

Derwent
Top 100
Global
Innovator
2020

All in One Industrial Ethernet Solution

RAPINet+

RAPINet + EtherNet/IP + Modbus TCP/IP



LS ELECTRIC

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Multiport RAPIEnet Switch (MRS)



XGK/XGI/XGR Master (Client) Communication Module



XGK/XGI Expansion Drive (Slave/Server) Communication Module

All in One Industrial Ethernet Solution

RAPIEnet+

RAPIEnet + EtherNet/IP + Modbus TCP/IP



Smart I/O (Block-Type)

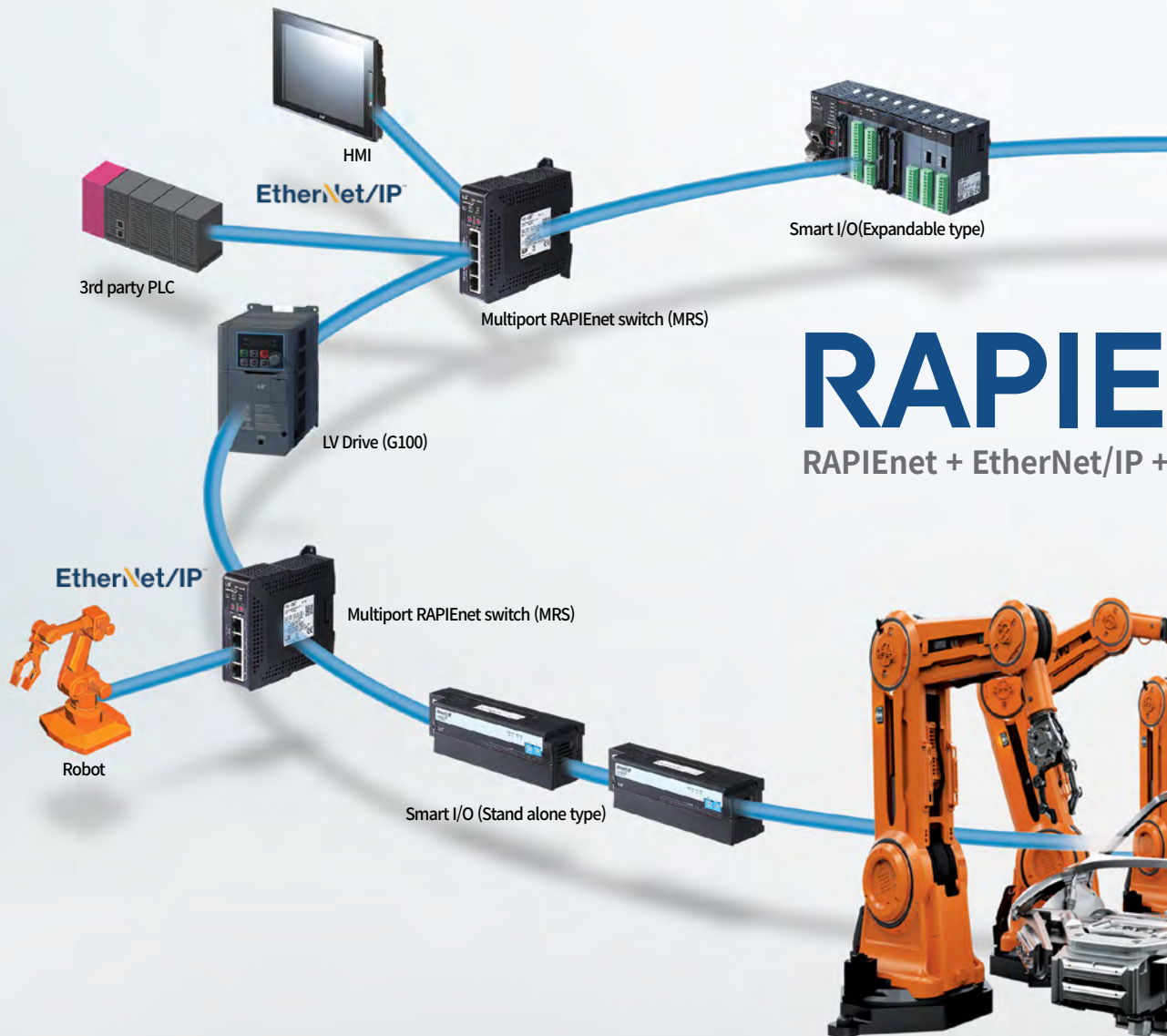


Smart I/O (Expansion)

Digital Manufacturing Innovation Experience the Evolution of Network through RAPIenet+

Various manufacturing devices are efficiently integrated with RAPIenet+ (IEC standard Ethernet) to realize future manufacturing automation and intelligence with mobile devices, cloud, IoT, AI, and robots.

Features



RAPIEnet+

RAPIEnet + EtherNet/IP +

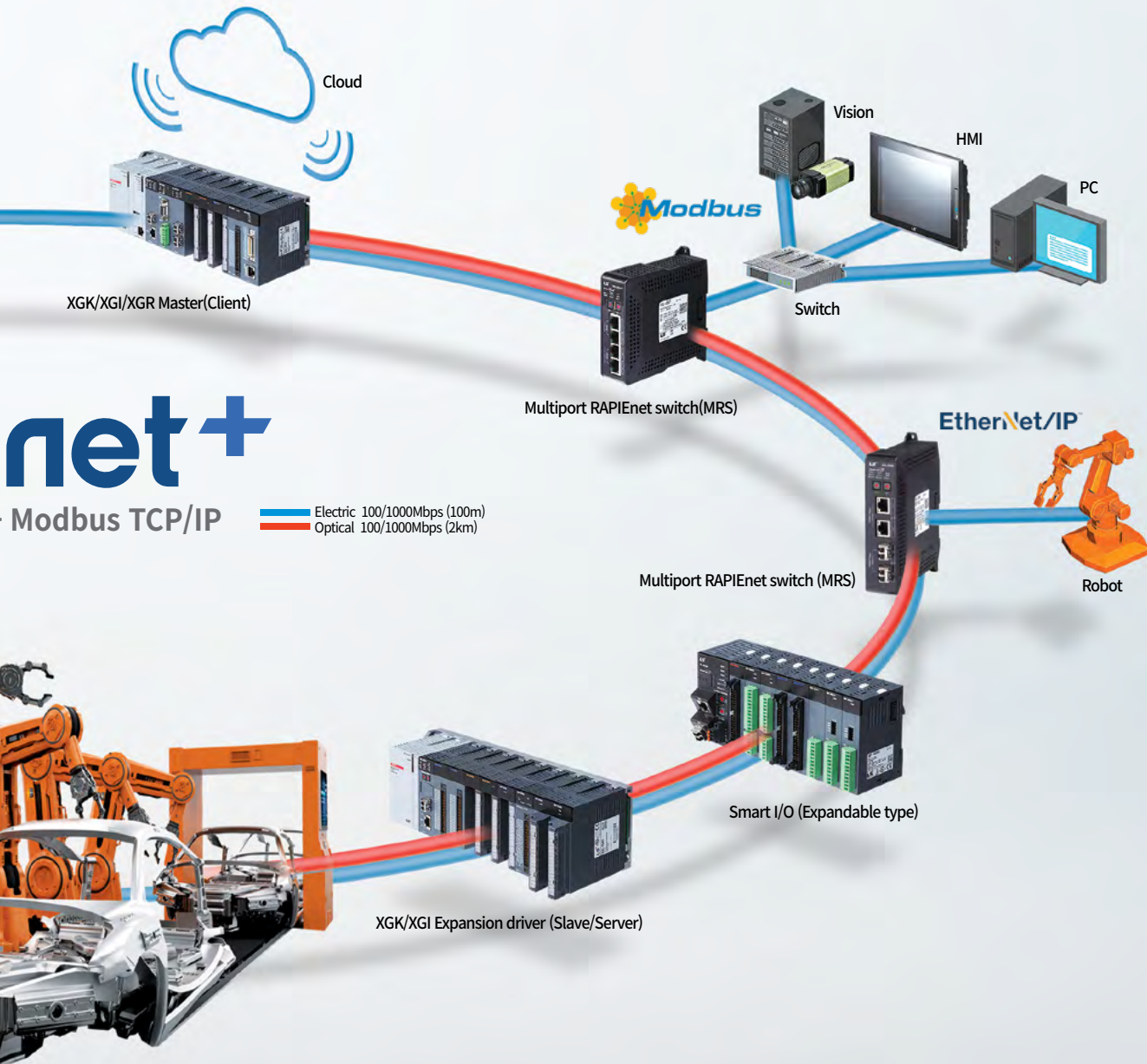
RAPIEnet+

Real-time, hybrid & ring topology-based industrial Ethernet solution, integrating Modbus TCP/IP, EtherNet/IP and RAPIEnet for IoT and future-oriented technology for high performance & efficiency.



Professional

- Integrated hybrid network solution
- Three protocols in a single product: Modbus TCP/IP, EtherNet/IP, RAPIEnet
- Various and convenient network system configuration with smart extension service
- IEC standard (RAPIEnet) communication technology applied
- Gigabit Ethernet from 100Mbps to 1Gbps for large networks



Efficiency

- Efficient network configuration with 2-port Ethernet
- Network cost reduction using electrical to fiber optic cable
- Optimized system configuration with automation products (PLC, remote I/O, Drive, etc.)
- Easy engineering via intuitive and user-friendly programming tool (XG5000, DriveView 9)



Convenience

- Autoscan for network registration
- Min. parameter and programming setup
- Simple editing (add/change) for modules of operating system
- Variable maintenance available: service status, diagnosis, comm. history, etc.



