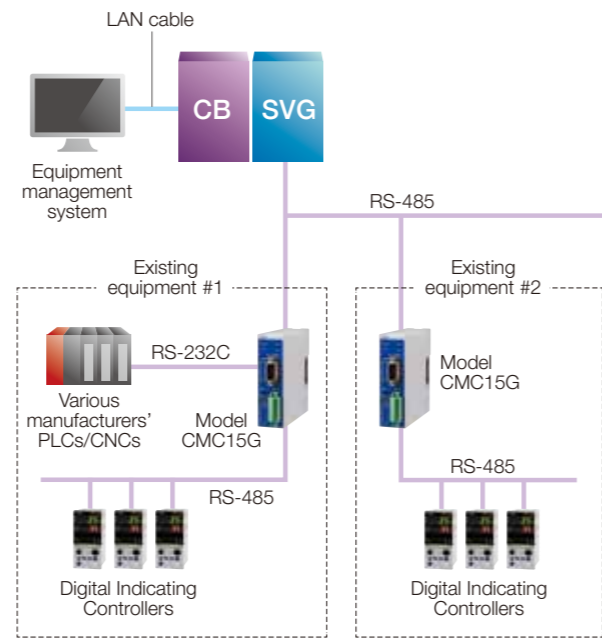
Ethernet-connected RS-485 devices



Use of multiple model NX-SVG units for more COM ports



Device data collection by existing model CMC15G units



SVG Network Instrumentation Module Smart Device Gateway, model NX-SVG

CB Communication Box, model NX-CB2

NX Controller Module (model NX-D_ _), Digital Input Module (model NX-DX_ _), Digital Output Module (model NX-DY_ _), Supervisor Module (model NX-S_ _)

Basic specifications of the Network Instrumentation Module Smart Device Gateway model NX-SVG

Interface

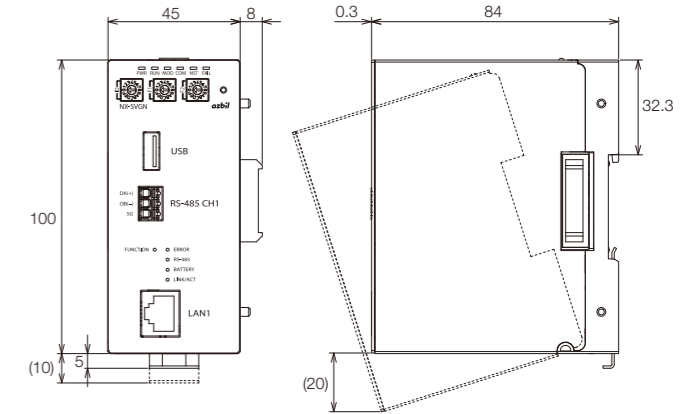


Functional specifications

Item	Specifications
Communication protocol	<ul style="list-style-type: none"> Ethernet communication <ul style="list-style-type: none"> Azbil CPL/TCP master SLMP master (MC protocol/3E frame) Yokogawa Electric FA-M3 PC link master Omron FINS TCP/UDP master JTEKT TOYOPUC computer link master Siemens AG S7 communication master Modbus/TCP master Modbus/TCP server RS-485 communication <ul style="list-style-type: none"> Azbil CPL master Modbus/RTU master
No. of connected devices	<ul style="list-style-type: none"> Master communication (Ethernet) <ul style="list-style-type: none"> LAN 1: 100 devices max.; LAN 2: 100 devices max. LAN 1 + LAN 2: 128 devices max. Master communication (RS-485) <ul style="list-style-type: none"> Channel 1: 31 devices max.; channel 2: 31 devices max.; CH1 + CH2: 62 devices max. Server communication (Ethernet) <ul style="list-style-type: none"> Modbus/TCP server: 8 connections max.
Cyclic transmission	<ul style="list-style-type: none"> No. of configuration sheets: 500 max. No. of lines processed per sheet: 500 max. No. of lines processed for all sheets: 10,000 max. Transmission cycle: 100 ms to 60 s
Triggered transmission	<ul style="list-style-type: none"> Trigger conditions (OFF-ON or ON-OFF) No. of configuration sheets: 500 max. No. of lines processed per sheet: 500 max. No. of lines processed for all sheets: 10,000 max.
Bit setting	<ul style="list-style-type: none"> No. of configuration sheets: 500 max. No. of lines processed per sheet: 500 max. No. of lines processed for all sheets: 1000 max. Trigger monitoring cycle: 100 ms to 1 s
Model NX-D_ _ and NX-S_ _ functions	<ul style="list-style-type: none"> Automatic IP address assignment, parameter backup, and parameter restoration