Reliability

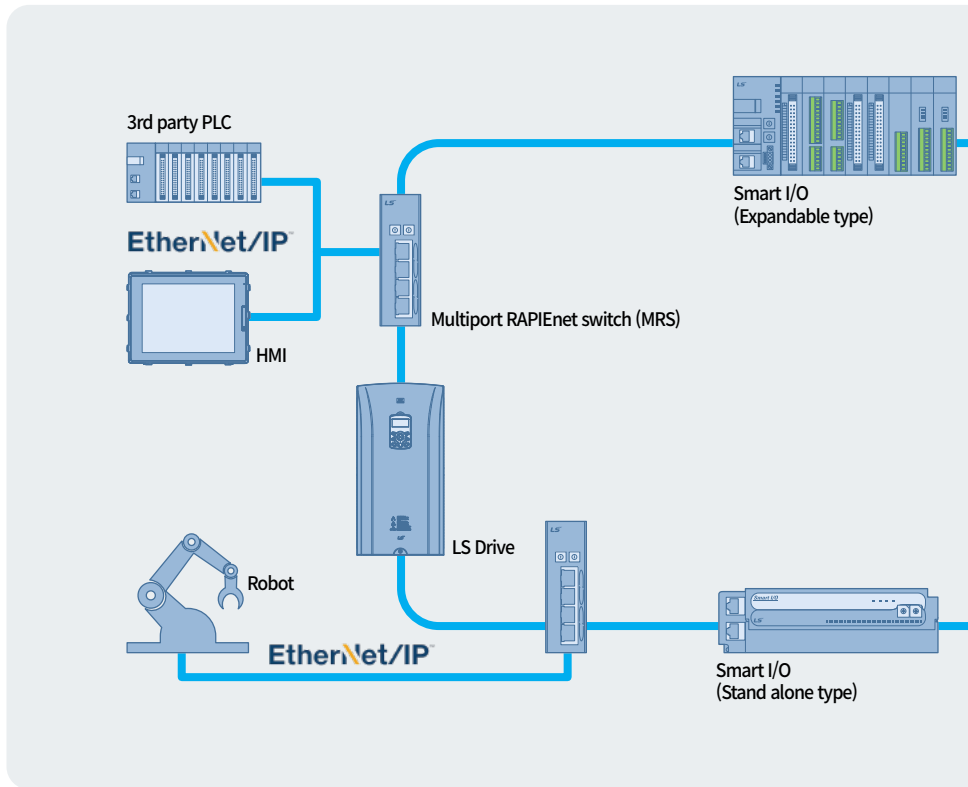
- Reliability improvement with ring topology network
- Various functions for network monitoring and diagnosis
- Noise reduction with fiber optic network

System Configuration

Ring Type

- Ring topology and configuration with 3rd party devices: reliability & product/wiring reduction
- Hybrid network (electric/fiber optic): system cost reduction

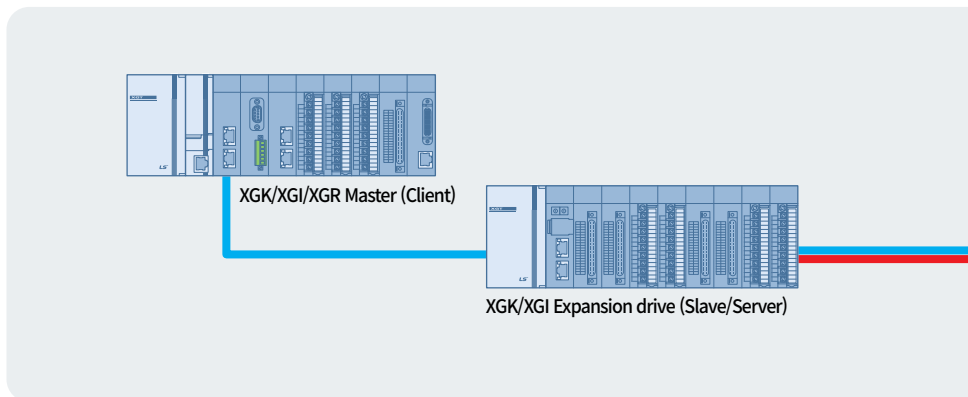
— Electric 100/1000Mbps (100m)
— Optical 100/1000Mbps (2km)



Daisy-chain Type

- Integrated network configuration with 3rd party devices
- EtherNet/IP and Modbus Hybrid communication: product/wiring reduction

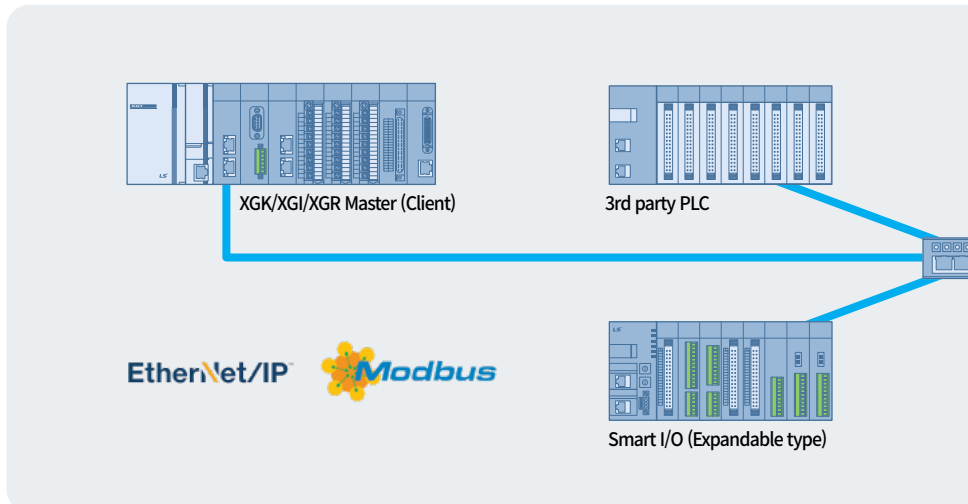
— Electric 100/1000Mbps (100m)
— Optical 100/1000Mbps (2km)

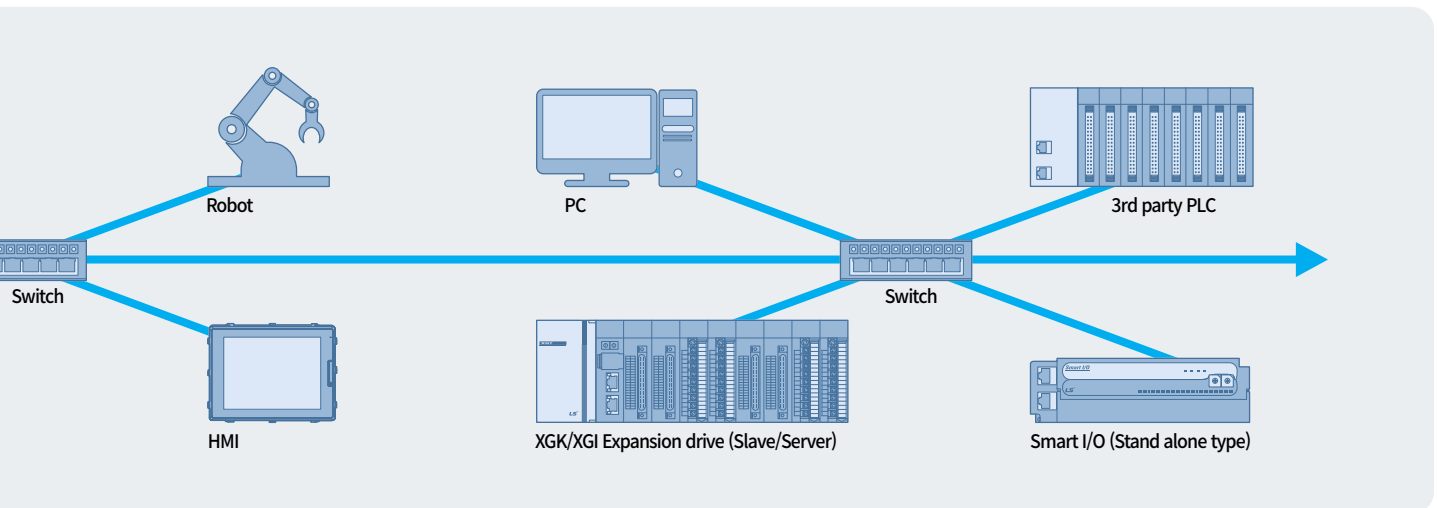
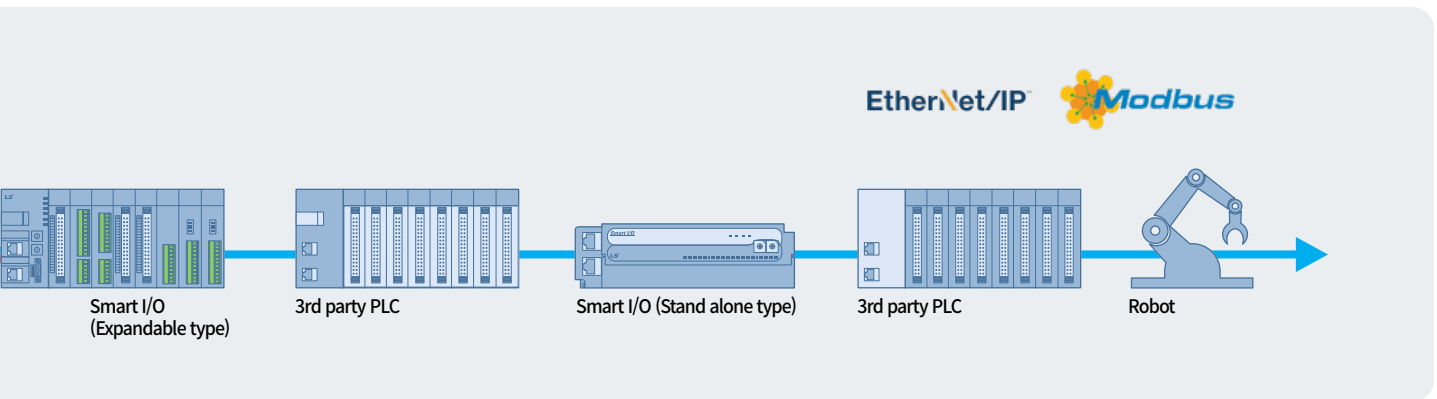
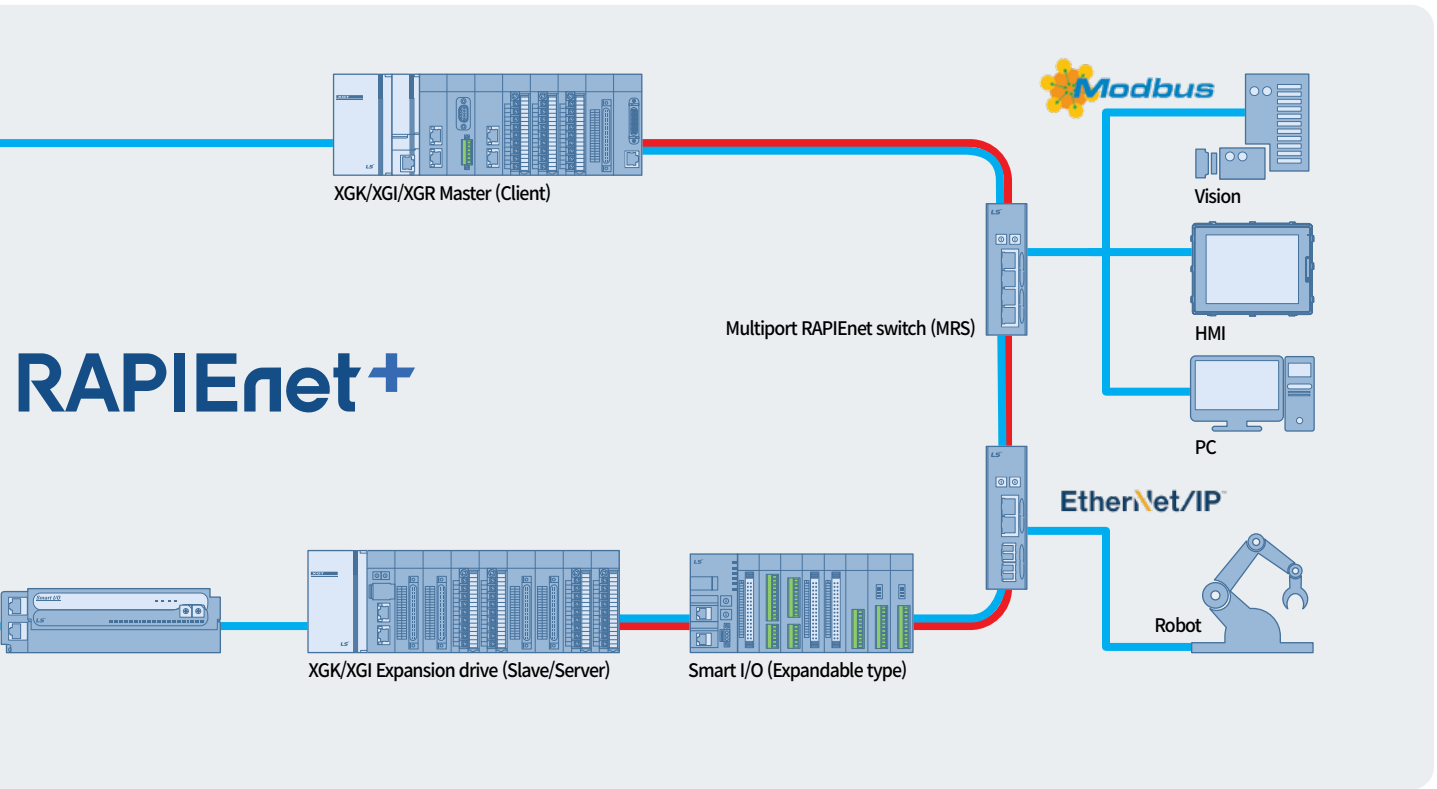


Star Type

- Integrated network configuration with 3rd party devices
- Various network configuration (General switch application available)

— Electric 100/1000Mbps (100m)





RAPINet+ XGK/XGI/XGR Master(Client) module

RAPINet · EtherNet/IP · Modbus TCP/IP · XGT

XGL-EFMTB, XGL-EFMFB, XGL-EFMHB

- Gigabit Ethernet (1Gbps)
- Two-port support
- Ring/Line topology configuration support: no additional switch required
- Modbus TCP/IP, RAPINet (v6.0 or higher), EtherNet/IP (v6.0 or higher) protocol support
- Max 5.000pps network load (based on server operation)
- Data processing speed: 1ms
- Various and convenient network system configuration with Smart Extension Service (v8.0 or higher)
- XG5000 network setup and programming (v4.30 or higher)
- User protocol editing and P2P service: (network with third-party devices)
- Various diagnostic functions and module/network status information
- Network module check function (Ping test)
- Network service information (HS link, P2P, media status, etc)
- OPC UA Server support (OPC UA Specification v1.03, XGL-EFMxB v7.0)
 - OS replacement for OPC UA Server of XGL-EFMxB in XG5000 is required. (Please refer to user's manual).



Specification

Item		XGL-EFMTB	XGL-EFMFB	XGL-EFMHB	
Transmission specifications	Transmission speed (Mbps)	10/100/1000	100/1000	Electric: 10/100/1000 Optical: 100/1000	
	Transmission method	Baseband			
	Maximum distance between nodes	100m (Node-Switch)	2km@100Mbps (Multi-mode)	Electric: 100m Optical: 2km	
	Send media	Electric: Category 5E or higher STP (Shielded Twisted-pair) cable Optical: Multi mode(MMF)/Single mode(SMF) cable			
	Maximum protocol size	1,500 Byte			
	Communication network access method	CSMA/CD			
	Frame error check method	CRC32			
Max. load	Ethernet: 10,000pps, RAPINet: 40,000pps				
Topology	Line, Tree, Star, Ring (RAPINet Enable)				
Diagnosis function	Station number / IP collision detection function, Diagnosis using XG5000				
Station number / IP setting method	Rotary switch, XG5000, BOOTP/DHCP				
Station number / IP setting range	Station number setting value set by the tool(XG5000) (0 to 220) - IP: 192.168.1.xx(xx:100 + rotary switch 1~99)				
External connecting terminal	RJ45, SFP : PADT connection, data communication				
Basic specific	Current consumption (mA)	100Mbps	560	750	670
		1Gbps	900	740	670
	Weight (g)	146	130	120	



Network service specification

Item		XGL-EFMTB	XGL-EFMFB	XGL-EFMHB
RAPIenet	Data processing unit		Byte (8bit)	
	Max read/write data size		1,400 byte	
	Max No. of connected stations per network	221 stations (However, 64 stations are used for the Smart extension service.)		
EtherNet/IP	Data processing unit		Byte (8bit)	
	Max read/write data size		Non-periodic tag: 1,400 Byte Non-periodic object: 1,024 Byte Cycle 1,024 Byte	
	Available communication type		Connection-type (Cycle) messages: Class1 Non connection type(Non-periodic) message: Tag, Object	
	Maximum number of connections		Connection-type (periodic)+ Non connection type(Non-periodic):64	
Modbus TCP/IP	Data processing unit		Word (16bit),bit	
	Max read data size		125 Word (2,000 Bits)	
	Max write data size		123 Word (1,968 Bits)	
	Maximum number of connections		64	
XGT dedicated	Data processing unit		Byte(8bit)	
	Max read/write data size		1,400 byte	
	Maximum number of connections		64	

Smart extension master

Smart extension service is network service between LS Automation products to enable users to extend several PLCs and drives without network parameter and programming, including EtherNet/IP client service.