External dimensions

Unit: mm



General specifications

Item	Specifications
Operating conditions, etc.	<ul style="list-style-type: none"> Ambient temperature: 0-50 °C Allowable operating voltage: 21.6-26.4 V DC Mounting method: DIN rail Weight: 300 g or less
LAN specifications	<ul style="list-style-type: none"> No. of ports: 2 (LAN 1 and LAN 2) Communication path type: IEEE 802.3, 10BASE-T/100BASE-TX Connector: RJ-45 Cable: 100BASE-TX
RS-485 specifications	<ul style="list-style-type: none"> No. of ports: 2 (RS-485 channels 1 and 2) Maximum cable length: 500 m No. of wires: 3 Terminating resistor: External (150 Ω, 1/2 W min.) Transmission speeds: 4800, 9600, 19200, 38400, 57600, or 115200 bps Data length: 7 or 8 bits Stop bits: 1 or 2 Parity bit: Even, odd, or none

System requirements for Smart Loader Package (model SLP-SVG)

Item	Specifications
OS	<ul style="list-style-type: none"> Windows 7 (32- or 64-bit) Windows 8/8.1 (32- or 64-bit) Windows 10 (32- or 64-bit)
Language	Japanese, English
CPU	800 MHz or more
Memory	512 MB RAM or more
Hard disk space	128 MB of space or more
Display	Super VGA (800x600) or higher resolution
CD-ROM drive	Required for installation from the CD supplied with the product
Keyboard	Required
Mouse	Required
LAN port	Required for connection to the main unit

Azbil Corporation devices

Product category	Series type	Model No.	Ethernet		RS-485	
			○	○	○	○
Network Instrumentation Module	4- or 2-channel digital controller	NX-D15/NX-D25/NX-D35	○	○	○	○
	16 Dis, 16 pulse inputs	NX-DX1/NX-DX2	○	○	○	○
	16 DOs (SSR output)	NX-DY1/NX-DY2	○	○	○	○
	Supervisor module	NX-S01/NX-S11/NX-S12/NX-S21	○	○	○	○
Digital controller	Multi-loop Controller with Multifunction Display	C7G	○	○	○	○
	Digital Indicating Controller	C15/C25/C26/C35/C36/C45/C46, C1M	---	○	○	○
	Distributed Multi-channel Controller	DMC10	---	○	○	○
	Programmable Controller	DCP31/DCP32/DCP551/DCP552	---	○	○	○
Power controller	Single-phase Power Controller	PU21_	---	○	○	○
	Three-phase Power Controller	PU23_	---	○	○	○
Mass flow controller	Digital Mass Flow Controller	MQV_ _ _ _ /F4Q_ _ _ _	---	○	○	○
	Compact Digital Mass Flow Controller	F4H	---	○	○	○
	Panel-mount Mass Flow Controller	MPC_ _ _ _	---	○	○	○
Mass flowmeter	High-flow Mass Flowmeter	CML_ _ _ /CMF_ _ _	---	○	○	○
	Gas Mass Flowmeter	CMS_ _ _ /CMF_ _ _	---	○	○	○
	Micro Flow Vortex Gas Flowmeter	MVF_ _ _	---	○	○	○
Combustion safety equipment	Burner Interlock Module	FX-L90	○	---	○	---
		FX-L80	---	○	---	○
	Burner Controller for Batch Operation	BC-R15/BC-R25/BC-R35/AUR255	---	○	---	○
	Dynamic Self-Checking Burner Controller	AUR450C/AUR455	---	○	---	○
	Advanced Ultraviolet Burner Controller	AUR350C	---	○	---	○
Recorder	Paperless Recorder	ARF100/ARF200 (connectable to network modules)	○	---	○	---
	Hybrid Recorder	SR100/SR200	○	---	○	---
	Communication converter	Communication Controller	CMC15G	---	○	---