Main function	Content
Smart extension setup wizard	Users could do network setup easily with 'Smart Extension Setup Wizard' in XG5000.
Smart extension autoscan	Autoscan execution of network & control setting during online.
Remote device setting	* Automatic execution of I/O and Basic Parameter Setting via XGL-EFMxB (master) * Hot swap setting for slave module replacement
Smart extension diagnosis flag	Diagnostic information service for network devices and modules of Smart Extension system
Remote network	Device IP/Station No. change Remote network device IP and station no. change during online based on user setting (master)

RAPINet+ XGK/XGI Expansion driver module

RAPINet · EtherNet/IP · Modbus TCP/IP

XGL-DBDT, XGL-DBDF, XGL-DBDH

- Large PLC system configuration with XGL-DBDx(slave module) installation on CPU slot of XGK/XGK main base
 - PLC extension system configuration:
 - 63-stage network extension (XGT base extension: 7 stage)
 - Extension distance: electric 100m, fiber-optic 2km (XGT base extension: 15m)
 - I/O point: Max. 49,152 (XGT base extension: 6,144)
- Modbus TCP/IP, RAPINet, EtherNet/IP protocol simultaneous support
- Electric/Fiber-optic/Hybrid module comm. speed: Max. 1Gbps
- 2-port (dual port) support
 - No additional switch required for ring/line topology configuration
- Hot swap for base replacement (add/delete available)
 - Base replacement without system in case of extension base error
- Ring-to-line: fast reconfiguration to line topology for a line fault of ring
- Extension base power redundancy (with XGR extension base)
- Diagnostic function for service status



Specification

Item		XGL-DBDT	XGL-DBDF	XGL-DBDH
Transmission Specifications	Transmission speed (Mbps)	100/1000	100/1000	Electric: 100/1000 Optical: 100/1000
	Transmission method	Base band		
	Maximum distance between nodes	100m@CAT5E or higher	2km@100Mbps.MM	Electric: 100m Optical: 2km
	Send media	Electric: Category 5E or higher STP (Shielded Twisted-pair) cable Optical: Multi mode (MMF)/Single mode (SMF) cable		
	Maximum protocol size	1,500 Bytes		
	Communication network access method	CSMA/CD		
	Frame error check method	CRC32		
Max. load	Ethernet: 10,000pps, RAPINet: 40,000pps			
Topology	When using RAPINet : Lines, Ring (using MRS if you use a different topology) When not using RAPINet : Line, Tree, Star etc. (with switch)			
Diagnosis function	Station number/IP collision detection function, self-diagnosis service, diagnosis using XG5000			
Station number / IP setting method	Rotary switch, XG5000, BOOTP/DHCP			
Station number / IP setting range	Station number: Rotary switch(1 ~ 99) IP: 192.168.1.xx (xx:100 + rotary switch 1~99)			
External connecting terminal	USB mini B : PADT connection RJ45, SFP : PADT connection, data communication			
Status indication LED	PWR, RUN, SVR, I/F, RELAY, PADT, CHK, ERR, FAULT, LINK, ACT			
Parameter setting	XG5000 (USB, Ethernet port)			
Device file	EDS file (Only EtherNet/IP)			
Maximum number of modules to be installed	12			



Network service specification

Item		XGL-DBDT	XGL-DBDF	XGL-DBDH
RAPIenet	Data processing unit		Byte (8bit)	
	Max read data size		1,400 Byte	
	Max write data size		1,400 Byte	
	Max No. of connected stations per network		64 station	
EtherNet/IP	Data processing unit		Byte (8bit)	
	Max read data size	Non-periodic tag: 1,400 Byte / Non-periodic object: 1,024 Byte / Cycle: 1,024 Byte		
	Max write data size	Non-periodic tag: 1,400 Byte / Non-periodic object: 1,024 Byte / Cycle: 1,024 Byte		
	Available communication type	Connection-type (Cycle) messages: Class1 Non connection type (Non-periodic) message: Tag, Object		
	Maximum number of connections	Connection-type (Cycle):10 / Non connection type (Non-periodic) message (Tag, Object):10		
Modbus TCP/IP	Data processing unit		Word (16bit), bit	
	Max read data size		125 Word (2,000 Bits)	
	Max write data size		123 Word (1,968 Bits)	
	Maximum number of connections		64	

Available Module

Item	I/O module
Digital	XGI-D21A
	XGI-D22A/B
	XGI-D24A/B
	XGI-D28A/B
	XGI-A12A
	XGI-A21A/C
	XGI-D21D
	XGQ-RY1A
	XGQ-RY2A/B
	XGQ-TR1C
	XGQ-TR2A/B
	XGQ-TR4A/B
	XGQ-TR8A/B
	XGQ-SS2A
	XGQ-RY1D
XGH-DT4A	
Analog	XGF-AV8A
	XGF-AC8A
	XGF-AD4S
	XGF-AD8A

Item	I/O module
Analog	XGF-AD16A
	XGF-AC4H
	XGF-AW4S
	XGF-DV4A
	XGF-DV8A
	XGF-DC4A
	XGF-DC8A
	XGF-DV4S
	XGF-DC4S
	XGF-DC4H
	XGF-HO2A
	XGF-HD2A
	XGF-HO8A
	XGF-RD4A
	XGF-RD4S
XGF-TC4S	
XGF-RD8A	
XGF-AH6A	
XGF-TC4UD	
XGF-TC4RT	

RAPINet+ Smart I/O (Stand alone type)

RAPINet · EtherNet/IP · Modbus TCP/IP

GEL-D24C, GEL-DT4C1, GEL-TR4C1, GEL-RY2C, GEL-AV8C, GEL-AC8C, GEL-DV4C, GEL-DC4C

- Modbus TCP/IP, RAPINet, EtherNet/IP protocol support
- RJ45 connector
- Flexibility in network topology (ring, line)
 - Redundancy support in ring topology
- Simple module setting with station no. setup (No IP setup required)
- Easy & Simple parameter setup: Autoscan for module add, checkbox for parameter setup (No program required)
- High-speed data processing
- Cost reduction in wiring
- Various diagnostic service
 - Station no. collision error
 - Remote batch processing in O/S upgrade via master module
 - Network status check by CRC error flag
 - Enhanced Autoscan function: station collision, module information, etc.
 - Error flag: comm. error between master and Smart I/Os



Specification

Item		Content
Transmission Specifications	Transmission speed	PORT1/2: 100Mbps
	Transmission method	Base band
	Maximum distance between nodes	100m@CAT5E or higher
	Send media	Electric: Category 5E or higher STP (Shielded Twisted-pair) cable
	Maximum protocol size	1,500 Bytes
	Communication network access method	CSMA/CD
Frame error check method	CRC32	
Max. load	Ethernet: 10,000pps, RAPINet: 40,000pps	
Topology	When using RAPINet : Lines, Ring (using MRS if you use a different topology) When not using RAPINet : Line, Tree, Star etc. (with switch)	
Diagnosis function	Station number / IP collision detection function, self-diagnosis service, diagnosis using XG5000	
Station number / IP setting method	Rotary switch, XG5000, BOOTP/DHCP	
Station number / IP setting range	Station number: Rotary switch(1 ~ 99) IP: 192.168.1.xx(xx:100 + rotary switch 1~99)	
Status indication LED	STATUS, PORT1, PORT2, LACTH(Output only)	
Parameter setting	XG5000 (Ethernet)	
Device file	EDS file (Only EtherNet/IP)	
Protocol	RAPINet, EtherNet/IP, Modbus-TCP, BOOTP, DHCP (RAPINet, EtherNet/IP can be Smart extension with XGL-EFMxB)	
I/O Refresh size	Max inputs: refresh size	64 bytes
	Max inputs: refresh size	64 bytes



Network service specification

Item		Content
RAPIEnet	Data processing unit	Byte (8bit)
	Max read data size	1,400 Byte
	Max write data size	1,400 Byte
	Max No. of connected stations per network	64 station
EtherNet/IP	Data processing unit	Byte (8bit)
	Max read data size	Non-periodic tag: 1,400 Byte / Non-periodic object : 1,024 Byte / Cycle: 1,024 Byte
	Max write data size	Non-periodic tag: 1,400 Byte / Non-periodic object : 1,024 Byte / Cycle: 1,024 Byte
	Available communication type	Connection-type (Cycle) messages: Class1 Non connection type(Non-periodic) message: Tag, Object
	Maximum number of connections	Connection-type (Cycle) :10 / Non connection type(Non-periodic) message(Tag, Object):10
Modbus TCP/IP	Data processing unit	Word (16bit), bit
	Max read data size	125 Word (2,000 Bits)
	Max write data size	123 Word (1,968 Bits)
	Maximum number of connections	64

Input/output specification

Item	Standard			
	GEL-D24C	GEL-DT4C1	GEL-TR4C1	GEL-RY2C
Points	32(Input)	16/16(In/Out)	32(Output)	16(Output)
Rated input current	5mA		-	-
Rated load voltage	-	DC24V		DC24V//AC220V, 2A/point, 5A/COM
Max. load current	-	0.5A/point, 3A/COM		AC250V, DC110V, 1,200times/hour
On voltage	≥ DC19V		-	Min. switching load : DC 5V/1mA
Off voltage	≥ DC6V		-	
Insulation method	Photo coupler insulation			

Item	Standard			
	GEL-AV8C	GEL-AC8C	GEL-DV4C	GEL-DC4C
Channels	8		4	
Input/output type	Voltage	Current	Voltage	Current
Input/output range	1 ~ 5V 0 ~ 5V 0 ~ 10V -10 ~ 10V	4 ~ 20mA 0 ~ 20mA	1 ~ 5V 0 ~ 5V 0 ~ 10V -10 ~ 10V	4 ~ 20mA 0 ~ 20mA
Accuracy	0.3%(0 ~ 50)			
Max. resolution	1/16000			
Max. conversion rate	10ms / channels			
Insulation method	Insulation between input / output terminal and PLC power (no insulation between channels)			

RAPINet+ Smart I/O (Expandable type)

RAPINet · EtherNet/IP · Modbus TCP/IP

XEL-BSSRT, XEL-BSSRF, XEL-BSSRH

- Slave PLC system configuration:
XEL-BSSRx (extension Smart I/O adaptor)
with XGB I/Os (DI/DO/AI/AO)
 - No. of XGB extension I/O: 8
- Modbus TCP/IP, RAPINet, EtherNet/IP protocol support
- Electric/Fiber-optic/Hybrid module comm. speed: Max. 1Gbps
- 2-port (dual port) support
 - No additional switch required for ring/
line topology configuration
- Ring-to-line: fast reconfiguration to line topology
for a line fault of ring
- Diagnostic function for service status



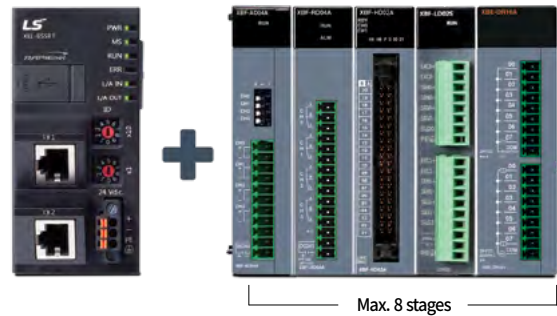
Specification

Item		XEL-BSSRT	XEL-BSSRF	XEL-BSSRH
Transmission specifications	Transmission speed (Mbps)	100/1000	100/1000	Electric: 100/1000 Optical: 100/1000
	Transmission method	Base band		
	Maximum distance between nodes	100m@CAT5E or higher	2km@100Mbps.MM	Electric: 100m Optical: 2km
	Send media	Electric: Category 5E or higher STP (Shielded Twisted-pair) cable Optical: Multi mode(MMF)/Single mode(SMF) cable		
	Maximum protocol size	1,500 Bytes		
	Communication network access method	CSMA/CD		
	Frame error check method	CRC32		
Max. load	Ethernet: 10,000pps, RAPINet: 40,000pps			
Topology	When using RAPINet : Lines, Ring (using MRS if you use a different topology) When not using RAPINet : Line, Tree, Star etc. (with switch)			
Diagnosis function	Station number / IP collision detection function, self-diagnosis service, diagnosis using XG5000			
Station number / IP setting method	Rotary switch, XG5000, BOOTP/DHCP			
Station number / IP setting range	Station number: Rotary switch(1 ~ 99) IP: 192.168.1.xx(xx:100 + rotary switch 1~99)			
External connecting terminal	USB mini B : PADT connection RJ45, SFP : PADT connection, data communication 3pin Push in/Screw fixed type connector : power Input			
Status indication LED	RUN, RMS, RNS, RELAY, LINK/ACT1, LINK/ACT2 6 types			
Parameter setting	XG5000(USB, Ethernet)			
Device file	EDS file(Only EtherNet/IP)			
Maximum number of modules to be installed	8ea			
Protocol	RAPINet, EtherNet/IP, Modbus-TCP, BOOTP, DHCP (RAPINet, EtherNet / IP can be Smart extension with XGL-EFMxB)			



Network service specification

Item		Content
RAPIenet	Data processing unit	Byte (8bit)
	Max read data size	1,400 Byte
	Max write data size	1,400 Byte
	Max No. of connected stations per network	64 station
EtherNet/IP	Data processing unit	Byte (8bit)
	Max read data size	Non-periodic tag: 1,400 Byte / Non-periodic object : 1,024 Byte / Cycle: 1,024 Byte
	Max write data size	Non-periodic tag: 1,400 Byte / Non-periodic object : 1,024 Byte / Cycle: 1,024 Byte
	Available communication type	Connection-type (Cycle) messages: Class1 Non connection type(Non-periodic) message: Tag, Object
	Maximum number of connections	Connection-type (Cycle) :10 / Non connection type(Non-periodic) message(Tag, Object):10
Modbus TCP/IP	Data processing unit	Word (16bit), bit
	Max read data size	125 Word (2,000 Bits)
	Max write data size	123 Word (1,968 Bits)
	Maximum number of connections	64



Input/output specification

Item	Module		
Digital	Input	XBE-DC08A	
		XBE-DC16A/B	
		XBE-DC32A	
		XBE-AC08A	
	Output	XBE-TN/TP08A	
		XBE-TN/TP16A	
		XBE-TN/TP32A	
		XBE-RY08A/B	
		XBE-RY16A	
		XBE-DR16A	
Input/output	XBE-DN32A		
	Analog	Input	XBF-AD04A
			XBF-AD08A
XBF-AD04C			

Item	Module	
Analog	Output	XBF-DV04A
		XBF-DC04A
		XBF-DC04B
		XBF-DV04C
	Input/output	XBF-DC04C
		XBF-AH04A
	RTD	XBF-RD04A
		XBF-RD01A
	TC	XBF-TC04B
		XBF-TC04S
	Load cell	XBF-LD02S
	High-speed counter	XBF-HO02A
XBF-HD02A		

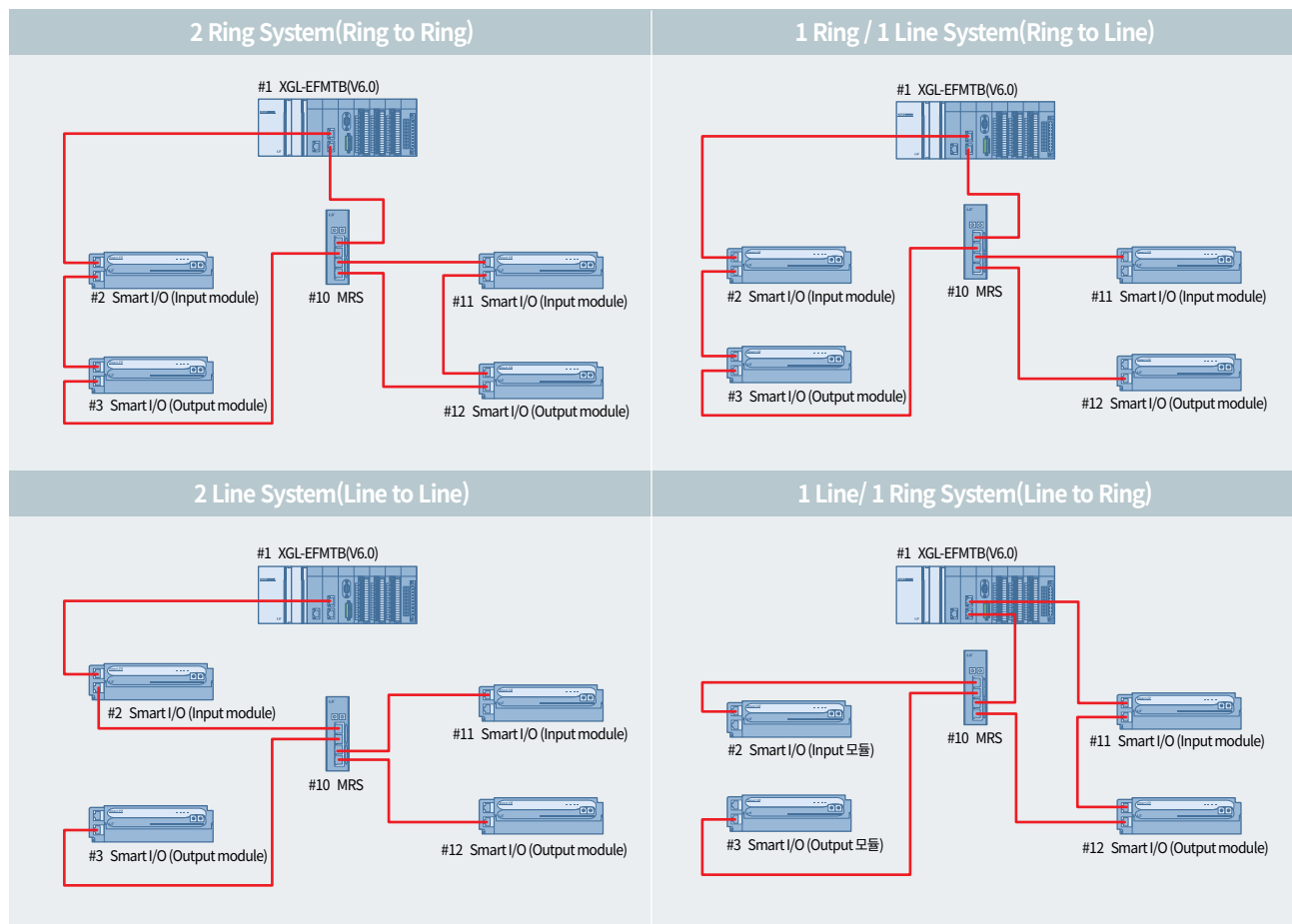
RAPIEnet+ Multiport RAPIEnet switch(MRS)

XOL-ES4T, XOL-ES4H

- Multi-port switch to integrate RAPIEnet, Modbus TCP/IP and EtherNet/IP network
- Max. 64 stations including master module
- Simple module setup with station no.: no additional S/W required.
- Module status information in XG5000 (Autoscan)
- Available from RAPIEnet v2.0 or later.