PLC

Manufacturer	Series	CPU unit model No.	Ethernet		RS-485	
			CPU Ethernet port	Optional Ethernet unit	CPU Internal port	Optional unit
Mitsubishi Electric Corporation	MELSEC iQ-R	R00CPU/R01CPU/R02CPU/R04CPU/R08CPU/R16CPU/R32CPU/R120CPU/R04EN/R08EN/R16EN/R32EN/R120EN/R08PCPU/R16PCPU/R32PCPU/R120PCPU/R08PSFCPU-SET/R16PSFCPU-SET/R32PSFCPU-SET/R120PSFCPU-SET	○	RJ71EN71	---	---
	MELSEC Q	Q00CPU/Q00JCPU/Q01CPU/Q02CPU/Q02H/Q06H/Q12H/Q25H/Q01U/Q02U/Q03UD/Q04UDH/Q06UDH/Q10UDH/Q13UDH/Q20UDH/Q26UDH	---	QJ71E71-100 QJ71MT91	---	QJ71MB91
		Q03UDE Q04UDEH/Q06UDEH/Q10UDEH/Q13UDEH/Q20UDEH/Q26UDEH/Q50UDEH/Q100UDEH/Q03UDV/Q04UDV/Q06UDV/Q13UDV/Q26UDV	○	QJ71E71-100 QJ71MT91	---	QJ71MB91
	MELSEC L	L02CPU/L02CPU-P/L06CPU/L06CPU-P/L26CPU/L26CPU-P/L26CPU-BT/L26CPU-PBT	○	LJ71E71-100	---	---
		L02SCPU/L02SCPU-P	---	LJ71E71-100	---	---
	MELSEC iQ-F	FX5U/FX5UC	○	---	---	---
MELSEC F	FX3U/FX3UC/FX3G/FX3GC/FX3S	---	---	---	FX3U-485ADP-MB	
Keyence Corporation	KV building block type	KV-7500/KV-8000	○	KV-EP21V KV-LE21V KV-XLE02	---	KV-XL402 KV-L21V
		KV-7300	---	KV-EP21V KV-LE21V KV-XLE02	---	KV-XL402 KV-L21V
		KV-5500/KV-5000	○	KV-EP21V KV-LE21V	---	KV-L21V
	KV-3000	---	KV-LE21V	---	KV-L21V	
KV package type	KV-NANO	---	KV-NC1EP	---	KV-N11L KV-NC20L	
Yokogawa Electric Corporation	FA-M3 FA-M3V	F3SP25-2N/F3SP28-3N/F3SP35-5N F3SP38-6N/F3SP53-4H/F3SP58-6H	---	F3LE11-0T	---	---
		F3SP08-0P/F3SP21-0N/F3SP22-0S/F3SP28-*S F3SP38-6S/F3SP53-4S/F3SP58-6S/F3SP59-7S	---	F3LE01-1T F3LE11-1T F3LE12-1T	---	---
	STARDOM autonomous controller	FCN-500/FCN-RTU Modbus communication portfolio	○	---	---	NFLR121
		TOYOPUC-NANO TOYOPUC-PC10G TOYOPUC-PC10P	○	TUU-6949 THU-6404	○	TUU-6954 TCU-6903
JTEKT Corporation	TOYOPUC PC3J TOYOPUC Plus	PC3JX(TCC-6901)/PC3JX-D(TCC-6902) Plus CPU(TCC-6740)	---	---	○	---
		Plus EFR Plus EFR2 Plus EX Plus EX2 Plus 2P-EFR	○	---	---	Plus EX Plus EX2 Plus 2P-EFR Plus PN2-EX