Various system methods can be configured by using MRS

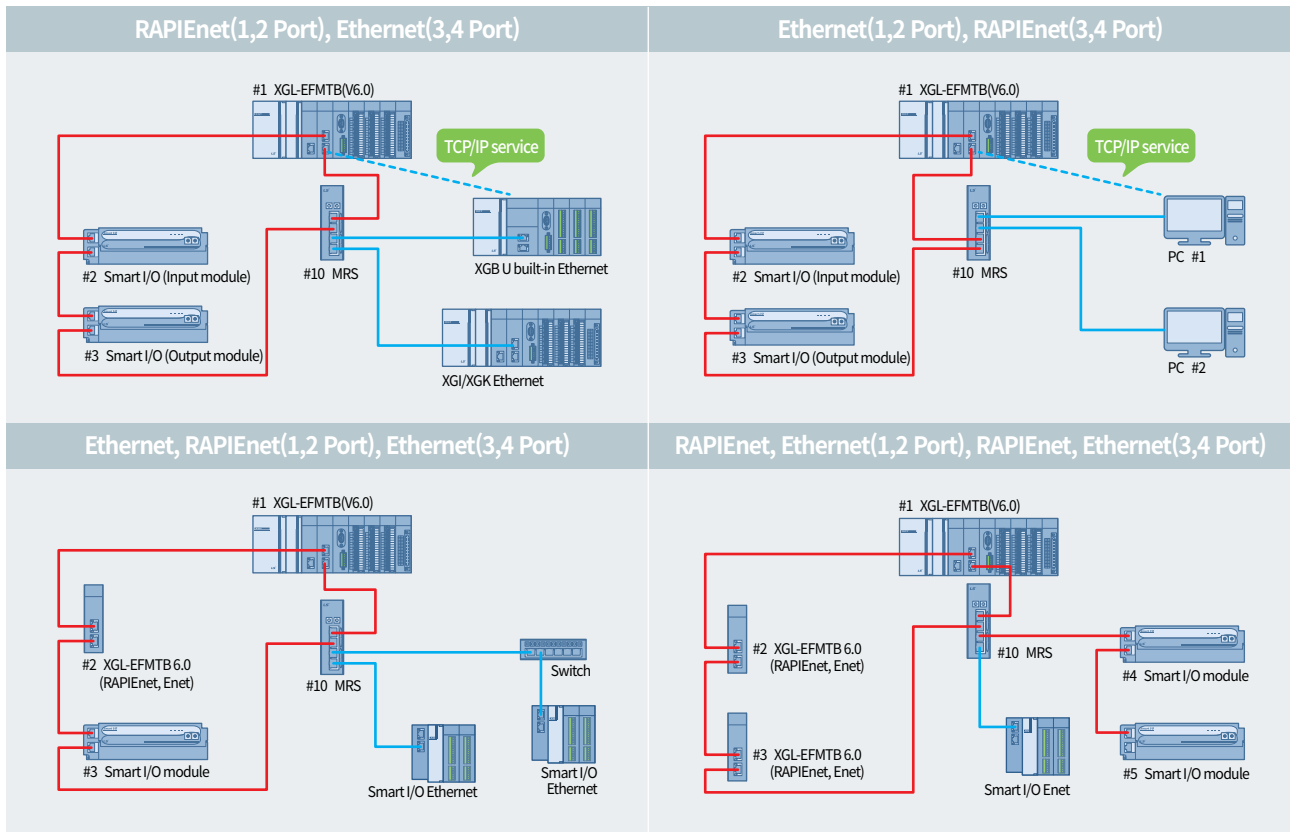




Specification

Item		RAPIenet	
		XOL-ES4T	XOL-ES4H
Transmission Specifications	Transmission speed	100Mbps(1,2 port) 100Mbps/1 Gbps (3,4 port)	100Mbps/1 Gbps (1,2 port, electric) 100Mbps/1 Gbps (3,4 port,optical)
	Port type and number of ports	RJ45 4Ports	RJ45 2Ports, LC 2Ports
	Transmission distance	100m	100m/2km
	Diagnosis function	LED display	LED display
Basic Specifications	Power supply (DC)	24V(Input range:20.4~28.8V)	
	consumption (mA)	300	300
	Weight (g)	200	280

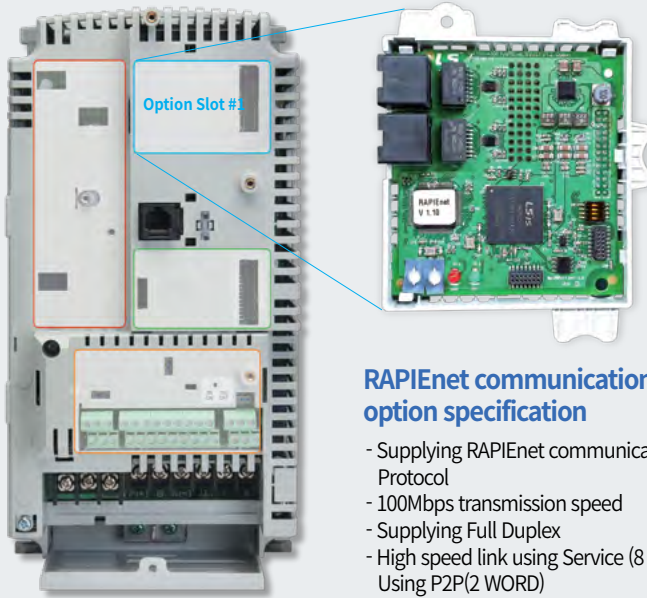
Various system methods can be configured by using MRS (Ethernet compatibility)



RAPiNet+ iS7 Series

High Performance Standard Drive

- Line-up
 - 0.75~90kW/3-phase 200V
 - 0.75~450kW/3-phase 400V
 - IP54 0.8~22kW/3-phase 200V
 - IP54 0.8~22kW/3-phase 400V
- Diverse Control methods
 - V/F, V/F PG, Slip Compensation, Sensorless/Sensored Vector
- Overload Capacity
 - Heavy Duty(HD) Rated current
 - Normal Duty(ND) Rated current
- Built in EMC Filter, DC Reactor
 - ※Need to check capacity
- Diverse options
 - Diverse Communication options including RAPiNet, Safety, Isolation I/O, Expansion I/O, PLC options



RAPiNet communication option specification

- Supplying RAPiNet communication Protocol
- 100Mbps transmission speed
- Supplying Full Duplex
- High speed link using Service (8 WORD) Using P2P(2 WORD)
- Maximum number of connections: 64
- Topology: Line/Ring topology



Specification

200V class (0.75~22kW)

SV□□□□iS7-2□			0008	0015	0022	0037	0055	0075	0110	0150	0185	0220	
Applied Motor	Heavy Duty (HD)	[HP]	1	2	3	5	7.5	10	15	20	25	30	
		[kW]	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	
	Normal Duty (ND)	[HP]	2	3	5	7.5	10	15	20	25	30	40	
		[kW]	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	
Output	Capacity (kVA)		1.9	3.0	4.5	6.1	9.1	12.2	17.5	22.9	28.2	33.5	
	Rated Current (A)	HD	5	8	12	16	24	32	46	60	74	88	
		ND	8	12	16	24	32	46	60	74	88	124	
	Frequency (Hz)		0 ~ 400 [Hz] (Sensorless-1: 0 ~ 300Hz, Sensorless-2, Vector: 0 ~ 120Hz)										
Voltage (V)		3Ø 200~230V											
Input	Voltage (V)		3Ø 200~230VAC (-15% ~ +10%)										
	Frequency (Hz)		50~60 (Hz) (±5%)										
	Rated Current (A)	HD	4.3	6.9	11.2	14.9	22.1	28.6	44.3	55.9	70.8	85.3	
		ND	6.8	10.6	14.9	21.3	28.6	41.2	54.7	69.7	82.9	116.1	



200V class (30~75kW)

SV□□□□iS7-2□			0300	0370	0450	0550	0750	-	-	-	-	-	
Applied Motor	Heavy Duty (HD)	[HP]	40	50	60	75	100	-	-	-	-	-	
		[kW]	30	37	45	55	75	-	-	-	-	-	
	Normal Duty (ND)	[HP]	50	60	75	100	125	-	-	-	-	-	
		[kW]	37	45	55	75	90	-	-	-	-	-	
Output	Capacity (kVA)		46	57	69	84	116	-	-	-	-	-	
	Rated Current (A)	HD	116	146	180	220	288	-	-	-	-	-	
		ND	146	180	220	288	345	-	-	-	-	-	
	RFrequency (Hz)		0 ~ 400 [Hz] (Sensorless-1: 0 ~ 300Hz, Sensorless-2, Vector: 0 ~ 120Hz)										
Voltage (V)		3Ø 200 ~ 230V											
Input	Voltage (V)		3Ø 200 ~ 230VAC (-15% ~ +10%)										
	Frequency (Hz)		50 ~ 60 [Hz] (±5%)										
	Rated Current (A)	HD	121	154	191	233	305	-	-	-	-	-	
		ND	152	190	231	302	362	-	-	-	-	-	

400V class (0.75~22kW)

SV□□□□iS7-4□			0008	0015	0022	0037	0055	0075	0110	0150	0185	0220	
Applied Motor	Heavy Duty (HD)	[HP]	1	2	3	5	7.5	10	15	20	25	30	
		[kW]	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	
	Normal Duty (ND)	[HP]	2	3	5	7.5	10	15	20	25	30	40	
		[kW]	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	
Output	Rated Capacity (kVA)		1.9	3.0	4.5	6.1	9.1	12.2	18.3	22.9	29.7	34.3	
	Current (A)	HD	2.5	4	6	8	12	16	24	30	39	45	
		ND	4	6	8	12	16	24	30	39	45	61	
	Frequency (Hz)		0 ~ 400 [Hz] (Sensorless-1: 0~300Hz, Sensorless-2, Vector: 0~120Hz)										
Voltage (V)		3Ø 380 ~ 480V											
Input	Voltage (V)		3Ø 380 ~ 480VAC (-15% ~ +10%)										
	Frequency (Hz)		50 ~ 60 [Hz] (±5%)										
	Rated Current (A)	HD	2.2	3.6	5.5	7.5	11.0	14.4	22.0	26.6	35.6	41.6	
		ND	3.7	5.7	7.7	11.1	14.7	21.9	26.4	35.5	41.1	55.7	

400V class (30~375kW)

SV□□□□iS7-4□			0300	0370	0450	0550	0750	0900	1100	1320	1600	1850	2200	2800	3150	3750	
Applied Motor	Heavy Duty (HD)	[HP]	40	50	60	75	100	125	150	200	250	300	350	400	500	600	
		[kW]	30	37	45	55	75	90	110	132	160	185	220	280	315	375	
	Normal Duty (ND)	[HP]	50	60	75	100	125	150	200	250	300	350	400	500	600	700	
		[kW]	37	45	55	75	90	110	132	160	185	220	280	315	375	450	
Output	Capacity (kVA)		46	57	69	84	116	139	170	201	248	286	329	416	467	557	
	Rated Current (A)	HD	61	75	91	110	152	183	223	264	325	370	432	547	613	731	
		ND	75	91	110	152	183	223	264	325	370	432	547	613	731	877	
	Frequency (Hz)		0 ~ 400 [Hz] (Sensorless-1: 0~300Hz, Sensorless-2, Vector: 0~120Hz)														
Voltage (V)		3Ø 380 ~ 480V															
Input	Voltage (V)		3Ø 380 ~ 480VAC (-15%, +10%)														
	Frequency (Hz)		50 ~ 60 [Hz] (±5%)														
	Rated Current (A)	HD	55.5	67.9	82.4	102.6	143.4	174.7	213.5	255.6	316.3	404	466	605	674	798	
		ND	67.5	81.7	101.8	143.6	173.4	212.9	254.2	315.3	359.3	463	590	673	796	948	

RAPiEnet+ G100 Series

General AC Drive

- Line-up
 - 0.4~22kW / 3-phase 200V
 - 0.4~22kW / 3-phase 400V
- Overload Capacity
 - Heavy Duty(HD) Rated current: 150%/1min
 - Normal Duty(ND) Rated current : 120%/1min
- UL 61800-5-1 Design
- Great Performance
 - Enhanced motor control-sensorless & V/F performance
 - User-friendly-easy tuning sensorless control
- All in One Industrial Ethernet Solution RAPiEnet+ (RAPiEnet, EtherNET/IP, Modbus TCP)



Specification

3-phase 200V class (0.4~22kW)

LSLV□□□□G100(C)-2□□□□			0004	0008	0015	0022	0040	0055	0075	0110	0150	0185	0220	
Motor Rating	Heavy Duty [HD]	[HP]	0.5	1.0	2.0	3.0	5	7.5	10	15	20	25	30	
		[kW]	0.4	0.75	1.5	2.2	4.0	5.5	7.5	11	15	18.5	22	
	Normal Duty [ND]	[HP]	1.0	2.0	3.0	5.4	7.5	10	15	20	25	30	-	
		[kW]	0.75	1.5	2.2	4.0	5.5	7.5	11	15	18.5	22	-	
Output Rating	Capacity [kVA]	HD	1.0	1.9	3.0	4.2	6.5	9.1	12.2	17.9	22.9	28.6	33.5	
		ND	1.2	2.3	3.8	4.6	6.9	11.4	15.2	21.3	26.7	31.2	-	
	Rated Current [A]	HD	2.5	5.0	8.0	11.0	17.0	24.0	32.0	47	60	75	88	
		ND	3.1	6.0	9.6	12.0	18.0	30.0	40.0	56	70	82	-	
	Rated Current [A]/60Hz (1-Phase Input)	HD	1.5	2.8	4.6	6.1	9.3	12.8	17.4	26.8	34	41	48	
		ND	2.0	3.6	5.9	6.7	9.8	16.3	22.0	31	38	45	-	
	Rated Current [A]/50Hz (1-Phase Input)	HD	1.5	2.7	4.5	5.9	9.1	12.4	16.9	26	33.1	39.9	46.7	
		ND	1.9	3.5	5.7	6.5	9.5	15.8	21.3	30	36.9	43.7	-	
	Frequency [Hz]		0~400Hz(IM Sensorless: 0~120Hz)					0~400Hz (IM sensorless: 0~120Hz)						
	Voltage [V]		3-Phase 200~240V					3-Phase 200~240V						
Input Rating	Voltage [V]		3-Phase 200~240VAC (-15%~+10%)					3-Phase 200~240VAC (-15%~+10%)						
	Frequency [Hz]		50~60Hz (±5%)					50~60Hz (±5%)						
	Rated Current [A]	HD	2.2	4.9	8.4	11.8	18.5	25.8	34.9	53.2	68.4	85.5	101.6	
ND		3.0	6.3	10.8	13.1	19.4	32.7	44.2	63.8	79.8	94.6	-		



3-phase 400V class (0.4~22kW)

LSLV□□□□G100(C)-4□□□□			0004	0008	0015	0022	0040	0055	0075	0110	0150	0185	0220	
Motor Rating	Heavy Duty [HD]	[HP]	0.5	1.0	2.0	3.0	5	7.5	10	15	20	25	30	
		[kW]	0.4	0.75	1.5	2.2	4.0	5.5	7.5	11	15	18.5	22	
	Normal Duty [ND]	[HP]	1.0	2.0	3.0	5.4	7.5	10	15	20	25	30	40	
		[kW]	0.75	1.5	2.2	4.0	5.5	7.5	11	15	18.5	22	30	
Output Rating	Capacity [kVA]	HD	1.0	1.9	3.0	4.2	6.5	9.1	12.2	18.3	23.6	29.7	34.3	
		ND	1.5	2.4	3.9	5.3	7.6	12.2	17.5	23.6	29.0	34.3	46.5	
	Rated Current [A]	HD	1.3	2.5	4.0	5.5	9.0	12.0	16.0	24	31	39	45	
		ND	2.0	3.1	5.1	6.9	10.0	16.0	23.0	31	38	45	61	
	Rated Current [A]/60Hz (1-Phase Input)	HD	0.7	1.4	2.1	2.8	4.9	6.4	8.7	15	18	23	27	
		ND	1.3	1.9	2.8	3.6	5.4	8.7	12.6	18	23	27	35	
	Rated Current [A]/50Hz (1-Phase Input)	HD	0.7	1.4	2.0	2.7	4.8	6.2	8.5	14.6	17.4	22.3	26.2	
		ND	1.3	1.8	2.7	3.5	5.2	8.4	12.2	17.4	22.2	26.1	33.8	
	Frequency [Hz]		0~400Hz (IM Sensorless: 0~120Hz)					0~400Hz (IM sensorless: 0~120Hz)						
	Voltage [V]		3-Phase 380~480V					3-Phase 380~480V						
Input Rating	Voltage [V]		3-Phase 380~480VAC (-15%~+10%)					3-Phase 380~480VAC (-15%~+10%)						
	Frequency [Hz]		50~60Hz (±5%)					50~60Hz (±5%)						
	Rated Current [A]	HD	1.1	2.4	4.2	5.9	9.8	12.9	17.5	27.2	35.3	44.5	51.9	
ND		2.0	3.3	5.5	7.5	10.8	17.5	25.4	35.3	43.3	51.9	70.8		

RAPIenet+ S100 Series

Standard Drive

- Line-up
 - 0.4~2.2kW / 1-phase 200V
 - 0.4~15kW / 3-phase 200V
 - 0.4~75kW / 3-phase 400V
 - IP66 NEMA4X 0.4~2.2kW / 1-phase 200V
 - IP66 NEMA4X 0.4~15kW / 3-phase 200V
 - IP66 NEMA4X 0.4~22kW / 3-phase 400V
- Overload Capacity
 - Heavy Duty(HD) Rated current: 150%/1min
 - Normal Duty(ND) Rated current : 120%/1min
- IP66/NEMA4X (PDS/Non-PDS)
- Safety Functions
 - Built-in safe torque off(STO)
 - Redundant input circuit
- Strong Performance
 - Sensorless control functions
- Standard Compliance
 - Built-in EMC filter



Specification

1-phase 200V (0.4~2.2kW)

LSLV□□□□S100-1□□□□□			0004	0008	0015	0022	
Motor Rating	Heavy Duty [HD]	[HP]	0.5	1.0	2.0	3.0	
		[kW]	0.4	0.75	1.5	2.2	
Motor Rating	Normal Duty [ND]	[HP]	1.0	2.0	3.0	5.0	
		[kW]	0.75	1.5	2.2	3.7	
Output Rating	Capacity [kVA]	HD	1.0	1.9	3.0	4.2	
		ND	1.2	2.3	3.8	4.6	
	Rated Current [A]	HD	2.5	5.0	8.0	11.0	
		ND	3.1	6.0	9.6	12.0	
Frequency [Hz]		0~400Hz (IM sensorless: 0~120Hz)					
Voltage [V]		3-Phase 200~240V					
Voltage [V]		1-Phase 200~240VAC (-15%~+10%)					
Input Rating	Frequency [Hz]		50~60Hz (±5%)				
	Rated Current [A]	HD	4.4	9.3	15.6	21.7	
ND		5.8	11.7	19.7	24.0		

3-phase 200V (0.4~15kW)