Manufacturer	Series	CPU unit model No.	Ethernet		RS-485	
			CPU Ethernet port	Optional Ethernet unit	CPU Internal port	Optional unit
Siemens AG	S7-200 smart	CR40/CR60 SR20/SR30/SR40/SR60 ST20/ST30/ST40/ST60	○	---	---	---
	S7-200	CPU222 CPU224/CPU224 XP/CPU226	---	CP243-1IT CP243-1	---	---
	S7-300	CPU312FM/CPU313/CPU314/CPU314IFM CPU315/CPU315-2DP/CPU316/CPU316-2DP CPU318-2/CPU315-2PNP/CPU317-2PNP CPU319-3PNP	---	CP343-1IT CP343-1	---	---
	S7-300	CPU315-2PNP/CPU317-2PNP CPU319-3PNP	○	CP343-1IT CP343-1	---	---
	S7-400	CPU412-1/CPU412-2DP/CPU413-1 CPU413-2DP/CPU414-1/CPU414-2DP CPU414-3DP/CPU416-1/CPU416-2DP CPU416-3DP/CPU417-4/CPU414-3PNP CPU416-3PNP	---	CP443-1IT CP443-1	---	---
		CPU414-3PNP/CPU416-3PNP	○	CP443-1IT CP443-1	---	---
	S7-1200	CPU1211C/CPU1212C/CPU1214C	○	---	---	CM 1241 RS-422/485 CB 1241 RS-485
S7-1500	CPU1511-1PN/CPU1513-1PN/CPU1515-2PN CPU1516-3PNP/CPU1518-4PNP CPU1516F-3PNP/CPU1518F-4PNP	○	---	---	CM PIP RS-422/485 HF	
Omron Corporation	SYSMAC CS	CS1G/CS1H	---	CS1W-ETN21 CS1W-EIP21	---	CS1WSCB41-V1 CS1WSCU31-V1
	SYSMAC CJ1	CJ1G/CJ1M/CJ1H	---	CJ1W-ETN21 CJ1W-EIP21	---	CJ1W-SCU32 CJ1W-SCU42 CJ1W-SCU31-V1 CJ1W-SCU41-V1
		CJ2H-CPU6□-EIP/CJ2M-CPU3□1	○	CJ1W-ETN21 CJ1W-EIP21	---	CJ1W-SCU32 CJ1W-SCU42 CJ1W-SCU31-V1 CJ1W-SCU41-V1
	SYSMAC CP1	CP1H	---	CJ1W-ETN21 CJ1W-EIP21	---	CJ1W-SCU32 CJ1W-SCU42 CJ1W-SCU31-V1 CJ1W-SCU41-V1
		NJ	NJ501/NJ301/NJ101	○	---	---
	NX1	NX102-12□□/NX102-11□□ NX102-10□□/NX102-90□□	○	---	---	---
NX7	NX701-□□20	○	---	---	---	
Yaskawa Electric Corporation	MP3000	MP3200/MP3300	○	218IF-01 218IF-02	---	217IF
	MP2000	MP2200/MP2300S/MP2310/MP2400	○	218IF-01 218IF-02	---	217IF
		MP2300	---	218IF-01 218IF-02	---	217IF
	MP2310	---	○	218IF-01 218IF-02	---	217IF
Panasonic Corporation	FP7	AFP7CPS41E/AFP7CPS31E AFP7CPS41ES/AFP7CPS31ES	○	---	---	AFP7CCM1 AFP7CCM2 AFP7CCS1M1
		AFP7CPS21/AFP7CPS31/AFP7CPS31S	---	---	---	AFP7CCM1 AFP7CCM2 AFP7CCS1M1
Hitachi Industrial Equipment Systems Co., Ltd.	HX	HX-CP1S08/HX-CP1S08M HX-CP1H16/HX-CP1H16M/HXC-CP1H16	○	---	---	EH-SIO
	EHV	EHV-CPU16/EHV-CPU32/EHV-CPU64 EHV-CPU128	○	---	---	EH-SIO
	EHV+	EHV-CPU1025/EHV-CPU1102	○	---	---	EH-SIO
Fuji Electric Co., Ltd.	SPH300	NP1PS-32/NP1PS-32R/NP1PS-74R/NP1PS-117R/NP1PS-245R	---	NP1L-ET1	---	---
	SPH300EX	NP1PS-74D	---	NP1L-ET1	---	---
	SPH2000	NP1PM-48R	---	NP1L-ET1	---	---
		NP1PM-48E/NP1PM-256E	○	NP1L-ET1	---	---
	SPH200	NP1PH-08/NP1PH-16	---	NP1L-ET1	---	---
	SPH3000	NP1PU-048E/NP1PU-128E/NP1PU-256E	○	NP1L-ET1	---	---
	SPH3000D	NP1PU-048EZM/NP1PU-096EZM/ NP1PU-128EZM/NP1PU-256EZM	○	NP1L-ET1	---	---
	SPH3000MM	NP1PU2-048E/NP1PU2-256E	○	NP1L-ET1	---	---
	SPH3000MG	NP1PU1-256NE	○	NP1L-ET1	---	---
	SPH5000H	NP1PU1-512H Note: Redundant systems are not supported.	○	NP1L-ET1	---	---