LSLV□□□□S100-2□□□□□			0004	0008	0015	0022	0037	0040	0055	0075	0110	0150	
Motor Rating	Heavy Duty [HD]	[HP]	0.5	1.0	2.0	3.0	5.0	5.4	7.5	10.0	15.0	20.0	
		[kW]	0.4	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11.0	15.0	
Motor Rating	Normal Duty [ND]	[HP]	1.0	2.0	3.0	5.0	5.4	7.5	10.0	15.0	20.0	25.0	
		[kW]	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11.0	15.0	18.5	
Output Rating	Capacity [kVA]	HD	1.0	1.9	3.0	4.2	6.1	6.5	9.1	12.2	17.5	22.9	
		ND	1.2	2.3	3.8	4.6	6.9	6.9	11.4	15.2	21.3	26.3	
	Rated Current [A] (3-Phase Input)	HD	2.5	5.0	8.0	11.0	16.0	17.0	24.0	32.0	46.0	60.0	
		ND	3.1	6.0	9.6	12.0	18.0	18.0	30.0	40.0	56.0	69.0	
Output Rating	Rated Current [A] (Single-Phase Input)	HD	1.5	2.8	4.6	6.1	8.8	9.3	13.0	18.0	26.0	33.0	
		ND	1.8	3.3	5.7	6.6	9.9	9.9	16.0	22.0	31.0	38.0	
Frequency [Hz]		0~400Hz (IM sensorless: 0~120Hz)											
Voltage [V]		3-phase 200~240V											
Voltage [V]		3-phase 200~240VAC (-15% ~ +10%) / Single-Phase 240VAC (-5%~+10%)											
Input Rating	Frequency [Hz]		50~60Hz(±5%) (In case of single phase input, input frequency is only 60Hz (±5%))										
	Rated Current [A]	HD	2.2	4.9	8.4	11.8	17.5	18.5	25.8	34.9	50.8	66.7	
ND		3.0	6.3	10.8	13.1	19.4	19.4	32.7	44.2	62.3	77.2		



3-Phase 400V (0.4~22kW)

LSLV□□□□S100-4□□□□□			0004	0008	0015	0022	0037	0040	0055	0075	0110	0150	0185	0220	
Motor Rating	Heavy Duty [HD]	[HP]	0.5	1.0	2.0	3.0	5.0	5.4	7.5	10.0	15.0	20.0	25.0	30.0	
		[kW]	0.4	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11.0	15.0	18.5	22.0	
Motor Rating	Normal Duty [ND]	[HP]	1.0	2.0	3.0	5.0	5.4	7.5	10.0	15.0	20.0	25.0	30.0	40.0	
		[kW]	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11.0	15.0	18.5	22.0	30.0	
Output Rating	Capacity [kVA]	HD	1.0	1.9	3.0	4.2	6.1	6.9	9.1	12.2	18.3	22.9	29.7	34.3	
		ND	1.5	2.4	3.9	5.3	7.6	7.6	12.2	17.5	22.9	29.0	33.5	44.2	
	Rated Current [A] (3-Phase Input)	HD	1.3	2.5	4.0	5.5	8.0	9.0	12.0	16.0	24.0	30.0	39.0	45.0	
		ND	2.0	3.1	5.1	6.9	10.0	10.0	16.0	23.0	30.0	38.0	44.0	58.0	
	Rated Current [A] (1-Phase Input)	HD	0.8	1.5	2.3	3.1	4.8	5.4	7.1	9.5	15.0	18.0	23.0	27.0	
		ND	1.3	1.9	3.0	3.9	5.9	5.9	9.5	14.0	18.0	23.0	27.0	35.0	
Frequency [Hz]		0~400Hz (IM Sensorless: 0~120[Hz])													
Voltage [V]		3-phase 380~480V													
Input Rating	Voltage [V]		3-phase 380~480VAC (-15% ~ +10%) / Single-phase 480VAC (-5%~+10%)												
	Frequency [Hz]		50~60Hz(±5%) (In case of single phase input, input frequency is only 60Hz (±5%))												
	Rated Current [A]	HD	1.1	2.4	4.2	5.9	8.7	9.8	12.9	17.5	26.5	33.4	43.6	50.7	
ND		2.0	3.3	5.5	7.5	10.8	10.8	17.5	25.4	33.4	42.5	49.5	65.7		

3-Phase 400V (30~75kW)

LSLV□□□□S100-4□□□□□			0300	0370	0450	0550	0750
Motor Rating	Heavy Duty [HD]	[HP]	40.0	50.0	60.0	75.0	100.0
		[kW]	30.0	37.0	45.0	55.0	75.0
Motor Rating	Normal Duty [ND]	[HP]	50.0	60.0	75.0	100.0	120.0
		[kW]	37.0	45.0	55.0	75.0	90.0
Output Rating	Capacity [kVA]	HD	46	57	69	84	116
		ND	55	67	78	106	126
	Rated Current [A] (3-Phase Input)	HD	61.0	75.0	91.0	110.0	152.0
		ND	75.0	91.0	107.0	142.0	169.0
	Rated Current [A] (1-Phase Input)	HD	32	39	47	57	78
		ND	39	47	55	73	87
Frequency [Hz]		0~400Hz (IM Sensorless: 0~120[Hz])					
Voltage [V]		3-phase 380~480V					
Input Rating	Voltage [V]		3-phase 380~480VAC (-15% ~ +10%) / Single-phase 480VAC (-5%~+10%)				
	Frequency [Hz]		50~60Hz(±5%) (In case of single phase input, input frequency is only 60Hz (±5%))				
	Rated Current [A]	HD	56.0	69.0	85.0	103.0	143.0
ND		69.0	85.0	100.0	134.0	160.0	

RAPIenet+ H100 Series

Fan and Pump Drive

- Line-up
 - 0.75~18.5kW / 3-phase 200V
 - 0.75~500kW / 3-phase 400V
- Overload Capacity
 - Normal Duty(ND) Rated current
 - 0.75~90kW: 120%/1min
 - 110~500kW: 110%/1min
- Marine Certifications
 - ABS, BV, CCS, DNV/GL, KR, LR, NK, RINA, RS
- Side-by-Side Installation
 - ※ Side-by-side installation is unavailable for 37~500kW



Specification

3-phase 200V (0.75~18.5kW)

LSLV□□□□H100-2□□□□		0008	0015	0022	0037	0055	0075	0110	0150	0185
Applied Motor	[HP]	1.0	2.0	3.0	5.0	7.5	10	15	20	25
	[kW]	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5
Output Rating	Rated Capacity [kVA]	1.9	3.0	4.5	6.1	8.4	11.4	16.0	21.3	26.3
	Rated Current [A]	5	8	12	16	22	30	42	56	69
	Output Frequency [Hz]	0~400Hz								
	Voltage [V]	3-Phase 200~240V								
Input Rating	Voltage [V]	3-Phase 200~240VAC (-15%~+10%) / 1-Phase 240VAC (-5%~+10%)								
	Frequency [Hz]	3-Phase 50~60Hz(5%) / 1-Phase 50~60Hz(5%)								
	Rated Current [A]	4.9	8.4	12.9	17.5	23.7	32.7	46.4	62.3	77.2

3-phase 400V (0.75~22kW)

LSLV□□□□H100-4□□□□		0008	0015	0022	0037	0055	0075	0110	0150	0185	0220
Applied Motor	[HP]	1.0	2.0	3.0	5.0	7.5	10	15	20	25	30
	[kW]	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22
Output Rating	Rated Capacity [kVA]	1.9	3.0	4.5	6.1	9.1	12.2	18.3	23.0	29.0	34.3
	Rated Current [A]	2.5	4	6	8	12	16	24	30	38	45
	Frequency [Hz]	0~400Hz									
	Voltage [V]	3-Phase 380~480V									
Input Rating	Voltage [V]	3-Phase 380~480VAC (-15%~+10%) / 1-Phase 480VAC (-5%~+10%)									
	Frequency [Hz]	3-Phase 50~60Hz(5%) / 1-Phase 50~60Hz(5%)									
	Rated Current [A]	2.4	4.2	6.5	8.7	12.2	17.5	26.5	33.4	42.5	50.7



3-phase 400V (30~90kW)

LSLV□□□□H100-4□□□□		0300	0370	0450	0550	0750	0900
Applied Motor	[HP]	40	50	60	75	100	125
	[kW]	30	37	45	55	75	90
Output Rating	Rated Capacity [kVA]	46.5	57.1	69.4	82.0	108.2	128.8
	Rated Current [A]	61	75	91	107	142	169
	Frequency [Hz]	0~400Hz					
	Voltage [V]	3-Phase 380~480V					
Input Rating	Voltage [V]	3-Phase 380~480VAC (-15%~+10%) / 1-Phase 480VAC (-5%~+10%)					
	Input Frequency [Hz]	3-Phase 50~60Hz(5%) / 1-Phase 50~60Hz(5%)					
	Rated Current [A]	69.1	69.3	84.6	100.1	133.6	160.0

3-phase 400V (110~500kW)

LSLV□□□□H100-4□□□□		1100	1320	1600	1850	2200	2500	3150	3550	4000	5000
Applied Motor	[HP]	150	200	250	300	350	400	500	550	650	800
	[kW]	110	132	160	185	220	250	315	355	400	500
Output Rating	Rated Capacity [kVA]	170	201	248	282	329	367	467	520	587	733
	Rated Current [A]	223	264	325	370	432	481	613	683	770	962
	Frequency [Hz]	0~400Hz									
	Voltage [V]	3-Phase 380~500V									
Input Rating	Voltage [V]	3-Phase 380~500VAC(-15%~+10%)									
	Frequency [Hz]	3-phase 50~60Hz(±5%)									
	Rated Current [A]	254.6	315.3	358.9	419.1	469.3	598.1	666.4	751.3	938.6	77.2

- Motor capacity is based on use of 4-pole standard motors.
- 200V Class is for 220V and 400V Class is for 440V.
- Rated output current is limited depending on the carrier frequency (CON-04) setting.
- 400V 0.75~30kW, 110~500kW, EMC filter is built-in as default. (C3)
- 400V 37~55kW, EMC filter is provided as built-in product option. (C3)
- 400V 75~90kW, products satisfy EMC specifications even without a filter.

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Safety Instructions

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact qualified service technician when you need maintenance. Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.



- According to The WEEE Directive, please do not discard the device with your household waste.



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